

Strategy (continued)

Network²⁰¹⁵

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We aim to have a great mobile network in all of the markets in which we operate, supported by leading IT systems. This means giving our customers far-reaching voice and data coverage, a very reliable connection, and increasing speeds and data capacity.

Market context:

The industry is seeing increasing demand towards data services such as watching videos on the web and internet browsing. This trend is being driven by a number of factors including the increased take-up of high powered smartphones and an increased choice of apps for business and social use. As a result data traffic increased by more than 53% over the last year and data now accounts for 73% of the total traffic on our network. Against this background our Network 2015 strategy is designed to ensure the readiness and capability of our network for the future for both consumer and enterprise and for fixed and mobile services.

Towards 2015:

Our network strategy continues to focus on supporting higher speed data in both mature and emerging markets, and delivering a consistently excellent data experience to our customers through the widespread deployment of 3G and 4G capability and high capacity backhaul and high speed fixed access. We will continue our consistent level of investment so that Vodafone customers can be assured of a video-standard data service across our footprint in Europe and we can successfully manage the high growth in data volumes anticipated. We will also continue to maintain the broad and deep network quality for our standard voice and text services.

Strengths:

We have nearly 250,000 base station sites transmitting wireless signals – making us one of the largest mobile operators in the world.

Actions:

We are consistently investing around £6 billion a year to deliver a high quality mobile and fixed data experience for our customers.

Progress:

We now have 42% of our Europe 3G footprint which can deliver peak downlink speeds of 43.2 Mbps (up from 15% last year) which at least doubles the average data speed with a 43.2 Mbps capable smartphone.

Future proofing our IT infrastructure

Vodafone's five main data centres that host our IT systems, three in Europe, and one each in Africa and India, are linked together to form an internal 'Cloud'. The servers within these centres use virtualisation technology to more effectively run multiple applications to enable customer services, such as M2M platforms, to be provisioned and scaled up very quickly and easily. It also provides the flexibility to run services for any market from any centre, within regulatory limits. Within Europe, data is backed-up from one centre in one country to another, to provide business continuity and additional resilience.


The leading Vodacom South Africa network

Our superior network in South Africa enables us to provide a leading overall customer and broadband experience. We have just over 9,400 base station sites, significantly ahead of our main competitor in the country. We were the first operator in South Africa to launch 4G services in October 2012. We have renewed around 77% of our 2G network and about 74% of our 3G network to date. We have also progressed well with the implementation of our own self-built fibre and microwave and 65% of our base station sites now utilise high capacity backhaul.

Strong network reach

As demand for mobile services moves from voice and text to data we have been investing to build a superior data network. Our data network now covers 91% of the European population, and we are aiming to reach 95% coverage by 2015 – nearly on a par with our voice coverage.

At the same time, smartphones are only going to get faster, so we are constantly upgrading our networks to support these future speed demands. Today, we provide base-level theoretical speeds of 14.4 Mbps across 98% of our 3G network, typically giving customers actual speeds of 2 to 3 Mbps – more than enough to stream video or music, for example.

The next goal is to deliver another significant step up in the customer experience, with the move to peak speeds of 43.2 Mbps across much of our European 3G network. We are aiming to upgrade 80% of the 3G footprint in our five major European markets to this level by March 2015. For customers with the latest smartphones, this will more than double the speed they are currently enjoying, and allow them to view video in high definition, for example.



UK 4G is nearly here

In February we successfully bid £803 million in the UK spectrum auction for crucial low frequency (800 MHz) spectrum as well as more higher-frequency spectrum to boost our existing network. 800 MHz spectrum is great for transmitting a stronger, more reliable signal and one that works well indoors. We expect to launch our ultra-fast 4G service later this year. The roll out of our 4G service is all part of around £1.6 million we invest every single day in the UK on our network to bring our customers coverage where it matters.

73%

of the traffic on our network is due to data services such as video, email and internet browsing on a mobile device.

91%

of the European population where we operate is covered by our 3G network.

one trillion

minutes of calls were carried and more than 330 petabytes of data were sent across our networks – enough data for 4.4 trillion emails.

4G technology

We are beginning to build 4G (or LTE) networks, which will at least double the data speeds achievable over our 43.2 Mbps footprint. It will also give us significant additional capacity, allowing us to stay ahead of the significant growth in data traffic that we forecast. We aim to upgrade 40% of our coverage in our five main European markets to 4G by March 2015.

To maximise the potential of 4G, we have invested £7.9 billion in spectrum in the last four years. Much of this spectrum is in the very valuable, low frequency 800 MHz band, which allows much broader coverage, and much better in-building connectivity, than higher frequencies used in wireless networks.

We now have 4G services in seven countries (Germany, Portugal, Italy, Romania, South Africa, Greece and New Zealand). We are also preparing for 4G launches in the UK, Spain, Australia and the Netherlands in the 2014 financial year.

Future proofing our network infrastructure

We are well prepared for rapid growth in data traffic and a fast, but cost-effective, roll-out of 4G services. At our base stations we are consolidating equipment across several technologies, including 4G, into a platform called “single RAN” – allowing us to reduce capex and operating costs. We have already upgraded over half our European sites to single RAN.

We are also increasing capacity in our backhaul – the link between our base stations and our nationwide core networks. 57% of our European backhