

Sustainable Business Report 2017

Vodafone Group Plc





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Introduction

Our products and services play a central role in the daily lives of more than half a billion people across more than 26 markets. Our commitment to enhancing lives and livelihoods, together with our longstanding commitment to operating responsibly, is integral to our duty to maximise returns to our shareholders. This Report offers an overview of what we are trying to achieve under our sustainable business strategy, together with our progress to date.



Chief Executive Statement

The modern world cannot function without digital networks. Our products and services play a central role in the daily lives and livelihoods of more than half a billion people across more than 26 countries.

Technologies such as ultrafast 4G+ mobile, fibre-optic networks, cloud computing and the Internet of Things (IoT) are transforming businesses big and small in both mature markets and – increasingly – emerging markets. As the workplace changes, so does the home. Consumers have access to content and information of a breadth and depth that was inconceivable even a decade ago. Mobile is bringing about a revolution in access to education, healthcare and financial services for millions of people in the world's poorest communities, offering – for many – an opportunity to break out of the cycle of endemic poverty.

Vodafone's core business therefore also delivers a substantial return to society as a whole. During the year, we invested more than €7.7 billion in maintaining and upgrading the digital infrastructure relied upon by families, communities and companies. Those investments provide different demographic groups – rich and poor, young and old, educated and unskilled – with the ability to connect, learn and advance

their ambitions. Few industrial sectors can claim a closer alignment between their financial objectives and the achievement of material societal gains.

Our approach to what we call *sustainable business* is to ensure that our work always delivers positive social outcomes, not just commercial and financial success. In our view, the former reinforce the latter; they are not mere 'offsets' against them. We believe in and focus on the social purpose-led approach set out in the [Blueprint for Better Business](#), the movement established to encourage companies to act as a force for good in society that includes Vodafone as a founding supporter.

A commitment to ensuring that business goals and societal benefits are as aligned as possible is even more important amid public mistrust of multinational corporations and governments. What we do matters; but so does *how* we work. We will always strive to ensure we act responsibly and with integrity at all levels, wherever we operate. Throughout all of Vodafone – from the Vodafone Group Plc Board to our smallest operating company and our smallest suppliers – we place great emphasis on ensuring the appropriate conduct and behaviours as set out in our [Code of Conduct](#) and supported by our strong commitment to corporate transparency.

This is the second annual Sustainable Business Report to be compiled under the new sustainable business strategy that we announced in this Report last year. We have made good progress in a number of aspects of that strategy (which also supports the United Nations [Sustainable Development Goals](#)). I would highlight in particular the implementation of our ten-year *Women's empowerment* global programmes, as detailed later in this Report. During the year, we were in contact with a wide range of stakeholders with an interest in our activities. Their views have shaped how we have set about putting our aspirations into practice, and I would like to thank them for their contribution to our commitment to building and growing Vodafone as a purpose-led, sustainable business.

A handwritten signature in dark ink, appearing to read 'Vittorio Colao'. The signature is fluid and cursive, with a large 'V' and 'C' being prominent.

Vittorio Colao
Group Chief Executive
Vodafone Group Plc

Sustainable business strategy

Our intention to work towards three significant global transformation goals over the years ahead to 2025 is at the centre of our sustainable business strategy. Each goal has the potential to deliver meaningful socio-economic benefits for our customers and wider society; and each goal is derived directly from – and will be achieved by means of – our core long-term business objectives.

The three global transformation goals are:

- women's empowerment;
- energy innovation; and
- youth skills and jobs.

These goals were first announced in the 2016 Sustainable Business Report. A year later, we are making good progress, as we explain later in this Report. We also provide an insight in the Appendix into the methodology used to identify the key risks and opportunities facing our business that determined the priorities for our sustainable business strategy.

In parallel, we continue to enhance our corporate transparency programme, which addresses four specific areas that are the focus of intense public debate.

The four transparency focus areas are:

- taxation and total economic contribution;
- supply chain integrity and safety;
- mobiles, masts and health; and
- digital rights and freedoms.

Purpose

We connect everybody to live a better today
and build a better tomorrow

Transformation

Women's
Empowerment



Energy Innovation



Youth Skills and Jobs



Transparency

Tax and Total
Economic
Contribution

Supply Chain Integrity
and Safety

Mobiles, Masts
and Health

Digital Rights
and Freedoms

Principles and Practice

Delivering our sustainable business strategy

Our sustainable business strategy is founded on Vodafone's commitment to responsible behaviour in everything we do. This Report includes a number of insights into the ethical challenges that inform our business principles and that influence the controls we have put in place to ensure our operating practices meet our (and our stakeholders') expectations.

Global transformation goals

Women's empowerment

We are strongly committed to diversity and inclusion. That commitment includes an aspiration to become the world's best employer for women by 2025. We also recognise the transformative effects of mobile technology for women in low-income emerging markets. Getting a mobile phone for the first time can enhance a woman's physical and economic security, education, skills, access to employment opportunities and her (and her children's) health and wellbeing. Our goal is to bring the benefits of mobile to an additional 50 million women living in emerging markets, including women in some of the world's poorest communities. Details of our approach and ambitions are set out [here](#).

Energy innovation

Information, communications and technology companies such as Vodafone are significant energy users and are therefore a source of the greenhouse gas emissions associated with climate

change. However, the technologies we deploy also have a very significant impact in reducing our customers' overall emissions. We are developing a new global energy strategy intended to bring about a significant increase in the efficiency of our own operations coupled with a focus on increasing adoption of lower-carbon and renewable energy sources. In parallel, we continue to innovate within our core business to help our customers minimise their own energy needs, particularly through the development of IoT intelligent networked devices and processes – a field in which we are a world leader. We explain our approach [later](#) in this Report.

Youth skills and jobs

Many of the countries in which we operate are experiencing significant levels of unemployment among younger people that in turn generate a range of serious social and economic challenges. The rapid growth of digital technologies in the workplace has enhanced productivity for many companies. However, the increased use of robotics and automation, artificial intelligence, IoT technologies, large capacity data centres and high-bandwidth international data networks has led to a sharp reduction in the number of traditional semi-skilled and back-office jobs available in many economies. At the same time, the need for digital skills in the workplace is growing exponentially. Almost all companies – big and small, and in all sectors – increasingly depend on a wide range of software, hardware and digital infrastructure to operate effectively. We believe that Vodafone can

play an important role in helping young people gain the skills required to thrive within the global digital economy, as we explain [here](#).

Transparency focus areas

Taxation and total economic contribution

In 2013, we became the first communications company in the world (and one of very few in any sector) to report our total taxation and economic contribution on a country-by-country and actual cash paid basis. Our transparency report, *Tax and our total contribution to public finances* has been updated – and expanded in scope – in each of the subsequent years. The 2016 report can be found [here](#).

Supply chain integrity and safety

Our businesses rely on a very large supply chain spanning around 17,000 companies across dozens of countries. We seek to ensure the safety, wellbeing and ethical treatment of all who work with Vodafone in any capacity, anywhere in the world. However, there is a broad range of labour rights and safety and environmental risks inherent with such a complex supply chain, and many of those risks also arise in the business operations under our own direct control. Further details of our approach to supply chain integrity and safety risks can be found [later](#) in this Report.

Mobiles, masts and health

The health and safety of our customers and the wider public is an absolute priority for Vodafone and everyone who works with us. While our mobile devices and masts operate well within the guidelines set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP), we recognise that in a number of countries there remains a level of public concern regarding the electromagnetic frequency (EMF) emissions from mobile phones and base stations. The scientific consensus is that there is no evidence of adverse effects on human health associated with mobile technologies operating within regulated limits. We provide detailed information and explanations [later](#) in this report with further information on our [website](#) (which was updated during the year).

Digital rights and freedoms

In 2014, we published our first *Law Enforcement Disclosure* transparency report setting out the details of how we responded to lawful demands for access to our customers' private data from law enforcement and intelligence agencies. The report has been updated and expanded since the initial publication and is now widely considered to be the most comprehensive of its kind in the world. During the year, we decided to move away from a static 'moment in time' annual transparency report in favour of a continuous disclosure model, reflecting the fact that the issues in question tend to emerge and transform rapidly. We have now launched our new online *Digital Rights and Freedoms Reporting Centre* containing our policies, principles and views on a wide range of topics including law enforcement surveillance, privacy, data protection, freedom of expression, censorship and the digital rights of the child.

Principles and practice

We are committed to the highest standards of ethical behaviour and have clearly stated principles articulated in our [Code of Conduct](#), which governs everything we do. Putting those principles into practice can lead to complex and difficult challenges in cultures and working environments that can sometimes be in conflict with our corporate values and commitments. We believe that how we work is as important as what we do and what we achieve. We set out our views on matters such as human rights, bribery and corruption [here](#).

Supporting the UN Global Goals

The United Nations 17 Sustainable Development Goals (SDGs) set out a series of global ambitions to end poverty, fight inequality and injustice, and tackle climate change by 2030. Our sustainable business strategy (complemented by the programmes run by the Vodafone Foundation) is designed to make a contribution, at scale, to the following SDGs:

- goal 1 (end poverty);
- goal 4 (ensure quality education);
- goal 5 (achieve gender equality);
- goal 9 (build resilient infrastructure); and
- goal 13 (combat climate change).

Our business activities also contribute indirectly to many of the other 12 SDGs. We provide further context on our support for the SDGs [here](#).



Women's Empowerment

Equality of opportunity between men and women is a key indicator of long-term social stability and economic advancement. By empowering women and promoting gender equality we can enable communities, economies and businesses – including our own – to prosper.

Increasing diversity

Our ambition is for Vodafone to become the world's best employer for women by 2025

Gender balance

26% of our senior leadership team and 30% of our Vodafone Group Board are women

Connecting women

We aim to connect an additional 50 million women living in emerging markets



Women's Empowerment

The global context

Equality of opportunity between men and women is a key indicator of long-term social stability and economic prosperity. Over the last two decades, there has been significant progress in closing the global gender gap, particularly in areas such as education and health. However, major challenges remain.

Relative female economic disadvantage is a common characteristic across cultures and societies. One study estimates that at current rates of progress in closing the 'gender gap' in the workplace, women will not reach parity with men – in terms of pay and employment opportunities – for another 170 years¹. An estimated 54% of working-age women worldwide are active within the formal economy (as opposed to the black or grey economy) compared with 81% of men. The comparative lack of women in senior, better-paid roles means that the global average for women's earnings is around half that for men. There are also indications that this differential has expanded in recent years².

The gender gap is greatest within patriarchal cultures in emerging markets; however, there are also systemic inequalities within even the most advanced economies. Women and men enter the workplace as young adults with equivalent skills

and in broadly equal numbers; however, as their careers evolve, a much greater proportion of men than women enter middle and senior-level roles. A significant proportion of women either leave the formal workforce altogether or remain within it but in more junior roles than their male peers. This 'leaky pipeline' of female talent is evident worldwide; only four out of more than 190 countries have equal numbers of male and female legislators, senior officials and managers³.

Maternity represents a significant inflection point for many women. A lack of support through pregnancy and childbirth and the challenge of balancing childcare with working life accounts for the departure of large numbers of women from the workplace. Women often experience difficulties in rejoining the workforce after taking a career break to bring up children or support their family. Others may return to work but find fewer opportunities for promotion and progression than their male counterparts⁴. This is a lost opportunity. A new study from KPMG indicates that, at a global level, if more skilled women on a career break were encouraged and able to re-enter the workplace (and on the assumption that they would not displace others in doing so), the maximum potential boost to economic activity worldwide would be around €103 billion, with the potential addition to total household earnings in the region of €290 billion⁵.

In emerging markets, the gender gap tends to arise earlier in life. An estimated 130 million girls around the world are currently out of school and are more likely to remain excluded from education than boys⁶. Evidence suggests that women in emerging markets are more likely to live in poverty than men⁷, and it is estimated that every day approximately 830 women die from preventable causes related to pregnancy and childbirth⁸.

The United Nations Sustainable Development Goals recognise that gender equality is core to the effective functioning of modern society. It is estimated that measures to enable women and girls to thrive alongside men and boys could improve public health, increase productivity and grow prosperity, adding US\$12 trillion to global GDP by 2025⁹.

Vodafone and women's empowerment

We employ more than 108,000 people and are one of the largest foreign investors in many of the countries in which we operate. We also provide employment opportunities for hundreds of thousands of people across our global supplier base of more than 17,000 companies. We have a strong commitment to diversity and women's empowerment within our own business and believe that achieving greater gender parity

will strengthen our company significantly over time. We have therefore identified Women's empowerment as one of our three core global transformation goals.

4 out of 190

countries have equal numbers of male and female legislators, senior officials and managers

Communications technology can play a critical role in women's empowerment. Even a basic mobile provides a woman with the freedom to communicate, ask for help, learn, set up and run a business and – as we explain later in this Report – achieve financial security. Mobile technologies also enhance a wide range of public services and economic activities of direct relevance to women and girls in emerging markets: from vaccinations and maternal healthcare to increased crop yields for smallholder farmers and mobile banking financial services for self-employed homeworkers.

Our emerging markets serve more than 320 million active¹⁰ mobile customers, an estimated 110 million of whom are women. We have already developed many mobile technologies that are changing women's lives (as we explain later in this section) and have set ourselves the goal of bringing the benefits of mobile to an additional 50 million women living in emerging markets, including women in some of the world's poorest communities.

200 million

fewer women than men own a mobile phone worldwide

It is estimated that more than 1.7 billion women in low and middle-income countries do not own a mobile phone¹¹. Worldwide, women are 14% less likely to own a mobile than men. This equates to a 'mobile gender gap' of approximately 200 million women who are unable to use a mobile to manage their daily lives and seek opportunities to grow and learn. Some of the reasons for this are economic; however, many are linked to cultural norms.

Closing the mobile gender gap would have a positive socio-economic impact for women and society as a whole. It also represents a commercial opportunity. It is estimated that connecting more women (and increasing the mobile usage of existing women customers) to reach parity with men could enhance industry revenues by around US\$170 billion from 2015 to 2020¹². There is therefore a very strong alignment between a critical societal need and a global industry commercial opportunity.

Our commitment to women's empowerment begins at the top of the company. Vodafone's diversity and gender equality activities are overseen by the Vodafone Group Board and are led directly by our Group Chief Executive, who is one of 10 global chief executives acting as champions for the UN Women's global solidarity movement for gender equality, *HeForShe*.

Our aspiration is to be the world's best employer for women

We seek to be a company whose global workforce reflects the customers we serve and the broader societies within which we operate. We believe our strong commitment to diversity is a source of business strength, enabling us to understand better the needs of the men and women, families and businesses who rely on our networks and services.

The need for gender equality in the workplace has been recognised for decades – with an increasing number of statutory obligations in developed countries. However, women remain under-represented in many workplaces (and strikingly so at the most senior levels).

Our long-term ambition is to become an employer whose track record in attracting and retaining female talent is so strong that we are widely considered to be the world's best employer for women by 2025. By demonstrating leadership as a 'beacon employer' in each of the countries in which we operate, we believe other companies will seek to emulate our approach, thereby further expanding the range of opportunities for women across the broader working world. Shortly after the period under review, Vodafone was recognised as one of [The Times Top 50 Employers for Women](#) – a list compiled together with the UK not-for-profit organisation Business in the Community.

Programmes such as our ground-breaking global maternity policy and our *ReConnect* initiative to bring women back into the workforce after a career break are designed to address the challenge of the 'leaky pipeline' (explained earlier) and maximise our ability to recruit, retain and develop women at every level of our workforce. Our medium-term goal is to increase the proportion of senior women managers (including senior leadership team) globally to 30% by 2020, up from 25% as at March 2017, and with a view to increasing that proportion over time.

Vodafone Italy strives towards gender equality

During the year, the Chief Executive of Vodafone Italy hosted a conference in support of the UN Women's *HeForShe* campaign attended by the heads of Italian businesses, NGOs, universities and institutions as well as the Vodafone Group Chief Executive and other senior Vodafone leaders. Our Vodafone Italy Chief Executive also led meetings in eight local offices with hundreds of employees in order to raise awareness of Vodafone's commitment to diversity and inclusion.

Vodafone Italy has nominated a number of Listening Champions – senior employees in each of their main locations who act as role models and promote our policies on diversity and inclusion. The business has also included a *Maternity Angels* programme under which a colleague is assigned to stay in contact with female employees on maternity leave and help them settle back into the workplace upon their return. Women returning from maternity leave also benefit from flexible working – including homeworking – for up to two days per week.

Women now hold 31% of senior management roles.

ReConnect – bringing skilled women back into the workforce

Worldwide, there are an estimated 55 million skilled women of middle-management level and above who are not in work following a career break, often after having children. This isn't just a lost opportunity for women and their families; it also means that businesses such as Vodafone are missing out on a huge pool of potential talent, insight and experience. However, getting back into work can be difficult; in recent research, 80% of women who have taken a career break said more support was needed to help them return successfully to the workplace¹³.

In 2017, Vodafone launched *ReConnect*, a new programme that will bring talented women in 26 countries back into the workplace after a career break. The programme includes training, coaching and induction programmes to refresh and enhance professional skills to help returners prepare for re-entry to the workplace and progress their careers.

Our target is to hire 1,000 *ReConnect* women over three years in areas such as Technology, Commercial, HR, Finance, Legal, External Affairs, Customer Operations and Business Intelligence & Analytics. This will increase

the number of women in management roles; around 10% of all of our external management hires worldwide will be recruited through the *ReConnect* programme.

ReConnect joiners will be able to take advantage of flexible working options and a phased return to work, such as a four-day week for the first six months. Measures to ensure an effective and inclusive recruitment process include unconscious bias training for all hiring managers.

"I felt like my career break wiped clean all of my previous career achievements; it was as if I had never worked. It is very hard being a working mum but it is manageable with the right support. ReConnect gave me this."

Burcu Erdur, a senior manager with Vodafone Turkey who took part in the pilot *ReConnect* programme



Embedding our commitment to diversity

It is made clear in our mandatory [Code of Conduct](#) that respect for diversity is integral to the behaviours expected from everyone who works for Vodafone. We do not tolerate prejudice in any form and strive to ensure that every colleague has the opportunity to thrive in a workplace that is welcoming and supportive. Those rules are reinforced through every aspect of people management.

30%

of our managers to be women by 2020

We have a number of programmes underway to embed our commitment to diversity and gender balance. Leaders play an essential role: our induction programme for senior leaders across Vodafone addresses the importance of gender balance and inclusion, and all managers are encouraged to undertake unconscious bias training to raise awareness of assumptions and beliefs that can skew decision making and undermine inclusion and diversity.

Every quarter, we track progress against our 2020 global target to increase the proportion of women managers globally to 30%. The outcomes from that quarterly analysis are reviewed by HR directors in local markets and professional functions to identify challenges and devise approaches to remedy any shortcomings. Vodafone's global gender balance is reviewed twice a year by our Group Executive Committee – led by the Group Chief Executive – with updates presented to the Vodafone Group Board.

We offer a range of mentoring, coaching, training and peer support programmes for women across Vodafone. As an example, our Women in Technology Network now has more than 1,500 members and more than 80 local market and professional function representatives. The network holds global webinars every quarter as well as face-to-face meetings locally.

Flexibility and support for working parents

Research by KPMG indicates that recruiting and training new employees to replace women who do not stay in the workforce after having a baby could cost businesses worldwide up to US\$47 billion every year. We are focused on ensuring that working parents are encouraged and supported to return to work for us after the birth of a child and can be confident that they have the potential to grow their careers while raising a family.

In 2016, we became one of the first organisations in the world to introduce a global minimum maternity policy. This applies to employees at all levels in every country in which we operate, including countries with little or no paid statutory maternity leave. Over 4,000 of our female employees have gone on maternity leave over the last two years; all were eligible to benefit from the policy, which offers at least 16 weeks fully paid maternity leave, plus full pay for a 30-hour week for the first six months.

We offer flexible working, part-time working and homeworking policies across many of our local markets – taking advantage of Vodafone's remote working technologies – which are designed to make it easier for women and men to balance family and work commitments.

Examples of individual local market flexible working practices include:

- Vodafone Italy employees are encouraged to work from home for one day each week;
- Vodafone Turkey employees benefit from flexible working hours and can choose earlier or later start or finish times to help them balance work and personal commitments; and
- full-time employees of Vodafone India can take an unpaid sabbatical (from 90 days to more than one year) to look after children or family members or to develop skills and interests.

Supporting working parents at Vodafone Egypt

Vodafone Egypt aims to be the most family-friendly employer in the country and is introducing policies to help retain female employees after they have children. It has launched Vodafone Day Care – in collaboration with one of the top childcare providers in Egypt – to provide an on-site childcare facility at its head office offering convenient and high-quality childcare for employees with young children. Vodafone Egypt currently has 22% women in management and leadership roles and is actively working towards the goal of 30% female representation by 2020.



Celebrating women's achievements

We want to raise the profile of female role models and celebrate women's achievements with visible support from our senior leaders. Recent examples include our global webinar on International Women's Day. This was watched live by more than 2,500 employees worldwide (including 20 local market chief executives and their senior leadership teams) and was led by our Group Chief Executive. The webinar was one of a series of more than 30 events (including roundtable discussions, networking events, role-modelling and mentoring sessions and training) that took place over one week, with communications reaching more than 50,000 employees.

How are we doing?

We are making progress towards our target of 30% women in management and leadership roles across our local markets and professional functions. However, the proportion of women in our management and global leadership roles is still not as high as we would like. To date, 15 of our local markets and also our joint venture

in Australia and our associate Safaricom in Kenya have achieved more than 30% female representation and some have achieved, or are well on their way to achieving, true parity.

26%

of the senior leadership team are women

One-third of the directors of the Vodafone Group Board are women, as of 1 June 2017. We also encourage greater female participation in non-executive and advisory roles outside Vodafone; we provide support to senior women executives within Vodafone who would like to take on non-executive board roles with other companies to complement their Vodafone careers.

Our experience at the other end of the career path – recent graduates entering the world of work for the first time – provides good grounds for optimism about Vodafone's future leadership cadre. During the year, women accounted for more than 55% of the intake into our *Discover* graduate development programme and 52% of the intake into our *Columbus* leadership fast-track graduate scheme.

Female employees at Vodafone (%)	2015	2016	2017
Women in senior leadership team (top 175–225 employees)	22	24	26
Women in senior management (1,100–1,600 employees)	23	24	25
Women in middle management (6,000–7,500 employees)	26	27	28
Women (all non-management employees)	37	37	38

Sharing the benefits of diversity in Ireland

In Ireland, 66% of our senior leadership team and 48% of our management population are female. Diversity has been prioritised from the top with a focus on organisational culture and embedding equality into all elements of people management. This includes a commitment to flexible working and ensuring a balance of men and women in all recruitment shortlists and interview panels to guard against the impact of unconscious bias. Training and support is provided to empower leaders to create an inclusive culture.

A number of our male senior employees support the Men Advocating Real Change (MARC) initiative. During the year, we hosted the first-ever MARC event in Ireland. The session took place in our offices in Dublin and was attended by 30 chief executives and senior male leaders from 40 Irish businesses and organisations.

"Since the programme launch, our senior male leaders are more active and engaged in our diversity and inclusion strategy."

James Magill, HRD, Vodafone Ireland



Changing women's lives through mobile

Our ambition is to expand the benefits of mobile to a greater number of women at all levels of society through a range of targeted commercial programmes. We also aim to use our mobile technologies to enhance the quality of women's lives in three key aspects:

- enabling financial inclusion;
- improving health and wellbeing; and
- building skills and entrepreneurship.

We believe our actions over the years ahead will make a material difference to women, families, communities and national economies across the countries in which we operate. As explained earlier in this Report, our aim is to bring the benefits of mobile to an additional 50 million women living in ten emerging markets including women in some of the poorest communities on earth. Significant progress towards this target has been made in the first year. We now have an estimated 110 million active female customers, 9.4 million more than last year, through commercial programmes that are overseen by the Chief Executive of our Africa, Middle East and Asia-Pacific region. For example, our *Women First* programme in Turkey provides women in rural areas with mobile phones and access to the internet. A key element of the programme is the *Women First Advertisement Service*. This enables self-employed women homeworkers with little experience of technology to use a mobile phone to advertise their products on one of Turkey's biggest online marketplaces. Women simply send information about their products via a text

message, which is then posted online on their behalf, enabling them to access large numbers of customers. The *Women First* programme has now reached approximately 700,000 users.

Progress towards our 50 million women goal

	Estimated number of female customers (millions)
Baseline: 2016	100.3
Total: 2017	109.7
Progress against baseline	9.4

Enabling financial inclusion

More than 2 billion people globally still do not have access to banking facilities¹⁴. The majority of them are women. This makes it difficult to manage household finances, save or run a business. There is therefore both a social need and a business opportunity in improving women's access to financial services.

A decade ago, Vodafone and our Kenyan associate, Safaricom, developed the first mobile money transfer service, M-Pesa. M-Pesa is simple to operate (payments are transmitted and received using technology available on even the most basic mobile phones), highly secure (transactions are protected with enterprise-grade encryption), and cheap and convenient.

Vodafone now offers M-Pesa in 10 countries: Albania, Democratic Republic of Congo, Egypt, Ghana, India, Kenya, Lesotho, Mozambique,

Romania and Tanzania. As of March 2017, M-Pesa was used by almost 31 million customers¹⁵ through a network of more than 300,000 agents and processed over 6 billion transactions. The services now play an important role in the broader economies of several countries.

With a mobile phone and an active M-Pesa account, even people on very low incomes gain control over their financial affairs. For example, their exposure to common risks in a low-income, cash-based society – such as street robbery and petty corruption – is significantly reduced. Through services such as *M-Shwari*, *M-Pawa* and *KCB M-Pesa*, customers are also able to access mobile interest-bearing savings accounts and micro-loans. M-Pesa is used to manage business transactions of all sizes, and in several countries is also used for the distribution of salaries, pension payments, and the disbursement of agricultural subsidies and government grants.

50 million more women in emerging markets will benefit from access to mobile through our strategy

Access to M-Pesa helps put power over the family's finances into women's hands, enabling them, for example, to save money each week to pay for a child's education or to secure a small loan to set up a business working from home. We estimate that in 2016, we had 10.1 million active female M-Pesa customers representing 40% of our M-Pesa customer base¹⁶.

Business Women Connect in Tanzania

In sub-Saharan Africa, access to financial services can be extremely challenging, particularly in rural areas. In a region where most people run their own small enterprises, either alone or with family members, traditional gender roles mean that women often find it harder than men to access land, equipment and other assets that can enhance their capacity to grow their businesses and improve their livelihoods.

Building on the success of M-Pesa and M-Pawa, Business Women Connect (BWC) is designed to increase business income and economically empower female micro-business owners in Tanzania by introducing them to mobile savings and offering them business training. BWC was launched in 2016 as a partnership between TechnoServe, Vodacom, ExxonMobil Foundation, the World Bank and the Centre for Global Development. Since its launch, the programme has trained nearly 3,000 women in the use of M-Pawa and, of those, nearly 2,000 have received additional business skills training.

The next stage of the project is to conduct research to increase our understanding of how mobile services can most effectively help women save, invest in their business and increase their earnings.

BWC is now launching in Mozambique with a pilot programme that will help 400 women access mobile finance through M-Pesa.



Enhancing livelihoods in rural India

In India, only 26% of women are employed compared with 74% of men¹⁷. Female entrepreneurs face many challenges in growing their businesses, particularly in rural communities. Research shows that owning a smartphone can help business owners reach more customers, boost sales and increase their incomes.

Smart Snehidi is Vodafone India's first commercial proposition focused exclusively on low-income women in rural areas. The programme is run in partnership with the NGO *Hand in Hand*. It enables women to purchase an affordable smartphone with free mobile internet access and receive training on how to increase their digital literacy and use the internet to grow their businesses.

Customers can also access an online community via their smartphones where they can sell products or services and gain access to microfinance loans. The *Smart Snehidi* programme was launched in late 2016 in three districts in Tamil Nadu.

"I own a grocery shop. After joining Smart Snehidi, I'm able to check prices of groceries in the city wholesale market online. I can choose to travel to the city only when prices are low, allowing me to buy at a lower price and sell at a higher price. My profits have increased after I started using Vodafone internet on my new smartphone."

Kavita, Kanchipuram district

Improving health and wellbeing

Worldwide, around 400 million people lack access to essential health services¹⁸. Screening, prevention and treatment services that are considered routine in the developed world are limited or even non-existent in low to middle-income countries. For example, every year around 800,000 women die of cervical and breast cancer; but where a woman lives will largely determine her chance of survival¹⁹. Two-thirds of breast cancer deaths and 9 out of 10 deaths from cervical cancer occur in low and middle-income countries²⁰.

We have developed a range of mobile technologies (often in partnership with the Vodafone Foundation) that enhance primary healthcare and preventative services in our emerging market local businesses. For example, in South Africa we are working with the National Department of Health to operate a mobile-based system to monitor drug stock levels and prevent shortages across 3,200 clinics nationwide.

400 million

people lack access to essential health services

Many of these programmes are particularly important for women and their young children. For example, in Lesotho our *Mobilising HIV Identification and Treatment* programme uses mobile technologies to improve access to treatment for HIV positive children and pregnant women.

Connecting women to emergency healthcare in Tanzania

Women in Tanzania are more than 40 times more likely to die from preventable causes during pregnancy and childbirth than women in the UK²¹. One challenge is the lack of ambulances to transport women to hospital during an emergency. Sengerema and Shinyanga DC provinces in northern Tanzania, for example, cover an area the size of Belgium with a population of more than 2 million but are serviced by fewer than 10 ambulances. These areas are believed to have some of the highest maternal and infant mortality rates in the world.

Mobilising Maternal Health, a programme led by the Vodafone Foundation, aims to reduce maternal and newborn deaths by connecting mothers to healthcare services. Its mobile taxi service helps get pregnant women to hospital in an emergency. Following a call to the toll-free 24/7 maternal emergency hotline, one of more than 100 district taxi drivers will be dispatched, at no cost to the patient, to take them to the nearest facility for treatment.

Since its launch in July 2015, the hotline has received more than 3,700 emergency calls, and 'ambulance taxi' drivers have transported more than 3,300 women for emergency care, saving an estimated 240 lives. The programme is delivered in partnership with NGOs Pathfinder International and Touch Foundation and the US Agency for International Development (USAID).

Making healthcare more affordable in Kenya

Nearly half of all healthcare in Kenya is paid for directly by individuals needing treatment. Many Kenyans therefore rely on healthcare that is funded by donor organisations²². M-Tiba is a mobile wallet service for healthcare that aims to improve access to healthcare by making it easier for Kenyans to save and receive funds for medical treatment.

With M-Tiba, users can put money aside regularly to cover future healthcare expenses and also receive funds from donor organisations or family members that can only be spent on healthcare. The service uses M-Pesa so customers can make cash-free payments for their treatment at registered clinics, and donor organisations are able to track payments and ensure that funds are used correctly.

M-Tiba was developed by our associate Safaricom and healthcare finance organisations PharmAccess Foundation and CarePay. More than 146,000 people are now using the M-Tiba health wallet, almost half of whom are women. This includes approximately 27,000 female slum dwellers in Nairobi who receive donor funds via M-Tiba to pay for HIV treatment and other medical expenses as well as around 1,000 women who have received maternity care at Gertrude's Children's Hospital.

"M-Tiba has helped change our life. Before we never used to go to the hospital immediately. Now I have my money in my health wallet in my phone. I can rush to the hospital, get treated and get well."

Gladys Akinyi



Violence against women is another major public societal and health problem. Global estimates indicate that around one in three women worldwide will experience physical or sexual violence in their lifetimes, often at the hands of their partner or ex-partner²³.

60,000

women have used the TecSOS emergency alert service

Vodafone and the Vodafone Foundation have developed a number of different products and services that focus on the safety and security of women in vulnerable domestic circumstances. For example, our Easy Rescue smartphone app in Turkey enables women at risk to alert friends covertly that they need help simply by shaking their phone. Another example is the TecSOS emergency alert service (see box, right) that has been used by more than 60,000 women at risk of domestic abuse in five countries.

Supporting victims of domestic violence in South Africa

Gender-based violence remains a significant issue across South Africa. We are working with the Department of Social Development to provide a mobile-based safety alert system for victims of abuse and assault, connecting them to a 24/7 call centre in the event of an attack. The service includes geolocation so the victim can be located and tracked, enabling call centre handlers to alert nearby support staff and emergency services and direct the victim to the nearest police station, hospital or refuge. The service also provides social workers with details shared by the victim, updating case files for follow-up.

Women who contact the call centre receive counselling and advice from trained social workers. They are offered support to help them report crimes to the police and to be referred to local services for further assistance. During the year, the call centre was contacted almost 90,000 times.

Helping women at risk of violence with TecSOS

TecSOS is a device adapted for victims of domestic violence. It has a hidden function: with one single action it initiates a priority call straight to the control room of the emergency services, enabling the woman at risk to be located and assisted. TecSOS was developed by the Vodafone Spain Foundation. To date, TecSOS devices have been used by over 60,000 women across Germany, Hungary, Ireland, Portugal, Spain and the UK.

In the UK, for example, TecSOS is now used by 36 police services across the country with almost 12,000 people benefiting to date. Independent evaluations of the service have shown that it increases arrest rates, reduces police response times, saves money and improves women's confidence.

In Spain, we are supporting Atenpro, a national service for women at risk of domestic abuse in partnership with the Red Cross, the TecSOS Foundation and the Spanish Ministry of Health, Social Services and Equality. Women can use the TecSOS device to call for help, and also benefit from counselling and psychological support from qualified Red Cross professionals and regular follow-up calls to check on their health and wellbeing.

"TecSOS saved my life and I wouldn't be here today without it."

TecSOS user and victim of domestic violence, UK

Building skills and entrepreneurship

There are few better ways to enhance a girl's opportunity to thrive in life than to provide her with a good education. However, many girls in poorer emerging markets enter adulthood without even the most basic literacy and numeracy skills. It is estimated that in low-income countries 16 million girls aged 6 to 11 will never start school – twice the number of boys²⁴. Even more attend school when young but drop out early: it is estimated that only around one in 100 girls in rural India reaches the final year of school.

Women who have received some form of education up to secondary school level benefit from higher incomes (on average, up to 20% more throughout their lifetimes) than girls without schooling. They also tend to have better health outcomes. It is estimated that investing in the education of young girls to ensure they complete secondary school would generate a US\$21 billion dividend for developing countries²⁵.

Many parents across all cultures and demographics recognise the benefits of an education for girls as well as boys and do all they can to equip their children with the skills needed to become economically active in the modern world. However, even with supportive and willing parents, access to education beyond basic primary teaching is very difficult for many children in low and middle-income countries. Schools can be remote or expensive and teaching resources scarce.

Mobile technology can increase access to quality education, especially for people in remote areas. The Vodafone Foundation is a global pioneer in

developing innovative digital teaching and remote learning technologies for deployment among some of the most isolated and vulnerable social groups in emerging markets including refugees in camps in sub-Saharan Africa. The Foundation's programme connects classrooms to the internet, provides solar power, tablet computers, mobile content and teacher training – together with access to educational content and resources – to previously remote and isolated communities. The Foundation is championing the education of refugees, targeting a potential 3 million young people in refugee camps across the countries in which we operate by 2020; see our *Instant Schools for Africa* case study on page 37 of Youth Skills and Jobs for more information.

- 1 [Global Gender Gap Report 2016](#)
- 2 [Women at Work Trends, ILO, 2016](#)
- 3 [Global Gender Gap Report 2016](#)
- 4 [KPMG research for Vodafone, 2017](#)
- 5 [KPMG research for Vodafone, 2017](#)
- 6 [Policy Paper 7, UNESCO, 2016](#)
- 7 [The Full Participation Report, 2015](#)
- 8 [WHO Maternal Mortality, 2016](#)
- 9 [McKinsey Global Institute Report, 2015](#)
- 10 Based on 30-day active customer figures for the ten emerging markets in the 50M women goal
- 11 [Bridging the Gender Gap Report, GSMA 2015](#)
- 12 [Bridging the Gender Gap Report, GSMA 2015](#)
- 13 [KPMG research for Vodafone, 2017](#)
- 14 [The World Bank Overview](#)
- 15 30-day active customers (financial transaction within last 30 days)
- 16 Albania, DRC, Egypt, Ghana, India, Kenya, Lesotho, Mozambique, Romania and Tanzania
- 17 [Labour force participation rates, ILO, 2014](#)
- 18 [Tracking universal health coverage: WHO/World Bank, 2015](#)
- 19 [Lancet report, 2016](#)
- 20 [WHO programme, 2012](#)
- 21 [World Bank Data on maternal mortality](#)
- 22 [Financing Health in low-income countries, World Bank, 2016](#)
- 23 [Violence against women, WHO, 2016](#)
- 24 [UNFPA, State of World Population 2016](#)
- 25 [UNFPA, State of World Population 2016](#)
- 26 [Labor force, female \(%\) ILO](#)

Eradicating illiteracy through mobile learning

In Egypt, one in three women is unable to read and write. This is reflected in the female labour participation rate; Egypt has one of the lowest proportions of women in the workplace in the world²⁶.

The Vodafone Egypt Foundation's *Knowledge is Power* programme uses mobile technology to increase literacy among Egyptian adults, with a particular focus on women. A free Vodafone literacy app uses pictures and a talkback function to make learning easier and more flexible. It can be downloaded onto any smartphone (there is also a basic featurephone version) and enables women to learn at home at their own pace and in their own time. The app is used in combination with local classroom sessions run by trained volunteers and classroom facilitators. Participants attend three to six months of classes, with a final exam provided by GALAE, Egypt's General Authority for Literacy and Adult Education.

Since the launch of the *Knowledge is Power* programme in 2011, more than 480,000 learners have enrolled in classes. Around 70% of those who complete the course are women, helping to remove a major barrier to individual empowerment, economic growth and participation in society.



Energy Innovation

As one of the world's largest mobile operators we have prioritised the need to improve our energy efficiency and reduce our greenhouse gas emissions across our network and activities. We are also using technology to tackle the issues of energy security and climate change head on and are helping our customers to reduce their emissions through the use of IoT.

Increasing data use

The amount of data carried across our networks has grown 12 times over the last five years to over 2,700 petabytes

Reducing emissions

We enabled our customers to save 1.9 tonnes of greenhouse gas emissions for every tonne we generated, while our total emissions remained stable at 2.59 million tonnes of CO₂e

Improving efficiency

Our annual greenhouse gas emissions per petabyte of data carried by our mobile networks were 37% lower than in 2016

Energy Innovation

The global context

There is clear evidence that global temperatures are rising quickly. There is also a very strong consensus among scientists and policymakers that carbon dioxide emissions from fossil fuels such as coal, oil and gas – together with other greenhouse gases (GHGs) – are having a direct impact on the climate.

2016 was the warmest year since modern records began in the 1880s²⁷. Last year also saw the lowest-ever recorded extent of wintertime Arctic ice²⁸. Many scientists agree that urgent action to address climate change is needed; some of the world's poorest communities are already experiencing the consequences of global warming, including severe droughts, flooding and rising sea levels.

The Paris Agreement on climate change came into force on 4 November 2016 and has now been ratified by more than 140 countries²⁹. This Agreement commits world leaders to take the actions necessary to maintain global temperature rises to no more than 2°C above pre-industrial levels – the temperature rise beyond which severe and irreversible changes to the planet are likely – and to pursuing a more challenging target of a maximum 1.5°C increase.

However, the pledges agreed under the Paris Agreement are insufficient to achieve the aims

specified. Over the coming century, the world is expected to experience temperature rises of 2.9 to 3.4°C, with potentially catastrophic consequences³⁰. Achieving the aims defined under the Paris Agreement is particularly challenging in the context of continuous global population growth. According to most analysts, global energy needs are expected to increase by a further 30% by 2040. At present, more than 80% of this need is met from carbon-intensive fuel sources. While it is anticipated that lower-carbon energy sources (including renewables) will meet some of the increase in demand³¹, there is more need than ever for all nations, industries and individuals to phase out the use of fossil fuels³².

30 %

expected rise in global energy needs by 2040

Security of supply is also of increasing concern. Many economies rely on energy sources imported from regions that are politically unstable; others depend on legacy indigenous reserves that are approaching end of life and can no longer be extended or replenished. The potential for disruption to supply continuity has important implications for governments and companies alike, particularly in countries that have poor electricity transmission infrastructure. As a result, measures to enhance resilience in the event of systemic weaknesses in on-grid power sources will become increasingly important over time.

ICT and climate change

Communications infrastructure cannot function without energy. The global information, communications and technology (ICT) industry requires significant amounts of electricity to connect billions of people and machines and transmit vast amounts of data every second.

Most of the electricity used by communications companies is currently provided by national power generation companies and supplied to the operator's base stations, switching centres and data centres 'on-grid' via the national electricity transmission network.

Globally, the large majority of on-grid electricity continues to be derived from burning fossil fuels, with coal-fired power generation commonplace in many economies. Communications infrastructure in more remote areas – and in emerging market countries with poor-quality national electricity transmission networks – often rely on a local power source such as diesel to generate electricity 'off-grid'.

As a significant power user largely reliant upon hydrocarbons, the ICT industry therefore has a GHG emissions challenge. That challenge is also growing exponentially: every additional device connected to the network and every additional gigabit of data transmitted or stored represents a potential increase in each operator's electricity needs. It is estimated that the global ICT industry will account for around 2% of total global GHG emissions by 2030³³, comparable to the global aviation industry.

Rapid data and mobile growth

Mobile data traffic has grown 18-fold over the past five years³⁴ and will continue to rise at a rapid rate.

By 2020 it is predicted that:

- mobile data traffic will be equivalent to 15 times the volume of all data carried in the entire global internet in 2005³⁵;
- global IP traffic will have increased nearly 100-fold from 2005³⁶; and
- the number of mobile connections will increase to 8.9 billion, up 22% from 2015³⁷.

There is a pressing need for communications companies such as Vodafone to develop innovative approaches to energy consumption to mitigate the climatic consequences of rising demand for our services. In this section of the Report, we will explain our work to date in this area and will provide some insights into our thinking about the future.

Incentives to innovate

There are two other important factors to consider when examining the ICT industry's approach to energy use: cost inflation and security of supply.

Annual energy costs are material for many communications companies, running to hundreds of millions of euros a year for a large global telecoms operator. Although international oil benchmark indices are comparatively low at present and oil, gas and coal reserves remain abundant, the potential for future volatility in commodity prices combined with uncertainty over government fuel subsidies and the introduction of carbon pricing models in many countries represent a significant cost inflation risk. There is therefore a strong financial incentive for communications companies to seek to optimise their energy consumption.

For communication companies, stable and secure sources of power are essential: without these, our networks cannot function. In many areas of the world, grid electricity is non-existent or erratic and diesel supplies can be a target for thieves. Back-up alternative power sources are therefore an important aspect of our business continuity plans.

A solution more than a problem

There is another dimension to the role played by the global ICT industry in efforts to mitigate climate change. Many of the services that communications companies provide make a significant contribution to the reduction of emissions arising from their customers' own operations.

BBOXX brings power to those living off-grid

Our connections are helping to bring off-grid power to people who live in remote areas without access to electricity. BBOXX produces off-grid solar systems that can be used to charge mobile phones, lights and low-power TVs. We are working with the BBOXX team to connect these innovative systems to our global Internet of Things (IoT) network.

The unit can be activated anywhere in the world in five minutes, and a team based in London uses our IoT technology to install updates, check for faults, track usage and monitor payments remotely. Ten thousand units have already been deployed using our connectivity – mainly in Rwanda and Kenya.

As new technologies such as the Internet of Things (IoT) continue to spread through every aspect of daily life – bringing network intelligence and optimised energy use to a wide variety of machines, devices and processes – the beneficial climatic effects of the global ICT industry will increase. One recent estimate is that the industry could account for a 20% reduction in total global GHG emissions by 2030, in effect maintaining emissions at 2015 levels despite a further 15 years of global population growth and increasing urbanisation and industrialisation in emerging markets³⁸.

In Vodafone's case, the positive effects of our contribution – in terms of reduced GHG emissions from our customers – already exceed the GHG impact from our own operations, as we explain later in this section of the Report.

Improving fleet efficiency with Microlise

Since 2007, we have been providing Microlise, one of the UK's largest providers of telematics solutions, with the connectivity its technology needs to support fuel savings in commercial fleets.

For all fleet operators, the cost of fuel is critical to the bottom line. For some fleets – where vehicles can be on the road up to 22 hours a day – any improvement in fuel efficiency, however small, can have a positive effect on profits. There are therefore strong commercial incentives to reduce fuel costs – and, as a consequence, reduce overall emissions.

Microlise's telematics use our IoT connections to transmit data from vehicles to fleet managers. This enables the company to monitor driving style, safety and fuel consumption in order to identify opportunities for efficiencies and improvements. One Microlise customer – Carlsberg – achieved fuel savings of 4.8% in its UK fleet in just one year.

Microlise has now deployed more than 180,000 Vodafone IoT connections in 116 countries, enabling cost and emissions savings in fleet operations worldwide.



Vodafone, energy and climate change

As explained in the [Introduction](#), in 2015 we identified Energy innovation as one of our three core global transformation goals over ten years to 2025. We did so for five reasons.

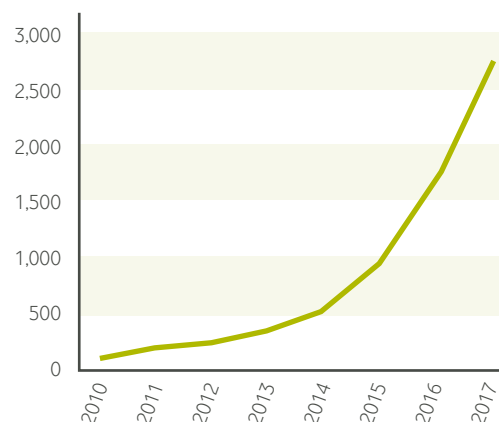
The first reason is inherent to the growth of the global digital communications market. As our customers' needs have expanded, our consumption of energy has increased. Worldwide, we now operate more than:

- 300,000 mobile base station sites and small cells;
- 60,000 computer servers;
- 350,000 fixed access nodes; and
- 4,300 buildings (including 500 technology centres) used by more than 108,000 employees.

Unlike some ICT companies with a small number of large data centres, Vodafone has a much larger number of smaller technology sites spread across different countries and locations. This means that much of the energy consumed across our businesses is disaggregated – with multiple sites consuming relatively small amounts of energy – which, in turn, means that optimising our energy consumption is a complex challenge.

We are one of the world's largest mobile operators, serving more than 515 million customers³⁹ (including all of the customers in Vodafone's joint ventures and associates) and more than 14 million fixed broadband customers. We are also the leading global provider of IoT mobile services – with more than [50 million connections](#)⁴⁰ – and we operate one of the world's largest international fixed-line data networks relied upon by many of the world's largest businesses. The amount of data carried across our networks has grown exponentially over the last decade. The larger and busier our networks become, the more power we need; although, as we explain later in this section, there has been significant progress in energy efficiency over the period.

Volume of mobile data carried on Vodafone's networks (petabytes)



The second reason we identified Energy innovation as a core 2025 global goal for Vodafone relates to security of supply. In Europe – the region where we generate most of our revenues – more than half of all energy demand is met using imported sources, including from countries with a history of social and political instability. On-grid electricity supplies in emerging markets – where we serve more than 360 million mobile customers – are often erratic and unavailable beyond built-up areas. Many emerging market economies also rely on energy imported from potentially unstable countries. Worldwide, more than 515 million customers depend on our networks, including a range of emergency services and critical infrastructure providers in sectors such as banking, utilities and transport. We therefore need to ensure that our networks are as resilient as possible, which in turn necessitates a strategic view of our own long-term energy requirements.

50 million

IoT connections

The third reason is cost. We currently spend more than €1.1 billion a year on energy, representing around 12% of Vodafone's total annual operating expenditure. There is a significant possibility that our energy costs will continue to rise over time, for the reasons we explain above. We summarise the activities now underway to mitigate that risk later in this section of the Report.

The fourth reason relates to opportunity. Our technologies and services provide our customers with the means to achieve a reduction in their GHG emissions over time. Our core business – connecting people and machines – can therefore help to accelerate global efforts to mitigate climate change.

Finally, many of our customers and employees live in parts of the world where their lives and livelihoods are directly threatened by climate change. Furthermore, extreme weather conditions linked to global warming pose a risk to our network infrastructure, our operations and our own employees.

We are a signatory to the [Paris Pledge for Action](#), recognising that we are ready to play our part in limiting global temperature rises to below 2°C. We have also stated – through our membership of the European Round Table of Industrialists – that we believe global carbon pricing provides an effective route to lowering carbon emissions within and across economies⁴¹. In addition, we recognise our role in helping to meet the UN Sustainable Development Goals on energy security, climate change and sustainable consumption.

Optimising our own energy consumption

Where feasible, we seek to reduce the power needed to meet our customers' needs and thereby reduce the GHG emissions generated by our own operations as far as possible.

We focus on three areas:

- continuous innovation in the design and operation of our most power-intensive infrastructure, namely our access networks and technology centres;
- development of options to replace carbon-intensive energy sources both on-grid and off-grid; and
- measures to enhance energy efficiency and reduce emissions from our general business and administrative activities.

In this section of the Report, we will focus on each area in turn before summarising the overall carbon impact of Vodafone as a whole.

Optimising our power-intensive infrastructure

As we explained earlier, customer demand for data continues to grow at a rapid rate, which in turn places ever-greater demands on our access networks and technology centres. We work very closely with our equipment vendors to ensure that increased demand for our services and our own business growth do not translate into a similar percentage increase in electricity demand. Developments to this effect during the year have included:

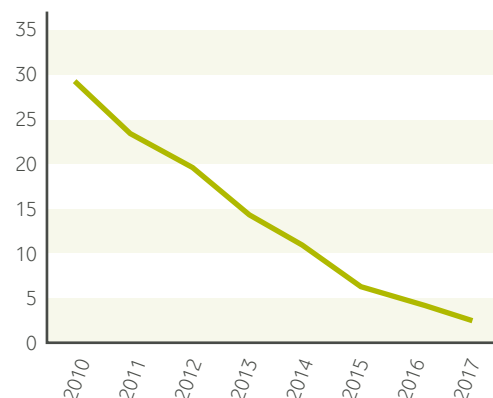
- making energy efficiency a core priority when we purchase energy-intensive products and services from our vendors;

- publishing an internal catalogue of the most energy-efficient products and services to help local teams in the countries in which we operate reduce their energy consumption profile;
- reviewing our suppliers' product and service development plans to ensure they take our energy efficiency requirements into account. For example, this includes requiring the inclusion of remote monitoring capabilities for some of the network products we procure to enable real-time optimisation of energy consumption; and
- evaluating emerging technologies from new and existing suppliers to help improve our energy efficiency strategies and to support greater adoption of renewable sources.

Power optimisation is an important aspect of the design specification for new infrastructure; as a result, each new generation of equipment is more energy-efficient than the equipment it replaces. We have also begun to introduce a range of new smart power management technologies across our networks, as we explain below.

We have now achieved certification under the energy management system standard, ISO 50001, in four of our local markets: Germany, Greece, Ireland and Turkey. The main goal of the ISO 50001 standard is to improve energy efficiency through the development and implementation of systems and processes intended to reduce energy costs and GHG emissions. For example, in Germany our ISO 50001 certification encompasses approximately 20 energy-saving measures that are expected to reduce energy consumption within our local business by 143 GWh per year – approximately 7% of its total consumption.

Amount of energy (in GWh) used for every petabyte of traffic on Vodafone's networks



Access networks

We are committed to increasing energy efficiency across our 302,000 base stations worldwide. Our access networks account for approximately 65% of our total global energy consumption and are therefore a critical focus for our energy efficiency activities. Our actions include:

65%

of our total global energy consumption is through our access networks

- installing highly efficient single radio access network (SRAN) equipment, which allows multiple technologies (2G, 3G and 4G) to be run from a single piece of radio hardware within the base station. We have deployed SRAN equipment in 90% (270,600) of our base station sites, of which 69% (185,500) are fully operational with all legacy equipment at the site now decommissioned;

- activating new energy-saving software features and Self-Organising Network (SON) technologies that optimise radio resources to reflect voice and data traffic requirements in real time;
- deploying in excess of 11,000 active antennae – a technology that integrates radio equipment inside the antenna – eliminating power attenuation over cable runs that are incurred in conventional base stations and reducing power consumption at a site by up to 30%;
- installing free air-cooling technology as an alternative to air conditioning at a further 4,000 base station sites this year. Free air cooling reduces energy requirements by 2,000–3,500 kWh per year per site. We have now installed this technology within 221,000 sites – more than 70% of the global total;
- installing batteries that can withstand temperatures of up to 35°C to reduce the need for air conditioning at base stations in hot countries;
- deploying hybrid solutions – a combination of diesel generators and batteries that cut diesel use by up to 70% per site; and
- connecting more than 65,000 smart meters to Vodafone's central Energy Data Management (EDM) system, which we now use in 12 countries to optimise energy use. The EDM system is deployed in technology centres as well as our access networks.

Increasing integration of renewable energy into national grids

The expansion of renewable energy sources for on-grid electricity generation is a critical aspect of efforts to mitigate climate change. However, two of the most common renewable sources – wind and solar photovoltaic (PV) generation – fluctuate in efficiency depending on weather conditions. This inconsistency of supply has important implications for national power transmission grids that must be able to route electricity from power stations dynamically to make up any shortfall in capacity.

The SmartNet consortium has been established to address these challenges. The consortium seeks to improve coordination between national grid transmission operators and distributors of electricity to the end customer, as well as to encourage cross-industry research and development into the energy storage technologies required to manage fluctuations in supply and demand.

Vodafone is one of 22 participating members of the SmartNet consortium supporting a three-year research project funded by the EU with pilots in three

European countries. In Spain, we are using some of our base station sites for energy storage during periods of excess grid power generation capacity, then later releasing the energy stored back into the national grid to help address supply shortages.

We also support similar projects using on-site power generation assets – such as standby generators – in the same way. These innovative decentralised storage and generation methods enable better matching of demand and response. They will play a critical role in future energy transmission and distribution systems, as generation evolves beyond reliance upon a relatively small number of large power stations to encompass a greater number of smaller, dispersed renewable and other lower-carbon energy sources.

Technology centres

Energy consumption within our technology centres (predominantly data centres and switching centres) accounts for approximately 28% of our global total.

One of the most commonly used metrics in assessing the energy efficiency of a data centre is power usage effectiveness (PUE). This measures the amount of electricity required to operate the centre's computer equipment and compares this with the power required for all other functions of the building, from air conditioning to lighting. A PUE of 3 means that for each watt of power needed to run computer equipment, two additional watts are required to run the non-computing building functions. During the year, we continued to improve the PUE at our technology centres worldwide to reach a level of 1.63.

Energy efficiency initiatives include:

- integrating energy efficiency requirements within our supplier selection processes, enabling us to install energy-saving features directly within our computer servers and to select high-performance power and cooling solutions whenever we need to retrofit or add new capacity;
- replacing more than 6,000 KW of old air-conditioning units used to cool our computer rooms and 5,000 KW of power supply units with more energy-efficient models;
- implementing free air-cooling solutions (explained above) in more than 50% of our technology centres and adiabatic solutions (which use changes in air pressure to regulate

heat) in warm climates where free cooling is not a suitable option;

- increasing the temperature set point in our data centre server rooms from 20°C to 28°C and from 20°C to 25°C in our switching centres to reduce the amount of cooling required;
- continuing the rollout of smart meters to verify consumption and identify inefficiencies at a further 16 technology centre sites, reaching more than 70% coverage;
- rationalising our portfolio of buildings and technology centres, closing nine sites worldwide and introducing two high-efficiency modular sites to increase capacity; and
- implementing innovations such as dynamic thermal management systems and eco-mode features on power conversion systems to improve overall site infrastructure efficiency (see case study right).

We have also increased the number of virtual computer servers (secure servers hosted remotely and accessed via the internet) compared with the number of physical servers within our technology centres. Virtualisation reduces the space (and power) required within a technology centre. Our virtualisation ratio is now 69%: more data is processed within centres operated by third parties than is processed within our own data centres. While virtualisation reduces our own power needs (and therefore direct GHG emissions), it does mean that third-party GHG emissions may increase. This factor is reflected in our Scope 3 GHG reporting, set out later in this section.

Using dynamic thermal management to reduce energy usage

All electrical equipment generates heat. We use large numbers of computer servers and other equipment to manage the vast amount of data passing across our networks, and the heat generated by all of those devices can be significant. Too much heat will destroy components and lead to network failure. Cooling technologies are therefore an essential part of our energy strategy, accounting for around 30% of our overall site energy usage in technology centres.

We have begun to implement dynamic thermal management (DTM) systems to reduce energy consumption from cooling. DTM systems automate cooling controls dynamically to ensure that computer servers receive just the right amount of cooled air to prevent overheating – but no more than is needed – while responding in real time to network demand and external environmental conditions.

We have implemented DTM systems in 11 of our technology centres in Europe, resulting in an average 9% reduction in energy consumption in those sites and a reduction of 2,700 tonnes of CO₂e. We will add DTM systems to other locations over time.

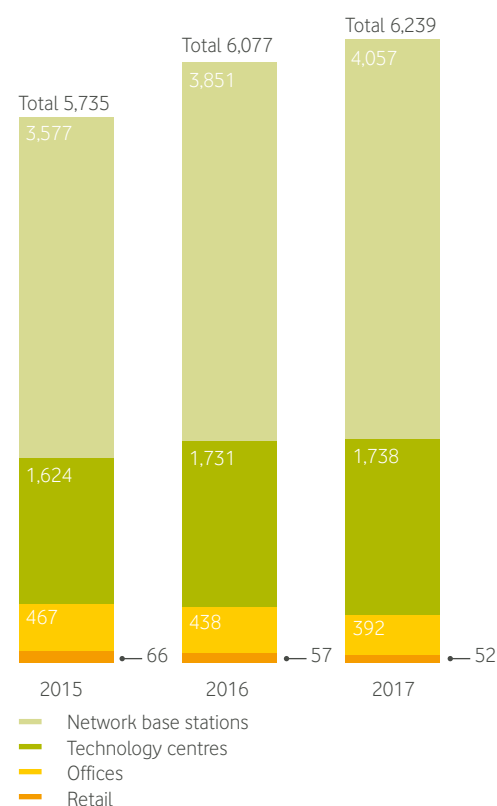
Our energy sources

We rely on on-grid power sources for most of our energy needs, and the large majority of those on-grid sources burn fossil fuels to generate electricity. We are exploring options to increase the proportion of on-grid energy from renewable sources within our energy supply mix, as – at just 11% of all energy used – this remains low when compared with some other large ICT companies. However, beneath the headline number there are wide variations between individual countries. In developed economies with a mature renewable or zero-carbon power generation sector (often backed by government policy commitments), we are able to take advantage of much better alternatives than in an emerging economy with little or no on-grid renewable generation capacity. For example, we already procure on-grid power from renewable sources in the Czech Republic, Germany, Ireland and Italy. However, ultimately, we can only use what on-grid power generation companies make available to us. If a country has little scope to decarbonise its power generation sector (or does have scope but demonstrates little interest, in policy terms, in doing so), industrial users reliant upon on-grid electricity such as Vodafone need actively to explore alternative strategies as part of their contribution to efforts to mitigate climate change.

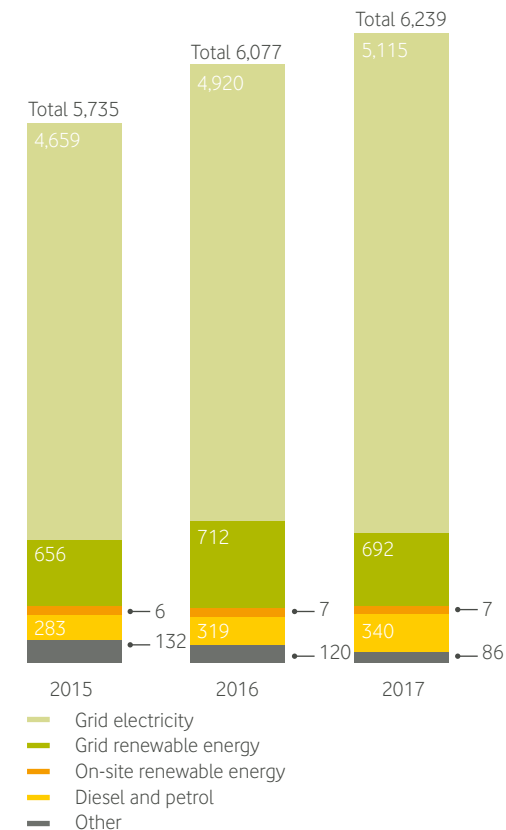
We are researching possible deployment of solar photovoltaic (PV) or wind power at our technology centres. However, as many of these centres are in urban areas – and have very significant power needs – these are generally small-scale deployments that supplement rather than replace on-grid power.

We have greater scope to innovate in our off-grid energy sourcing strategy. Our long-term aim is to reduce our use of diesel to the lowest level possible, although in locations with limited wind or year-round sunlight this can be challenging. In our emerging market businesses, we are deploying solar PV technologies to supplement or – where feasible – replace entirely the diesel generators used in remote base stations. We installed solar PV at an additional 120 base stations during 2017, bringing the total to 1,930. We are currently researching alternative types of fuel cells for use in urban areas where deployment of diesel generators is problematic due to noise or risk of diesel theft. We are also trialling a number of new technologies, such as hydrogen fuels cells and tri-generation (combined heat, cooling and power production), which may also offer scalable alternatives to off-grid diesel use in many markets. We provide an overview of our work in this area below.

Vodafone energy use, gigawatt hours (GWh)



Vodafone energy use by source, gigawatt hours (GWh)



Innovating for a lower-carbon future

Our Site Solution Innovation Centre (SSIC) in South Africa is one of our main global technology research locations focused on energy and site infrastructure efficiency. Colleagues at the SSIC work with a number of businesses, innovators and entrepreneurs to explore alternative power generation sources, energy storage solutions and lower-cost base station site infrastructure which are then trialled in our local markets. Development projects in 2017 included:

- solar PV upgrades for existing base stations, both on-grid and off-grid;
- fuel cells; and
- alternative energy storage technologies such as lithium-ion batteries.

A number of SSIC innovations are now operational in our businesses, including the deployment of approximately 300 hydrogen fuel cells in South Africa, the majority of which are methanol-based. Fuel cells remain an emerging technology that is not yet at scale, and we continue to work with various manufacturers to assist in developing their products for application in the telecoms environment. Other SSIC innovations now operational across Vodafone include the recent standardisation of hybrid energy technologies and high security and low cost site infrastructure, soon to be deployed in South Africa. One example of a hybrid technology deployed within our access network is the 'PowerCube'. This integrates energy supplies from grid electricity, solar PV and diesel together with on-site battery storage, reducing the running time of a diesel generator by up to 80%, saving up to 90% on servicing costs and cutting fuel consumption by more than 50%.

Reducing energy use in our general business and administrative activities

We have a number of programmes and initiatives in place to reduce the energy requirements for our office buildings and administrative systems and to help our employees reduce their own carbon impact. Further details of our approach to environmental management can be found in the Appendix.

A number of our offices are certified to the green building certification LEED (Leadership in Energy and Environmental Design), which provides a set of rating systems for the design, construction, operation and maintenance of green buildings. The following Vodafone buildings have been awarded a certification under the category for Commercial Interiors:

- Vodafone Spain headquarters – platinum standard (see case study on page 26);
- Vodafone Germany headquarters – platinum standard;
- Vodafone Turkey office and call centre – platinum standard;
- Vodafone Czech Republic headquarters – gold standard;
- Vodafone Italy – silver standard for our headquarters building in Milan and gold standard for our offices in Padua; and
- Vodafone India – seven of our buildings have LEED certification.

Our carbon-neutral SSIC in South Africa generates enough renewable energy to meet comfortably its own power consumption and was the first ever building to be awarded the

maximum six stars from the [Green Building Council of South Africa](#). The building incorporates an extensive range of innovative sustainable building techniques such as thermal rock stores to capture and store thermal energy, mechanical solar panels that move with the sun and technologies reusing greywater to limit freshwater consumption.

50%

fuel consumption reduction with the PowerCube

Worldwide, we own and operate almost 8,000 retail stores (excluding franchises and third-party outlets). Over the last three years, we have implemented an extensive programme to modernise all stores (including those that are operated under franchise) and improve their energy efficiency. To date, 5,500 stores have been refurbished.

Management systems and compliance with environmental regulations

All of our local markets operate environmental management systems encompassing factors such as energy consumption, waste management and water usage. Those systems are certified to international standard ISO 14001 in the Czech Republic, Greece, the Netherlands, Portugal, Romania, South Africa, Spain and the UK.

Our environmental management systems are designed to ensure compliance with relevant legislation in each local market as well as with European regulations, including:

- the EU's Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive;
- the Waste Electrical and Electronic Equipment (WEEE) Directive in EU countries, which requires companies to take back and recycle used electrical and electronic equipment at the end of that equipment's useful life;
- the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Directive, which restricts the use of certain substances of high concern in any of the products we sell; and
- the EU's Energy Efficiency Directive, which requires large companies to undertake audits of their energy consumption to help them identify ways to reduce it.

In February 2017, the Environment Agency of the Democratic Republic of Congo informed Vodacom DRC that they had not complied with their obligations to conduct environmental impact assessments for base station sites, including power consumption and generation. We are in discussion with the Agency to seek to understand the basis for their concerns and undertake any necessary remediation. The Agency has the power to impose a fine in cases of breach of the relevant legislation.

Vodafone Plaza in Madrid

The headquarters of Vodafone Spain in Madrid is one of just 50 buildings in Spain that has achieved Platinum LEED for Commercial Interiors (LEED-CI) certification. This is the highest level of certification awarded. Sustainability has been built into every aspect of the building during the fit-out process. For example, the installation of LED lighting and lighting controls has increased energy efficiency, and 90% of all equipment installed has a high efficiency Energy Star classification.

There is a highly efficient heating, ventilation and air-conditioning system with power for the latter reduced to the minimum possible through the use of solar film on windows. Water management systems and irrigation help to minimise water consumption. Office furniture is sustainably sourced, either by using materials from certified sustainable timber or reusing existing furniture.



Our greenhouse gas emissions

Our total GHG emissions were flat year on year. Reductions in energy consumption and the use of less carbon-intensive on-grid electricity sources in the UK and Germany were offset by an increase in consumption, plus increased use of carbon-intensive on-grid power sources, elsewhere, particularly in South Africa. Our total global GHG emissions (including emissions over which we have direct control (Scope 1) and emissions from purchased electricity (Scope 2)) were 2.59 million tonnes of CO₂e. Emissions where we do not have direct control (Scope 3) – including those from third-party base station sites in Ghana, India and Tanzania and arising from the activities of our joint ventures in Australia, the Netherlands and Kenya – are reported separately later in this section of the Report.

The international guidance for calculating Scope 2 GHG emissions⁴² now requires companies to publish two different numbers. The location-based method uses an average emission factor for the entire national grid on which energy

consumption occurs. The market-based method uses an emissions factor – for example, direct from the supplier providing the electricity – that is specific to the type of electricity that has been purchased.

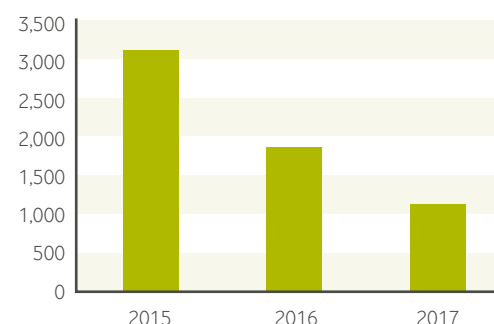
37%

drop in GHG emissions intensity per petabyte of traffic

The numbers quoted above use the market-based method. Using location-based conversion factors for 2017, Scope 2 emissions were 2.77 million tonnes CO₂e and total Scope 1 and 2 emissions were 3.18 million tonnes CO₂e, again largely static year on year. Further details of the methodology used (and the relevant emissions factors) are set out in the Appendix.

As the chart below demonstrates, our key measure of GHG emissions intensity improved again with a drop in emissions per petabyte of traffic of over 37% this year.

GHG emissions (tonnes CO₂e) per petabyte of traffic on Vodafone's networks



Scope 3 emissions

Scope 3 emissions are indirect emissions that we do not directly control but that we may be able to influence. They include emissions from our suppliers in providing us with goods and services, emissions from our joint ventures where we do not have full operational control, and emissions associated with the use of our products and services by our customers.

This year we have worked with the Carbon Trust to analyse our Scope 3 emissions in more detail than previously in order to identify and prioritise those areas where emissions are highest and where we have a greater opportunity to influence third-party GHG strategies.

This analysis included all of the categories defined in the international guidance for Scope 3 emissions published under the GHG protocol⁴³. More details of the methodology involved are provided in the Appendix to this Report.

We have identified that the Scope 3 emissions most material to our business are:

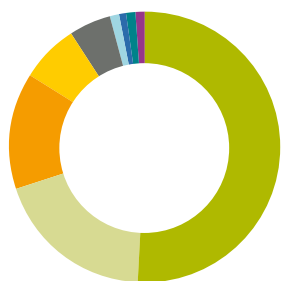
- our suppliers' emissions in producing the goods and services that we procure from them, particularly in our networks, IT equipment, handsets and other devices. We estimate our Scope 3 emissions in this category (which include a proportion of supplier emissions allocated according to how much we spend with them as a proportion of their total revenue) to be 7.1 million tonnes CO₂e;
- customer use of our products and services. This includes emissions arising from the electricity used by network equipment (such as routers) and to charge the batteries of mobile devices. We estimate our Scope 3 emissions to be 2.6 million tonnes CO₂e for the devices that we sold this year; and
- emissions arising from the operation of base stations owned by third-party tower companies (including our joint venture in India, Indus Towers) where we lease space for our radio network equipment. Those Scope 3 emissions are estimated to be 1.9 million tonnes CO₂e.

Vodafone GHG emissions (million tonnes CO ₂ e) (market-based method)	2015	2016	2017
Scope 1	0.36	0.40	0.40
Scope 2	2.13	2.19	2.19
Total Scope 1 and 2	2.49	2.59	2.59

There are other categories we include within our Scope 3 reporting that are not particularly significant in terms of volume but are reported on the basis that we have more control over the activities involved than is the case for the categories above. Specifically, we also include:

- our joint ventures in Australia, Kenya and the Netherlands. Emissions in this category are estimated to be 0.8 million tonnes CO₂e;
- business travel (predominantly flights but also including some train, bus and taxi travel) estimated to generate 0.08 million tonnes CO₂e, of which flights account for 0.05 million tonnes CO₂e; and
- treatment and disposal of waste from our operations. Scope 3 emissions arising from the transportation, recycling and disposal of network and office waste are estimated to generate 0.004 million tonnes CO₂e.

Scope 3 emission sources (million tonnes CO₂e)



- Purchased goods and service **51%**
- Use of sold products **19%**
- Upstream leased assets **14%**
- Fuel and energy related activities **7%**
- Investments **5%**
- Upstream transportation and distribution **1%**
- Business travel **1%**
- Downstream transportation and distribution **1%**
- Franchises **1%**

Action on Scope 3 emissions

As explained above, our activities to reduce Scope 3 emissions are focused on those areas – our suppliers, our joint venture businesses and our operational activities such as waste management and business travel – where we believe we can influence outcomes effectively.

Vodafone's supplier performance management programme includes a number of environmental factors as part of our annual assessment process. A supplier's GHG performance is one of the sets of factors evaluated. We ask whether or not a supplier:

- publicly reports GHG emissions;
- has set a target to reduce emissions; and
- has identified risks and opportunities associated with GHG emissions management.

The results of this evaluation form part of the overall performance score used when assessing supplier performance. We also ask selected suppliers to provide details of their GHG emissions and management programmes through CDP (formerly the Carbon Disclosure Project). In total, 135 of our suppliers responded during the year, with a response rate of 85%. Of those that responded, 73% reported they had set a target for GHG emissions reduction and 88% had undertaken a programme to reduce their GHG emissions.

We already work closely with our joint venture businesses in a number of areas including GHG emissions reduction.

To reduce emissions from business travel, we discourage our employees from flying whenever possible, encouraging them instead to use remote working and teleconferencing technologies. The cumulative distance travelled by air this year was virtually the same as last year, despite a small increase in the number of employees worldwide. We also encourage and support homeworking and flexible working across our global workforce, reducing the need for employees to commute to and from work in rush-hour traffic. Vodafone benefits from some of the most advanced enterprise collaboration capabilities in the world, with 3,100 video-conferencing end points and more than 100,000 laptops enabled with video-conferencing, supporting 32 million minutes of effective online collaboration each month.

Managing waste and water

Upgrading our networks with new equipment enables us to enhance the services we provide to our customers while also reducing our energy consumption and, therefore, the associated GHG emissions. As we continue to improve and expand our networks, older and less efficient equipment that is no longer required must be removed and disposed of.

We have resource efficiency and waste management programmes in all our local markets to minimise emissions from the end-of-life treatment of network waste, IT equipment and other office waste.

Our Group policy on waste management has been designed to address the need to reuse or recycle outdated and end-of-life equipment safely and responsibly. In developed markets, we use specialist e-waste contractors compliant with international regulations. However, in emerging markets there is often limited access to appropriate facilities and there are few legal safeguards to ensure that potentially hazardous substances are handled responsibly. All of our local markets are required to keep records of e-waste equipment and to use only recycling suppliers that are regulated, licensed or have been assessed as suitably qualified through our supplier qualification processes. During the year, 96% of the e-waste leaving Vodafone was sent for reuse or recycling.

We are not an intensive user of water compared with other industries. During the year, we used just over 1,500 million litres, a decrease of 12% from the previous year, partially driven by office consolidation and the move to greener buildings in a number of our markets.

Empowering our customers to reduce their emissions

As explained earlier in this section, Vodafone is a world leader in IoT. Over time, IoT technologies will transform every industry, most public services and many aspects of consumers' daily lives. By bringing intelligent interconnection and network control to previously 'dumb' disconnected devices and services, numerous products and processes in the workplace and in the home will become significantly more efficient and reliable, with a positive impact on energy and fuel consumption and therefore GHG emissions. Our research in 2016 found that 76% of businesses surveyed say that IoT will be 'critical' to their success and nearly 50% are already using IoT to support large-scale business transformation⁴⁴.

2 for 1

We are helping our customers reduce their GHG emissions by two tonnes for every tonne of GHG we generate from our own operations

Key examples of IoT applications include:

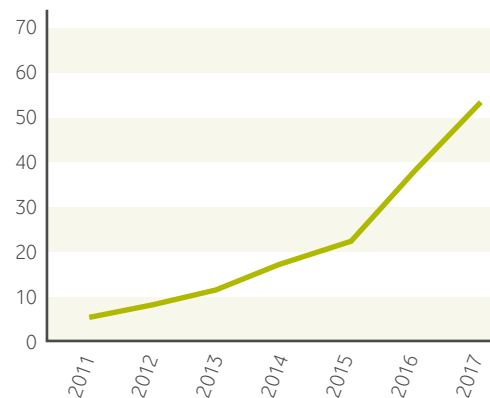
- smart metering, using IoT technology to collect and analyse data on energy use in real time. Smart meters help energy providers, businesses and municipal authorities to optimise power generation and consumption; they also help households reduce their energy needs (and their energy bills). As we explained in this section, smart metering plays an important role in our own energy efficiency strategy;

- smart cities, bringing networked intelligence to the civil infrastructure relied upon by the world's growing urban populations through applications such as road traffic management and advanced street lighting; and
- smart logistics, embedding IoT technologies within delivery vehicles to optimise route management, vehicle maintenance and driver behaviour – applications that can reduce fuel consumption by up to 30%.

We estimate that more than 40% of the more than 50 million IoT connections operated by Vodafone directly enable our customers to reduce their emissions using the kinds of applications summarised in this section. We expect the total number of Vodafone IoT connections to increase over time; we also expect further increases in the number of those connections that have a direct and positive GHG emissions impact.

We estimate that the total GHG emissions avoided as a consequence of our IoT technologies and services was 4.9 million tonnes CO₂e in 2017, more than double the emissions avoided in 2013 when we calculated customers' savings for the first time. The main areas in which the greatest CO₂e savings are enabled were in smart meters and logistics and fleet management.

Vodafone's global IoT connections (millions)



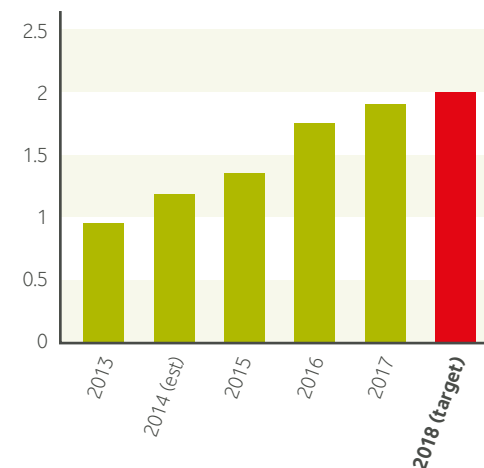
Note: The basis for reporting changed in Q3 2015 to include all IoT connections both activated and under customer ownership; previously only active connections had been included.

Our carbon target

In 2015, we announced a new goal under which we would seek to help our customers reduce their GHG emissions by two tonnes for every tonne of GHG we generate from our own operations. That goal includes a commitment to help more of our customers reduce their carbon emissions; in parallel, we are also committed to reduce emissions from our own operations, as explained earlier in this section of the Report.

We said we would hope to achieve our goal by the end of March 2018. At the end of March 2017, we were well on track to meet this target and had enabled our customers to avoid 1.9 tonnes of GHG emissions for every tonne we generated through our own activities during 2017.

Our progress: ratio of GHG emission savings for customers to our own GHG footprint



Future plans

A strategic review of our approach to energy consumption and efficiency is now well underway. We already have a wide range of programmes that address the impact of our operations on the climate change challenge and to enable our customers to address their own challenges. But we want to do more.

Over the next few years, we will explore new ways of achieving greater energy efficiency through our ongoing network modernisation projects and we will consider options for further physical infrastructure rationalisation.

Our priorities will be to:

- continue our ongoing network modernisation programme across our local markets;
- activate new energy-saving software features and introduce self-organising network (SON) technologies to drive efficiencies through automation;
- maximise deployment of initiatives such as cooling, smart meters and dynamic thermal management;
- examine how we can increase the proportion of energy we use from renewable sources;
- continue to develop new IoT solutions to enable our customers to reduce energy consumption and cost;
- reassess how we procure on-grid power across our local markets to increase security of supply over the long term and, where feasible, to accelerate our transition to low or zero-carbon energy sources;

- work with our suppliers to reduce Scope 3 emissions in our supply chain; and
- work with our joint venture businesses to share best practice and enhance their GHG performance.

We look forward to providing an update on our progress in next year's Report.

Enabling energy efficient street lighting with Philips

Street lighting helps make our cities better and safer places to live. Philips [CityTouch](#) is an end-to-end street lighting management system that allows municipalities to measure, manage and monitor all connected street lighting securely and remotely. This can help reduce energy use by up to 70%, simplify and lower maintenance costs and cut GHG emissions.

The CityTouch system employs Vodafone's [IoT technology](#) and is the first such system to operate over a cellular network. Each light can be controlled individually and remotely, enabling local councils to dim lights where less illumination is needed while increasing brightness in areas such as junctions and pedestrian crossings to improve safety. The system also enables remote monitoring, making it easier to identify faults and to improve the efficiency of repair and maintenance programmes.



Connecting smart meters in Spain

EDP HC ENERGÍA – one of Spain's leading energy providers – has installed more than 550,000 smart meters in homes across Spain to help people to reduce their energy use.

The meters will enable customers to see how much energy they are using in real time, adjusting their consumption as needed and, as a consequence reducing both costs and emissions.

EDP HC ENERGÍA's smart meters rely on our IoT technology to allow meter readings to be taken remotely at any time. Estimated bills are no longer necessary, nor are meter reading visits, reducing the company's operating costs and travel-related emissions. In addition, sensors in the meters connected to our IoT technology help EDP HC ENERGÍA identify faults remotely without dispatching engineers.



Promoting use of clean-burning cooking stoves in India

Traditional cooking stoves are widely used for heat and light in rural areas of developing countries. These stoves burn fuel inefficiently and produce GHG emissions. They also create hazardous indoor air pollution; cooking stove fumes are believed to cause more deaths annually around the world than HIV, malaria and tuberculosis combined⁴⁵.

Project Surya is an international partnership between the University of California at San Diego (UCSD), The Energy and Resources Institute (TERI) New Delhi and Nexleaf Analytics, Los Angeles. The Project Surya team promotes the use of clean-burning stoves, which are offered to Indian households on a subsidised and pay-per-use basis.

Project Surya uses Vodafone mobile technology to reduce the GHG impact and air quality risks of stove use while also ensuring household energy costs are correctly recorded. Sensors combined with a smartphone app track fuel usage while monitoring air quality around the stove. The Project Surya team collects and analyses the data collected through our technology. The team estimates that the initiative could reduce GHG emissions by up to five tonnes per household per year as well as cutting harmful air pollution by 60–70%.



Improving efficiency in global shipping

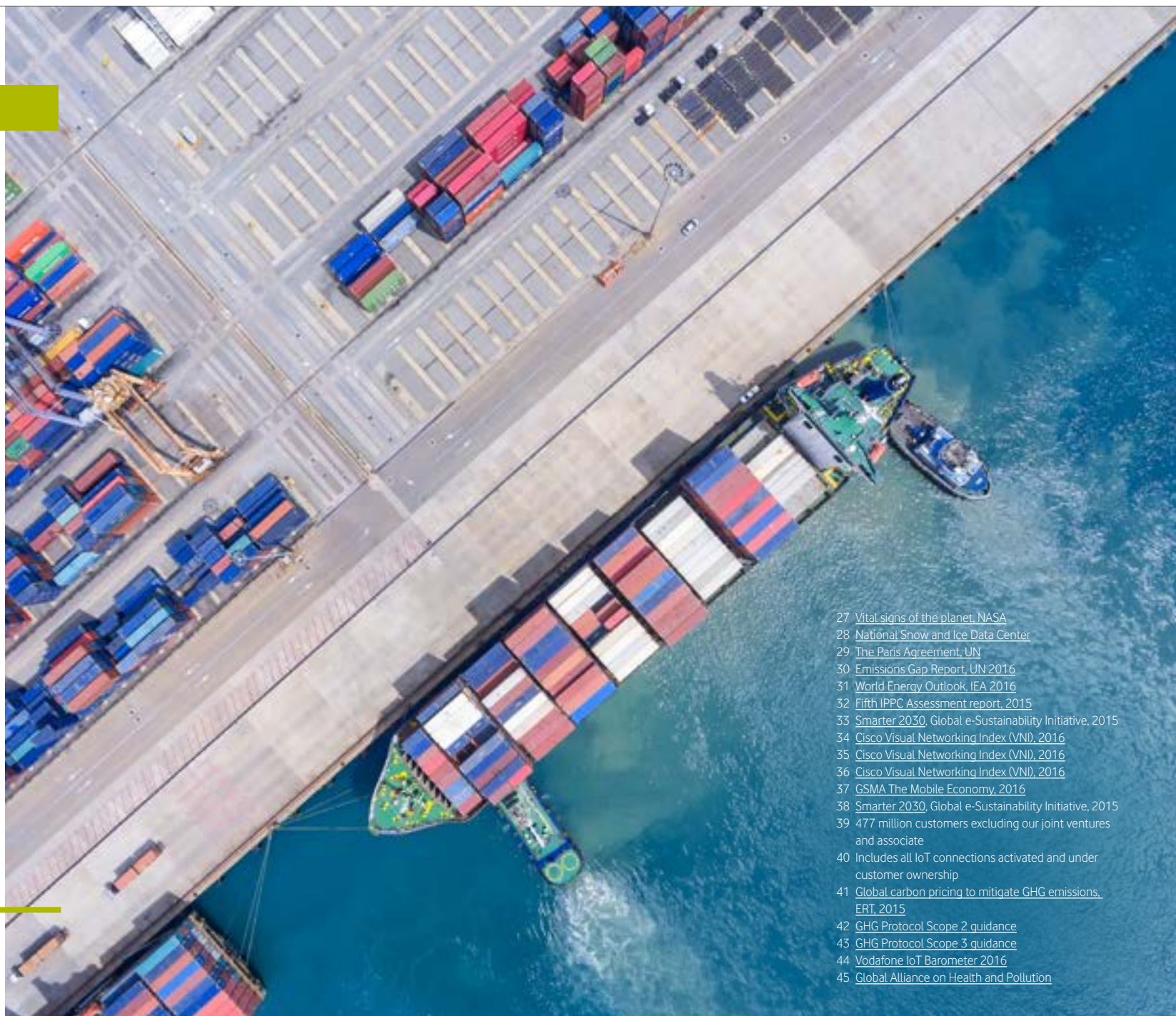
Shipping produce and goods around the world can be an inefficient process. It is estimated that around 30% of all perishable goods never reach the end destination and US\$60 billion of cargo is stolen worldwide each year. Technology can play an important role in improving efficiency in global supply chains and reducing waste and theft.

Arviem – a supply chain visibility and cargo monitoring service provider – uses Vodafone's managed IoT connectivity services to provide a tracking and monitoring service for cargo in transit. Our technology enables transporters and buyers to monitor goods in real time, ensure goods are kept at the right temperature and humidity, adjust for any delays and prevent theft, enabling customers to reduce costs by an average of €150 per shipment.

Arviem and Vodafone are also exploring opportunities to use the data gained through freight monitoring to find other ways to improve efficiency, including tracking and reducing GHG emissions and improving cargo handling times.

"We have eliminated waste, reduced demurrage costs substantially and achieved timely product availability and product freshness."

Aman Kermally at Nestlé, an Arviem customer



- 27 [Vital signs of the planet, NASA](#)
- 28 [National Snow and Ice Data Center](#)
- 29 [The Paris Agreement, UN](#)
- 30 [Emissions Gap Report, UN 2016](#)
- 31 [World Energy Outlook, IEA 2016](#)
- 32 [Fifth IPPC Assessment report, 2015](#)
- 33 [Smarter 2030, Global e-Sustainability Initiative, 2015](#)
- 34 [Cisco Visual Networking Index \(VNI\), 2016](#)
- 35 [Cisco Visual Networking Index \(VNI\), 2016](#)
- 36 [Cisco Visual Networking Index \(VNI\), 2016](#)
- 37 [GSMA The Mobile Economy, 2016](#)
- 38 [Smarter 2030, Global e-Sustainability Initiative, 2015](#)
- 39 477 million customers excluding our joint ventures and associate
- 40 Includes all IoT connections activated and under customer ownership
- 41 [Global carbon pricing to mitigate GHG emissions, ERT, 2015](#)
- 42 [GHG Protocol Scope 2 guidance](#)
- 43 [GHG Protocol Scope 3 guidance](#)
- 44 [Vodafone IoT Barometer 2016](#)
- 45 [Global Alliance on Health and Pollution](#)

Youth Skills and Jobs

Unemployment and under-employment among younger people remains a significant global challenge. Using our technology, we aim to help them develop their digital skills and access learning and employment opportunities.

Youth unemployment

43% of economically active younger people are either unemployed or working yet living in poverty

Training and development

We offer local training schemes to help younger people develop digital skills and provide support for young entrepreneurs

Work experience

We intend to expand our training and mentoring programmes to offer more opportunities for younger people to work with us

Youth Skills and Jobs

The global context

Unemployment and under-employment among younger people remain significant global challenges, with an estimated 71 million young people unemployed worldwide and 156 million young workers currently living in poverty – around 43% of economically active young people⁴⁶.

In emerging economies, youth unemployment is around 14%. However, that figure hides significant variation between countries; in South Africa, more than 50% of young people are unemployed, and the figure stands at around 30% in Egypt⁴⁷. In Europe, the youth unemployment rate for 15 to 24-year-olds is almost 20%; that percentage rises to more than 40% in countries such as Spain and Greece, which were among the worst affected by the global financial crisis⁴⁸.

For young adults leaving education and entering the workplace for the first time, the experience of sustained unemployment (or at best poor-quality intermittent employment) can have significant personal and professional consequences. Recent studies have indicated that unemployment can affect young people's wellbeing until well into later adulthood and can lead to lasting mental health problems⁴⁹.

The impact of technology

Over the last decade, mobile communications and digital technology have begun to transform every aspect of life at home and work for hundreds of millions of people. For many, the communications revolution is a clear positive, offering the convenience of online banking and shopping to the pleasure of social media and the ability to access vast amounts of information and insights through the internet. At the same time, no company would willingly forgo the productivity and efficiency gains enabled by communications technologies.

40 %

of 15 to 24-year-olds are unemployed in countries such as Spain and Greece

In emerging markets, access to mobile has had a transformative effect for more than 5 billion people globally⁵⁰. Mobile now plays a key role in many areas of daily life: from education, healthcare and business to greater financial inclusion through access to mobile money services.

However, advancements in technology can also have negative societal consequences. It is now certain that robotics and artificial intelligence will lead to the automation of many more categories of jobs and therefore a reduction in the number of employment opportunities for millions of people, impacting jobs, skills, wages and the nature of work itself⁵¹.

In developed countries, technologies such as big data, cloud computing, robotics, artificial intelligence (AI) and the Internet of Things (IoT) have already stripped out categories of semi-skilled lower and middle-management jobs. The future is expected to be even more disruptive: for example, a study by the Oxford Martin Business School in 2016 that analysed different categories of profession, trade and craft in the United States estimated that more than 47% of the roles analysed would be displaced by AI and robotics by 2030⁵². Data from the World Bank shows that the employment displacement effects of AI and robotics could be even higher in emerging market economies, with an estimated 69% of jobs in India and 77% in China likely to be replaced⁵³.

These developments are having a significant impact on emerging market economies that are already struggling to cope with a growing population of undereducated young people with few options for purposeful employment. While some countries have benefited from the relocation of back-office and customer care roles from developed countries, those roles are mainly suitable for skilled graduates. The benefits for the working population as a whole therefore remain limited.

There are widespread concerns regarding the macro-economic and social consequences of youth unemployment. However, there are also grounds for optimism. As digital starts to disrupt every sector, it is anticipated that, over time, it will also lead to new job creation as well as the opportunity for certain skills and abilities to be of

enhanced value in a working world where AI and robotics are commonplace. It is important to view these emerging developments within a historical context. Over the last 25 years, one-third of all new jobs created in the United States were in employment categories that were either very niche or did not exist at all a quarter of a century ago, such as web and software design, mobile communications and app creation⁵⁴.

By the end of the decade, it is likely that almost every workplace in the world – however small and simple – will rely on information and communications technology (ICT) to function effectively. For example:

- a smallholder farmer will use IOT-connected sensors to control irrigation systems and a smartphone to access big data networks to anticipate and mitigate weather events and disease outbreaks;
- a large bank will rely on digital technology, internet banking and mobile transactions for moving money and managing payments both small and large, arranging loans and investments;
- a niche electronics component manufacturer will use cloud computing services for everything from inventory control and supply chain management to employee payroll and optimisation of energy use; and
- a large healthcare provider will depend on digital networks, services and devices for every aspect of patient care, from hospital to home.

As examples like these – and countless thousands of variations like them – become the norm, there will be an exponential increase in demand from every industry and in every country for the skills required to develop, deploy and maintain these myriad and increasingly complex technologies. The European Commission predicts that in the near future around 90% of all jobs – from nursing to engineering to accountancy – will require some form of digital skills⁵⁵.

A growing digital skills gap

Demand for digital skills already outstrips the supply of available talent – and there are signs that the digital skills gap is widening. By 2020, there could be almost 500,000 digital technology jobs unfilled in Europe, despite high levels of youth unemployment and the ability for young people to move easily across the EU in search of work⁵⁶.

Figures from the [Digital Skills and Jobs Coalition](#) found that 36% of the labour force has insufficient digital skills and that EU member states lack sufficient numbers of digitally skilled people to fill job vacancies, despite high unemployment rates⁵⁷. There is therefore a real need to act quickly to address this growing skills shortage in order to enable countries to benefit from the potential productivity gains associated with technology.

Millennials (the term generally used to describe people born after 1980 who entered adult life in the new millennium) are expected to make up more than one-third of the global workforce

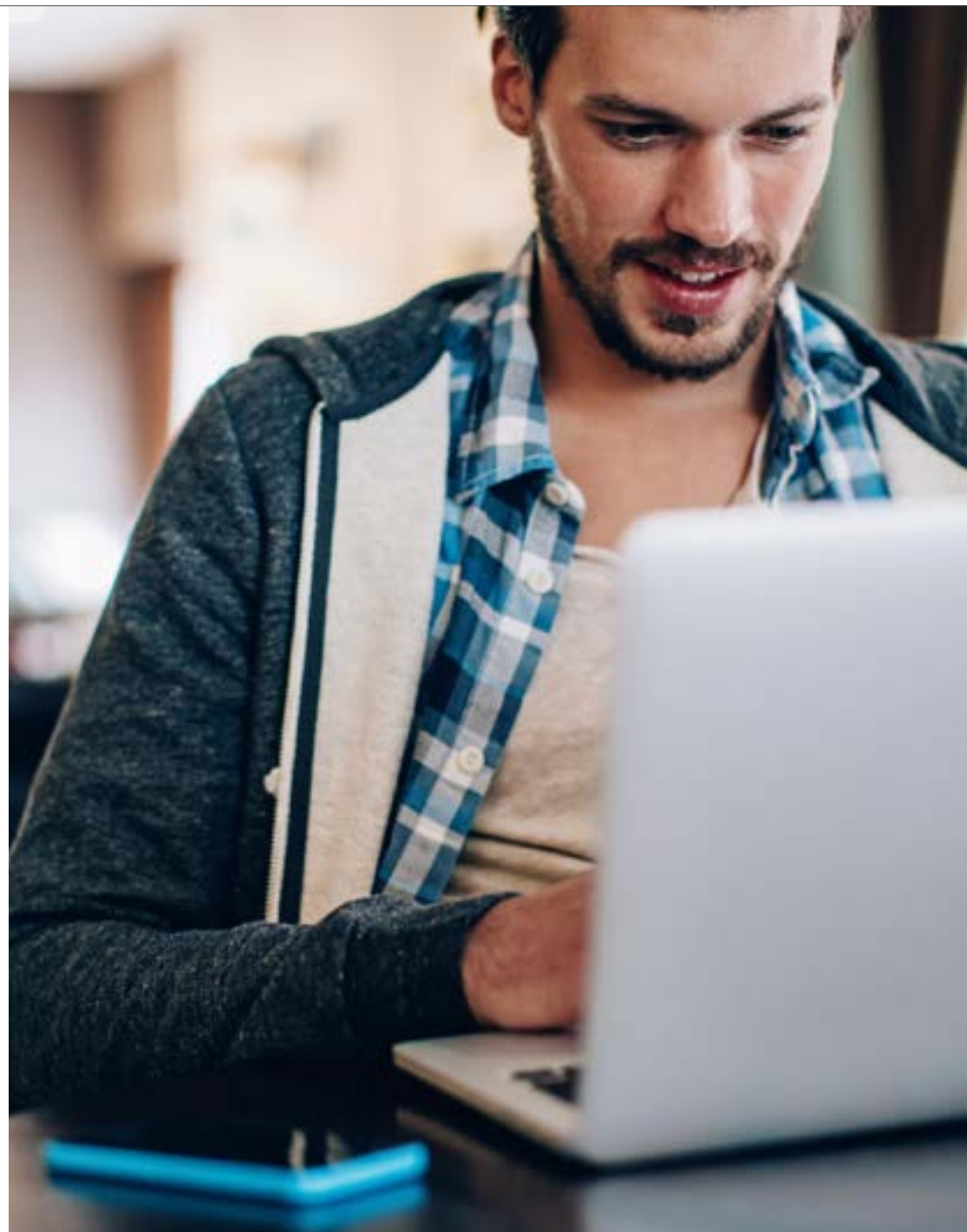
by 2020. These young people, often referred to as 'digital natives', have an instinctive familiarity with communications technology, but far too few are equipped with the skills required to serve the burgeoning ICT labour market. Being an accomplished consumer of digital content and user of social media does not equate to expertise in complex digital industrial systems, writing code, mitigating cybersecurity and privacy risks, and designing, configuring and maintaining electronic devices and wireless and fixed-line networks.

500,000

digital technology jobs will be unfilled in Europe by 2020

If governments, educators and companies can work together to address the mismatch between future workplace needs and the current skills of the new generation, the benefits for society as a whole would be very significant; a fact acknowledged by the European Commission in its [Skills Agenda for Europe](#) call to action for member state governments, industry, NGOs and education partners.

Young people themselves recognise the challenge; but they are also optimistic. The [Global Shapers Annual Survey 2016](#) – a worldwide survey of more than 25,000 young people – found that 80% of respondents believe that without skills in technology they will find it hard to get a job in the future and that 86% believe that technology will be a driver of job growth⁵⁸.



Vodafone and young people

In the [Introduction](#) to this Report, we summarised our intention to achieve three global transformation goals over ten years. We identified Youth skills and jobs as one of those three goals for two reasons.

First, we are one of the world's largest communications companies and a leading global innovator in the deployment of digital technologies for enterprises and consumers. We believe the digital communications revolution represents a profound social good: as we explain elsewhere in this Report, our networks and services play a critically important role in hundreds of millions of people's lives, empowering individuals, enhancing businesses and underpinning the functioning of modern economies. However, we also recognise the consequences of digital disruption from an employment perspective. As a long-term committed and responsible employer and major investor in many countries with relatively high levels of youth unemployment, we believe we should do what we can to help ensure prosperity, stability and equality across all parts of society.

Second, we believe we have the opportunity to make a difference. As we explain above, the

digitalisation of the workplace has led to an employment market mismatch. All companies and organisations need ever-greater ICT expertise with every year that passes; however, there are not nearly enough young adults in the labour market with the professional skills required. As we explain in this section of the Report, over time and with the development of the appropriate programmes, we hope to help to resolve this disconnection through a combination of our technology, our understanding of the needs of young entrepreneurs and businesses, and our familiarity with young adults' perspectives.

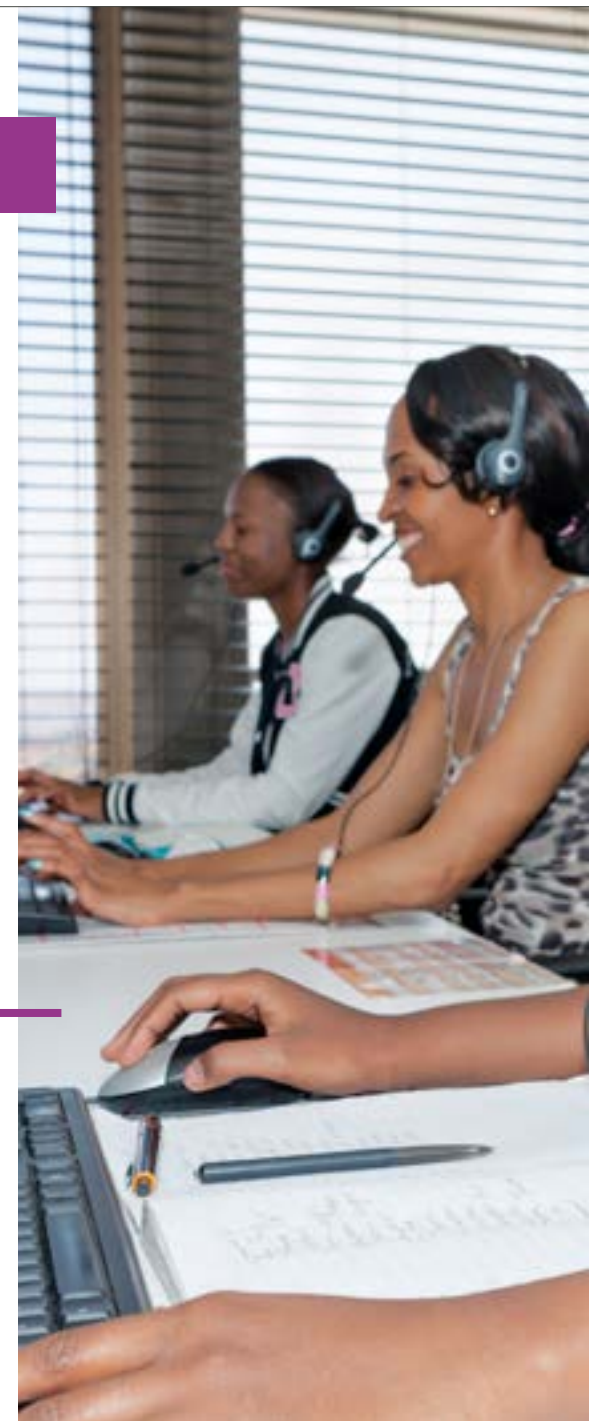
Our employees have a high level of digital skills and can see for themselves – in their own communities and sometimes within their own families – the damaging consequences of youth unemployment. We also have a direct relationship with large numbers of young adults – they are an important part of our global consumer customer base – and 18 of our local market businesses operate dedicated youth propositions.

During the year, we began to explore how best to support young people in building their digital skills and access learning and employment opportunities. We conducted research with young people in nine countries to understand better the challenges they face – and the type of support that they need – to improve their career prospects.

Helping young people get started in telecoms in South Africa

South Africa's persistently high unemployment rate has a particularly negative impact on young people with 54% of under-25s unemployed⁵⁹. We have developed a one-year *Vodacom Learnership* programme that consists of classroom-based learning and on-the-job training at the offices and stores of our South Africa-based subsidiary, Vodacom Group.

The *Learnership* programme covers all aspects of our operations, including business administration, marketing, finance, retail and project management. Vodacom provides a monthly stipend to students enrolled on the programme to enable participation by young people from all backgrounds. On completion, learners are either offered a permanent position with Vodacom or return to the job market with new and improved skills and capabilities.



Our research indicated that large numbers of young people are generally pessimistic about career opportunities and their future in the world of work, particularly in countries that have experienced political and economic instability. Young people find the job-hunting process difficult and need help. Many try to work out a way forward for themselves but often end up feeling lost and confused.

Our work in developing our Youth skills and jobs global goal is less well advanced than in the [Women's empowerment](#) and [Energy innovation](#) global goals summarised elsewhere in this Report. The research outcomes have informed ongoing work to develop programmes designed to increase the skills of, and employment opportunities available for, young people. Several of those programmes are now in the pilot stage in individual local markets.

Additionally, as a large employer in our own right (and a significant source of indirect employment through our supply chain), we intend to expand our existing apprenticeship, internship, graduate development, training and mentoring schemes to help more young people enter the employment market for the first time and to provide Vodafone with a pipeline of new talent.

These activities will complement the work of Vodafone's philanthropic organisation, the Vodafone Foundation, whose long-term priorities include providing education to children and young people in challenging environments, including low-income communities in emerging markets and in refugee camps.

Taken together, we hope that our efforts to help address one of the most serious societal challenges in many of our operating countries

will achieve positive outcomes in support of the UN Sustainable Development Goal 4 (Quality Education) and Goal 8 (Decent Work and Economic Growth).

Instant Schools For Africa

In sub-Saharan Africa, there are estimated to be more than 90 million children out of school⁶⁰, while a lack of educational resources means that even those children who do attend school often do not receive a quality education.

Instant Schools For Africa, a new programme supported by the Vodafone Foundation, uses mobile technology to bring free, high-quality learning materials to millions of young people across seven African countries. The Foundation is particularly focused on the education of refugees, targeting a potential 3 million young people in refugee camps across the countries in which we operate by 2020.

The programme includes core curriculum content in subjects such as maths and science at a quality and range that is comparable to that available in schools in the developed world. The materials have been developed with [Learning Equality](#) – a leading not-for-profit provider of open-source educational technology solutions – and other educational partners, ministries of education and local education experts in each country. Vodafone *Instant Schools* will be available in the Democratic Republic of Congo, Ghana, Kenya, Lesotho, Mozambique, South Africa and Tanzania.

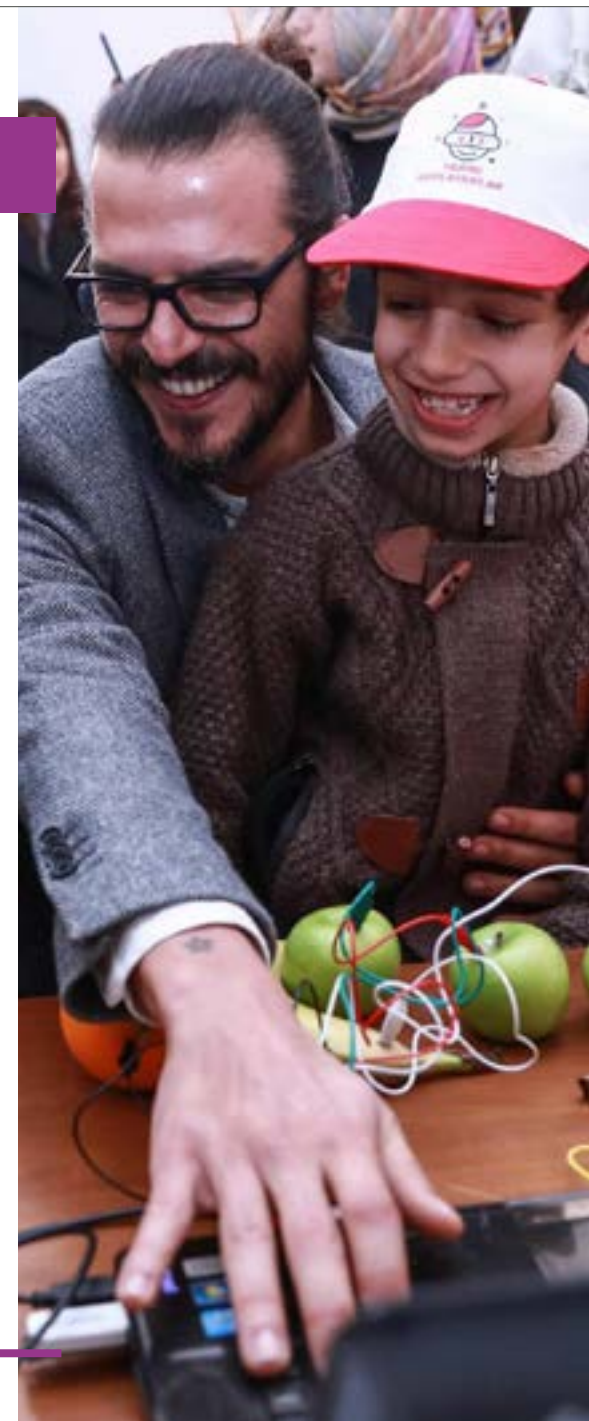
Vodafone Turkey: supporting the coders of tomorrow

Young people consume technology but don't always have the skills they need to become creators of technology products and services themselves, limiting their choice of future careers and contributing to the growing digital skills gap.

Coders of Tomorrow, funded by the Vodafone Foundation Turkey, aims to address this challenge by giving young people the opportunity to learn coding skills and gain an insight into the potential of technology.

At each four-hour training session, children learn to use the free programming language Scratch (developed by the Massachusetts Institute of Technology) to create their own animations and games. They can also take part in robotics hackathon events, working in teams to complete challenges with mBot robots. The sessions are pitched as entertainment as well as learning to ensure the children remain engaged and enthused.

The project, launched in 2016, is being run with Habitat, a leading NGO. Around 1,300 children aged 7–14 have completed the training so far and 600 have taken part in hackathon events. *Coders of Tomorrow* now runs in five Turkish cities with a focus on under-resourced schools and locations. The project also has a goal to reach 250 Syrian refugee children during 2017. 'Train the trainer' sessions are being held to enable the programme to expand to more locations across Turkey over the coming year.



Finding work, growing skills and new businesses

In recent years, several Vodafone local operating companies and Vodafone Foundations have launched programmes to help young adults develop their skills – including digital expertise – and turn their entrepreneurial ideas into new businesses. For example:

- more than 480,000 Egyptians have enrolled in classes from the Vodafone Egypt Foundation *Knowledge is Power* adult literacy programme since 2011; the programme was developed by the Vodafone Egypt Foundation in partnership with the National General Authority for Literacy and Adult Education and local NGOs;
- we run programmes providing mentoring, seed capital and incubation support for digital entrepreneurs in six countries across Europe and Africa; and
- we have established bursaries to enable young people to study science, technology, engineering and maths (STEM) subjects and ICT in South Africa and Ghana.

Over the coming years, we are looking to bring together various local programmes already underway and explore options to extend the most successful initiatives internationally.

Vodafone X Tour in Ghana

In Ghana, youth unemployment is a serious problem, with almost half of all young people (48%) out of work⁶¹.

Vodafone Ghana's *Vodafone X* service for 18 to 24-year-olds aims to empower young people and provide inspiration and advice to help them into work. The *X Tour* is visiting leading Ghanaian universities enabling students to hear leadership insights first-hand from influential celebrities. Prince Kofi Amoabeng – an entrepreneur who founded one of Ghana's most successful commercial banks – and leading Ghanaian hip-hop artist Sarkodie were recent speakers. To date, around 4,000 students have attended *Vodafone X* sessions.

Innovation club in Albania

i-Club, an after-school technology club developed by the Vodafone Albania Foundation, is providing extracurricular technology education to staff and pupils at 114 schools across Albania. Participating schools receive resources and support to enable them to learn about recent ICT developments, new technology applications and how to use technology to promote social innovation.

During 2017, 71 schools took part in the *i-Club* competition, submitting proposals for projects that use technology to benefit their school or local community. The 13 finalists appeared on a primetime TV show to share their ideas, which ranged from an app to help people with disabilities explore their local area to a program to help young people develop coding skills. Vodafone Albania organised a TechCamp to help the finalists and their teachers further develop the winning ideas; our team in Albania also introduced the finalists to potential business sponsors.



Supporting young social entrepreneurs in Egypt

There is a very high level of youth unemployment in Egypt, including among university graduates. The *Vodafone Entrepreneurship Academy* is a six-week training programme designed to help Egyptian graduates develop the entrepreneurial and business skills they need to create their own jobs on completing their studies. The Academy, supported by Vodafone Egypt, is hosted at our offices and provides participants with the training and information they need to start a business with a social, economic or environmental mission.

Modules include theoretical instruction and practical advice on team building, leadership, decision making, conflict management, sales strategy and planning, with advice from

established entrepreneurs and business leaders. We developed the Academy in conjunction with Enactus Egypt, a community of student, academic and business leaders that aims to use entrepreneurial action to transform lives and shape a more sustainable world.

During the year, 71 young Egyptians were trained at the Academy and were responsible for developing 13 potential projects, including a solar-powered water distiller and a medical device to help people to take their medication on time.

A panel of Vodafone judges awarded seed funding to the best five projects together with six-months of start-up support from Enactus Egypt and Nile University.



Supporting young entrepreneurs in Greece

Greece has the highest rate of youth unemployment in the OECD: 44% of 15 to 24-year-olds are not in employment, education or training⁶².

Vodafone Greece operates the *RestartUp* entrepreneur support programme targeted at 18 to 24-year-olds. Launched in 2013, *RestartUp* invites applicants to submit their new business ideas to a panel comprising representatives from design schools, publishers and Vodafone Greece. Those chosen to participate in the programme are offered support from Vodafone Greece in the form of free workspace and studio facilities as well as access to professional services and mentoring.

During 2017, the programme supported more than 180 entrepreneurs in new businesses. Successful applicants included an educational archaeology business using 3D printing, a website to provide young people with access to information about educational programmes, and a business focused on teaching science, technology and art skills through gamification.



Increasing opportunities through our own business

We are a significant employer of young people. Every year, we hire around 7,000 people aged 25 or under across our businesses worldwide. We also indirectly create employment opportunities for large numbers of young people across our supply chain and retail distribution networks.

7,000

people worldwide aged 25 or under are hired across our businesses each year

Within our own workforce, we operate apprenticeship, internship and graduate schemes in 23 countries. We have approximately 2,000 young people on these programmes at any one time. However, we want to go further and are working with our local markets to agree the best way to provide more opportunities for more young people to experience or work within our business in the following areas.

1) Work experience: activities include week-long work experience placements with job shadowing and development opportunities.

2) Insight into work events: we encourage our employees to bring young people into Vodafone so they can gain an insight into working life through 'bring your kids to work' days. In some markets, we offer secondary school-age girls the opportunity to learn key digital skills: for example, through 500 places on a one-week coding programme available during the school holidays.

55%

of *Discover* graduates are women

3) Entry-level training: we are expanding vocational training and apprenticeships across all of the countries in which we operate, with a particular focus on our technology and customer care divisions. These programmes enable apprentices to join Vodafone in permanent roles while being supported through continuous learning in order to gain a formal qualification in their chosen fields. These training and apprenticeship programmes will open up more opportunities for young people for whom traditional academic routes are either not an option or not desirable.

4) Internships: our internship programmes provide opportunities for undergraduate students to join us for between one and six months in full-time positions across our businesses, as part of their degree. Involvement in challenging business-critical activities and projects allows our interns to gain relevant business experience as part of their studies, with a view to encouraging them to return to Vodafone post-graduation under our *Discover* graduate programme.

5) Graduates: our *Discover* graduate programme offers young people with bachelor's or master's degrees a series of assignments across our business areas and local markets. Around 900 graduates are recruited worldwide each year, providing us with a strong pipeline of future talent. The *Discover* programme is highly diverse; more than 55% of new entrants are women, and recruits are drawn from 55 different countries. Over the last five years, we have offered permanent roles to more than 3,500 *Discover* graduates; those who did not progress into a full-time role with Vodafone at the end of their training were well placed to secure good job opportunities elsewhere. In addition, during the year our *Columbus* leadership fast-track graduate scheme provided 165 young people with international career opportunities.

Vodafone UK's technology apprenticeship programme

Our UK apprenticeship programme offers young people practical work experience and job-specific skills while being paid a competitive salary (at the UK Living Wage or above) and studying for an industry-recognised foundation degree qualification.

Each apprentice is supported by a line manager as well as mentors, our Future Talent Team and Human Resources Business Partners, and has a personal tutor for their academic work.

We currently have 90 apprentices in the UK. Over the last four years, more than 120 young people have participated in apprenticeships in areas ranging from business administration and customer services to IT. Apprenticeships run for 18–24 months and are offered to students who have qualifications at GCSE level or above.

"The Vodafone apprentice scheme has provided me with continuous development and the support needed to progress my career. At the same time, I've had the opportunity to earn a Foundation Degree while working with a friendly and supportive team."

Sam Perry, 2015 apprentice

Helping youth develop their talents with Vodafone *yu* in Spain

Vodafone yu is a collection of programmes designed to give young people in Spain the opportunity to develop their talents in ways that are most relevant for them. Activities include the *Vodafone yu* new talent programme – providing 79 internships for young people in the final year of their bachelor's or master's degrees – and the *yu-ser* collaborator contest that provided 130 young people with the opportunity to work on a daily radio programme and gain scriptwriting, presenting and reporting skills.

During 2016, Vodafone Spain also launched Young Work Experience Week to help Spanish students transitioning from high school to university life gain an understanding of the workplace. Over three days, more than 250 students spent time with Vodafone employees in our offices gaining work experience and a better understanding of the wide range of roles available in a multinational company. This included a focus on encouraging more young women to consider a career in the mobile or technology sectors.

46 [Trends for Youth, ILO, 2016](#)

47 [Trends for Youth, ILO, 2016](#)

48 [Eurostat unemployment statistics, 2016](#)

49 [Long-term effects of youth unemployment on mental health, Journal of Epidemiology and Community Health, 2017](#)

50 [ICT facts and figures, 2014](#)

51 [Technology, jobs, and the future of work, McKinsey Global Institute, 2016](#)

52 [Technology At Work Report, 2016](#)

53 [Technology At Work Report, 2016](#)

54 [Technology, jobs, and the future of work, McKinsey Global Institute, 2016](#)

55 [Digital Skills and Jobs, EC, 2016](#)

56 [e-Skills for Jobs in Europe, EC, 2014](#)

57 [Digital skills and Jobs coalition, 2017](#)

58 [Global Shaper Annual Survey, 2017](#)

59 [South Africa youth unemployment rate, 2017](#)

60 [UNESCO research](#)

61 [Youth Employment Agency, Ghana](#)

62 [EU Youth unemployment statistics](#)

Principles and Practice

Trust is essential to our reputation and our long-term success. Everyone who works for Vodafone must follow a set of rules – enshrined in our Code of Conduct – designed to ensure they perform their duties with integrity and respect at all times.

Human Rights

We recognise we have a responsibility to respect the rights and freedoms of everyone who works for us

Operating responsibly

We are committed to acting with integrity as it is essential to preserving the long-term success of our company

Learning and development

We have invested €80 million in the training and development of our employees this year

Principles and practice

We live in an era of public mistrust. Millions of people no longer have confidence in large businesses while scandals in some countries affecting even the most august of institutions have eroded public faith in the leadership of large parts of society.

In a world of constant communication between citizens (including more than 7 billion mobile connections), judgements are formed almost instantly in response to real or perceived corporate deeds or misdeeds. Companies that have embedded responsible behaviours at every level can prosper under this perpetual scrutiny; conversely, the finest corporate commitment to responsible conduct in the world counts for little if there is a serious misalignment between organisational aspiration and operating reality.

Vodafone operates in a fiercely competitive industry in which customers – big and small – can choose to switch supplier if they lose faith in the company that they rely on to meet their digital needs. There is strong evidence of a linear connection between trust and value creation; companies that act responsibly and meet or exceed public expectations of good corporate behaviour continue to grow in value over time, while those that fall short destroy value. In our view, acting responsibly is therefore absolutely integral to business performance.

Everyone who works for and with Vodafone, everywhere and at every level, must follow a set of rules designed to ensure that they perform their duties with integrity and respect at all times. In this section of the Report, we will explain what those rules are and why we think they are important. We will cover our:

- Code of Conduct;
- approach to the complex human rights challenges inherent to our business;
- work underway to counter bribery and corruption and to enhance political transparency across our businesses; and
- efforts to develop and retain our people.

We do so with the expectation that we will be held to account against these rules by everyone – customers, communities, shareholders, employees, suppliers and many other groups – with an interest in what we do. We welcome that scrutiny.

"At Vodafone, nothing is more important than conducting our business with integrity; it is essential to preserving the long-term success of the company."

Vittorio Colao
Vodafone Group Chief Executive



Code of Conduct

Our [Code of Conduct](#) sets out what we expect from every person working for and with Vodafone. It also underlines our responsibilities to our people, partners and shareholders. It contains both our Business Principles and our high-level policies on a wide range of issues. We provide further insights into many of those issues in other sections of this Report and in other publications as part of our commitment to corporate transparency, as explained earlier.

Our Code of Conduct defines the mandatory obligations for everyone who works for and with us. From the Vodafone Group Plc Board and Executive Committee to the newest employee, every individual colleague is expected to:

- behave in an ethical manner, taking pride in their actions and decisions;
- comply with the principles and rules found in our Code of Conduct;
- fulfil their legal and regulatory obligations;
- understand *The Vodafone Way* and apply our Business Principles to their work, as explained below; and
- report any unethical working practices or unsafe or inappropriate behaviour which is in breach of our Code of Conduct via our *Speak Up* process (also explained later in this Report).

There can be very serious consequences for non-compliance including disciplinary action and dismissal.

Our Business Principles set out our expectations with regard to an individual's behaviour when working for or on behalf of Vodafone.

They include expectations regarding individual conduct, compliance with the law, health and safety, financial integrity, public policy, communications, customers, employees, communities and societies, and the environment.

Among other principles stipulated in our Code of Conduct, we will always:

- act with honesty, integrity and fairness in our dealings, both internally and externally;
- value the trust our customers place in us and safeguard the information provided to us;
- protect the health, safety and wellbeing of our customers, employees, partners and the communities in which we operate;
- comply with the provisions of all applicable domestic and international laws;
- provide the best possible return for our shareholders over the longer term;
- communicate openly and transparently with all our stakeholders within the bounds of commercial confidentiality;
- base relationships with and between employees on respect for individuals and their human rights;
- engage with local communities to help us understand and respond to any concerns they may have; and
- seek to improve the environmental performance of the products and services we provide as well as support those that offer environmental and social benefits to our customers.

Further details can be found in our [Code of Conduct](#).



Human rights

Communications networks and services have a profoundly positive role to play in underpinning individual human rights. Communications operators such as Vodafone enable citizens to share information widely, extending freedom of expression and enabling greater scrutiny of people in power. Our networks and services also provide millions of people with access to life-enhancing opportunities, from education and employment to finance and healthcare.

However, communications technologies can also be used by people wishing to cause harm: terrorists and criminals also benefit from the freedom to associate, coordinate, learn and share information that is enabled by mobile and digital services. Policymakers, intelligence agencies and law enforcement bodies in many countries are increasingly concerned that public safety is being put at risk as a consequence. At the same time, a wide range of people and groups in civil society are equally concerned that state actions to address criminals' use of communications technologies are eroding the individual's right to privacy and – in many countries – are intended to suppress dissent and curtail legitimate public debate.

We address these topics fully in our [Digital Rights and Freedoms Reporting Centre](#), which contains our views on government-mandated network shutdowns and our [Freedom of Expression Principles](#). The reporting centre also includes our latest views, statements and policies on issues related to privacy and law enforcement and other matters related to the protection of our customers' private communications and actions taken by government agencies and authorities to ensure public safety.

Human rights that extend into the digital realm are important priorities for Vodafone. However, we are also fully aware of other kinds of human rights risks in our operations. As our [Code of Conduct](#) makes clear, those other risks are also the focus of senior management scrutiny across all of our businesses. We are a very large multinational company with a complex global supply chain and recognise the need to ensure we fulfil our social and environmental obligations. We have a responsibility to respect the rights and freedoms of every individual who works for us – either directly as an employee or indirectly through our supply chain – as well as the communities close to where we operate.

In our view, respect for human rights – coupled with robust systems to reduce risk and address abuses – is critical to the long-term success of our business.

Our principles

We fully acknowledge our responsibility to respect human rights as set out in the [International Bill of Human Rights](#). We are also committed to implementing the [United Nations Guiding Principles on Business and Human Rights](#) throughout our operations.

Our respect for individuals' human rights is enshrined in our Code of Conduct, which – as we explain above – underpins everything we do. The relevant section of our Code states:

"We respect all internationally proclaimed human rights, including the International Bill of Human Rights and the principles concerning fundamental rights set out in the International Labour Organization's Declaration on Fundamental Principles and Rights at Work. We strive to ensure that we are not complicit in human rights abuses. We shall, in all contexts, seek ways to honour the principles of internationally recognised human rights, even when faced with conflicting requirements. We are also committed to implementing the United Nations Guiding Principles on Business and Human Rights throughout our business operations."

When the UN Guiding Principles were first published in 2011, we analysed our approach to human rights in place at that time in order to assess the extent to which our policies and practices were aligned to those Principles. That analysis helped to sharpen our focus on the most

salient human rights risks of relevance to an international communications operator, including labour rights, civil and political rights (particularly privacy and freedom of expression), rights of the child, and economic, social and cultural rights (in particular with regard to bribery, corruption and political lobbying). We provide a summary of our views on those areas later in this Report and – on privacy, freedom of expression and online child safety matters – in our [Digital Rights and Freedoms Reporting Centre](#).

Governance and risk management

Our overarching commitment to human rights is overseen by our Group Executive Committee with detailed governance scrutiny from the Audit and Risk Committee of the Vodafone Group Board. In each of the countries in which we operate, human rights matters are overseen by the chief executive responsible for our operating company in that country, with governance support from the relevant local market professional functions.

We summarise overleaf our approach to the most salient human rights risks. The associated policies, governance and due diligence processes that guide our approach are reviewed and updated regularly to ensure they reflect the evolution of our businesses and changes in the nature of the risks we face.

Managing human rights risks

Relevant risk to our business	Our approach
<p>Labour rights</p> <p>We are committed to respecting the rights and freedoms of our employees and people working in our supply chain.</p>	<p>Our approach to the management of relationships with, and between, employees is based on a commitment to respect each individual's human rights. Our Group employment policies are enshrined in our Code of Conduct and are in line with the UN Universal Declaration of Human Rights and the International Labour Organization's Core Conventions.</p> <p>We recognise the rights of employees to join trade unions. Our preference, though, is to consult with our employees directly in order to ensure that everyone is treated fairly, whether or not they are represented by a trade union.</p> <p>We have developed and implemented policies and processes to extend our human rights commitments throughout our supply chain. Our Code of Ethical Purchasing sets out the standards that we expect our suppliers to meet on health and safety, labour rights, ethics and environmental protection. This includes prohibiting child labour and requiring suppliers to avoid using any form of forced labour or slavery. Further details on our approach can be found in the Supply chain integrity and safety chapter of this Report and our Slavery and Human Trafficking Statement.</p> <p>We also have a conflict minerals policy that seeks to ensure that minerals entering our product supply chain have not contributed to conflict in the Democratic Republic of Congo and surrounding areas. Further details are set out in our Conflict Minerals Report.</p>
<p>Civil and political rights</p> <p>The most salient civil and political rights for our business are privacy and freedom of expression. Our customers have a right to privacy, which is enshrined in international human rights law and standards and enacted through national laws. Respecting that right is one of our highest priorities and is integral to the Vodafone Code of Conduct, which everyone who works for or with us has to follow at all times.</p> <p>However, in every country in which we operate, law enforcement agencies and authorities have legal powers over communications operators such as Vodafone. There can often be a tension between the use of those powers and the duty of governments to protect each individual's right to privacy and freedom of expression. Those tensions are increasing as governments consider changes to those powers to reflect the evolution of communications technology in recent years.</p>	<p>We acknowledge and respect our customers' right to privacy: as we explain earlier in this Report, this is one of our highest priorities and is integral to our Code of Conduct.</p> <p>We consider the impact our decisions have on the privacy of our customers and employees. When we design products, launch campaigns, sign a contract with a new supplier, collect information or share such information with our partners and others, we require everyone in our company to abide by Vodafone's Privacy Commitments. We have individuals who are responsible for compliance with privacy rules in each of our local markets who seek to ensure that all employees understand fully why those Commitments are so important for Vodafone – and our customers.</p> <p>Our Global Policy Standard on Law Enforcement Assistance outlines our principles and standards for responding to demands from a state agency or authority to access our customers' private communications. The Vodafone Privacy and Law Enforcement Principles and Vodafone Freedom of Expression Principles are set out in the respective Statements in our Digital Rights and Freedoms Reporting Centre.</p>

Relevant risk to our business	Our approach
<p>Rights of the child</p> <p>Many of our customers have families with young children and our global customer base also includes large numbers of young people. There is growing public concern regarding the sexualisation of young people through digital media and, more broadly, the effect on young minds of access to harmful online content. Communications networks are also used by paedophiles to share illegal child sexual abuse materials.</p>	<p>We support a common industry-wide approach to promoting child safety online. Vodafone is a signatory to the ICT Coalition for Children Online, which we helped to develop. The Coalition sets out a common code of conduct for the development of products and services that protect children on the internet.</p> <p>We are a founding member of the Mobile Alliance Against Child Sexual Abuse Content, which aims to block the use of mobile networks and services by people who wish to view or profit from illegal child sexual abuse content. Our notice and take-down procedures ensure that any offending material can be removed where appropriate.</p> <p>Our work to support the rights of the child is reported in more detail in the Respecting the Digital Rights of the Child statement on our Digital Rights and Freedoms Reporting Centre.</p>
<p>Economic, social and cultural rights</p> <p>The most relevant economic, social and cultural rights for our business relate to the social and economic consequences of bribery and corruption and the impact on civil society of undue political influence (including through political lobbying).</p>	<p>We adopt a zero-tolerance approach to bribery and corruption. This is outlined in our Code of Conduct and put into effect through our global anti-bribery programme. To see our Group Chief Executive's comments on the importance of operating with integrity, click here.</p> <p>Further details of our approach to political engagement are set out on page 54.</p>

Human rights and new market entry

Human rights risks are a critical factor in determining whether or not Vodafone will make an investment, establish an operating business or enter into a commercial relationship with a third-party telecommunications operator in a country where the Group currently has no such presence. As a part of the standard due diligence process applied to potential acquisitions, licence applications or new local operator partnerships, we conduct a formal assessment of key human rights issues for the country in question including:

- freedom of expression and privacy;
- internet freedom;
- freedom of association;
- political participation;
- rule of law;
- gender and minority rights; and
- labour rights.

The actions taken as a result of the assessment above would depend on the nature of the business relationship at issue. For example, we seek to develop mobile roaming relationships and international communications cable connections with as many countries as possible to ensure our customers can communicate wherever they are in the world. We believe there is a clear social good arising from providing citizens with the ability to connect to the outside world. In some cases, this means interacting with partners in countries that have poor human rights records. However, at the other end of the commercial spectrum – where Vodafone is considering acquiring an operating business,

bidding for a telecommunications licence or making an equity investment – a country's human rights record is as likely to influence our decision as any commercial aspect of the proposed transaction.

It is also worth noting that in some countries, the presence of multinational companies that operate to high ethical standards (including greater levels of disclosure) under international scrutiny can occasionally (and under limited circumstances) have a positive influence on prevailing attitudes to human rights matters.

Employee reporting

Everyone who works for or on behalf of Vodafone must report any behaviour at work that may be unlawful or criminal or could amount to an abuse of our policies, systems and processes and therefore a breach of our Code of Conduct. Employees are obliged to report a wide range of unlawful and unethical activities, from bribery, fraud, price-fixing, potential abuses of human rights and privacy breaches to safety risks, bullying, harassment, conflicts of interest and the potential for serious harm to the environment via our *Speak Up* process.

Suspected breaches may be reported via one of three methods:

- the employee's line manager;
- the local human resources team; or
- a confidential external hotline, where reports can be made in the employee or contractor's local language, either by phone or online.

Regular reports are made to the Group Risk and Compliance Committee regarding the performance of the *Speak Up* service, including

statistics comparing the service with the equivalents operated by other multinationals. We provide more details on our process for reporting concerns on page 52 of this Report.

Our areas of focus

Privacy and freedom of expression

As we explain above, our most salient human rights risks relate to the individual's right to privacy and freedom of expression. In prior years, we have published an annual transparency report focused on those areas; that transparency report is one of the most comprehensive of its kind anywhere in the world. This year, we are extending our commitment to transparency by moving to a continuous disclosure model instead of a single 'point in time' static publication. Our new *Digital Rights and Freedoms Reporting Centre* covers themes related to the protection of our customers' private communications and the actions of government agencies and authorities to ensure public safety. The reporting centre also contains our views on government-mandated network shutdowns and our *Freedom of Expression Principles* as well as online child safety matters.

In March 2017, Vodafone became a Board member of the multi-stakeholder *Global Network Initiative (GNI)*, one year after becoming an observer member. The GNI was established in 2008 and brings together information and communications technology companies, civil society groups (including human rights and media freedom groups), academics and investors with a shared commitment to promote and advance freedom of expression and privacy worldwide.

The GNI and the *Telecommunications Industry Dialogue* (of which Vodafone was a founding member) had worked together since 2013 to address the challenges faced by communications and technology companies whenever government agency and authority lawful demands for assistance appear to be in conflict with the citizen's right to privacy and freedom of expression.

Modern slavery

In 2015, the UK government introduced new legislation requiring all companies that supply goods or services or have a business in the UK to make a public statement regarding the measures they take to address the risk of forced, bonded or compulsory labour, human trafficking and other kinds of slavery and servitude in their businesses and supply chains. The disclosure obligations relate to all company operations and suppliers worldwide, not just those based in the UK.

Our second detailed disclosure under the Modern Slavery Act (2015) is set out [here](#). We will not tolerate any such activities within our own operations or within our supply chain and are committed to taking the appropriate steps to ensure that everyone who works for Vodafone – in any capacity, anywhere in the world – benefits from a working environment in which their fundamental rights and freedoms are respected.



Bribery and corruption

Corruption can undermine entire societies. It entrenches poverty, disempowers the vulnerable, undermines efforts to fight disease and reduces business productivity, resulting in greater inequality, criminality and volatility in politics and civil society.

We are one of the largest international investors in many of the countries in which we operate. We have invested tens of billions of euros of our shareholders' funds in building businesses for the long term. Those businesses in turn provide employment – directly and indirectly – to hundreds of thousands of people, and deliver services upon which hundreds of millions of people rely every day. It is strongly in our commercial interest to do all we can to help to ensure the widespread prosperity, social stability and respect for the rule of law necessary for any business to thrive in every country in which we operate. We will not tolerate bribery and corruption in any form. As an organisation, we would rather walk away from a business opportunity than engage in any act of corruption – or act that could be perceived as corruption.

Our policy

Our anti-bribery and corruption policy is summarised in our [Code of Conduct](#), which is mandatory for everyone working for or on behalf of Vodafone. The policy states that employees and third parties working on our behalf must never offer or accept any form of bribe. Breaches of our Code of Conduct can lead to dismissal or the termination of their contract.

Our policy towards bribery and corruption is consistent with the UK Bribery Act and the US Foreign Corrupt Practices Act, which apply to our operations globally, as well as the local law of the markets in which we operate.

Our policy provides guidance on what constitutes a bribe and prohibits the giving or receiving of any gifts or hospitality that are excessive or improper. We also make it clear that where there is a difference between a local law in one of our markets and the requirements specified in our policy, the more stringent of the two must be applied.

Our Group Chief Executive and local market chief executives play an active role in emphasising the need for compliance. Click [here](#) to see our Group Chief Executive's views on the challenges posed by bribery and corruption. There are a number of mechanisms to enforce compliance, summarised here. We also monitor policy implementation and assess risks regularly.

Governance and risk assessment

As with human rights, our efforts to prevent bribery and corruption across our businesses are led from the top of the Group with overall governance oversight from the Group Chief Executive and the Group Executive Committee. Each of our country chief executives is responsible for ensuring our anti-bribery and corruption programme is applied effectively in their respective local market with the support

of local specialists and a dedicated Group team focused on anti-bribery and corruption policy and compliance. Every local market must ensure compliance with our anti-bribery and corruption policy through measures including:

- an approval and registration process for gifts and hospitality, sponsorship and charitable contributions;
- mandatory employee training and awareness programmes; and
- due diligence of suppliers and business partners.

These mandatory requirements are underpinned by regular monitoring of policy implementation and effectiveness by the anti-bribery compliance officers present in each local market. Our local officers meet in person every year to share experiences and best practice.

The risks we face evolve constantly but broadly fall into the areas summarised in the table overleaf together with the measures we take in mitigation.

Governance and risk assessment

Risk identified	Our response
<p>High-risk markets</p> <p>Vodafone operates in a number of countries where there is a heightened risk of bribery and corruption.</p>	<p>We undertake annual risk assessments in our local operating companies and at Group, to understand and limit our exposure to risks in each of our markets.</p>
<p>Business acquisition and integration</p> <p>When purchasing or merging with another entity there is a risk of inheriting legacy bribery and corruption risks associated with that entity. Those risks may persist if we are unaware of them or do not take prompt action to address them.</p>	<p>An assessment of historic and current compliance with anti-bribery and corruption measures forms part of our due diligence process when considering whether or not to acquire – or merge with – another business. If a transaction does ensue, upon gaining control of the entity we then implement all of the measures mandated under the anti-bribery and corruption programme applied to Vodafone businesses worldwide.</p>
<p>Spectrum licensing</p> <p>Communications operators depend on access to sufficient radio spectrum to deliver mobile and certain fixed-line services to their customers. Spectrum is a limited sovereign resource; when unused frequencies become available they are therefore valuable and are contested between rival operators. Large sums of money can be involved whenever governments choose to allocate spectrum to operators, raising a risk of bribery.</p>	<p>We encourage governments and regulators to adopt competitive, transparent and well-managed auctions as the primary mechanism for releasing new spectrum to the market. A specialist spectrum policy team within the Group oversees all spectrum negotiations and auctions in every local market to reduce the risk of attempted bribery. We also provide specialist training and guidance to employees in roles that involve interaction with government officials on spectrum matters. We provide further context on the most appropriate approach to spectrum allocation in emerging markets in our <i>Spectrum policy in emerging markets</i> report available here.</p>
<p>Building and upgrading networks</p> <p>Communications networks rely on a large amount of physical infrastructure, which in turn requires access to – and leasehold arrangements on – both public and private land. Our employees and contractors constantly engage with landowners, local community leaders and municipal authorities when seeking to maintain and upgrade our more than 300,000 mobile base station sites across 23 countries. Ensuring we are able to maintain our networks – and thereby meet our customers' needs – requires a proactive approach to compliance with our anti-bribery and corruption rules.</p>	<p>We are clear in our anti-bribery and corruption policy that no form of inducement must ever be offered to secure a permit, lease or access to a site. This prohibition is regularly communicated to all employees and contractors working on our behalf in network management roles.</p>

Risk identified	Our response
<p>Working with third parties</p> <p>We have a complex supply chain spanning more than 17,000 vendors, contractors and sub-contractors. In common with all companies – and particularly those with operations in countries known to experience endemic corruption – we are at risk of improper behaviour in the manner in which third-party services are procured and delivered.</p>	<p>Our suppliers and other relevant third parties are required to comply with the Code of Conduct (which is also mandatory for everyone who works for or on behalf of Vodafone) and our Code of Ethical Purchasing.</p> <p>Suppliers are screened for anti-bribery compliance prior to appointment and are informed of our anti-bribery policy. We communicate the requirements of our anti-bribery and corruption programme to suppliers throughout the year and assess compliance on an ongoing basis through a detailed analysis of compliance activities within a sample of our higher-value or higher-risk suppliers.</p>
<p>Winning and retaining business</p> <p>Enterprise accounts for around 28% of our global revenues; we now serve the communications needs of some of the largest companies and public sector organisations in the world. Our enterprise customers run competitive tender processes to decide which operator will win their business. The sums involved in those bids may be material, leading to the risk of improper inducements – sought or offered by representatives of either Vodafone or the prospective customer – in breach of our anti-bribery and corruption policy.</p>	<p>We provide mandatory, targeted face-to-face training for our enterprise sales teams and other employees in higher-risk roles over and above the standard (and also mandatory) anti-bribery and corruption training for all Vodafone employees. We also maintain and monitor a global register of gifts and hospitality to ensure that anything offered or received for the purpose of building business relationships is appropriate and would not improperly influence – or be perceived as influencing – the award or renewal of a contract.</p>



Engaging our employees

We seek to ensure that everyone who works for Vodafone is aware of their obligation to help tackle the risk of bribery and corruption within our businesses. We run a high-profile internal communications programme – *Doing What's Right* – to maintain a consistent level of understanding across all roles and functions.

During the year, we updated the *Doing What's Right* communications' materials shared across all local businesses worldwide to highlight a number of common compliance challenges, including handling personal data, conflicts of interest and accepting gifts. The communications materials bring to life specific risk situations through simulated encounters between employees and third parties, helping to improve colleagues' ability to recognise the compliance threats posed by seemingly simple day-to-day encounters.

We incorporate training in our [Code of Conduct](#) as part of our standard induction processes. In addition, existing employees are required to complete refresher training in the Code every two to three years. We also provide more detailed anti-bribery training – including face-to-face simulations of common bribery scenarios – for employees working in higher-risk areas such as procurement, network operations, enterprise sales and government relations.

Reporting concerns: our *Speak Up* process

As explained earlier in the Report, it is a mandatory requirement for everyone who works for Vodafone to report suspected breaches of our Code of Conduct as soon as possible: our people

have the duty – as well as the right – to make their concerns known whenever they discover an activity or behaviour they believe may be unlawful or unethical. This is known as our *Speak Up* process, which is widely communicated across Vodafone and our supply chain.

In the large majority of such instances, employees are able to raise their concerns freely and openly with line managers or human resources colleagues who take the appropriate action. However, sometimes it is not possible for the employee to approach a manager with their concerns, particularly in cases where the potential breach of the Code at issue involves the employee's own manager. Our confidential external hotline also enables all employees and contractors to make a disclosure in complete confidence online or over the phone and in their local language via a specialist third-party provider contracted by Vodafone. During the year, we undertook the necessary checks to confirm that the external hotline used in all of our local markets was functioning as intended.

Every report submitted under our *Speak Up* process is examined by senior executives and reports on the programme as a whole are reviewed by the Group Risk and Compliance Committee. During the year, 866 concerns were reported using the *Speak Up* process, either using our external hotline or through internal channels. The *Speak Up* process operates under a non-retaliation policy: everyone who raises a concern in good faith will be treated fairly with no negative consequences for their employment with Vodafone, regardless as to whether or not the subsequent investigation reveals evidence of a breach of the Code.

Awareness of our *Speak Up* programme is high: in our latest Global People Survey, 87% of respondents said they would use the service to report unethical behaviour.

Engaging suppliers and third parties

Our suppliers, partners and other third parties are committed under contract to comply with our anti-bribery and corruption policy. Every year, we select a sample of suppliers and review their anti-bribery and corruption controls. This is designed to be a collaborative process, enabling us to support suppliers in meeting the standards expected from them and to share best practice. We also find that we often learn from our suppliers' own experiences and use that knowledge to enhance our own anti-bribery and corruption programme.

If a detailed supplier review identifies inadequacies in the supplier's control frameworks, unless there is an immediate risk of improper conduct, we will provide the supplier with advice and support on remediation and allow them time to implement the required changes.

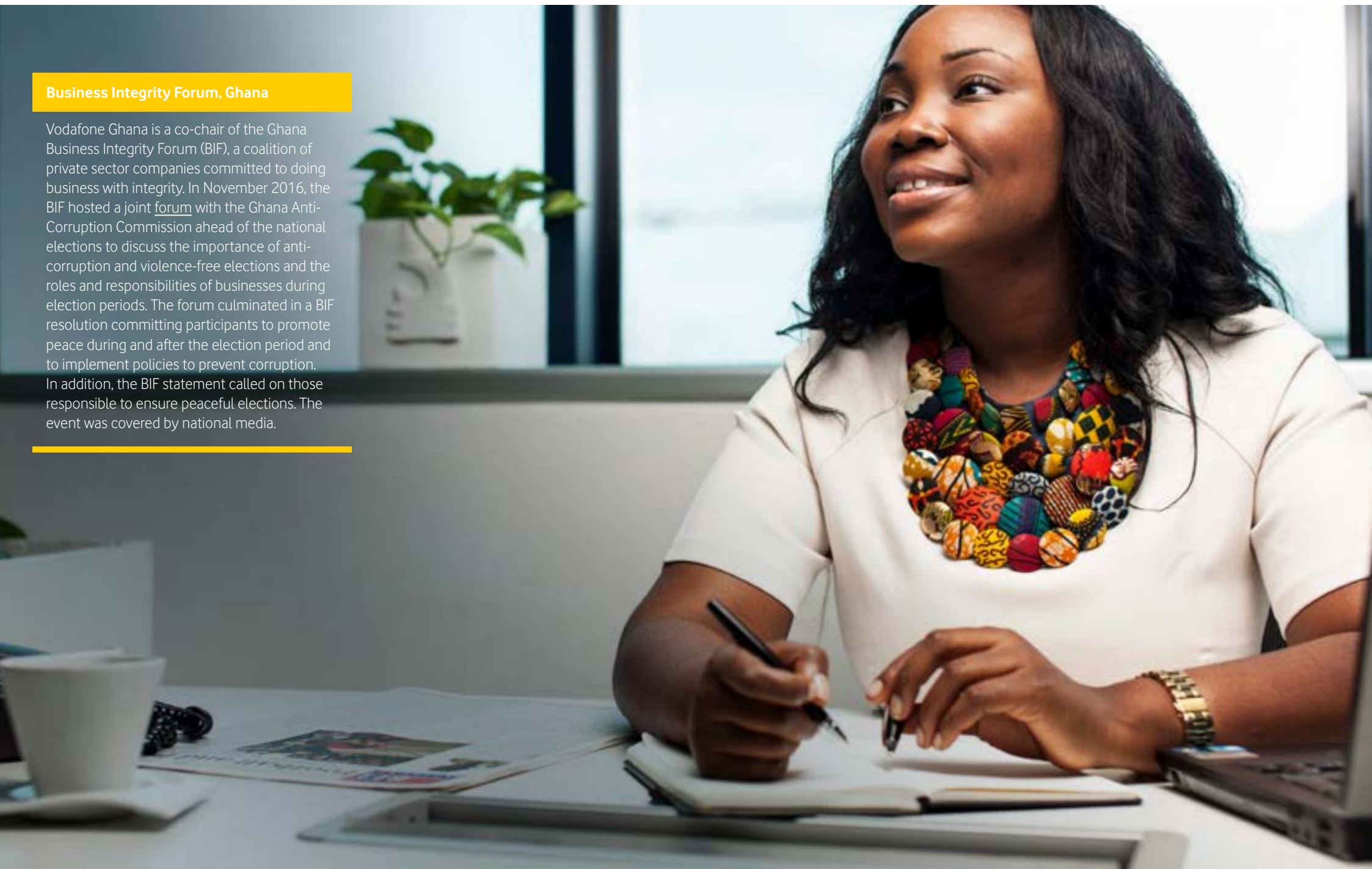
Engaging civil society

We seek to play an active role in supporting a range of stakeholders with a mutual interest in tackling bribery and corruption. We are active members of or participants in:

- the [Transparency International Business Integrity Forum](#);
- the [Institute of Business Ethics](#); and
- the [Good Governance Forum](#).

Business Integrity Forum, Ghana

Vodafone Ghana is a co-chair of the Ghana Business Integrity Forum (BIF), a coalition of private sector companies committed to doing business with integrity. In November 2016, the BIF hosted a joint [forum](#) with the Ghana Anti-Corruption Commission ahead of the national elections to discuss the importance of anti-corruption and violence-free elections and the roles and responsibilities of businesses during election periods. The forum culminated in a BIF resolution committing participants to promote peace during and after the election period and to implement policies to prevent corruption. In addition, the BIF statement called on those responsible to ensure peaceful elections. The event was covered by national media.



Political engagement

A lack of transparency in the interactions between governments and multinational companies is one of the root causes of the growth of public mistrust referred to earlier in this Report. There is a widespread belief in many countries that large businesses are able to secure greater advantages from policymakers than other individuals and organisations without such access.

Many of those suspicions are unfounded: whatever the sector or circumstance, representatives from both multinationals and government are typically mindful of, and respectful towards, their obligation to behave responsibly and ethically at all times. However, this is not always the case, and every instance of inappropriate conduct that emerges into the public domain strengthens further the perception that large multinationals exert undue influence through private bilateral or closed-group engagement with elected leaders and their advisors.

At Vodafone, everyone who works for and with us must follow rules designed to reduce the risk of improper behaviour – and the perception of such behaviour, even when this has not actually occurred – in our dealings with politicians, civil servants, regulators, advisors and others involved in determining policy or managing the affairs of state. For example:

- we have specific rules under our [Code of Conduct](#) regarding gifts, hospitality and sponsorship involving politicians and government officials;

- as a matter of policy we do not provide any form of direct financial support to political parties, elected officials or candidates for election; and
- we will not intervene in party political matters.

While we encourage our employees to take an active interest in local and international politics, everyone must also abide by rules governing political activity conducted in a personal capacity. Employees are not allowed to use any Vodafone resources – from communications services and meeting rooms to their own working time – to provide support for any political campaign, political party, political candidate or any affiliated organisation. We also focus on political engagement under our anti-bribery and corruption programme, providing specific training to employees whose roles involve interacting with policymakers and advisors.

Why and how we engage politically

Interactions with ministers, opposition politicians, elected representatives, civil servants and independent statutory bodies, such as regulators and political or sector specialist advisors, are an essential aspect of managing our businesses around the world.

Our discussions address topics including:

- the operating challenges (such as planning restrictions) that arise from obligations specified under the telecommunications licences awarded by governments and without which we cannot lawfully function;

- proposed legislation and new or amended regulations that would affect how we operate or would have an effect on our customers' experience;
- the negative effects on competition and customer choice that would result from the remonopolisation of communications markets by European incumbent operators;
- spectrum matters, addressed earlier in this Report;
- provision of communications services by Vodafone as a major supplier to government bodies and other public sector customers;
- security matters, particularly those focused on Vodafone's role as an operator of critical national infrastructure;
- privacy and data protection matters (discussed in detail in our [Digital Rights and Freedoms Reporting Centre](#));
- online child protection, referred to in detail in our [Digital Rights and Freedoms Reporting Centre](#);
- financial inclusion and mobile money services such as our M-Pesa service now used by more than 31 million people; and
- industrial policy and the growth of the Internet of Things (IoT) – the development of intelligent networking across a wide variety of devices, services and processes in the home and workplace – a rapidly growing field in which Vodafone is the acknowledged world leader in mobile connectivity.

The vast majority of political meetings involve senior Vodafone executives rather than external lobbyists. We define lobbyists as third-party individuals or organisations contracted to represent Vodafone's interests in discussions with public policy audiences (including ministers, politicians, officials and advisors) where Vodafone executives are not present for those discussions.

While we do use external political consultancies for internal advisory support and back-office activity such as monitoring of parliamentary debates, wherever possible our strong preference is to ensure that Vodafone is represented in public policy and political meetings by senior individuals from within our businesses. We also generally find that public policy and political stakeholders strongly prefer direct discussions with Vodafone executives.

On the infrequent occasions when our interests are represented by a third party in a public policy or political meeting with no Vodafone executive present, the third party must comply with a number of internal political engagement processes and approval mechanisms. We also maintain an internal register of any external parties who engage in policy discussions on our behalf.

Offers of hospitality for government representatives

When appropriate and for justifiable relationship-building purposes, we may invite government representatives to meals or hospitality events. During the year, we have offered invitations to a number of Vodafone-sponsored sporting and cultural events such as the Vodafone New Zealand Music Awards and the Cape Town Jazz Festival. We apply a number of internal governance rules to invitations of this kind. Those rules are strictly enforced under our global [Code of Conduct](#).

Where a regulatory decision relating specifically to our business is under consideration or imminent, we expressly prohibit gifts and hospitality of any kind to any parties involved in making that decision. We also stipulate that every gift or offer of hospitality for a government representative over the value of €100 must be approved personally (prior to acceptance) by our Group External Affairs Director, who sits on the Vodafone Group Executive Committee.

European Union transparency declaration

We actively engage with European Commission officials and EU institutions to contribute to discussions on the future of communications in Europe. As a company with significant businesses in 12 member states, we believe we are well positioned to comment on policy initiatives intended to drive economic growth and create better-quality services for customers across Europe. We disclose these political activities and related expenditure, as mandated, through the EU Transparency Register.

Hiring former public servants

We value the skills and experience that former public servants can bring to our organisation. However, we also recognise the risk of actual or perceived conflicts of interest. When hiring former public servants, we respect and abide by local laws regarding post-public sector employment, including cooling-off periods and any restrictions imposed on the roles and activities that can be performed by the individual in question. We also have clear rules for all employees under our Code of Conduct regarding conflicts of interest.



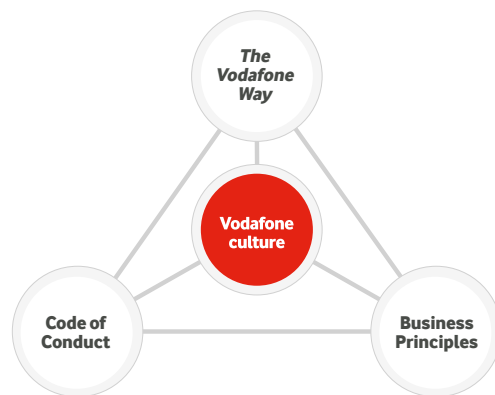
Our people

We employ more than 108,000 people and work with more than 24,000 contractors across our operating businesses. Our business performance – and our customers' experience of Vodafone – depends on our ability to attract, develop and retain a wide range of skilled individuals at all levels who are empowered to exercise good judgement in their daily tasks and who are expected to act with integrity at all times.

Our culture

A business in which all who work for it are treated honestly, fairly and with respect is much more likely to succeed than one in which those positive characteristics are limited or non-existent. Diversity and inclusivity are also an essential part of our culture. We strive to create an open and inclusive environment in which all employees feel that they are equally valued as people. Similarly, ethical conduct towards and between our employees is a critical determinant of business success. Without integrity in the workplace, no business can survive over the long term.

We put great emphasis on developing a strong culture grounded in respect and integrity and are very clear about the behaviours we expect from everyone who works for Vodafone. These are defined by our global policies as set out in our Business Principles and our [Code of Conduct](#). They are also reinforced in *The Vodafone Way*, the guidance we provide to all employees on how they should behave in order to ensure Vodafone is admired and respected by our customers and by society as a whole.



At the centre of *The Vodafone Way* is a focus on three core principles: speed, simplicity and trust. We want our people to respond swiftly and effectively to challenges and opportunities, especially those that affect our customers. We want them to do so while avoiding unnecessary bureaucracy and costly and cumbersome internal processes. And we want all of our business activities and decisions to be informed by an understanding that earning and retaining the trust of our customers, our employees and all other stakeholders must be integral to everything we do.

Our Business Principles are the foundation of how we do business and set out the values that must be respected by everyone who works with Vodafone. The Business Principles encompass areas ranging from the management of our relationships with customers, employees and communities and the protection of the environment through to compliance with the law, our approach to health and safety and the need for financial integrity.

Our Code of Conduct is the central policy document that everyone who works for us formally commits to follow at all times. It summarises the behaviours expected from every single person working for, or with, Vodafone at any level, in any role or function. Each section of the Code of Conduct includes links to more detailed global policy documents containing specific rules and guidance.

Equipping people with the skills they need to succeed

Our industry evolves constantly and at great speed. Developments such as consumer cloud services for TV content, gigabit fibre-optic networks for businesses and consumers, and the new industrial revolution of the IoT – a sector in which Vodafone is the leading global mobile provider – have all gained traction within the last two to three years. Simultaneously, the exponential increase in the use of digital, social and online media by customers in many countries as their primary means of engaging with us has caused us to look afresh at our approach to areas such as marketing, sales, digital technology and customer care.

Continuous development programmes to update and enhance our employees' skills are an essential component of business performance. Those programmes take many forms, from structured learning and formal training to coaching and mentoring. In 2017, we invested more than €80 million in employee training and development. These programmes are acknowledged and welcomed by our employees;

in the 2016 Global People Survey, 81% of employees surveyed said that they benefited from opportunities to learn the skills they needed to do their jobs well, a one percentage point increase in responses to the same question in the survey in the previous year.

During the year, we launched a range of new digital learning resources – Vodafone University – accessible to all employees at any time on any device. Vodafone University brings together our specialist professional courses (covering areas such as sales and marketing) with courses in leadership, technology and customer service. Vodafone University programmes have been developed with the support of leading academic institutions including the London Business School, Harvard University and Imperial College as well as accredited external training providers. The courses are designed to combine the latest theoretical thinking with real-world experience and case studies. During the year, a total of 84,000 people completed at least one Vodafone University training course.

Over the last year, we have focused on enhancing the quality of the service provided to our customers by people in frontline roles such as retail and customer care. A new training programme has improved our ability to fix a customer's problem the first time this is raised with us, contributing to an increase in average levels of customer satisfaction. We provide further details in the case study below. We also provided specialist training to more than 11,000 people who support our enterprise customers.

Improving support for customers with disabilities in Portugal

Vodafone Portugal has worked with the Portuguese blind and deaf associations to improve the ability of its staff to assist customers with special needs. New training covers a wide range of topics, from accessible products and services and guidance on how to demonstrate phone features to how to communicate effectively with customers who may be visually or hearing impaired. Training was completed by more than 1,520 call centre workers and shop assistants during the year.

Vodafone Portugal has also launched a video support line for customers who use sign language, and has made important information available in video format on its website. The sign language service received around 300 calls a month during the year.



Enhancing customer care

Our customer care and retail teams must have the skills needed to provide a high-quality service to our customers. They also need to be able to fix customers' problems as soon as we are contacted rather than through repeated calls, contacts or store visits (what we call a 'first-time fix'). This can be a challenge: the services provided by the communications industry become more complex and diverse with each evolution in technology.

During the year, we reworked our approach to hiring, training and developing our customer care agents, managers and retail teams to enhance their ability to meet our customers' needs. The Vodafone Way of Customer CARE training is designed to increase our customer care and retail teams' ability to achieve an accurate and timely first-time fix approach to customer problems while emphasising the importance of empathy and best-practice customer service principles.

To date, more than 39,000 contact centre agents and team leaders have completed the training as well as more than 4,000 retail store managers and advisors. More than 70% of agents said the training helped them feel more supported in their roles and 75% of team leaders said they felt better able to develop their teams. Good customer service is also recognised through our reward and incentives schemes to encourage continuous improvement.

Developing future leaders

Strong, effective, responsible and trusted leadership is a prerequisite for business success. All of our leaders – from the most junior supervisor to the most senior global executive – are expected to act as positive role models for their teams and to focus continuously on the needs of our customers.

We run an annual talent review process to identify high-performing managers, match their skills to our business needs and help them achieve their development goals. Around 1,000 newly appointed managers attended our *Leadership Essentials* programme during the year. The programme emphasises the importance of inspiring and leading colleagues effectively while simplifying internal processes and ensuring that all actions and decisions are taken with the customer in mind.

We also operate a number of development programmes for young people who want to work in the communications and technology industry. Further details on our work with young people at the beginning of their careers can be found in the Youth, skills and jobs section of this Report.

Our commitment to building a diverse and inclusive company

Our commitment to diversity and inclusion is led by the Vodafone Group Chief Executive and the Vodafone Group Plc Board and is embedded at every level of our businesses worldwide. Further details of our approach to developing and maintaining a diverse and inclusive culture are set out earlier in this Report. Our commitment is acknowledged and supported by the overwhelming majority of our employees worldwide: in our 2016 annual Global People

Survey, 89% of employees who responded said they felt they were treated fairly, irrespective of age, gender, disability, sexual orientation, gender identity, cultural background or beliefs.

We expect everyone who works with us to conduct themselves with dignity and respect in their dealings with customers, co-workers, partners, suppliers, local communities and any other stakeholders affected by, or with an interest in, Vodafone's activities. That obligation – mandated in our Code of Conduct – applies to our employees' interactions with all individuals irrespective of gender, sexual orientation, gender identity, disability, age or any other factor. We are committed to ensuring fair and equal treatment for everyone across all of our businesses.

How that commitment is put into practice varies from country to country. Cultural norms, local customs and legislative requirements all influence the scope and focus of our diversity and inclusion programmes implemented by our local management teams.

Leaders play a critical role in creating a positive and supportive culture. Diversity and inclusion awareness is a core part of our *Leadership Essentials* training and our induction programmes for all senior leaders. Individual Vodafone local markets also run programmes focused on areas such as ensuring fair and equal treatment for all people. During the year, leadership teams across Vodafone completed unconscious bias training intended to identify and address a range of small (and typically unintended) actions or cultural norms that can impact decision making and hamper progress towards an inclusive workplace.



This training is now being extended to all employees worldwide and will be followed during 2018 by a series of *Gender Smart* workshops to enhance managers' understanding of the impact of gender difference in the workplace.

Increasing the proportion of women in management and senior leadership roles is a core focus of our global diversity and inclusion programmes. During the year, we announced our aspiration to become the world's best employer for women by 2025. Further details on that goal are set out in the [Women's empowerment](#) section of this Report.

Increasing cultural understanding and awareness across countries

Vodafone is a strongly multicultural company. We employ nationals from around 136 different countries across 23 local markets, and the top 195 members of our global Senior Leadership Team (SLT) are drawn from more than 21 different nationalities. Although Vodafone Group is UK-domiciled, UK nationals account for only 23% of our global SLT, and the professional functions based in the Group's headquarters in London include nationals of more than 45 countries.

Wherever feasible, we encourage our managers to broaden their understanding of other cultures – and gain professional experience and enhance their careers – through assignments outside their home nation. More than 45% of our senior leaders have completed an international assignment at some point during their career with Vodafone.

Focusing on LGBT+ inclusion

In recent years, we have increased our focus on creating an inclusive working environment for employees who identify themselves as lesbian, gay, bisexual, transgender and other sexual orientation and gender identity categories. We have appointed a global executive sponsor for LGBT+ matters. Our Group Director of Customer Experience and Operations (who is a member of our SLT) provides leadership on LGBT+ inclusion and raises the profile of LGBT+ topics at a senior level. He is supported by 20 SLT members across our local markets. Both our LGBT+ global executive sponsor and our European Human Resources Director were recognised in the [LGBT+ & Leading Ally Executives List](#) (published in conjunction with OUTstanding and the *Financial Times*) for championing LGBT+ inclusion in the workplace.

We have established a global LGBT+ & Friends network to support managers and employees on LGBT+ topics and connect them with local networks in 14 of the countries in which we operate. During the year, our LGBT+ colleagues met our Group Chief Executive to share ideas and insights on how to increase support for LGBT+ employees across our local markets.

Our global policies – including our Code of Conduct – have been reviewed to ensure they are inclusive of sexual orientation and gender identity. We have also updated our policies and provided training and guidance to support LGBT+ employees who travel and work internationally, as we explain later in this section.

"Whatever your sexual orientation and gender identity, we treat everyone equally – and we value the contribution everyone makes to serving our customers better."

Vittorio Colao
Vodafone Group Chief Executive

During the year, we supported Pride events across 12 of our local markets. Our Group Chief Executive also hosted a global webinar that was joined by local market chief executives from 13 of the countries in which we operate. In addition, we participated in Spirit Day (which highlights challenges such as bullying for young LGBT+ people), holding events in 10 local markets.

We are working with NGOs in a number of local markets to refine our approach to LGBT+ issues, including Sbarvouven in the Czech Republic, Colour Youth in Greece, the Irish Society for the Prevention of Cruelty to Children (ISPCC) in Ireland and Stonewall in the UK.

We participate in the global and UK Stonewall Workplace Equality Index to help us monitor our progress. Within the UK, we improved our position in the 2017 index by 200 places, achieving a ranking of 159 out of 439 companies surveyed overall. More than 1,000 UK employees (of whom 14% identified themselves as LGBT+) completed a confidential Stonewall engagement survey, the results of which are shown in the table below.

Stonewall engagement survey 2017		Responses from LGBT+ colleagues	Responses from non-LGBT+ colleagues
The workplace culture in my organisation is inclusive of	Lesbians	82%	85%
	Gay people	87%	86%
	Bisexual people	76%	78%
	Trans people	59%	68%
I feel able to be myself in the workplace		83%	83%

Supporting LGBT+ employees in challenging local markets

Unfortunately, in many countries the rights of LGBT+ people are either not protected by law or are ignored in practice. Discrimination against, and harassment of, LGBT+ people is a commonplace reality in those countries.

There can be a tension between our strongly held beliefs and principles as a company and the realities of daily life for LGBT+ colleagues who are nationals of those countries and who work for our local businesses there. We do all we can to ensure that LGBT+ employees in these difficult environments know and understand that, within Vodafone at least, they can and should expect to be treated equally and respectfully within an inclusive and supportive environment.

There are also risks to LGBT+ colleagues when travelling (on business or in a personal capacity) to countries where LGBT+ rights are not respected. We have worked with our LGBT+ & Friends employee network and the UK-based LGBT+ advocacy organisation Stonewall to review our travel policies and practices to ensure that LGBT+ employees are supported when travelling or working abroad.

Our HR teams, managers and LGBT+ employees are provided with a 'toolkit' containing country-specific information

together with guidelines on how to use social media safely, as well as a list of people to contact with any concerns.

We also make it clear to LGBT+ employees that their careers will not suffer if they choose to decline an international assignment in a location that is high risk from a LGBT+ perspective, and that wherever possible alternative arrangements will be found.

Our LGBT+ toolkit

- Shares experiences from LGBT+ people working internationally
- Explains why supporting LGBT+ employees is important to Vodafone, together with our policies
- Helps managers support LGBT+ employees in making a decision about working abroad
- Outlines the support Vodafone offers to LGBT+ employees working abroad
- Provides country-specific information

People with disabilities

We are committed to ensuring that people with disabilities can compete equally for, and thrive within, a wide variety of roles across our businesses. We also recognise our obligation to understand and support the needs of customers and employees with disabilities. On International Disability Day in December 2016, employees in 17 local markets watched our live webinar on disability inclusion, which included a series of personal stories and examples of best practice to be implemented at local level.

Employee engagement

Every year, we carry out a Global People Survey across our entire workforce worldwide. The survey is conducted online using a respected third-party provider and is completely anonymous and confidential. We secure very high participation rates each year: in the 2017 survey, 85% of our 108,000 employees responded.

The Global People Survey helps us to assess the mood, concerns and aspirations of our employees as a whole. The global leadership team examines the findings in great detail to identify areas for action to address shortcomings highlighted by our people. The same scrutiny, analysis and discussion takes place for individual teams by their line manager.

The 2016 survey demonstrated that 87% of employees who responded are proud to work for Vodafone, one percentage point higher than in response to the same question in the previous year's survey. The overall Engagement Index score – demonstrating employees' willingness to recommend Vodafone as an employer and their desire to continue working with us – rose by two percentage points to 81%.

Respondents are also asked for their views on their individual line managers. The Manager Index score also remained very high, at 83%, increasing by one percentage point compared to the previous year.

Vodafone's Global People Survey results (%)

	2015	2016	2017
Overall response rate	84	84	85
Employee Engagement Index	77	79	81
Engagement and values			
I am proud to work for Vodafone	85	86	87
Vodafone is socially responsible	82	89	90
Training			
I have opportunities to learn the skills and knowledge I need to do my job well	78	80	81
Diversity and inclusion			
People in my team are treated fairly, regardless of their age, gender, disability, sexual orientation, cultural background or beliefs	88	89	89
People have an equal opportunity to succeed at Vodafone, regardless of their age, gender, disability, sexual orientation, cultural background or beliefs	79	80	81
Health, safety and wellbeing			
The Absolute Rules for Health and Safety are taken seriously at Vodafone	91	92	93
My manager takes genuine interest in the wellbeing of his/her employees	82	84	85
My manager supports me to achieve a good balance between my work and personal life	81	82	84

Wellbeing

People perform at their best when their working lives are fulfilling, stimulating and are balanced between family and home commitments. We recognise the value of helping everyone who works with us to find the appropriate work-life balance and pursue a healthy lifestyle. We offer a range of wellbeing programmes in each of our local markets and emphasise to our managers the importance of ensuring their teams function in a manner which supports employee wellbeing. Our focus in this area is recognised and welcomed by our employees. In the 2016 *Global People Survey*, 85% of respondents said that their local manager showed genuine interest in their wellbeing.

Our approach is set out in our [Group health, safety and wellbeing policy](#), which everyone who works for us must follow. During the year, we also launched our Global Framework for Wellbeing, which helps each of our local markets focus on specific local wellbeing priorities and supports the sharing of best practice between local markets.

Flexible and part-time working can help employees achieve the right balance between work and home. An increasing number of our employees use the technologies we supply to our customers – such as 4G data connections, ultrafast broadband and cloud services – in order to collaborate effectively with colleagues wherever they are, at any time and on any device.

Managing change

Our industry is never static. New opportunities emerge with each successive development in communications technology while legacy activities become less important over time. Our businesses must therefore remain agile in response to shifts in consumer and enterprise needs and behaviours.

When we need to reorganise part of our business, we engage with employees directly for honest and open discussions about the implications of the reorganisation and the options available for those individuals potentially affected by it. Proposed changes are communicated clearly through team briefings and (where appropriate) one-to-one meetings led by line managers and human resources teams. Where the changes will result in redundancies, we aim to support affected employees find new jobs through outplacement services, recruitment events and by offering training in interview techniques and CV-writing skills. Throughout, we are committed to treating employees fairly and with respect and will always seek to ensure that any reorganisation is carried out in compliance with local legislation and in consultation with employee representatives, works councils and local unions.

Employees in various markets were affected by organisational changes during the year, driven mainly by the establishment of a 50:50 joint venture in the Netherlands with Liberty Global and the conclusion of our global Project Spring network and IT deployment programme.

Employee statistics	2015	2016	2017
Average number of employees	101,443	107,667	108,271
Part-time employees	9,150	9,681	6,045
Total number of voluntary leavers	13,736	15,152	14,379
Total number of involuntary leavers	3,614	5,021	4,981
Newly hired employees	21,501	21,786	18,584
Average turnover rate (%)	18	19	18

Employee consultation

We recognise the rights of employees to join trade unions although we prefer to consult with our employees directly to ensure everyone is treated fairly, whether or not they are represented by a trade union. The leadership teams in all of our local markets will respect the wishes of the majority of their employees when deciding whether or not to recognise a trade union's right to negotiate terms and conditions of employment, where legislation permits. Where representation by trade unions is conferred automatically by legislation, these rights are upheld.



Supply Chain Integrity and Safety

Our businesses rely on international supply chains that span multiple tiers. We are working with our suppliers, partners and peers to drive responsible and ethical behaviour and high standards across our supply chain and do our utmost to keep everyone working in our operations safe from harm.

Our supply chain

We spend more than €24 billion a year with more than 17,000 suppliers globally

Safety

93% of employees agreed that our mandatory Absolute Rules on safety are taken seriously

Personal leadership

During 2017, our senior leaders conducted more than 870 management safety tours

Supply Chain Integrity

Our businesses rely on international supply chains that span multiple tiers and are complex to manage. We spend more than €24 billion a year with more than 17,000 direct suppliers around the world to meet our customers' needs.

As we illustrate in the diagram on the following page, our direct suppliers can have a very large number of their own suppliers, who in turn rely on a large number of their own suppliers and so on down through several tiers in the supply chain.

The diagram is simplified: there are also middlemen (such as distributors and wholesalers) at various points in the chain; the tens of thousands of companies involved are spread across dozens of countries; and our supplier relationships change constantly as companies win contracts and others exit.

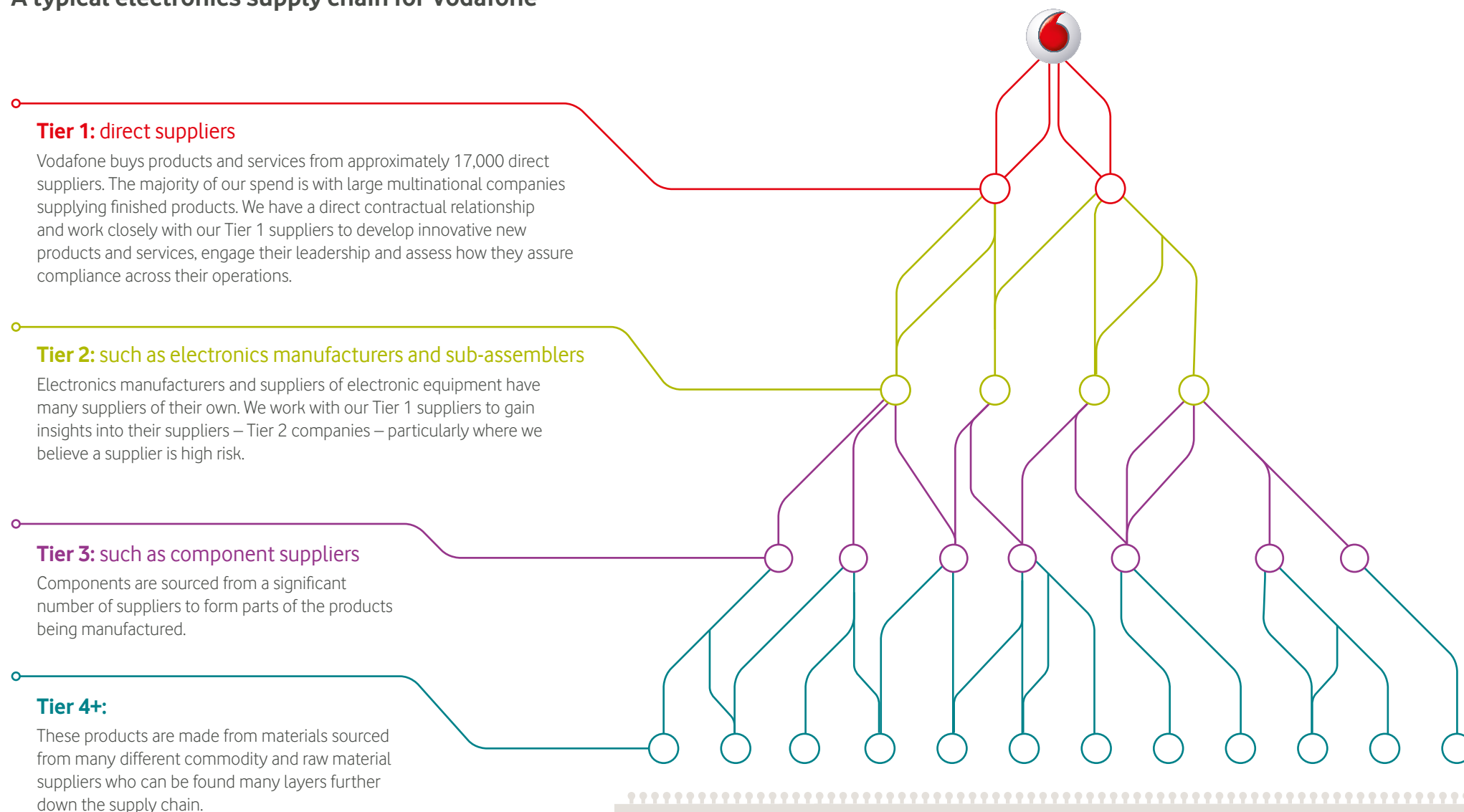
Conduct that is at odds with Vodafone's principles and beliefs can occur at any point in these long and complex supply chains, and poor behaviour by an individual supplier in any level can have negative consequences for a large number of businesses up and down the supply chain. Ensuring responsible and ethical behaviour across our supply chain is therefore both important and also highly challenging: our efforts in this area span multiple jurisdictions and cultures, and encompass vast numbers of individual workplaces and supplier employees.

Globally, this is an area of concern to many people, from customers and employees to shareholders and policymakers. In this section of the Report, we will explain how we seek to ensure integrity across our supply chain by managing a wide range of legal, social, ethical and environmental risks. We also seek to encourage those who work with us – directly or indirectly – to adopt sustainable business practices. Enhancing supplier performance improves quality, boosts productivity, stimulates innovation and helps to secure a better working environment for anyone working in our supply chain. In addition to the topics addressed in this section of the Report, our statutory statements on modern slavery and on our efforts to ensure that metals and minerals are responsibly sourced (avoiding what are known as 'conflict minerals') can be found [here](#).

This section of the Report also addresses a topic of critical importance across our own operations and in our supply chain: safety. We have comprehensive measures in place in our own businesses – and which we reinforce across our supply chain – that are designed to keep everyone who works for us safe from harm. We provide details of our approach – and an outline of the challenges faced – later in this section.



A typical electronics supply chain for Vodafone



Our supplier base is dynamic, the network of suppliers and sub-suppliers changing continually. We work through industry initiatives to enhance transparency throughout the supply chain. Where we have influence over the design or manufacture of products, we seek to ensure that those products do not contain metals and minerals that fund conflict in the Democratic Republic of Congo. We provide further details of our approach to this issue in our statutory [Conflict Minerals Report](#).

Our supply chain

Risks in the information and communications technology (ICT) industry's supply chain range from injury to people working in field operations, corruption and the harmful effects of long working hours in electronics factories, to human rights abuses in the mining of metals and minerals.

These are serious risks linked to some of the gravest forms of unethical behaviour and maltreatment. We have developed robust systems to ensure that companies supplying Vodafone with products or services share our values and strive to meet the same ethical, labour and environmental standards that we mandate across our own business. We expect our suppliers to adhere to our [Code of Ethical Purchasing](#) and to uphold our Business Principles that are integral to our [Code of Conduct](#). Our suppliers also understand that we will hold them to account for the management of risk in their operations and that we expect them, in turn, to hold their own suppliers to account against similar standards.

When choosing a new supplier or continuing a relationship with an existing supplier, we assess each company's compliance with our rules on health, safety and responsible behaviour in conjunction with our assessment of commercial factors such as quality, cost and ability to deliver on time.

Ensuring integrity in our supply chain is an important priority for us. Our focus extends beyond effective risk management: we believe that adopting and promoting robust policies and processes on sustainable procurement provides

Vodafone with a competitive advantage as our customers and partners seek to minimise the reputation risks in their own supply chains. For example, we are working closely with a number of our suppliers to develop our approach to greater energy efficiency, as we explain in the *Energy innovation* section of this Report.

Network infrastructure and related services account for the majority of our procurement expenditure. Worldwide, only a small number of major suppliers have the capital, capabilities and scale to invent, build, install and maintain the network infrastructure equipment relied upon by all communications providers. The products we sell to customers (such as mobile phones, tablets, SIM cards, broadband routers, TV set-top boxes and Internet of Things (IoT) devices) also account for a significant proportion of our procurement spending. As a large multinational with more than 108,000 employees, we are also a significant purchaser of goods and services to support our general business and administrative functions, from professional advisory support to facilities management.

17,000

direct suppliers around the world

We are not a mass-market manufacturer. We do not directly own or operate large factories or other production facilities with the exception of a small plant that manufactures specialist automotive IoT components, based in Italy. We offer our customers a range of smartphones and tablets that carry the Vodafone logo; however, those devices are designed and manufactured

on our behalf by suppliers – known as original design manufacturers (ODMs) – who are contracted to design and make products according to our specifications. We do not own, operate or control the manufacturing plants that make those ODM Vodafone-branded devices.

Our suppliers range in size from small and medium-sized enterprises to large multinationals, every one of which has its own supply chain, as detailed earlier. The majority of our purchasing and supplier management is controlled centrally via our global procurement organisation, the Vodafone Procurement Company (VPC). The VPC manages most of our spending with suppliers worldwide, helping to ensure that we maintain a consistent approach to supplier management across Vodafone and making it easier to monitor and improve supplier performance.

We also have relationships with local suppliers working on behalf of our local country businesses, particularly in services-related procurement such as merchandising or field operations. Our support for these local businesses has a positive impact on the communities around our local operating companies.

Building supplier capability

We aim to work with our suppliers to share best practice and enhance their capabilities. Our Supplier Safety Forum brings together our key global suppliers every quarter to discuss ways to reduce safety risks within our supply chain and within our suppliers' own supply chains. The Forum has led to new initiatives such as our Vodafone Absolute Rules online safety training programme, which is open to any Vodafone supplier. During the year, more than 2,000 people completed the training across 33 countries.

In addition, during 2017⁶³ each of our local markets held a national-level Supplier Safety Forum. The Vodafone Germany event brought together more than 50 senior employees from our vendors, suppliers and sub-contractors. The Vodafone Germany Chief Technology Officer spoke about our focus on health and safety and our commitment to a zero fatality culture, and several suppliers presented their approach to managing risks such as road safety.

Level of influence

As we explain above, monitoring the compliance of a company's suppliers can be challenging, given the multiple tiers, related subsidiaries, operating locations and employees involved (together with constant changes in all of the above). Assessing the extent to which a Tier 1 direct supplier is successfully enforcing compliance with rules on responsible behaviour across the companies that in turn supply it with goods and services – our Tier 2 sub-suppliers – can be even more difficult.

The level of influence we have over the companies in our supply chain varies significantly. We have the greatest influence over our Tier 1 direct suppliers, with whom we have a contractual agreement and where there is significant competition in the supply base. Many of these direct suppliers are major companies in their own right, with well-established processes in place to ensure high standards in sustainable business practices. We work particularly closely with a small number of strategic suppliers that account for a large proportion of our total procurement spend.

We have less influence over our sub-suppliers (Tier 2 and below), who operate further down the supply chain and where risks of non-compliance with our requirements are higher. To target improvements among sub-suppliers, our Code of Ethical Purchasing requires our direct suppliers to check that their suppliers also have suitable policies, processes and verification in place to manage risks and ensure compliance in their own supply chains. We also collaborate with some of our Tier 1 suppliers to monitor their supply base directly and work with them to improve standards.

We have greater leverage and influence over the network infrastructure suppliers that help us with the supply, installation and maintenance of our networks or design and manufacture the Vodafone-branded devices that we sell to our customers. Safety is a critical priority at all points of the supply chain, and particularly so in the installation, management and maintenance of our mobile and fixed-line networks. There are risks for our employees and suppliers from a wide range of field operations-related activities such as driving to, from or between work locations, working at height on base station masts and dealing with high-voltage equipment. We explain more about our approach to safety management later in this section of the Report.

Our policy

Our [Code of Conduct](#) rules that are mandatory for all employees include a commitment to require our suppliers to promote, and encourage support for, our Business Principles throughout each supplier's own operations. The obligations we impose on our suppliers are specified within the [Vodafone Code of Ethical Purchasing](#). The Code was developed in consultation with employees, suppliers, investors and a number of NGOs.

Our intention is to promote safe and fair working conditions and the responsible management of environmental and social issues in every part of our supply chain through a commitment to continuous improvement from every supplier that works with us.

As a condition of their contract with Vodafone, our suppliers must:

- comply with all relevant laws, regulations and standards in all of the countries in which they operate;

- provide a healthy and safe working environment for their employees, contractors, partners or others who may be affected by their activities;
- have mechanisms in place to ensure that all employees are competent to carry out the health and safety aspects of their responsibilities and duties;
- have systems and training to prepare for and respond to accidents, health problems and foreseeable emergency situations, including a means for recording, investigating and implementing learning points from accidents and emergency situations;
- treat employees with respect and dignity;
- respect the rights of employees to join (or not to join) trade unions or similar representative bodies and to respect employees' rights to collective bargaining in accordance with local laws;
- ensure employees' working hours do not exceed the maximum set by local law, ensure that a working week does not exceed 60 hours including overtime and allow workers at least one day off per seven-day week;
- provide fair and reasonable pay and ensure employees understand their employment terms and conditions; and
- comply with relevant legislation and international standards for managing environmental impacts and have the appropriate processes in place actively to optimise the use of finite resources (such as energy, water and raw materials) and the controls required to minimise the release of emissions that are harmful to the environment.

Our suppliers must not:

- tolerate any form of bribery, including improper offers for payments to or from employees, customers, suppliers, organisations or individuals;
- engage in or support discrimination of any kind in hiring, employment terms, remuneration, access to training, promotion, termination or retirement procedures or decisions;
- tolerate physical or verbal abuse or other harassment or any threats or other forms of intimidation;
- employ anyone below the minimum legal age for employment; or
- use forced, bonded or compulsory labour: employees must be free to leave their employment after reasonable notice and must not be required to lodge deposits of money or identity papers with their employer.

Further details of our approach to tackling bribery and corruption are set out in the Anti-Bribery section of the Principles and Practice part of this Report. Our [Slavery and Human Trafficking Statement](#) also provides an overview of the measures we take to address the risk of modern slavery in our businesses and our supply chain.

All of our policies and requirements for suppliers are included in our supplier contracts and are also published on our [website](#). We expect suppliers to implement the standards set out in our Code of Ethical Purchasing across all of their operations. We also encourage suppliers to impose similar standards within their own supply chain. Over time, this cascade effect should support improvements to working conditions (and, ultimately, quality of life) for hundreds of thousands of people involved in Vodafone's businesses whom we do not know and whose workplaces we cannot see – and upon whom we rely.

Tackling conflict minerals further down our supply chain

We require relevant suppliers to have a policy in place for the responsible sourcing of metals and minerals and – most importantly – to maintain clear procedures to avoid knowingly purchasing so-called 'conflict minerals'.

Metals such as tin, tantalum, tungsten and gold (often referred to collectively as 3TG) are used throughout the global electronics industry, including in the components used in mobile phones – such as tantalum in capacitors and tin or gold in connectors – SIM cards and other products sold by Vodafone and other operators.

Some of the metals and minerals may originate from mines that directly or indirectly finance or benefit armed groups in conflict regions such as the eastern provinces of the Democratic Republic of Congo. There is widespread concern that the proceeds from these conflict minerals are fuelling armed conflict and human rights abuses, further entrenching corruption and poverty in those regions.

We believe mining activities that fuel conflict are unacceptable. Our global Conflict Minerals Policy sets out our position on this issue. As we do not purchase 3TG metals directly, where we have influence on the design and manufacture of products, we have to work with the suppliers that manufacture our products to determine the sources of the minerals used: often, these are several tiers down the supply chain and extremely difficult to ascertain. We are working through industry partnerships such as the Conflict-Free Sourcing Initiative to address this challenge, conducting due diligence to seek to ensure that materials originating in conflict areas do not end up in our products. More details are set out in our statutory [Conflict Minerals Report](#).

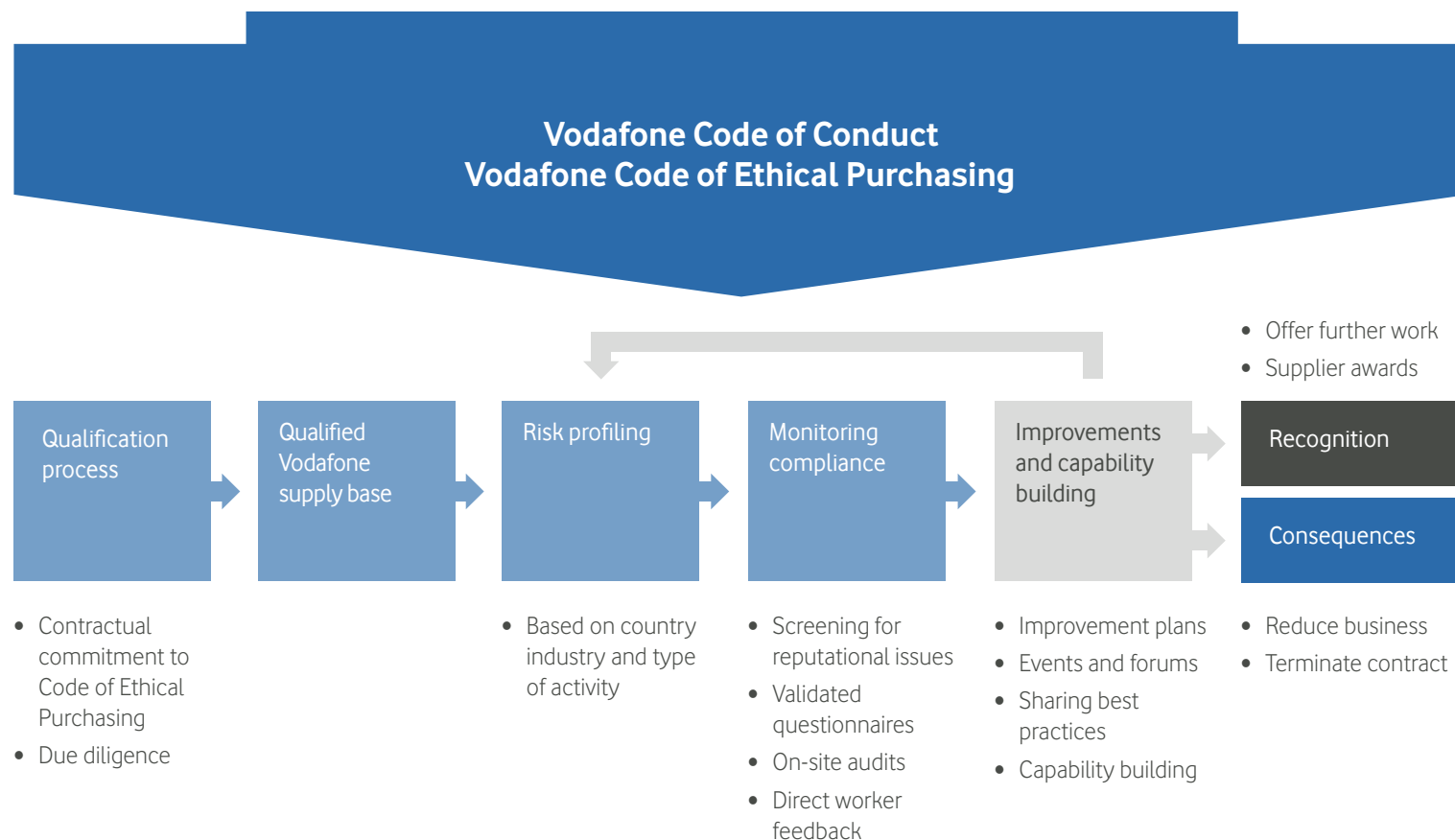
Qualifying as a Vodafone supplier

To become a Vodafone supplier, a company must clearly acknowledge its understanding and acceptance of our standards during qualification – as outlined in the [Code of Ethical Purchasing](#) – and confirm that it will comply with those requirements. That confirmation is part of the standard terms and conditions included in all of our contracts with every supplier, whatever its size. Suppliers cannot progress through qualification or be set up to trade with Vodafone unless they have committed to abide by our Code of Ethical Purchasing.

We conduct pre-qualification due diligence on all new suppliers to check that they meet our requirements. During the year, approximately 3,000 companies qualified as Vodafone suppliers, broadly similar to last year (2016: 3,130). Our due diligence and qualification process identified that 1,302 (43%) were operating in locations, working environments or areas of business activity with potential ethical, social or environmental risks.

We adopt a risk-based approach to qualification: for example, a new supplier involved in handling customer data will be assessed to be high risk on the basis that the protection of our customer's privacy is a critical priority at Vodafone and therefore – regardless of the individual supplier's merits – stringent due diligence is required. Companies that we deem to be high risk are assessed by individuals within Vodafone with expertise in the specific risks identified. There is a clear separation of duty between the specialists involved in risk assessment and other colleagues involved in defining the commercial relationship with the supplier in question to ensure the outcome of the due diligence process is as objective as possible. We received sufficient assurance of compliance on completion of our due diligence processes in the very large majority of cases, with five suppliers rejected during the year.

Mechanisms for ensuring our suppliers operate responsibly to our standards



Monitoring compliance

Once suppliers begin to work with us, they are expected to monitor compliance continuously within their own operations and to identify and correct promptly any aspect of their work that falls below the standards set out in our [Code of Ethical Purchasing](#). They are also required to report any serious breaches to Vodafone immediately to enable our teams and the supplier in question to work together on a schedule for corrective action.

We use a number of techniques and processes to monitor compliance with the Code of Ethical Purchasing. High-risk suppliers – including those whose industry, country of operation or type of business has a history of poor standards – are required to cooperate in a detailed evaluation process, the key elements of which are summarised here. The approach we take to monitor compliance is determined by the nature of the risks and the kind of activity involved.

Engaging with our supply chain

Our supply chain teams have the most contact with our suppliers. They often have specialist knowledge of relevance to a particular supplier's business and they are all trained in our Code of Ethical Purchasing to help them identify any related issues during site visits and interactions with suppliers and their employees. This training is repeated at regular intervals to ensure our supply chain teams are updated on any new risks or policy changes. Supplier safety is a constant focus at all points of a site visit including during interactions with managers and executives: meetings hosted by our supply chain managers will typically begin with a 'safety moment' to reinforce Vodafone's commitment to keeping people from harm.

Supplier questionnaires

Key suppliers (defined by the volume of spending, criticality of their contribution to Vodafone's business, or both) are closely monitored under our *Supplier Performance Management Programme*. The programme assesses suppliers' health and safety and sustainable business performance together with the quality of their commercial, product and service performance.

Suppliers are required to complete a questionnaire focused on a range of ethical, labour and environmental risks plus other areas

that form the focus of this Report. We also require suppliers to supply evidence to support the validation of questionnaire responses. During the year, we increased the number of questions focused on diversity. For example, we now require further information from our suppliers regarding their policies, targets and initiatives in support of their employees who identify themselves as lesbian, gay, bisexual, transgender and other categories of sexuality and gender identity (LGBT+). We provide further details of Vodafone's work in support of LGBT+ people on page 59 of the Principles and Practice section. The questionnaire also provides suppliers with the opportunity to highlight any particularly beneficial initiatives that they have undertaken in order to support best-practice sharing across the supply chain and within our own businesses.

During the year, we evaluated 61 major suppliers. Our suppliers' responses and supporting evidence are validated by our supply chain team, who then grade each supplier with an overall sustainability score. Those scores are used as the basis for the Vodafone Annual Supplier Awards Ceremony. In 2017, we awarded SIAE – one of our network equipment suppliers – with the global award for Best Supplier for Health and Safety in recognition of its field safety management programme. The marketing agency Mace Promotions won the award for Responsible Supplier of the Year in recognition of its sustainability efforts and commitment to create new and sustainable employment opportunities, including establishing sewing cooperatives within the South Africa textile industry.

On-site audits

On-site audits provide a detailed insight into how a supplier's policies translate into action in the workplace. These audits are intensive and detailed and can last over a period of several days. They involve examination of written policies and procedures, inspections of site facilities, and discussions with factory management and employees.

Our industry peers face many of the same supply chain risks – and use many of the same suppliers – as Vodafone; they also deploy similar compliance assurance processes. An on-site audit that is thorough and challenging from Vodafone's perspective can often be intrusive and disruptive from the supplier's perspective. If multiple operators such as Vodafone choose to visit the same supplier to assess the same risks in a series of separate audits, there is a risk of a significant administrative burden for the suppliers involved. To reduce that burden and avoid duplication of effort by Vodafone and our peers, we collaborate with 12 other telecoms operators through the Joint Audit Cooperation (JAC) initiative. Under the JAC process, each supplier undergoes a single audit. The results are then shared between JAC member companies and one member leads the follow-up with the supplier and provides regular updates to the other JAC companies.

From January to December 2016, there were 69 JAC audits (see table and more information on next page), of which 60 were within Vodafone's supply chain. In total, 11 Tier 1 direct suppliers were audited, 39 Tier 2 suppliers, and

19 Tier 3 suppliers. In parallel, we also conduct our own on-site assessments for specific Tier 1 and Tier 2 suppliers that we have identified as high risk but are not covered by the JAC initiative assessments. During 2017, we conducted 26 on-site assessments, of which 13 were focused on Tier 1 direct suppliers and 13 were focused on Tier 2 sub-suppliers.

Direct employee feedback

Working hours and working conditions are an important part of our supplier assessments but are often hard to assess, not least if supervisors and managers try to falsify timesheets and other workplace records. We therefore increasingly seek feedback directly from our suppliers' employees to help us and our suppliers identify areas for improvement.

We were the first telecoms operator in the world to collaborate with the international non-profit social enterprise Good World Solutions, using their [Laborlink service](#) to gather confidential

and unbiased feedback directly from suppliers' employees. Laborlink is a simple mobile phone-based survey that enables employees to reply to pre-recorded questions in their local language at any time and from any location, providing us with important insights into working hours and working conditions.

We require participating suppliers to allow their employees to respond to the Laborlink questions freely and privately. In-person training is provided at the supplier site and all responses received are fully anonymised. As we explain on the following page, on the basis of our use of Laborlink to date, we believe the service makes a meaningful contribution to compliance monitoring across our supply chain in future.

We extended the use of Laborlink to the JAC initiative, funding ten additional surveys on behalf of other operators in order to encourage wider adoption of worker surveys as a complement to on-site audits.

Number of assessments conducted	2015	2016	2017
Number of site assessments conducted by JAC*	35	61	69
Number of supplier site assessments conducted by Vodafone	21	24	26
Number of sites assessed using a mobile survey of workers	5	8	7
Total number of assessments	61	93	102**
Number of factory workers surveyed using mobile survey	157	2,607	4,743

* JAC assessments are reported on a calendar-year basis.

** Four sites were assessed both on-site and via mobile surveys.





Gaining feedback directly from employees in our supply chain

We use Laborlink to survey people working in our Tier 2 sub-suppliers' factories in China, where labour standards – and particularly working hours – in electronics factories have been heavily criticised and remain the subject of intense scrutiny. The questionnaire we use focuses on working hours and enforced overtime as these are often a proxy indicator for a broad range of other labour rights issues.

During 2017, more than 4,700 suppliers' employees across seven Tier 2 supplier factories responded to Laborlink to tell us about their working conditions, including:

"How many times a week does your working day extend beyond 10 hours?"

- 39% said never;
- 23% said one to three days;
- 33% said four to six days; and
- 5% said seven days a week.

"Is overtime at your factory voluntary?"

- 92% said yes; and
- 8% said no.

"How do you feel about working overtime?"

- 68% said they wanted to work as many hours as possible;
- 26% said they were sometimes willing to work overtime; and
- 6% said they did not want overtime.

The number of workers stating that they want to work as many hours overtime as possible increased and also 33% of workers said they are working more than 10 hours a day, four to six days a week. However, as the Laborlink surveys were conducted at different factories to those assessed in the previous year, it is not possible to draw meaningful conclusions from a year-on-year comparison of these figures.

The survey outcomes yielded important insights that enabled us to focus directly on specific areas of poor management – such as excessive hours reported by respondents – and highlight the changes required to bring the workplaces in question back into line with the requirements set out in our Code of Ethical Purchasing.

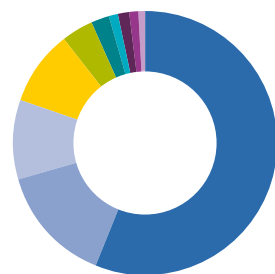
Improving performance and building capability

One of the most effective ways we can improve performance in our supply chain is by engaging directly with suppliers through our monitoring processes and follow-up discussions and briefings with supplier managers and executives. Where we identify evidence of non-compliance through JAC audits, our own on-site assessments or worker surveys, we work with suppliers to develop corrective actions, usually by helping management teams to improve their own policies or strengthen the processes used to manage key risks.

During the year, the large majority of recommendations for improvement identified by Vodafone and JAC audits related to health and safety, as summarised below. During the year, we noted an increase in health and safety recommendations related to insufficient fire evacuation signs, evacuation lighting and fire exits. The increase in environmental recommendations was mainly related to insufficiently effective environmental management systems and/or ineffective monitoring of emissions such as greenhouse gases. These recommendations are subsequently pursued for action and closure both directly by Vodafone and indirectly through the [JAC governance process](#).

Recommendations for improvement from combined JAC audits* and Vodafone audits in 2017

Number of cases



Health and safety	572
Environment	145
Working hours	100
Business ethics	93
Payment	39
Forced labour	21
Young workers	13
Disciplinary practices	13
Freedom of association	12
Discrimination	7

*JAC audits are reported on a calendar year basis.

The key factors relevant to each category are listed below in order of frequency.

Health and safety

- Emergency preparedness (for example, poorly signposted or blocked fire exits).
- Lack of safety management policies and processes.
- Inadequate safeguards to prevent injury from machinery.
- Inadequate safeguards to prevent exposure to hazardous substances.
- Poor sanitation.
- Unsatisfactory food preparation.

Environment

- Lack of environmental management systems.
- Lack of environmental performance targets.
- Missing environmental permits to conduct certain activities.

Working hours

- Poor resource planning and forecasting, which leads to excessive working hours by supplier employees.

Business ethics

- Lack of effective ethics policies.
- Lack of effective anti-corruption measures.
- Issues related to intellectual property rights.
- Employees working in excess of the maximum hours stated in our requirements.

Payment

- Delayed or miscalculated wages.
- Improper overtime payments.
- Failure to comply with minimum wage requirements.

Forced labour

- Further details are provided in our statutory Statement under the UK [Modern Slavery Act \(2015\)](#)

Young workers

- Inadequate young worker protection policies.
- Instances of young workers found to be doing overtime or night shifts in breach of our Code of Ethical Purchasing requirements.

Disciplinary practices

- Lack of fair rules for disciplining employees.
- Wage deductions used as a disciplinary measure.

Freedom of association

- Employees denied the opportunity to join representative bodies for collective bargaining where those bodies are permitted by law.

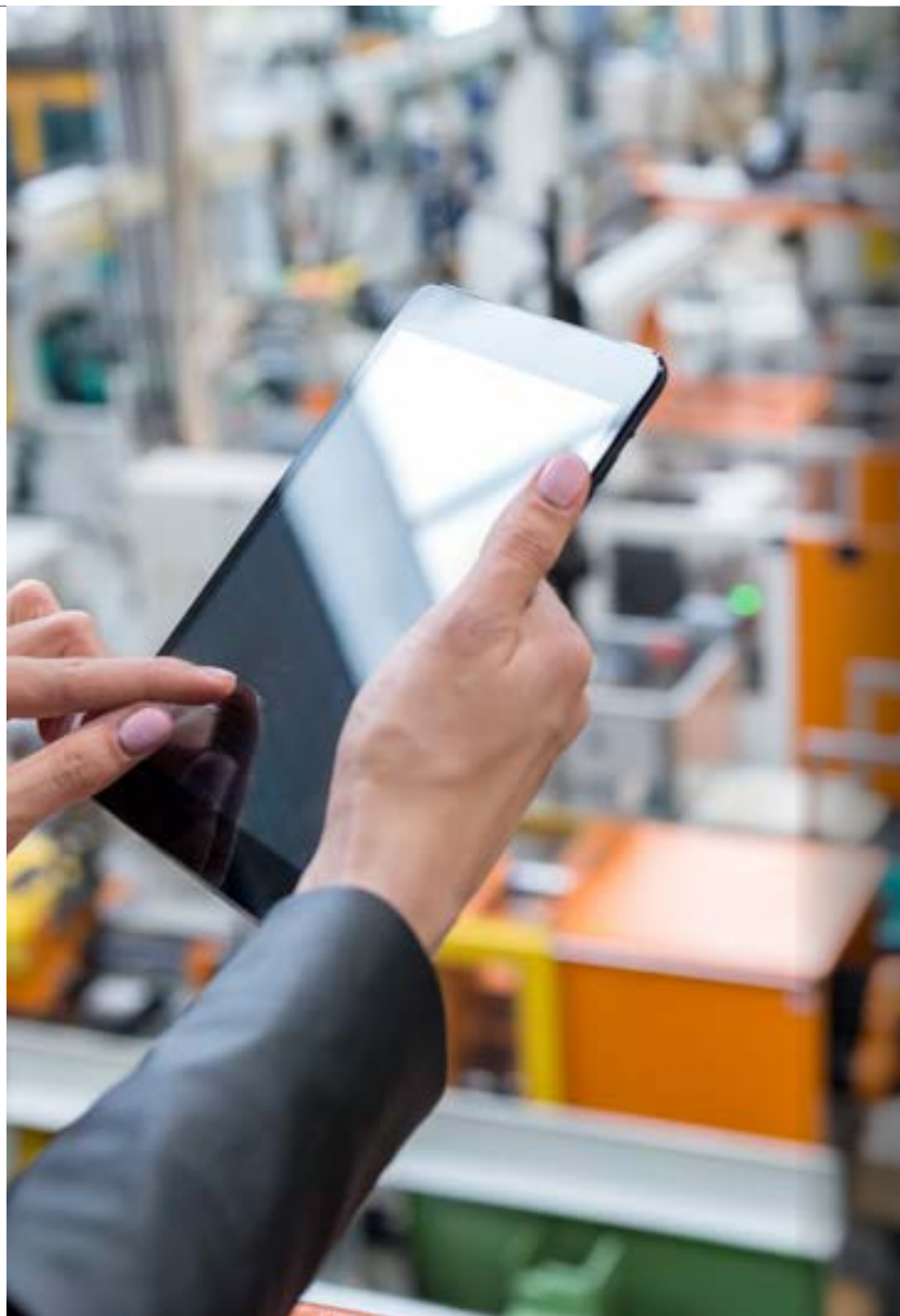
Discrimination

- Inadequate policies to ensure equality.
- Poor equality practices.

Once corrective actions have been agreed, we then follow up to check that these actions have been completed within the designated timeframe. Documentary evidence is often sufficient, particularly in cases where areas identified for improvement are policy-related. However, where necessary, we will re-audit a site in order to verify that the agreed actions have been completed. During the year, we found multiple and serious social performance and health and safety issues during an audit of a Tier 2 electrical sub-assembly supplier. We subsequently agreed with our direct (Tier 1) supplier to remove that Tier 2 supplier from the supply chain. Four of our on-site audits were followed up with secondary audits. Seven critical issues that were identified during the initial audit were resolved; one issue related to excessive overtime (as a consequence of poor resource planning) is pending resolution and requires further monitoring.

We believe this approach is more likely to benefit our suppliers' employees over the long term (as demonstrated by the example of our supplier audits, above). If we had simply terminated a supplier contract in response to an unsatisfactory audit outcome, we would have, in effect, allowed the poor workplace conditions or unethical conduct identified to persist without the prospect of a supportive intervention in future. However, we will terminate a contract if a supplier proves to be persistently unable to resolve a compliance failure or in the event of an act of gross misbehaviour. Those instances are rare, though, and are a last resort. Our preference, wherever feasible, is to help a supplier that proves to be willing to improve how it operates – and most importantly, how it treats its people – for the benefit of all involved.

We work with our peers and our suppliers to share best practice and to help to build greater compliance capabilities at the top of our supply chain. For example, we collaborate with our most important network suppliers to ensure that their design specifications for network infrastructure minimise health and safety risks. We also bring our top ten highest-risk network suppliers together four times a year to discuss best practice in safety. Further details of our approach to safety are set out later in this section.



Reviewing standards among our sub-suppliers

Our suppliers are responsible for monitoring standards within their own supply chains. Sometimes we work with our suppliers to oversee a review of practices among their suppliers (i.e. Vodafone's sub-suppliers). During the year, we audited four Chinese sub-suppliers used by our biggest network infrastructure suppliers. These sub-suppliers provide components that are used within our network infrastructure equipment.

We carried out on-site audits and conducted Laborlink worker surveys; almost 3,500 sub-supplier employees provided direct and anonymous feedback via their mobile phone.

The survey and audit identified 27 instances of non-compliance with our standards in areas such as health and safety, non-discrimination and working hours. These included poor signage and controls for fire safety and inefficiencies in planning and forecasting that could affect working hours. The sub-suppliers have remedied 26 of the areas of non-compliance identified through the audit process and are making progress towards addressing the final area of deficiency.

Overall, 70% of the workers surveyed stated that they wanted to work as much overtime as possible and 90% of workers declared that overtime was voluntary. However, 6% of workers stated that they usually work more than 10 hours a day, seven days a week. We addressed these issues directly with the factories involved and required them to put commitments in place to improve forecasting and resource management.

Safety

Keeping the people who work for us safe from harm is one of our most fundamental responsibilities as individuals, as an employer and as a large business. We take this responsibility extremely seriously in our own operations and aim to promote safety excellence across our industry by demonstrating leading safety practices, insisting on high standards from our suppliers and engaging with customers and peers.

In this section of the Report, we will explain how we seek to embed a safety culture within Vodafone and throughout our supply chain. We will summarise the key risks faced by our employees, our contractors and our suppliers' employees and contractors working on our behalf. We will also set out the policies and rules that everyone must follow and explain what happens when those rules are not followed.

Our commitment to safety does not differentiate between our own employees, our contractors or our suppliers' employees and contractors; all benefit from the same focus on preventing harm, both on our worksites and when working or moving between sites. We want everyone working with Vodafone to return home safely every day. Any injury is one too many, and any loss of life related to our operations is unacceptable.

In that respect, it is with great regret that we must report that during the year, there were 11 recordable fatalities⁶⁴. We provide context

for those deaths in this section and do so fully conscious of the burden of each loss for the families, friends and colleagues affected.

Policy

We expect everyone working at Vodafone to behave in a safe and responsible manner at all times. This requirement is spelt out in our [Code of Conduct](#), which applies to everyone working for and on behalf of Vodafone. Our [Group Health, Safety and Wellbeing Policy](#) expands on our Code of Conduct by setting out our commitment to:

- display leadership behaviours that visibly demonstrate that health, safety and wellbeing is a critical issue and integral to our business;
- establish a robust and durable health, safety and wellbeing culture;
- empower our people by providing information, instruction, training and supervision to enable them to perform their roles safely and to help drive our performance on health, safety and wellbeing;
- involve employees, customers, contractors and suppliers in health, safety and wellbeing matters and consult with them on ways to reduce workplace hazards and improve health, safety and wellbeing management systems;
- develop, maintain and communicate health, safety and wellbeing programmes, objectives and targets; and
- deliver consistent and effective communications, including reporting on our performance.

This policy is accompanied by detailed standards on the specific steps that must be taken to manage our greatest risks. We explain these risks (and our approach to mitigate them) later in this section of the Report.

Our Absolute Rules on safety

The Vodafone Absolute Rules on safety focus on those risks that present the greatest potential for harm for anyone working for or on behalf of Vodafone. The Absolute Rules are clear and unambiguous and are underpinned by a zero-tolerance approach to unsafe behaviours in all of our businesses.

Our Code of Conduct emphasises the need for full compliance with the systems and processes designed to keep everyone who works for us safe at all times. Every Vodafone employee and contractor – and supplier employee and contractor – must:

- abide by the Absolute Rules at all times;
- intervene if they see someone behaving in an unsafe manner;
- consider how their decisions and actions will affect the health and safety of others; and
- never compromise health and safety.

The Absolute Rules are complemented by a policy specifically designed for our suppliers – our [Supplier Group Policy on Health, Safety and Wellbeing](#) – which sets out a number of additional safety requirements at operating level, particularly for high-risk activities. The policy emphasises the need for our suppliers to monitor compliance on a continuous basis, report on their

safety performance to Vodafone and have robust mechanisms in place to manage their own supply chain. The policy also requires suppliers to put a safety plan in place before commencing certain high-risk activities, each of which is clearly identified.

Our Absolute Rules on safety

Vodafone employees and contractors – and our suppliers' employees and contractors – must:

- always wear seatbelts when travelling in or operating vehicles;
- always use suitable personal protective equipment, a safety harness and fall protection when working at height;
- never carry out electrical work on electrical equipment, circuits and gear if they are not qualified;
- never work under the influence of substances (alcohol or drugs) that are illegal or in excess of legal levels or where this impairs the individual's ability to perform tasks;
- never exceed speed limits or travel at speeds that are dangerous for the type of vehicle or conditions;
- never use a hand-held phone while driving and only make calls by pulling over or using hands-free devices, when it is safe to do so; and
- never undertake any street or underground work activities unless competent to do so.

Managing key safety risks

Our safety strategy focuses on the most significant risks for people working in a variety of operational roles in our businesses, which are:

- occupational road risk when driving for work purposes;
- working with electricity;
- working at height;
- laying cables in the ground; and
- the management and control of suppliers.

Over the years, these risks have accounted for the majority of serious incidents and fatalities within Vodafone and within our supply chain, reflecting the trends across the global telecommunications industry in general. Of these risks, the first – traffic-related incidents, particularly in emerging market countries – presents by far the greatest threat of harm on a daily basis.

As much of the work in the areas of risk identified above is undertaken by our Tier 1 suppliers or Tier 2 sub-suppliers, we consider the management and control of our suppliers to be a significant risk in its own right and we therefore reflect this factor within our safety strategy accordingly.

We require everyone who works for us to understand the safety risks inherent to their role and to understand exactly what they need to do – and not do – to identify and mitigate those risks and to protect themselves, their colleagues and the wider public.

Our policy states that anyone working at height, with electricity or with cables underground must demonstrate that they have completed appropriate training before they begin work

on these high-risk activities. We also run regular training and awareness campaigns for employees, contractors and our suppliers on locally relevant safety issues in each of our markets. Road safety – our biggest risk – remains a shared priority across all markets, as we explain below.

Road safety

Worldwide, about 1.25 million people die each year as a result of road traffic accidents. This risk is particularly significant in emerging markets: around 90% of global road traffic-related fatalities occur in low and middle-income countries where driving conditions are often hazardous, average vehicle conditions and driver standards are poor, and accident rates on public roads are very high. By way of illustration, traffic accidents on public roads in India account for 16.6 deaths per 100,000 population; the comparable statistic for the UK is 2.9⁶⁵.

90%

of global road traffic-related fatalities occur in low and middle-income countries

Training in safe driving techniques is mandatory for anyone driving while working on behalf of Vodafone. However, risk mitigation remains challenging because – unlike the management of safety risks within a building or installation that we operate and control – we have no ability to control external factors such as unsafe driving conditions, lack of a safety culture and the actions of third parties on public roads.

Road traffic accidents continue to be the major cause of work-related fatalities and major injuries in 2017 in our supply chain, accounting for nine

out of the 11 recordable fatalities we report this year. We are committed to continuing to work closely with all of our suppliers to ensure that higher standards of road risk management and controls remain a priority over the year ahead.

Our Absolute Rules are designed to minimise the likelihood and severity of driving-related incidents. We have also introduced additional rules in certain high-risk countries to reflect particular local circumstances; for example, in South Africa we prohibit drivers from allowing passengers to travel in the back of pick-up trucks.

Promoting motorcycle safety in India

In India, traffic accidents on busy roads are commonplace. Motorcyclists are much more vulnerable than car drivers in an accident and particularly so in a country where very few wear helmets.

In India, we already require everyone riding a motorcycle for work to wear a helmet securely fastened with a chinstrap. In 2017, we added a new Absolute Rule requiring motorcyclists to wear a reflective jacket or vest to make them more visible to other drivers.

We have also strengthened our induction policies and vehicle licensing checks and now issue motorcyclists and drivers with a 'digital passport' to help monitor policy compliance. Employees and suppliers who are required to ride a motorcycle or drive as part of their work must undergo defensive driving training.



Safe driving behaviour

We are putting our technology into practice within our own operations to reinforce safe driving behaviours by employees, contractors and our suppliers' employees and contractors. A key focus is speeding, a major cause of road accidents.

In South Africa, we have launched *Road Guardian*, a telematics tracking programme using mobile network geolocation, GPS and dashboard cameras. The programme enables us to monitor driver performance, detect unsafe behaviours and identify the causes of any accidents that do occur. Drivers receive feedback and coaching to help them improve their driving and are rewarded for safe driving behaviour.

Since launching *Road Guardian*, instances of speeding, harsh braking and swerving have significantly decreased, from nine incidents per 100km to three per 100km.

In 2017, we piloted a Vodafone Automotive telematics solution for our sales teams in Ireland, which enables drivers to monitor their own safe driving performance and provides data on vehicle efficiency.

Our standard on occupational road risk includes minimum requirements for future installation of telematics.

We also work with road safety organisations to bring about wider improvements and host regular safety forums with our suppliers, bringing guest speakers from a range of organisations to share best practice. For example, Vodafone India has entered into a partnership with the NGO Safe Road Foundation to conduct research on distracted driving.

Working with electricity

Our Absolute Rules stipulate that anyone working on electrical equipment must be qualified and authorised to do so. Our working with electricity training module provides guidance to employees on how to recognise risks and implement appropriate safety controls. We also work with our suppliers to ensure that:

- they have a documented risk management process for working with electricity;
- those working on electrical equipment are authorised, competent and medically fit;
- electrical equipment is fit for its intended purpose; and
- appropriate safety controls, such as 'lockout-tagout', are in place before work starts.

Working with electricity is a major safety risk for Vodafone and was the cause of one fatality in our Indian business during 2017 as well as one non-fatal electrocution in the UK. We are introducing a new electrical work permit scheme that requires all employees, contractors (and suppliers' employees and contractors) to take a photo of the power isolation in place before beginning work on equipment operating at medium or high voltage. The photo is sent to the manager accountable for the activity in question, who must then verify that the correct standards have been met before authorising the work to proceed. This photo-based verification and authorisation process is now integrated into our global policy standard for electrical work.

Working at height

Mobile communications services rely on connectivity provided by antennae placed on towers, masts and rooftops. We seek to ensure that Vodafone employees and contractors (and suppliers' employees and contractors) who are working at height are trained to understand and control the risks involved. Our Absolute Rules mandate the use of suitable personal protective equipment (PPE) whenever working at height. This includes a safety harness and fall-arrest system as well as other standard site PPE such as a helmet, safety boots and appropriate gloves.

Our network site design principles stipulate the need for safe access for people working at height and our policy includes guidance on the control measures required to manage the risks involved effectively. Fall-arrest equipment is checked regularly as part of each of our local businesses' preventative maintenance programme.

We are working with external training providers to assess and improve the training provided to all who work at height. Assessments took place in Albania, Egypt, Greece, India, Romania and Turkey during the year and a number of areas for improvement were identified. Follow-up visits are planned to ensure that improvement measures are implemented.



Safety training supports our suppliers at Vodafone Egypt

Outdoor advertising banners can take several hours to install and require workers to operate at height – often around 30 metres off the ground. Vodafone Egypt's commercial team has introduced training on working at height for its outdoor suppliers to make sure their workers carry out these jobs safely and use the right personal protective equipment.

Initially, some suppliers were sceptical about the benefits of training and were reluctant to adopt new ways of working. However, the feedback from suppliers after the sessions has been very positive and safer working practices have been implemented. One supplier has extended the training to all its employees, not just those working for Vodafone.

"For years I thought I knew how to perform my job with excellence and it turned out I was doing it the wrong way. I learned that the safe way is actually the better way – it is not a box-ticking exercise."

Supplier to Vodafone Egypt

Laying cables in the ground

The expansion of our fixed-line business in a number of countries has led to an increase in work involving laying or maintaining cables at street level or underground. Street works of this kind are inherently hazardous; risks include injury or death arising from penetrating electricity or gas lines, trench collapse during excavation and the dangers associated with road traffic.

Our Absolute Rules make it clear that nobody should undertake any kind of street or underground work unless competent to do so. All of our employees, contractors and suppliers' employees and contractors must comply with our global safety standard and guidance documents governing laying cables in the ground.

Fibre-to-the-Premises and cable broadband installations require employees and contractors to work on private property (both residential and business) as well as in the street. The risks associated with these activities include a lack of information regarding the location of buried utilities (water, electricity, gas) on private land. We are working with our local businesses to ensure that the necessary safety plans and controls are in place.

Control of suppliers

Most of the highest risk activities involved in the deployment and maintenance of our networks are conducted by suppliers and their employees and contractors who work on our masts, towers and other network equipment.

In addition to our policies and Absolute Rules, we operate a consequence management system with our suppliers under which we will terminate contracts if our suppliers or their sub-suppliers persistently fail to meet our standards.

Effective management of risk begins at the top of every company. In our meetings with suppliers' chief executives and senior leadership teams, we regularly emphasise our safety expectations, reinforcing the focus on specific operational challenges identified by our own safety experts. In addition, four times a year we host a Supplier Safety Forum for our major network suppliers focused on best-practice sharing in areas of critical risk. Since its introduction last year, the forum has led to greater collaborative working on safety between Vodafone and our suppliers, including agreeing shared minimum standards in key risk areas such as working at height, occupational road risk and lifting operations.

Compliance

Rules have no meaning without monitoring and enforcement. We seek to ensure that everyone who works for us understands that these mandatory rules cannot be ignored or overlooked.

Employees who fail to comply with our Absolute Rules face disciplinary action which can lead to dismissal. Our focus on compliance – and on the consequences of non-compliance – is widely recognised across our businesses: 93% of employees responding to our Global People Survey in 2017 said they believed the Absolute Rules are taken seriously at Vodafone, a one-point increase on the same statistic in our 2016 survey.

While we operate a formal consequence management process to address compliance issues, we prefer to help non-compliant suppliers improve their performance rather than terminate their contracts. If a supplier persistently fails to meet our safety standards, we will no longer work with them and we will ban them from bidding for future work with Vodafone.



We operate two levels of formal warnings to suppliers: red cards for the most serious examples of non-compliance and yellow cards for less serious breaches. We conduct a full investigation into every major or high-potential incident (defined as an incident that had the potential to cause death or serious injury but was averted). This year, we issued 12 red cards and 32 yellow cards to suppliers compared with three red cards and 16 yellow cards in the previous year.

A supplier given a red card warning may be excluded from participating in bids or tender opportunities with Vodafone for a period of 12 months. This period can be extended if a second red card is received. A third red card may result in termination of the supplier's contract. The supplier would need to repeat our full qualification process in order to be considered for a contract in the future: we provide an overview of how that process operates earlier in this section.

The consequence management process also includes an automatic red card if a supplier fails to report a serious incident; additionally, the period this red card remains in place increases from 24 to 36 months. If a supplier with contracts across different Vodafone local markets receives three red cards, they are then required to complete an improvement plan even if the red cards were issued in different local markets. The improvement plan must demonstrate clear evidence of senior management leadership and a commitment to rectify the shortcomings identified within three months. Failure to achieve this would prevent the supplier from bidding for any work with Vodafone for up to 12 months.

While the nature of the risks we face in our business remains relatively constant, approaches

to mitigating those risks – including emerging best practice shared with Vodafone by our industry peers, suppliers and others – continue to evolve. Additionally, there may be new local factors relevant to a specific Absolute Rules risk which we need to take into account when setting out guidance on the appropriate controls. For those reasons, we carry out an annual formal review of our most critical global Policy Standards to ensure these properly reflect the sources of potential harm for people who work for and with Vodafone and incorporate the latest thinking on how to keep everyone safe.

Governance

The Group Health, Safety and Wellbeing (HS&W) team oversees health and safety management across Vodafone. The team reports to the Group Human Resources Director, who is a member of the Executive Committee and reports directly to the Group Chief Executive.

The Group HS&W team provides specialist support for safety leaders in our local market businesses, all of whom operate in a mutually supportive network in which best-practice and knowledge sharing is actively encouraged. The team also works closely with a number of other professional functions at Group.

Whenever a fatality is recorded anywhere in our business – regardless of whether the individuals involved were employees, contractors, suppliers' employees or contractors, or members of the public – a fatality review process is carried out. This is chaired by the Group HR Director and requires attendance by the Executive Committee member responsible for the relevant part of the business and the Chief Executive Officer from the local market. The key background points

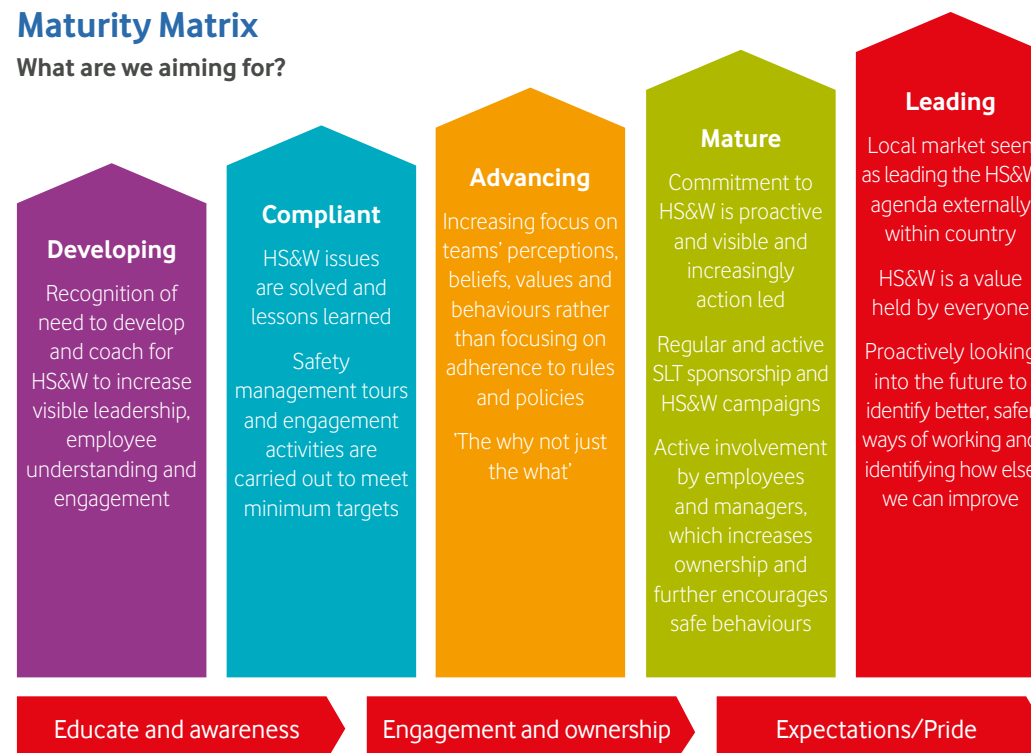
are shared with the Group Executive Committee chaired by our Group Chief Executive and are discussed at the Committee's next meeting. Materials presented to the Group Executive Committee include photographs of the deceased and details of his or her family circumstances (where known and available), images from the scene of the incident, initial views from our safety experts of the root causes – including any identified breaches of our Absolute Rules and control failures – and a summary of salient factors for further analysis.

We are absolutely committed to building a culture within Vodafone and throughout our supply chain in which safety considerations are

integral to decision making at every level. We use a matrix system to assess the maturity of our safety culture in each of our local markets: this assesses each country's progress based on factors such as safety leadership, safety learning, employee engagement, supply chain management, governance and assurance. Our Maturity Matrix integrates elements of the International Safety Rating System used to audit safety performance by many companies worldwide; it also focuses on the most significant risks in our business with an emphasis on improving performance rather than simply compliance with standards.

Maturity Matrix

What are we aiming for?



We assess each local market's progress against the Maturity Matrix annually and aim to conduct internal audits every three to five years to validate those assessments. The findings help us to identify areas for improvement that are then integrated into annual plans and objectives on health, safety and wellbeing in each local market. Subsequent progress against those objectives is reviewed quarterly by the local market senior leadership team and by our Group HS&W team. Results from this year's Maturity Matrix show strong scores globally for employee engagement and governance, while leadership and supplier engagement were identified as areas for further improvement.

Leadership

We expect our senior leaders to demonstrate personal leadership on safety: the 'tone from the top' is a critical factor determining the extent to which an organisation as a whole embeds safety within its working behaviours. It is also important for leaders to show – through their actions as well as words – that a focus on safety is a prerequisite for a senior role and is therefore a characteristic that more junior managers would do well to emulate.

Safety forms part of all our leadership training programmes. We also hold workshops for executives and senior managers to reinforce leadership behaviours that contribute to building a strong health and safety culture. We set annual personal objectives on health, safety and wellbeing for Group executives, supply chain leaders, technology directors, human resources directors and other senior leadership roles in every local market.

In each local market, senior leaders, technology directors and supply chain managers are required to conduct at least four management safety tours a year to reinforce the message that safety is critically important to our business. During the year, our senior leaders conducted more than 870 management safety tours – visiting sites to inspect safety performance, commend strong performance and discuss relevant safety issues with employees and suppliers. We record and analyse the details of all such inspections to enable local safety teams to follow up on any findings.

Safety training for project managers at Vodafone Romania

Project managers play a crucial role in ensuring a safe workplace. We expect them to put safety at the heart of every project, especially when managing suppliers engaged in high-risk activities.

Vodafone Romania's safety training workshops give project managers a clear understanding of safety risks and how to apply our safety rules in practice. Attendees learn the importance of only selecting appropriately qualified suppliers and setting reasonable deadlines; accidents are more likely to occur when workers are hurrying to get a job done. The workshops use real-life examples and personal stories from speakers who have been involved in or witnessed accidents to help emphasise the critical role of the policies that are put in place.

The sessions have been extended to Vodafone Romania project managers and middle managers who work with high-risk suppliers and Romania's main network supplier, Huawei.



Performance

Monitoring and reporting our safety performance is an important part of our commitment to ensuring the safety of everyone working for us – employees, contractors and suppliers' employees and contractors – and helps to increase focus on the risks that are inherent to our industry.

Transparency and honesty are important. We want other companies, stakeholders and interested parties – as well as our own teams and suppliers – to learn from our experiences. For example, we report all fatal incidents related to our operations when – after investigation and review – we conclude that our controls were not operating as effectively as required. We also consider circumstances where it is reasonable to assume that if our controls could have been enhanced, the outcome may have been different, including potentially preventing the incident from occurring at all. We therefore report accidents on public roads and we report every life lost irrespective of the individual's status – whether an employee, contractor, suppliers' employee (of any tier) or contractor, or a member of the public.

External research indicates that few major companies adopt this transparent approach; most limit their disclosures to incidents on sites under their full control only or exclude fatalities in their supply chain or the public as a whole.

Fatalities

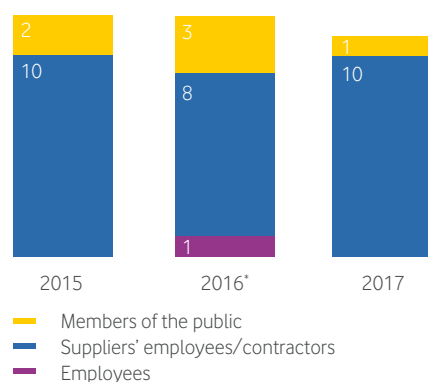
We deeply regret to report that during the year, 11 people lost their lives under circumstances where, after investigation, we concluded that our controls were not operating effectively. One employee of a supplier suffered a fatal injury while working with electricity in

India and 10 people died in vehicle-related incidents. Specifically:

- one employee of a supplier died in a road traffic accident while transporting employees from office to home;
- six suppliers' employees died while travelling between sites, delivering materials or driving in sales-related roles;
- two supplier's employees died when they were hit by another vehicle while changing a tyre; and
- one member of the public died after being struck by a supplier's trailer while crossing the road.

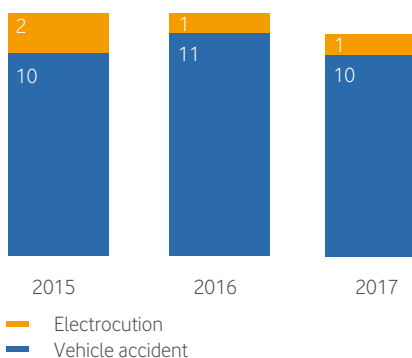
All of these vehicle-related deaths occurred in countries with high rates of fatal accidents on public roads: seven were in India, one in Egypt, one in Mozambique and one in Turkey.

Total recordable fatalities

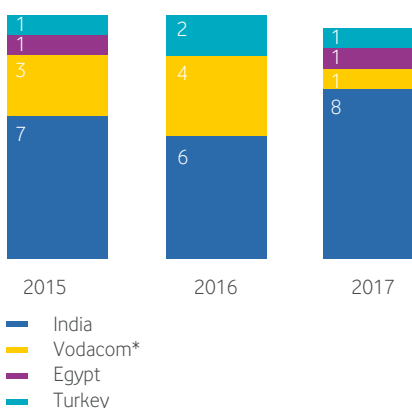


* A further fatal incident in Spain is currently under investigation by national authorities. We are unable to gain access to the authorities' findings to ascertain the cause or report on their findings until this investigation is complete. That incident is therefore not included in our figures for 2016.

Recordable fatalities by cause



Recordable fatalities by country



* Vodacom markets include South Africa, Democratic Republic of Congo, Lesotho, Mozambique and Tanzania.

We have undertaken a thorough investigation into the causes of each fatal incident and defined actions to help prevent a recurrence. These investigations were personally overseen by the respective local market chief executive to ensure that the organisation as a whole worked together to understand what happened, why it happened and what needed to be done to prevent it from happening again. Our local market chief executives are also responsible for ensuring any necessary corrective actions are implemented.

Lessons learned from each fatality have been shared across the Group to help prevent similar incidents happening in other markets. As explained above, the circumstances surrounding each fatality are formally discussed at the most senior levels of the Group; the relevant points are also discussed in detail in our Group-wide safety conferences six times a year and in other communications to employees.

In addition, we track and investigate high-potential incidents (HPIs), categorised as incidents that do not necessarily result in injury but have the potential to do significant harm. During the year, 566 HPIs were recorded: 129 involving employees, 169 involving suppliers' employees or contractors, and 30 involving the public. A further 238 were incidents that did not have the potential to cause injury. Each HPI is investigated as an indicator of the potential for a more serious accident. We seek to identify the root cause and ensure suitable corrective action is taken, where necessary. An investigation into an HPI is conducted to the same standard as for a fatal incident.

Tools Down at Vodafone India

After a number of fatal road traffic accidents during the year, Vodafone India has introduced 'Tools Down' moments to reinforce its health and safety training.

For each 'Tools Down' moment, routine operations are stopped and employees assembled for a four-hour refresher training and engagement session. Sessions inform employees about recent fatalities and their causes and remind everyone of the importance of adhering to the Absolute Rules and the need to intervene to stop unsafe behaviour. All full-time employees join the sessions as well as some distributors and channel partners. In total, more than 6,800 people participated during the year. The sessions were led by the Vodafone India health and safety team and a member of the local leadership team, and were held at every branch office as well as in stores, at distribution points and other relevant locations.

Lost-time incidents

Lost-time incident (LTI) is the term used when a Vodafone employee is injured while carrying out a work-related task and is unable to perform his or her regular duties for a complete shift or period of time after the incident.

In recent years, we have stepped up our efforts to capture and analyse all incidents of potential or actual harm to our employees. Greater compliance with mandatory rules on LTI reporting enables us to identify emerging trends in operating risks, increasing our scope to intervene and put the necessary controls in place. During the year – as the table below shows – our overall reported LTI rate decreased by 12% to 0.79 per 1,000 employees.

Lost-time incidents (employees only)	2015	2016	2017
Number of lost-time incidents	64	97	86
Lost-time incident rate per 1,000 employees	0.63	0.90	0.79

During the year, we worked with our local businesses to urge everyone who works with us to record all relevant incidents, investigate the root causes identified as a consequence of that scrutiny, and use the insights gained to improve further the rules and processes that have been developed to keep everyone safe from harm. Encouraging people to report every incident – however small – is an important step in developing a company's safety maturity. During 2017, we conducted a Policy Compliance Review across all of our local markets to assess the extent to which incidents were being reported and categorised correctly. This review was conducted on a market-by-market basis by the local compliance teams. The outcome resulted in a number of recommendations to improve our overall incident reporting. All of the actions identified as part of this review of LTI reporting have been closed and implemented.

⁶³ Unless otherwise stated, this report covers Vodafone's financial year, 1 April 2016 to 31 March 2017. All references to 'the previous year' refer to the financial year, 1 April 2015 to 31 March 2016.

⁶⁴ We report all fatal incidents related to our operations when – after investigation and review – we conclude that our controls were not operating as effectively as required (we also consider circumstances where if our controls could have reasonably been enhanced the outcome could have been different) and may have prevented the incident from occurring.

⁶⁵ [Global status report on road safety, WHO](#)

Mobiles, Masts and Health

We remain committed to responding openly and transparently to public concerns about mobiles, masts and health and comply with all applicable laws in every jurisdiction in which we operate.

Latest science

The World Health Organization (WHO) concludes that 'to date, no adverse health effects have been established as being caused by mobile phone use'

Operating guidelines

Our base stations and mobile devices supplied to customers operate well within the internationally recognised guidelines from ICNIRP

Monitoring research

We monitor the latest research and anticipate updated guidance from the WHO and ICNIRP during 2018

Mobiles, masts and health

The health and safety of our customers, the wider public and our employees and contractors is an absolute priority for Vodafone and everyone who works with us.

How the technology works

Mobile devices use radio frequency (RF) fields – a type of electromagnetic field (EMF) – to send and receive calls and data. EMF fields surround us all the time, occurring naturally as well as from artificial sources. They are produced whenever an electrical appliance is connected to the mains supply, from refrigerators and hairdryers to computers. Most experts agree that there is no evidence that mobile phones or base stations have adverse health effects on people when operated within international science-based guideline safety limits.

"To date, no adverse health effects have been established as being caused by mobile phone use."

The WHO's [factsheet](#) on EMF and public health, last updated in October 2014, is based on an in-depth review of thousands of scientific studies.

It concludes that "to date, no adverse health effects have been established as being caused by mobile phone use". The WHO continues to monitor this area and is conducting a risk assessment of radio frequency EMF fields based on an extensive review of scientific studies, the conclusions from which are expected to be published by the end of 2018.

Our base stations – and the mobile phones we supply to our customers – operate well within the guidelines set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP), an independent advisory body working in collaboration with the WHO. Those guidelines incorporate substantial safety margins. The guidelines have been reviewed regularly since their introduction in 1998. ICNIRP is currently conducting a further regular review including a public consultation. The draft revised guidelines are expected to be issued during 2018.

Although the current scientific consensus indicates that there is no convincing evidence of harm, we recognise that some people remain concerned about mobiles, masts and health. We are committed to responding openly and transparently to address those concerns.

Mobile has transformed how billions of people manage their daily lives and run their businesses. Global adoption has been rapid compared with other technological developments in previous eras, and scientific reviews have made a vital contribution to establishing industry guidelines and standards.

Goals and commitments

Our vision is to lead within the industry in responding to public concerns about mobile phones, masts and health by demonstrating leading-edge practices and encouraging others to follow.

We are committed to:

- openness and transparency;
- the protection, at all times, of the health and safety of our customers, the communities in which we operate, and our employees and contractors;
- open debate on the body of published scientific evidence;
- communicating significant scientific developments; and
- complying with all applicable laws in the jurisdictions in which we operate.



Monitoring scientific research

Scientists and public health officials from individual countries and global agencies, such as the WHO, assess risks to human health based on the entire body of evidence available at a given point in time, rather than by using individual scientific studies.

Evidence is considered by panels of experts from many different scientific disciplines to ensure that all aspects are considered and that conclusions reflect a collective combined decision by the experts involved.

Vodafone reviews research conducted into mobiles, base stations and health where it is:

- designed, performed and reported independently;
- conducted under the auspices of a national or international health agency by a panel of experts; and/or
- published in peer-reviewed literature.

Scientific research must always be carried out to very high, globally recognised scientific standards – including the use of best-practice experimental procedures – and must be executed with integrity. If this is not the case, the results can be misleading or misinterpreted. We publish links to many of the [latest scientific research](#) publications that meet these standards on our [website](#) so that our customers and stakeholders can access the information easily.

Latest studies

The latest research supports the current scientific consensus that there is no convincing evidence

of health risks from the use of mobile phones. The most notable new research published during the year⁶⁶ is set out below.

- Sweden's Scientific Council's [annual report on EMF and health](#), published in May 2016, concluded: "Altogether [the evidence] provides no or at most little indications for a risk for up to approximately 15 years of mobile phone use. No empirical data are available for longer use; however, cancer rates in Sweden and other countries do not show any increase that might be attributed to the massive mobile phone use that started in the beginning of this century". For fixed towers, the expert group concludes: "[...] there is increasing evidence for the absence of an increased risk for cancer for persons living in the vicinity of a transmitter".
- In November 2016, the US Federal Communications Commission (FCC) updated their [guide to wireless devices and health concerns](#) to state that: "Those evaluating the potential risks of using wireless devices agree that more and longer-term studies should explore whether there is a better basis for RF safety standards than is currently used. The FCC closely monitors all of these study results. However, at this time, there is no basis on which to establish a different safety threshold than our current requirements".

Ongoing studies

While the WHO sets priority areas for research, it does not undertake any research itself. National,

regional and international research programmes are undertaken in response to the priorities set by the WHO.

We think a well-funded research programme is essential to ensure any potential risks are properly understood. We therefore contribute funds to some of these independent studies indirectly but have absolutely no involvement in, or influence over, any aspect of the methodology, outcomes, analysis or publication. While a number of new studies have contributed to ongoing dialogue and research, there are still some gaps in scientific knowledge and more research is under way, including studies prioritised by the WHO that monitor the health effects of the long-term use of mobiles and the use of mobiles by children.

Ongoing research includes:

- an international cohort study ([COSMOS](#)) looking at the long-term use of phones over a period of up to 25 years. Its stated aim is to investigate possible health risks associated with long-term use of mobile phones and other wireless technologies. Around 250,000 people across five European countries (including 105,000 from the UK) are taking part in the study, the findings of which will be reported every five years;
- the Study of Cognition, Adolescents and Mobile Phones ([SCAMP](#)), funded jointly by the UK government and industry. Around 5,500 children aged 11 to 12 years have been recruited to take part in this three-year study

looking at a potential association between radio frequency EMF exposure and cognitive or behavioural development in youth; and

- an international case-control study ([MOBI-Kids](#)) looking at communications technology, environment and brain tumours in young people. Approximately 3,000 young people aged between 10 and 24 years from 14 European countries have been part of the study over a five-year period. Financial support for the study is provided by the European Union and local and national funding sources.

Governance and compliance

Our Group EMF Leadership Team sets Vodafone's strategy on matters related to mobiles, masts and health and has oversight of compliance across all of our businesses. The team meets four times a year and reports twice a year to the Group Executive Committee and the Vodafone Group Plc Board on developments in science, policy and compliance.

EMF leaders in each country in which we operate enforce local-level compliance with our Group EMF policy. We bring our EMF leaders together annually to highlight key international developments and share best practice. During the year, we invited contractors deploying and maintaining our base station sites to join the conference.

Every other year we conduct a formal Group review of compliance with the Vodafone Group EMF policy across all of the countries in which we operate. This involves identifying and implementing remedial actions to address areas of partial or non-compliance. In addition, two local markets (one from Europe and one from the Africa, Middle East and Asia Pacific region) are selected each year for an in-depth

on-site assessment of compliance. This is carried out by the Vodafone Group EMF Manager. Remedial actions identified in the 'deep dive' visit to Tanzania in September 2015 have been completed and there were no remedial actions identified for Romania.

During the year, the local markets assessed were Greece and India. We found that in both country operating companies, the Group EMF policy controls were being implemented correctly. We made a small number of suggestions to improve compliance further; where remedial actions were required, these have been put in place and have been tracked through the year to ensure completion.

Find out more on our website

During the year, we updated the content on our website to provide the public with access to an in-depth but accessible source of information about mobiles, masts and health, including links to independent scientific research and explanations of the science involved in mobile phone networks. More details can be found at www.vodafone.com/mmh

⁶⁶ Unless otherwise stated, this Report covers Vodafone's financial year 1 April 2016 to 31 March 2017. All references to 'the previous year' refer to the financial year 1 April 2015 to 31 March 2016.



Appendix

Find out more about our governance process, the scope of our reporting, materiality, our conformance with GRI G4 guidelines and read KPMG's Assurance Statement.





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Managing and reporting on sustainable business

Vodafone's sustainable business management and reporting systems focus on activities and risks that are both potentially material to our business and are also of greatest interest to our many and diverse stakeholders. In this Appendix to the Report, we provide an overview of the governance processes that underpin our approach and summarise the methodology used to identify the most important business and socio-economic themes that are now at the centre of our [sustainable business strategy](#).

We report on progress against our sustainable business strategy annually, in parallel with the Vodafone Group Plc [Annual Report](#) which also contains key highlights and progress on our sustainable business strategy. During the year, we also publish separate transparency reports on two areas of significant public debate: [Tax](#) and our [total economic contribution to public finances](#) and on law enforcement and freedom of expression matters within our new [Digital](#)

[Rights and Freedoms Reporting Centre](#).

Additionally, we provide detailed information regarding electromagnetic frequency emissions from mobile devices and base stations in a dedicated area of our [website](#), updated in 2017.

We also publish an annual statutory [Conflict Minerals Report](#) (in line with US regulatory requirements) and an annual Slavery and Human Trafficking statutory [statement](#) in line with the requirements of the UK Modern Slavery Act 2015. Both statutory documents are available on the [Sustainable business](#) section of our website.

In this Appendix, we also provide an overview of our governance, summary of the scope of our sustainable business reporting, a list of our key performance indicators, an Assurance Statement from KPMG and our Index of Conformance with the Global Reporting Initiative (GRI) G4 Guidelines.



Governance

As our Group Chief Executive explains [earlier](#) in the Report, our sustainable business strategy has been designed to ensure a close alignment between our business goals and the maximum possible socio-economic benefit achievable as a consequence of those goals. Realising that ambition requires strong corporate governance at multiple levels of our businesses. Leadership vision is critically important; so too is ensuring a commitment to effective operational implementation.

The Group Sustainable Business team defines and leads Vodafone's activity in this area. The strategy summarised in the Report was created with input and advice from a wide range of stakeholders – as we explain below – and was formally approved by the Group Executive Committee in November 2015.

The Vodafone Group Sustainable Business team works with Vodafone's local market and professional function teams to advance the various programmes, projects and initiatives discussed in this Report. Implementation of the sustainable business strategy relies on leadership within the relevant business areas together with a strong partnership with the Vodafone Group Sustainable Business team. The team provides expert advice and guidance to core business owners within the Group's global Senior

Leadership Team while supporting operational delivery of Vodafone's sustainable business agenda in conjunction with sustainable business specialists in each of our local markets.

The Group Executive Committee (ExCo) – chaired by the Group Chief Executive – has overall accountability to the Vodafone Group Plc Board for Vodafone's sustainable business performance. The Group Director of Corporate Affairs defines and leads Vodafone's sustainable business strategy worldwide and is responsible for the activities of the Group Sustainable Business team. The Group Director of Corporate Affairs reports to the Group External Affairs Director who is a member of the ExCo.

The ExCo regularly reviews the progress of the sustainable business strategy. All external publications – including this Report – are reviewed by the Vodafone Group Disclosure Committee. That Committee is responsible for ensuring the accuracy and timeliness of Group disclosures, and approves – on behalf of the Group Chief Executive – the controls and procedures related to the release of financial and non-financial information. The Vodafone Group Plc Board receives an update on the progress of the Group sustainable business strategy once a year.

Sustainable business governance structure



Core accountabilities and responsibilities

- Ultimate accountability for Vodafone's sustainable business strategy
- Sets overarching sustainable business direction
- Responsible for sustainable business strategy and performance
- Implements strategy
- Engages with and supports the business through Group and local market teams
- Engages with key external stakeholders

Materiality

During 2016, we conducted a materiality assessment, using the GRI Principle of Materiality, to identify the most important social, economic, environmental and ethical factors of greatest relevance to our businesses and to society as a whole. That assessment was informed by the views of a wide range of stakeholders and, in turn, led to the creation of our new sustainable business strategy, as explained [earlier](#) in this Report.

Understanding stakeholder views

Many people and organisations have an interest in what we do and how we work. Our stakeholders include:

- consumer and enterprise customers;
- [shareholders](#);
- employees;
- suppliers and partners;
- governments and regulators;
- local communities;
- non-governmental organisations (NGOs) and civil society activists; and
- industry peers.

In designing our sustainable business strategy, we took into account factors including:

- insights from our engagement with peers, NGOs and civil society activists and sustainable business specialists;
- a review of existing and emerging issues that are the focus of ongoing public debate in multiple countries;
- global socio-economic trends, such as climate change and youth unemployment;
- a review of the issues covered in the GRI G4 guidelines;
- the priorities identified in the United Nations Sustainable Development Goals (SDGs) adopted in September 2015 and in effect from January 2016; and
- an evaluation of how the Principles of the [Blueprint Framework for Better Business](#) would apply to Vodafone.

We used the Global e-Sustainability Initiative's materiality tool (specifically designed for use within the communications industry) to analyse these factors and then rank them in a materiality matrix. That analysis resulted in the identification of 24 issues that we considered to be the most material, both for Vodafone and for society as a whole. We then mapped those 24 issues against the five Principles of the Better Business Blueprint Framework to identify ten overarching priorities of equal impact and importance:

Our ten priorities

Digital rights including privacy, data protection and security	
Socio-economic benefits arising from our products and services	
Management of supply chain risks	
Health and safety	
Business conduct and ethics	
Corporate taxation and total economic contribution	
Public concerns regarding electromagnetic frequency emissions	
Employee equality and diversity	
Energy consumption and greenhouse gas emissions	
Customer relationships	

Scope of reporting

Our sustainable business reporting covers the most material social, economic, environmental and ethical risk factors – and potential benefits – inherent to our operations. We have benchmarked our 2017 reporting against the GRI G4 reporting guidelines. The GRI index is available on page 107.

Certain sections of the Report – Women's empowerment, Energy innovation, Youth skills and jobs and Supply chain integrity and safety – were also the focus of an independent limited assurance engagement undertaken by KPMG. For further details on the scope, procedures and conclusion, please see their assurance statement on page 103.

Vodafone is one of the world's largest telecommunications companies and provides a range of services including voice, messaging, data and fixed communications. Vodafone has mobile operations in 26 countries, fixed broadband operations in 17 local markets and partners with mobile networks in a further 48 countries.

The data in the 2017 Sustainable Business Report covers the financial year 1 April 2016 to 31 March 2017, a period we describe as 'during the year' in this Report. Any significant events after this period but prior to the date of the publication of this Report have also been highlighted. Unless otherwise stated, this Report covers Vodafone's financial year. All references to 'the previous year' refer to the financial year 1 April 2015 to 31 March 2016.

Performance data included in the scope of this Report:

- our operating companies in 22 countries where we have operational control: Albania, Czech Republic, Egypt, Germany, Ghana, Greece, Hungary, Ireland, Italy, Malta, New Zealand, Portugal, Qatar, Romania, Spain, Turkey, the UK, Vodacom in South Africa and Vodacom Group's subsidiaries in the Democratic Republic of Congo, Lesotho, Mozambique and Tanzania;
- our operating company in India (however, see exceptions below); and
- operations under Vodafone Global Enterprise and Vodafone Group Services.

Performance data excluded from the scope of this Report:

- joint ventures where Vodafone does not have operational control: VodafoneZiggo in the Netherlands, Vodafone Australia and our associate in Kenya, Safaricom;
- Partner Market networks in which Vodafone neither has any equity interests nor holds an operating licence, including those Partner Markets that operate under the Vodafone brand;
- countries in which we are required to hold an operating licence in order to provide local customer support to multinational enterprise customers but where we neither own nor operate any licensed telecommunications network infrastructure; and

- retail stores that are Vodafone-branded by way of franchise and exclusive dealer arrangements but are not owned or operated by Vodafone.

Exception:

- our M-Pesa customer numbers and our 50 million women target, which both include our associate Safaricom in Kenya.

The scope of the Vodafone Group Sustainable Business Report (which is focused on matters over which we have a degree of operational control) is different to the scope of the Vodafone Group Plc Annual Report and Accounts (which is based on financial accounting rules under International Financial Reporting Standards (IFRS)). For example, Vodafone India is considered a discontinued operation within the 2017 Annual Report and Accounts in line with IFRS as we have announced our intention to merge Vodafone India with Idea Cellular. However, as that transaction remains pending subject to approvals – and as Vodafone retains full operational control over our business in India in the interim period – we have included Vodafone India within the data presented within this Report.

With effect from 31 December 2016, Vodafone Netherlands changed from a 100% owned subsidiary to a 50:50 joint venture, VodafoneZiggo. In line with IFRS, our Netherlands subsidiary has therefore been deconsolidated from the Group's accounts, and – as Vodafone no longer has full operational control over the local business – is not

included in the majority of data provided within this Report. Any specific exceptions are noted next to the relevant data.

The Vodafone Foundation

Within this Report, we highlight some of the activities of the Vodafone Foundation as these complement much of the Group's sustainable business strategy. However, the Vodafone Foundation's activities overall are not within the scope of this Report.

The Vodafone Foundation supports projects around the world that are run in partnership with charitable organisations and NGOs. The Vodafone Foundation is an independent charitable trust and receives annual contributions from Vodafone Group Plc. Through its *Connecting for Good* programme, the Vodafone Foundation benefits from the technology and expertise within Vodafone to maximise its charitable impact.

The Vodafone Foundation's independence is key to its ability to work globally with a wide range of partners in order to meet its charitable objectives. The Vodafone Foundation also sits at the centre of a network of 27 local social investment programmes, referred to as the local Foundations. The Vodafone Foundation has a funding partnership with these local foundations to provide public benefit by investing in programmes that support communities in Vodafone's operating countries.

Setting revised baselines after acquisitions, disposals and changes in operational control

The inclusion or exclusion of data from business units that have been acquired or sold or where there is change in operational control (for example, through a merger) is determined by the date that the transaction in question is formally concluded with all approvals received.

Our policy on environmental data reporting is to include performance data from newly acquired businesses at the end of their first full year of new ownership. In terms of setting a revised baseline to reflect acquisitions, disposals or a change of control, our policy is that:

- acquisitions are built into the baseline using either actual or estimated data at the end of their first full year as a controlled subsidiary;
- disposals are removed from the baseline in the year of disposal; and
- any identified errors >1% of the Group total are re-baselined wherever possible.

Trade mark notice

Vodafone, the Vodafone Rhombus and Vodacom are trade marks of Vodafone. M-PESA, M-Shwari, M-Tiba, KCB M-Pesa and M-Pawa are trade marks of Vodafone and Safaricom. The Vodafone Rhombus is a registered design of Vodafone. Other product and company names mentioned in this document may be the trade marks of their respective owners.



How we report our key performance indicators

This section of the Report outlines the basis of preparation of the key performance indicators (KPIs) reported in the Women's empowerment, Energy innovation and Supply chain integrity and safety sections of the Sustainable Business Report.

We publish our reporting definitions and methodology so that readers can understand the basis upon which the disclosures have been prepared and be in a position to make comparisons across different reports. There are no global regulatory standards for reporting sustainability impacts; for example, there is, as yet, no global mandated benchmark comparable to IFRS. While there are detailed voluntary standards such as the GHG Protocol and RIDDOR, these still leave decisions regarding definitions, inclusion or exclusion and assessments of stakeholder impacts up to the judgement of the business.

1. Women's empowerment

Diversity performance: % of female employees

We report the percentage of female employees across our four global employment bands:

1. senior leadership team (SLT) (our top 175–225 employees);
2. senior management (1,100–1,600 employees);
3. middle management (6,000–7,500 employees); and
4. the non-management employees who make up the rest of the population.

Each of these categories is defined through a consistent global role-banding process overseen by the Vodafone HR function.

Calculation of progress against our target of 30% women in management and leadership roles includes the diversity figures for the top two senior leadership and senior management bands.

The diversity figures are based on the number of employees (full time/part time) at year end. These numbers are not pro-rated. An employee is defined as a person with an employee (as opposed to consultant or contractor) relationship with Vodafone (or its operating companies) who is paid by Vodafone (or its operating companies) through the payroll. This includes graduates and people on international assignments as well as people on work experience who are on the payroll or have been at Vodafone (or an operating company) for longer than six months. The numbers exclude pensioners and non-employees.

Progress against the goal of bringing the benefits of mobile to an additional 50 million women in emerging markets over the next decade

For the purposes of this goal, the definition of a *connected woman* is a SIM connection which is estimated to belong to a female primary user.

This goal is calculated as the number of additional *connected women* at the end of the ten-year target period against the initial

31 March 2016 baseline. Progress towards the ten-year target is reported at the end of each financial year.

The 50 million women target applies across ten emerging markets countries where we have an operating presence and where we believe we have greatest scope to make a difference. These are: Egypt, Ghana, India, Kenya (through our associate, Safaricom), Qatar and Turkey plus – through our sub-Saharan subsidiary Vodacom Group – Democratic Republic of Congo, Mozambique, South Africa and Tanzania.

The process used to estimate the number of women connected is as follows:

- the total number of connections (for both male and female customers) is calculated based on the closing number of active customers⁶⁷ at the end of each financial year;
- the percentage of female mobile customers is calculated using information from two surveys over a selection of customers in each market:
 - the Net Promoter Score (NPS) conducted across the Vodafone customer base in each local market; and
 - the Vodafone brand tracking survey conducted in each local market.

The number of women connected is then estimated by calculating the percentage of female customers as a proportion of the total number of

Vodafone connections in each local market, aggregated across the ten countries listed above.

Given the nature of the target demographic – typically, women on very low incomes in poor communities – it is assumed that the very large majority will not have a mobile phone in their own right and will not therefore be customers of competitor mobile networks. However, it is not possible to distinguish between women who are new to mobile and women who already have a mobile and are switching networks. Conversely churn rates (the proportion of subscribers leaving the network) are not accounted for in the figures.

The calculation via customer survey of the proportion of women reached is subject to the risks inherent to this kind of sampling and does not distinguish between existing and new customers. Assumptions are therefore made based on the entire customer population in a market.

⁶⁷ Active customers are calculated as the number of SIMs where an action or a call has been made in the last 30 days.

2. Energy innovation

Overview

We report energy and greenhouse gas (GHG) emissions data for the following indicators:

- energy consumption by fuel source (in GWh);
- energy consumption by asset type (in GWh);
- renewable energy consumption (as a percentage);
- Scope 1 GHG emissions (in tonnes CO₂e);
- Scope 2 GHG emissions (in tonnes CO₂e) using both the location- and market-based methods of calculation;
- Scope 3 GHG emissions (in tonnes CO₂e);
- total greenhouse gas (GHG) emissions (in tonnes carbon dioxide equivalents (CO₂e); and
- total GHG emissions per unit of data (in tonnes CO₂e/petabyte data).

Standards and guidance

Our methodology for the reporting of GHG emissions has been developed using the following guidance and standards:

- Greenhouse Gas Protocol standards and guidance, including the [Corporate Standard](#), [Scope 2 Guidance](#) and [Scope 3 Calculation Guidance](#);
- [CDP guidance](#) including the 2017 [Climate Change Responders Pack](#) and the [Technical Note on Accounting of Scope 2 Emissions](#); and
- the Climate Disclosure Standards Board [Climate Change Reporting Framework](#).

Data gathering process and methods

We use an electronic data collection process to gather our data. In the majority of the countries where we operate, energy usage data is based on invoices from our energy suppliers. In some countries, those bills are based on the supplier's estimated readings. Where data does not match our reporting period exactly – for example, where we only have 11 months of data – we forecast this information by extrapolation. For sites where energy invoices are unavailable, we estimate this information based on typical site consumption.

Increasingly, we measure our energy consumption through smart metering, a technology which uses mobile communications to collect real-time consumption data from energy meters. Further details are set out [earlier](#) in this Report.

Renewable energy definition

Our figures for renewable energy include all renewables generated by Vodafone on site (for example, through solar or wind power where we use all of the energy generated) as well as electricity from third-party renewable suppliers which is traceable to Vodafone.

Scope 1

These are emissions within our direct control and include those from:

- diesel, petrol and other fuel used by cars and commercial vehicles owned by Vodafone or leased for six months or more;
- diesel and petrol used for generators in off-grid areas, or where back-up capacity is required; and

- fugitive releases of refrigerants or fire suppressants used for air conditioning or fire control systems in network buildings and offices.

[Conversion factors from the UK government department for the environment, food and rural affairs \(DEFRA\)](#) have been used to calculate GHG emissions from other fuel sources such as diesel, petrol, natural gas and fuel oil as well as from emissions from vehicles. A conversion efficiency of 30% has been used for diesel generators.

Scope 2

These are emissions from electricity purchased to power our networks, technology centres, offices and retail stores.

In January 2015, the guidance on the reporting of Scope 2 GHG emissions under the Greenhouse Gas Protocol was updated. The guidance provides a methodology for how emissions from electricity, heat, cooling and steam should be accounted for. We now report two different Scope 2 emission values: one using a 'location-based' method and one using a 'market-based' method. The location-based method involves using an average emission factor that relates to the grid on which energy consumption occurs. This usually relates to a country-level electricity emissions factor. The market-based method applies if the company has operations in any markets where energy certificates or supplier-specific information are available. The method involves using an emissions factor that is specific to the electricity purchased.

For 2017, we have reported Scope 2 figures using both the location-based and market-based methodologies.

Location-based emissions

Emissions are calculated using a kWh to CO₂e conversion factor provided by the International Energy Agency ([IEA](#)) for the calendar year 2014, which was the latest dataset available at the time of publication. Under the terms of our commercial licence with IEA we are no longer allowed to publish individual conversion factors.

Market-based emissions

Emissions are calculated using a kWh to CO₂e conversion factor based on one of the following sources (in order of priority):

- supplier conversion factors specific to our contract; these include some markets where supplies are 100% renewable, and where this is the case we have sought evidence of singularity of supply;
- [residual mix](#) figures for 2014 – where the conversion factor reflects the removal of certificates, contracts and supplier-specific factors claimed by other organisations; and
- location-based conversion factors as described above.

The following external factors have been used to calculate our market-based emissions:

Local market	Source	Conversion factor (kg CO ₂ /kWh)
Albania	IEA	
Czech Republic	Supplier factor and residual mix	Zero and 0.562
DRC	IEA	
Egypt	IEA	
Germany	Supplier factors	Various
Ghana	IEA	
Greece	Residual mix	0.753
Hungary	Residual mix	0.376
India	IEA	
Ireland	Supplier factors	Zero and 0.393
Italy	Supplier factor and residual mix	Zero and 0.427
Lesotho	IEA	
Malta	Residual mix	0.818
Mozambique	IEA	
New Zealand	IEA	
Portugal	Supplier factor	0.440
Qatar	IEA	
Romania	Supplier factors	Various
South Africa	IEA	
Spain	Supplier factor	0.210
Tanzania	IEA	
Turkey	IEA	
UK	Supplier factor	0.137

Scope 3

With the help of the Carbon Trust, we have conducted an in-depth analysis of our Scope 3 emissions for 2017. These are indirect emissions which we do not directly control but which we may be able to influence. They include emissions from our suppliers in providing us with goods and services, emissions from our joint ventures where we do not have full operational control and emissions associated with the use of our products and services by our customers.

The [GHG Protocol Scope 3 standard](#) defines 15 categories of emissions as detailed in the table that follows. We have estimated emissions for each of these 15 categories and undertaken a qualitative assessment of the extent to which we can influence and reduce emissions in each of the categories. Further details of the methodology and results for each category are shown.

The estimation of Scope 3 emissions is a very approximate process. The values given in the table are not precise, and are not intended to be read as absolute figures. Rather, they provide an indication of where the most significant emissions in our value chain arise, and help us to target our action.



GHG Protocol category	What does this mean for Vodafone?	Emissions (million tCO ₂ e)	Methodology for assessment	Ability to influence
Purchased goods and services; Capital goods and services	Emissions from the extraction, production and transportation of goods and services purchased by Vodafone (includes capitalised goods and services).	7.1	Calculated using an Environmentally Extended Economic Input Output (EEIO) approach – this uses macro-economic modelling to determine the GDP value of different sectors of the economy, and to associate that with the GHG emissions incurred by those sectors. At its simplest, the total GHG emissions of the sector are divided by the total GDP value generated by the sector to produce an emission factor of x kg CO ₂ e/€ value. By multiplying these emission factors by the amount we spend on goods and services in each sector, we can obtain a rough estimate of our emissions for purchased goods and services.	High for some suppliers, more limited for others
Fuel and energy-related activities	Emissions from the extraction, production and transportation of fuels and energy purchased by Vodafone and not already included in Scopes 1 and 2. It includes emissions from electricity transmission and distribution.	0.9	Upstream fuel and energy emissions are calculated by applying emission factors produced by DEFRA to Vodafone fuel and energy consumption data.	Moderate
Upstream transportation and distribution	Transportation and distribution of products between tier 1 suppliers and our operations.	0.2	Calculated by applying EEIO factors for transport activity to the procurement spend for relevant products.	Moderate
Waste generated in operations	Disposal and treatment of waste generated by our activities.	0.004	Calculated by applying emission factors from DEFRA to data for waste generated by Vodafone ready for treatment and disposal.	High
Business travel	Transportation of employees for business-related activities.	0.08	Calculated by applying emissions factors from DEFRA to distances travelled for business by different modes (air, rail and personal car).	High
Employee commuting	Transportation of employees between home and work.	0.03	Calculated using typical commuting emissions for an employee and multiplying by the number of employees per country.	Moderate
Upstream leased assets	Operation of assets leased by Vodafone, including third-party network sites. This includes sites leased from: <ul style="list-style-type: none"> Indus Towers (who are also a joint venture (JV)); and other tower companies in India, Tanzania and Ghana. 	1.9	Emissions have been estimated either by dividing the cost of electricity and diesel for these sites by unit price/kWh; or by extrapolating based on number of leased sites and an average emission value per site obtained from Vodafone-owned sites.	Moderate
Downstream transportation and distribution	Transport and distribution of sold products.	0.1	Calculated by multiplying spend for logistics and distribution partners by EEIO factors.	Moderate
Processing of sold products	Not relevant to Vodafone – we do not produce products for further processing.			
Use of sold products	Emissions from the use of goods and services sold by Vodafone, principally from the energy used by network equipment – such as routers – and the energy required to charge mobile devices.	2.6	Calculated by multiplying the number of products sold by the energy usage for that product and electricity emission factors on a country basis. The total is the sum of all values.	Low
End-of-life treatment of sold products	Waste disposal and treatment of products sold by Vodafone – principally handsets at end of life.	0.004	Estimated by applying an emissions factor from DEFRA for waste disposal and treatment by number of products sold.	Low

GHG Protocol category	What does this mean for Vodafone?	Emissions (million tCO ₂ e)	Methodology for assessment	Ability to influence
Downstream leased assets	Not relevant to Vodafone, as we do not have any equipment or assets that we own and lease to third parties.			
Franchises	Operation of franchises, included branded Partner Markets and franchise retail stores.	0.2	Estimated based on the size of the Partner Market using number of base stations or customers. For retail franchises, emissions are estimated using extrapolated data for Vodafone-owned stores.	Moderate
Investments	Operation of investments not included in Scope 1 or 2 – our joint ventures in Australia, Kenya and the Netherlands. Our tower company joint ventures in India (Indus), and the UK (CTIL) and Greece (Victus) are included in Scope 3 – leased assets and Scope 1 and 2 emissions respectively.	0.8	For joint ventures in Australia, Kenya and the Netherlands, Scope 1 and 2 emissions are based on actuals and Scope 3 emissions are extrapolated from Vodafone's emissions. A percentage of Scope 1 and 2 emissions are reported based on our equity share.	High

GHG savings for customers enabled by our products and services

Our IoT products and services help our customers to reduce electricity, gas and the consumption of other fuels through applications such as smart meters, road navigation systems, fleet management and mobile health. In each of these applications, our IoT services are providing the connectivity, enabling our customers to reduce their GHG emissions. More examples are provided in the *Energy innovation* section of the Report.

To quantify the GHG savings for our customers enabled by our products and services, we have calculated – in conjunction with the Carbon Trust – the total quantity of emissions that we have helped our customers to avoid in 2017. The concept of the enabling effect of information and communications technology (ICT) was introduced in the [SMART 2020 report](#), and the methodology has been developed since then by [GeSI](#) and others. One of the most relevant studies is the [GeSI Mobile Carbon Impact Report](#), and many of our calculations use a similar approach.

The starting point for the calculation is a list of our products and services that help customers to avoid using energy or fuel. The full list is provided in the table that follows. For each product or service, a GHG-saving mechanism has been identified and quantified based on an external study, an internal Vodafone study or documented expert assumptions. For example, we know that smart electricity meters can typically reduce a domestic customer's electricity usage by 3% per year – so the GHG abatement from one of our IoT smart meter connections is 3% of annual GHG emissions from a domestic home.

For each product and service, a unit of sale has been identified – for example, the number of smart electricity meter connections that we have sold. This unit of measurement is then multiplied by the GHG abatement savings for each type of application to provide the total saving for that application in 2017. The value for each product and service category is then added together to give the total GHG emissions abated by our technology.

It should be noted that a number of suppliers will contribute to providing an IoT application that enables a customer to avoid or reduce GHG emissions. We have not attempted to apportion emission savings between ourselves and other suppliers in the value chain. We are careful in our reporting not to claim the avoided emissions as our own. Instead, we are clear that we are one of a number of parties who have helped our customers reduce their GHG emissions.

Further details of products and services, the mechanism for abating emissions and the abatement factors used are provided in the following table.

Our GHG target: we will help our customers reduce their greenhouse gas emissions by two tonnes for every tonne of greenhouse gas we generate from our own operations.

We have set a target that, by the end of the 2018 financial year, the quantity of GHG emissions that we are enabling our customers to avoid – as calculated by the methodology laid out above – will be twice that of our total Scope 1 and 2 GHG emissions.

Restatement of previous years' data

Data from previous years has been restated to remove any contribution from our operating company in the Netherlands, other than for Scope 3 emissions. During the year, Vodafone Netherlands merged with Ziggo to form a 50:50 joint venture. Joint ventures are accounted for differently as Vodafone does not have full operational control. GHG emissions from joint ventures are accounted for in our Scope 3 emissions, but not in other performance data within the Energy innovation chapter.

We have also restated the 2016 value for GHG emissions per petabyte of data to take into account a minor alteration in the volume of traffic recorded. And finally, Scope 2 GHG emissions (and other metrics which include this number) have been restated for 2015 and 2016 as a result of a more accurate kWh to CO₂e conversion factor for a small proportion of our base stations hosted on landlord-owned sites.

IoT application	Description	GHG abatement mechanism	GHG abatement factor
Smart Metering (Domestic)	IoT-enabled meters, which regularly record utility consumption (gas, electricity or water) and communicate the information back to the energy or utility company to allow remote reporting.	Smart meters are seen as an important tool to reduce domestic utility consumption and manage utility networks more efficiently. Many studies have demonstrated that the installation of smart meters and associated initiatives have resulted in energy consumption reductions.	Average electricity and gas usage reduction assumed is 3% per annum ⁶⁸ .
Smart Metering (Commercial)	As per above but for commercial properties which often have multiple smart meters to isolate different areas of consumption.	Smart meters in commercial property provide visibility to building managers as to where and when an organisation is consuming energy or water. Smart meters have been shown to lead to energy savings, as consumption can be optimised remotely.	Average electricity and gas usage reduction assumed is 16.8% per annum ⁶⁹ .
Smart Logistics & Fleet Management (Bus)	Connected telematics system that consist of an in-vehicle unit (IVU) connected to a central server. This feeds back real-time information on the GPS location of the vehicle, and may include other performance metrics such as fuel consumption and driver performance.	Connected buses can communicate with traffic light systems to prioritise bus routes, improving fuel efficiency. GPS location services can also be used to inform passengers of bus arrival times. Both features can help to increase bus patronage and improve emissions per passenger.	Fuel saving assumed is 6%. This is applied to average annual emissions for a bus.
Smart Logistics & Fleet Management (Cars)	Connected telematics system that consist of an IVU connected to a central server. Within a car fleet this is primarily used for satellite navigation and feedback on driver behaviour. Information may also be used for usage based insurance.	Fleet management systems may be used for optimised routing and avoiding congested areas, which directly reduces fuel consumption. Telematics systems can offer real-time feedback to drivers on their driving performance and behaviour. This technology is an enabler; the efficiency gains can only be realised if the driver acts in response to the feedback.	Fuel saving assumed is 6%. This is applied to average annual emissions for a car ⁷⁰ .
Smart Logistics & Fleet Management (Light and heavy-goods vehicles)	As per above, but for LGVs and HGVs. Commercial vehicle applications include optimised delivery and dispatch routing, tracking of fuel consumption and monitoring of driver performance.	Optimised delivery and dispatch routing for goods vehicles ensures that unnecessary journeys are minimised, resulting in improved fuel efficiency. Telematics systems can offer real-time feedback to drivers on their driving performance and behaviour. This technology is an enabler; the efficiency gains can only be realised if the driver acts in response to the feedback.	Fuel saving assumed is between 2% and 10%, dependant on classification and application. This is applied to average annual emissions for an LGV or HGV.
Smart Logistics & Fleet Management (Taxis)	Connected telematics system that consist of an IVU connected to a central server. This is usually connected to passenger mobile applications to locate and summon nearby taxis. Multiple users may be connected to pool journeys.	Carbon savings are achieved by taxis having fewer miles travelled without a customer, based on optimised central control and dispatch of the taxis.	Fuel saving assumed is 5%. This is applied to average annual emissions for a taxi.

68 [Energy Demand Report, Ofgem](#)

69 Average figure used from a selection of case studies varying from 7.5% to 25%, see [BBP Better Metering Toolkit](#) and [ASB Bank and Vodafone M2M smart metering](#)

70 Various published and unpublished studies indicate savings from 5-15%, dependant on level of intervention. Examples of some published sources: [A Guide to Telematics](#), [Energy Saving Trust](#); [Telematics Explained](#), [FLAG](#); and [Mix Telematics Fuel Savings](#)

IoT application	Description	GHG abatement mechanism	GHG abatement factor
Smart Logistics & Fleet Management (Smart Bin)	IoT-enabled units within smart bins communicate with waste collection services to notify when full and also to prevent unnecessary journeys being made by waste collection vehicles	The primary enablement mechanism is reduced journeys by waste collection vehicles, resulting in fuel saving.	Abatement factor of 5kgCO ₂ e per smart bin was used ⁷¹ .
Street Lighting	IoT-enabled street lighting allows variable levels of lighting, depending upon time of day and the extent to which people are nearby.	The carbon saving is achieved through avoiding the use of street lighting when it is not necessary. Lower levels of lighting may also be used in less busy areas.	Reduction in energy consumption of street lights assumed to be 20% ⁷² .
Electric Vehicle (EV) Charging	IoT-enabled EV charging points interact with electric vehicles or driver mobile apps to direct drivers to the most appropriate EV charging point, giving drivers the confidence to carry out more journeys in EVs.	The use of an EV over a traditional fuelled vehicle has significant carbon savings. It is assumed each EV journey provided by the charging point replaces a traditional fuel journey.	Annual distance driven was calculated from the charge provided by a charging point ⁷³ . The saving is the difference in emissions for that distance between an average petrol car and an electric car.
Health Care	Connected devices allow chronic or high-risk patients to be monitored within their own home. This prevents excess journeys to and from hospital by both patients and health-care professionals, as well as freeing up hospital beds.	The emissions associated with one hospital stay are avoided by allowing the patient to remain at home. There are also the avoided emissions from not having to make the car journey to and from the hospital.	Assumed 42% reduction in hospital admissions ⁷⁴ .

71 Abatement factor derived from [Smart Bin case study](#)

72 [Telensa city data](#) and [smart lighting](#)

73 [Transport for London electric charging vehicle factsheet](#)

74 [Telehealth interventions reduce hospitalisation](#) by 55% and reduce A&E admissions by 29%.

An average figure of 42% was used.

3. Supply chain integrity performance

Selection process for assessment

Any supplier that provides a product or service to Vodafone is screened for potential social, ethical and environmental risks, as defined by the [Code of Ethical Purchasing](#). Existing or new suppliers are then selected for assessment depending on a number of different risks including the supplier's scale, the countries in which the activity takes place and the nature of the activity. We provide more detail [here](#).

Suppliers to Vodafone who also supply two or more other members of the [Joint Audit Cooperation \(JAC\)](#) initiative (an association of telecom operators aiming to verify, assess and develop supply chain practices in the industry) are audited through JAC assessments. Vodafone audits are typically focused on suppliers of network infrastructure products and services, Vodafone-branded consumer equipment (such as mobile phones or set-top boxes) and Vodafone Automotive IoT products. We also use anonymous mobile phone-based surveys of workers to complement an on-site audit or as a standalone assessment.

Joint Audit Cooperation (JAC) assessments

JAC audits are reported on a calendar-year basis while Vodafone audits are reported on a financial-year basis. The majority of JAC audits focus on suppliers in Vodafone's supply chain.

The JAC audits are conducted by independent auditors paid for by the JAC member companies. Reports are issued in a standard format focused on verifying social, environmental and ethical factors. Audits that are funded and conducted by Vodafone on behalf of the JAC initiative are not reported under the total number of Vodafone audits to avoid double-counting.

The JAC companies hold quarterly steering committee meetings to review progress in remediating shortcomings identified in JAC audits.

Vodafone audits

Vodafone audits are conducted by either Vodafone's internal auditors or by independent auditors on site at the supplier's operation or factory using the JAC methodology and checklists. Follow-up audits are counted as individual audits.

Anonymous mobile phone-based surveys

Anonymous and confidential mobile phone-based surveys of supplier employees and contractors are carried out by an independent survey service provider, [Laborlink](#), using pre-recorded questions and an Interactive Voice Response (IVR) system. The independent provider is present on site distributing calling cards directly to groups of workers in factories and other work sites. The mobile phone-based survey figures represent the number of unique mobile phone callers registering a survey response. The IVR questions are provided in

audio form in the workers' local language and their responses are captured using touch-tone keypads. The service works on all mobile phones, including very low-cost basic devices.

Tier

In the context of the Sustainable Business Report, a 'tier' is defined as the level of contractual separation between Vodafone and its suppliers downstream in the supply chain. Tier 1 is defined as a direct supplier to Vodafone with whom a contract or purchasing terms are established. Tier 2 is defined as an entity with whom a Tier 1 supplier has a contract or relationship. Tier 3 is defined as an entity that has a contract or relationship with a Tier 2 supplier and so on for tiers downstream in the supply chain. Tier in this context does not signify strategic importance or segmentation.

4. Safety performance data

Safety data is collected by the local markets and then shared with the Group Health Safety and Wellbeing team. The local market must report, record and investigate all incidents. An incident management system is used for the reporting, recording, investigation and action tracking of incidents.

Recordable fatalities

We report all fatal incidents related to our operations when – after investigation and review – we conclude that our controls were not operating as effectively as required. We also consider circumstances where it is reasonable to

assume that if our controls could have been enhanced, the outcome may have been different, including potentially preventing the incident from occurring at all. We therefore report accidents both on our owned sites and also in areas that are outside our full control – for example, on public roads. We report every life lost within the control definition stated above, irrespective of the individual's status – whether an employee, contractor, suppliers' employee or contractor (of any tier) or a member of the public.

Lost-Time Incidents (LTIs)

Lost-time Incident (LTI) is the term used when a Vodafone employee is injured while carrying out a work-related task and is unable to perform his or her regular duties for a complete shift or period of time after the incident.

The lost-time injury rate is calculated as the percentage of lost-time incidents compared to the average number of employees⁷⁵ over the reporting year.

⁷⁵ The average number of employees is calculated on a full-time equivalent basis at year end. Employees include both those that are permanent employees and those that are on fixed-term or part time contracts. It excludes temporary workers and contractors. Netherlands employees are included in the average figures for 2017, up to Dec 2016 only.

Independent Limited Assurance Report to Vodafone Group Plc

KPMG LLP ('KPMG' or 'we') were engaged by Vodafone Procurement Company Sarl to provide limited assurance to Vodafone Group Plc ('Vodafone') over the Selected Information described below for the year ended 31 March 2017.

Our conclusion

Based on the work we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that:

- the data-related Selected Information listed in Appendix 1 to our report has not been properly collated; and
- the Materiality Assertion listed in Appendix 1 to our report has not been properly prepared;

in all material respects, in accordance with the Reporting Criteria.

This conclusion is to be read in the context of the remainder of this report, in particular the inherent limitations explained below and this report's intended use.

Selected information

The scope of our work includes only the information included within Vodafone's Sustainable Business Report ('the Report') for the year ended 31 March 2017 listed in Appendix 1 to our report ('the Selected Information').

We have not performed any work, and do not express any conclusion, over any other information that may be included in the Report or displayed elsewhere, including on Vodafone's website, for the current year or for previous periods unless otherwise indicated.

Reporting criteria

The Reporting Criteria we used to form our judgements are:

- Vodafone's Reporting Guidelines 2017 as set out in the Appendix of the Report for the Data related Selected Information; and
- the Global Reporting Initiative ('GRI') G4 Materiality Principle as set out at www.globalreporting.org for the Materiality Assertion.

The Selected Information needs to be read together with the Reporting Criteria.

Inherent limitations

For the Data related Selected Information, our procedures were designed to consider the collation of the Selected Information and were not designed to test the underlying market level data. Our procedures were conducted at the Vodafone Group Head Office and remotely at KPMG offices; physical visits to other Vodafone locations did not take place.

The nature of non-financial information; the absence of a significant body of established practice on which to draw; and the methods and precision used to determine non-financial information, allow for different, but acceptable, evaluation and measurement techniques and can result in materially different measurements, affecting comparability between entities and over time. In particular, for the claims regarding the number of women connected and the two for one energy performance indicators, we draw attention to the methodological and assumption based limitations Vodafone has disclosed in the Reporting Criteria.

Directors' responsibilities

The Directors of Vodafone are responsible for:

- designing, implementing and maintaining internal controls relevant to the preparation and presentation of the Selected Information that is free from material misstatement, whether due to fraud or error;

- selecting and/or developing objective Reporting Criteria;
- measuring and reporting the Selected Information in accordance with the Reporting Criteria; and
- the contents and statements contained within the Report and the Reporting Criteria.

Our responsibilities

Our responsibility is to plan and perform our work to obtain limited assurance about whether:

- the data-related Selected Information has been properly collated; and
- the Materiality Assertion has been properly prepared;

in accordance with the relevant part of the Reporting Criteria and to report to Vodafone in the form of an independent limited assurance conclusion based on the work performed and the evidence obtained.

Assurance standards applied

We performed our work in accordance with International Standard on Assurance Engagements 3000 – 'Assurance Engagements other than Audits or Reviews of Historical Financial Information' ('ISAE 3000') and, in respect of the greenhouse gas emissions information included within the Selected Information, in accordance with International Standard on Assurance Engagements 3410

- 'Assurance Engagements on Greenhouse Gas Statements' ('ISAE 3410'), issued by the International Auditing and Assurance Standards Board.

The work performed in a limited assurance engagement varies in nature and timing from, and is less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Independence, professional standards and quality control

We comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants and we apply International Standard on Quality Control (UK and Ireland) 1, 'Quality Control for Firms that Perform Audits and Reviews of Historical Financial Information, and Other Assurance and Related Services Engagements'. Accordingly, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements and professional standards (including independence, and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour) as well as applicable legal and regulatory requirements.

Summary of work performed

Considering the level of assurance and our assessment of the risk of material misstatement of the Selected Information, whether due to fraud or error, our work included, but was not restricted to:

For the data-related Selected Information:

- conducting interviews with Vodafone management to obtain an understanding of the key group collation processes, systems and controls in place over the collation of the Selected Information;
- considering the appropriateness of the carbon conversion factor calculations and other unit conversion factor calculations used by reference to widely recognised and established conversion factors;
- assessing a selection of the calculations used to collate the Selected Information; and
- performing analytical review procedures over the collated Selected Information, including a comparison to the prior period's amounts having due regard to changes in business volume and the business portfolio.

For the Materiality Assertion:

- conducting interviews with Vodafone management to obtain an understanding of the materiality assessment processes;

- assessing Vodafone's performance against the GRI G4 Materiality Principle tests by obtaining documentation and discussing with Vodafone management information related to the assessment of material factors and their inclusion in the Report. This included considering how Vodafone incorporated the following into their materiality assessment:

- the interests and expectations of stakeholders;
- the material factors reported by a selection of peers;
- relevant (sustainability related) laws, regulations or international agreements with strategic significance;
- the significant sustainability risks facing Vodafone; and
- Vodafone's capabilities and potential impact on sustainable development.

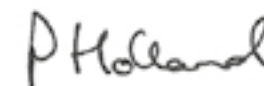
For both the data-related Selected Information and the Materiality Assertion:

- assessing the appropriateness of the respective Reporting Criteria for the Selected Information;
- reading the Report and narrative in the Report accompanying the Selected Information with regard to the Reporting Criteria, and for consistency with our findings.

This report's intended use

This assurance report is made solely to Vodafone in accordance with the terms of the engagement contract between us. Those terms permit disclosure to other parties, solely for the purpose of Vodafone showing that it has obtained an independent assurance report in connection with the Selected Information.

We have not considered the interest of any other party in the Selected Information. To the fullest extent permitted by law, we accept no responsibility and deny any liability to any party other than Vodafone for our work, for this assurance report or for the conclusions we have reached.



Paul Holland

for and on behalf of KPMG LLP
Chartered Accountants

London
2 June 2017



Independent Assurance Statement

The Underlying Subject Matter and Subject Matter Information that constitute the Selected Information are listed below.

The information in this Appendix needs to be read together with the attached limited assurance report and the Reporting Criteria.

Type of Selected Information	Underlying Subject Matter	Subject Matter Information	Reporting Criteria
Data	Progress towards our 50 million women goal: number of estimated additional female customers	9.4 million	Vodafone's Scope of Reporting
Data	Women in senior leadership team (SLT) (top 175-225 employees) (%)	26	
Data	Women in senior management (1,100-1,600 employees) (%)	25	
Data	Women in middle management (6,000-7,500 employees) (%)	28	
Data	Women (all non-management employees) (%)	38	
Data	Vodafone energy use: Total (GWh)	6,239	
Data	Vodafone GHG emissions: Scope 1 (million tonnes CO ₂ e)	0.40	
Data	Vodafone GHG emissions: Scope 2 (market-based method) (million tonnes CO ₂ e)	2.19	
Data	Vodafone GHG emissions: Total Scope 1 and 2 (market-based method) (million tonnes CO ₂ e)	2.59	
Data	Vodafone GHG emissions: Scope 3 (air travel only) (million tonnes CO ₂ e)	0.05	
Data	Vodafone GHG emissions: Scope 2 (location-based method) (million tonnes CO ₂ e)	2.77	
Data	Vodafone GHG emissions: Total Scope 1 and 2 (location-based method) (million tonnes CO ₂ e)	3.18	
Data	Energy and greenhouse gas emissions: Energy from renewable sources (%)	11	
Data	GHG emissions per petabyte of traffic on Vodafone's networks (million tonnes CO ₂ e)	1,137	
Data	Number of total emissions avoided as a consequence of IoT technologies and service (million tonnes CO ₂ e)	4.9	
Data	Ratio of GHG emission savings for customers to own GHG footprint (ratio)	1.93	
Data	Number of supplier site assessments conducted by the Joint Audit Committee	69	
Data	Number of supplier site assessments conducted by Vodafone	26	
Data	Number of sites assessed using a mobile survey of workers	7	
Data	Number of factory workers surveyed using mobile survey	4,743	
Data	Number of people that lost their lives	11	
Data	Fatalities - Members of the public	1	

Type of Selected Information	Underlying Subject Matter	Subject Matter Information	Reporting Criteria
Data	Fatalities - No. of contractors	10	Vodafone's Scope of Reporting
Data	Fatalities - No. of Employees	0	
Data	Lost Time Incidents (LTI): No. of LTIs	86	
Data	LTI Rate per 1,000 employees	0.79	
Materiality Assertion	Materiality assessment	<p>The following Materiality Assertion by Vodafone management:</p> <p><i>"We conducted a materiality assessment, using the GRI Principle of Materiality, to identify the most important social, economic, environmental and ethical factors of greatest relevance to our businesses and to society as a whole."</i></p>	Global Reporting Initiative's ('GRI') G4 Materiality Principle

Global Reporting Initiative (G4)

Content Index

Key

Y	Included
N	Not included
P	Partially included
ARA	Annual Report and Accounts
SBR	Sustainable Business Report

General Standard Disclosures

	Index	Analysis	Inclusion	Location
Strategy and analysis	G4-1	Provide a statement from the most senior decision-maker of the organisation (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organisation and the organisation's strategy for addressing sustainability	Y	See the introduction from our Chief Executive on page 2 of this Sustainable Business Report (SBR)
	G4-2	Provide a description of key impacts, risks, and opportunities	Y	See page 92 of this Appendix and Risk Management on page 28 in the Annual Report (ARA)
Organisational profile	G4-3	Report the name of the organisation	Y	Vodafone Group Plc
	G4-4	Report the primary brands, products, and services	Y	See What we do , and What we offer on page 8 of the ARA
	G4-5	Report the location of the organisation's headquarters	Y	London (UK)
	G4-6	Report the number of countries where the organisation operates, and names of countries where either the organisation has significant operations or that are specifically relevant to the sustainability topics covered in the report	Y	See Where we are , and Where we operate on page 9 in the ARA and Scope of Reporting in this Appendix
	G4-7	Report the nature of ownership and legal form	Y	See Governance
	G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	Y	See Where we are and What we do
	G4-9	Report the scale of the organisation	Y	See ARA , Where we are and What we do
	G4-10	Report the total number of employees	Y	See page 62 in the Principles and Practice section of this Report
	G4-11	Report the percentage of total employees covered by collective bargaining agreement	N	
	G4-12	Describe the organisation's supply chain	Y	See page 65 of the Supply Chain Integrity and Safety section
	G4-13	Report any significant changes during the reporting period regarding the organisation's size, structure, ownership, or its supply chain	Y	On 20 March 2017 we announced an agreement to merge Vodafone India with Idea Cellular. We also completed our joint venture with Liberty Global in December 31 2016. See Scope of Reporting in the Appendix
	G4-14	Report whether and how the precautionary approach or principle is addressed by the organisation	P	See Mobiles, Masts and Health as an example of how the principle is addressed and Risk Management in the ARA on page 28

General Standard Disclosures (continued)

	Index	Analysis	Inclusion	Location
Organisational profile (continued)	G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organisation subscribes or which it endorses	Y	See this Appendix and the Women's Empowerment section for examples
	G4-16	List memberships of associations (such as industry associations) and national or international advocacy organisations	P	See this Appendix and the Principles and Practice for examples
Identified material aspects and boundaries	G4-17	List all entities included in the organisation's consolidated financial statements or equivalent documents	Y	See ARA
	G4-18	Explain the process for defining the report content and the aspect boundaries	Y	See this Appendix
	G4-19	List all the material aspects identified in the process for defining report content	Y	See this Appendix
	G4-20	For each material aspect, report the aspect boundary within the organisation	Y	See this Appendix
	G4-21	For each material aspect, report the aspect boundary outside the organisation	N	See this Appendix
	G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements	Y	See page 99 of this Appendix
	G4-23	Report significant changes from previous reporting periods in the scope and aspect boundaries	Y	From 31 Dec 2016, Vodafone Netherlands changed from a 100% owned subsidiary to a 50:50 joint venture, and is not included in the majority of data provided within the SBR
Stakeholder engagement	G4-24	Provide a list of stakeholder groups engaged by the organisation	P	See this Appendix for examples
	G4-25	Report the basis for identification and selection of stakeholders with whom to engage	N	
	G4-26	Report the organisation's approach to stakeholder engagement	P	See this Appendix
	G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organisation has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns	P	See this Appendix
Report profile	G4-28	Reporting period (such as fiscal or calendar year) for information provided	Y	We report on a fiscal year basis from 1 April to 31 March
	G4-29	Date of most recent previous report (if any)	Y	2015-16 was our last report, published June 2016
	G4-30	Reporting cycle (such as annual, biennial)	Y	We report on an annual basis
	G4-31	Provide the contact point for questions regarding the report or its contents	P	See back page of this section
	G4-32	Report the 'in accordance' option the organisation has chosen	Y	The Report is benchmarked against the Global Reporting Initiative G4 guidelines
	G4-33	Report the organisation's policy and current practice with regard to seeking external assurance for the report	Y	Our report undergoes a limited assurance process. See Assurance Statement on page 103 of the Appendix

General Standard Disclosures (continued)

	Index	Analysis	Inclusion	Location
Governance	G4-34	Report the governance structure of the organisation, including committees of the highest governance body Identify any committees responsible for decision-making on economic, environmental and social impacts	Y	See Governance and also page 91 of this Appendix
	G4-35	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	Y	See page 91 of this Appendix
	G4-36	Report whether the organisation has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body	Y	See page 91 of this Appendix
	G4-37	Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics	Y	Key stakeholder issues are reported via our Sustainable Business team, see page 91 of this Appendix. All shareholders are invited to the Annual General Meeting, see page 64 and 65 of the ARA
	G4-38	Report the composition of the highest governance body and its committees	Y	See Governance and Our governance framework in the ARA
	G4-39	Report whether the Chair of the highest governance body is also an executive officer	Y	The role of Chair and Chief Executive is split, see page 46 and 47 of the ARA
	G4-40	Report the nomination and selection processes for the highest governance body and its committees and the criteria used for nominating and selecting highest governance body members	Y	See Our governance framework in the ARA
	G4-41	Report processes for the highest governance body to ensure conflicts of interest are avoided and managed	P	See the Nominations and Governance Committee report in the ARA and our Code of Conduct
	G4-42	Report the highest governance body's and senior executives' roles in the development, approval, and updating of the organisation's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	Y	See page 91 of this Appendix. The sustainable business strategy was approved by the Group Executive Committee in November 2015
	G4-43	Report the measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics	Y	See Board activities, page 52 of the ARA
	G4-44	a. Report the processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics b. Report actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics	P	See Board evaluation on page 54 of the ARA

General Standard Disclosures (continued)

	Index	Analysis	Inclusion	Location
Governance (continued)	G4-45	a. Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities b. Report whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities	Y	See Risk Management on page 28 of the ARA
	G4-46	Report the highest governance body's role in reviewing the effectiveness of the organisation's risk management processes for economic, environmental and social topics	Y	See Risk Management on page 28 of the ARA
	G4-47	Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities	Y	See Risk Management on page 28 of the ARA
	G4-48	Report the highest committee or position that formally reviews and approves the organisation's sustainability report and ensures that all material Aspects are covered	Y	The report is approved by the Disclosure Committee, see page 47 of the ARA
	G4-49	Report the process for communicating critical concerns to the highest governance body	Y	See Governance, page 91 of this Appendix
	G4-50	Report the nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	N	
	G4-51	a. Report the remuneration policies for the highest governance body and senior executives b. Report how performance criteria in the remuneration policy relate to the highest governance body's and senior executives' economic, environmental and social objectives	Y	See Remuneration Committee in the ARA , page 67
	G4-52	Report the process for determining remuneration	Y	See Remuneration Committee in the ARA , page 67
	G4-53	Report how stakeholders' views are sought and taken into account regarding remuneration	Y	See Remuneration Committee and Annual General Meeting in the ARA
	G4-54	Report the ratio of the annual total compensation for the organisation's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country	N	
	G4-55	Report the ratio of percentage increase in annual total compensation for the organisation's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country	N	

General Standard Disclosures (continued)

	Index	Analysis	Inclusion	Location
Ethics and integrity	G4-56	Describe the organisation's values, principles, standards and norms of behaviour such as codes of conduct and codes of ethics	Y	See Principles and Practice , page 44
	G4-57	Report the internal and external mechanisms for seeking advice on ethical and lawful behaviour, and matters related to organisational integrity, such as helplines or advice lines	Y	See page 52 of Principles and Practice . Our Anti-Bribery, Compliance and local Legal teams are the main points of contact
	G4-58	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behaviour and matters related to organisational integrity	Y	Our <i>Speak Up</i> process, see page 52 of Principles and Practice

Specific Standard Disclosures

	Index	Analysis	Inclusion	Location
Economic	G4-EC1	Direct economic value generated and distributed	Y	See ARA
	G4-EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change	P	See Energy Innovation
	G4-EC3	Coverage of the organisation's defined benefit plan obligations	Y	See Post employment benefits in the ARA , page 155
	G4-EC4	Financial assistance received from government	N	
	G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	N	
	G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	N	
	G4-EC7	Development and impact of infrastructure investments and services supported	Y	See page 16 in ARA
	G4-EC8	Significant indirect economic impacts, including the extent of impacts	Y	See Tax and Total Economic Contribution Report
	G4-EC9	Proportion of spending on local suppliers at significant locations of operation	P	See Investing for the future report as an example
Environmental	G4-EN1	Materials used by weight or volume	N	
	G4-EN2	Percentage of materials used that are recycled input materials	N	
	G4-EN3	Energy consumption within the organisation	Y	See Energy Innovation
	G4-EN4	Energy consumption outside of the organisation	N	
	G4-EN5	Energy intensity	Y	See Energy Innovation
	G4-EN6	Reduction of energy consumption	Y	See Energy Innovation
	G4-EN7	Reductions in energy requirements of products and services	Y	See Energy Innovation and Supply Chain Integrity and Safety
	G4-EN8	Total volume of water withdrawn by source	P	We report water use, see Energy Innovation , page 28
	G4-EN9	Water sources significantly affected by withdrawal of water	N	
	G4-EN10	Percentage and total volume of water recycled and reused	N	
	G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	N	
	G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	N	
	G4-EN13	Habitats protected or restored	N	
	G4-EN14	Total number of IUCN red list species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	N	

Specific Standard Disclosures (continued)

	Index	Analysis	Inclusion	Location
Environmental (continued)	G4-EN15	Direct greenhouse gas (GHG) emissions (scope 1)	Y	See Energy Innovation
	G4-EN16	Energy indirect greenhouse gas (GHG) emissions (scope 2)	Y	See Energy Innovation
	G4-EN17	Other indirect greenhouse gas (GHG) emissions (scope 3)	Y	See Energy Innovation
	G4-EN18	Greenhouse gas (GHG) emissions intensity	Y	See Energy Innovation
	G4-EN19	Reduction of greenhouse gas (GHG) emissions	Y	See Energy Innovation
	G4-EN20	Emissions of ozone-depleting substances	N	
	G4-EN21	NOx, SOx, and other significant air emissions	N	
	G4-EN22	Total water discharge by quality and destination	N	
	G4-EN23	Total weight of waste by type and disposal method	P	See Energy Innovation
	G4-EN24	Total number and volume of significant spills	N	
	G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention ANNEX I, II, III, and VIII	N	
	G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organisation's discharges of water and runoff	N	
	G4-EN27	Extent of impact mitigation of environmental impacts of products and services	N	
	G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	N	
	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	N	
	G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organisation's operations, and transporting members of the workforce	N	
	G4-EN31	Total environmental protection expenditures and investments by type	N	
	G4-EN32	Percentage of new suppliers that were screened using environmental criteria	Y	See Supply Chain Integrity and Safety
	G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	Y	See Supply Chain Integrity and Safety
	G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	N	
Labour practices and decent work	G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	P	See Our People, in Principles and Practice , page 62
	G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	N	
	G4-LA3	Return to work and retention rates after parental leave, by gender	N	See our global maternity policy, page 10 of Women's Empowerment section

Specific Standard Disclosures (continued)

	Index	Analysis	Inclusion	Location
Labour practices and decent work (continued)	G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	N	
	G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on OH&S programs	N	
	G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	P	See Supply Chain Integrity and Safety , page 83
	G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	N	
	G4-LA8	Health and safety topics covered in formal agreements with trade unions	N	
	G4-LA9	Average hours of training per year per employee by gender, and by employee category	N	We report on training in Our People, see page 56 of Principles and Practice
	G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	N	
	G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	Y	All employees receive regular development reviews
	G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	P	See breakdown according to gender in Women's Empowerment , page 11
	G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	N	
	G4-LA14	Percentage of new suppliers that were screened using labour practices criteria	Y	See Supply Chain Integrity and Safety
	G4-LA15	Significant actual and potential negative impacts for labour practices in the supply chain and actions taken	Y	See Supply Chain Integrity and Safety
	G4-LA16	Number of grievances about labour practices filed, addressed, and resolved through formal grievance mechanisms	P	See Slavery and Human Trafficking Statement
Human rights	G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	N	The approach is described in Human Rights, page 45 of Principles and Practice
	G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	N	
	G4-HR3	Total number of incidents of discrimination and corrective actions taken	N	
	G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	Y	See page 73 of Supply Chain Integrity and Safety

Specific Standard Disclosures (continued)

	Index	Analysis	Inclusion	Location
Human rights (continued)	G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the effective abolition of child labour	Y	See Supply Chain Integrity and Safety and Slavery and Human Trafficking Statement
	G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labour	Y	See Supply Chain Integrity and Safety and Slavery and Human Trafficking Statement
	G4-HR7	Percentage of security personnel trained in the organisation's human rights policies or procedures that are relevant to operations	N	
	G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	N	
	G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	N	Please see our approach to Human Rights on page 45 of Principles and Practice
	G4-HR10	Percentage of new suppliers that were screened using human rights criteria	Y	See Supply Chain Integrity and Safety , and Principles and Practice
	G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	Y	See Supply Chain Integrity and Safety and Slavery and Human Trafficking Statement and Conflict Minerals Report
	G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	N	
Society	G4-S01	Percentage of operations with implemented local community engagement, impact assessments, and development programs	N	
	G4-S02	Operations with significant actual and potential negative impacts on local communities	N	
	G4-S03	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	Y	See page 48 of Principles and Practice . Risk assessment is carried out in all local markets
	G4-S04	Communication and training on anti-corruption policies and procedures	P	See page 52 of Principles and Practice , Doing What's Right campaign and Code of Conduct
	G4-S05	Confirmed incidents of corruption and actions taken	N	
	G4-S06	Total value of political contributions by country and recipient/beneficiary	Y	As a matter of policy we will not make political contributions to political parties, elected officials or candidates for election, see Political Engagement page 54 in Principles and Practice and page 86 of ARA
	G4-S07	Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes	N	

Specific Standard Disclosures (continued)

	Index	Analysis	Inclusion	Location
Society (continued)	G4-S08	Monetary value of significant fines and total number of nonmonetary sanctions for non-compliance with laws and regulations	N	
	G4-S09	Percentage of new suppliers that were screened using criteria for impacts on society	N	
	G4-S010	Significant actual and potential negative impacts on society in the supply chain and actions taken	N	
	G4-S011	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	N	
Product responsibility	G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	N	
	G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	N	
	G4-PR3	Type of product and service information required by the organisation's procedures for product and service information and labelling, and percentage of significant product and service categories subject to such information requirements	N	
	G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes	N	
	G4-PR5	Results of surveys measuring customer satisfaction	Y	See our customer care programme and customer surveys on pages 5 and 20 of the ARA
	G4-PR6	Sale of banned or disputed products	N	
	G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	N	
	G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	N	
	G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	N	



Sustainable Business Report 2017

Our Sustainable Business Report 2017 details our strategy which is founded on Vodafone's long standing commitment to responsible behaviour. At the centre of that strategy, which was launched in last year's report, is the intention to work towards three global transformation goals which have the potential to deliver meaningful socio-economic benefits for our customers and for wider society. The strategy also includes a significant focus on corporate transparency with a particular emphasis on four areas that are the source of greatest public concern.

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Introduction

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Women's Empowerment

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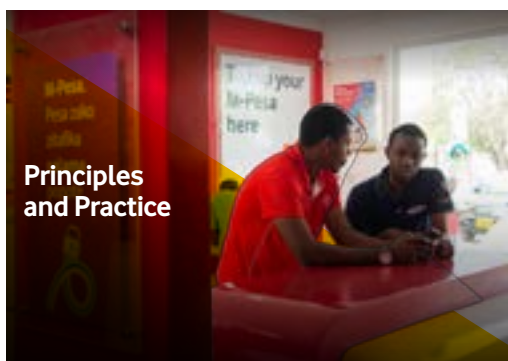
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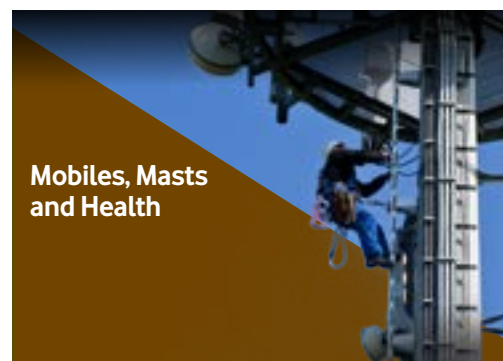
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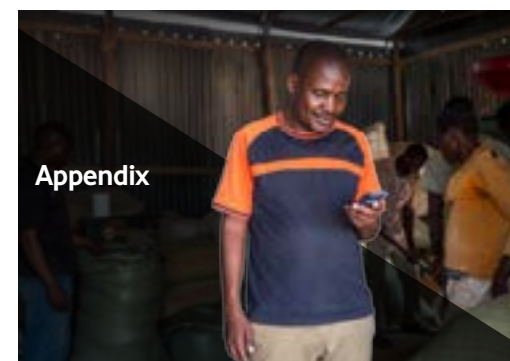
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Mobiles, Masts and Health

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Appendix

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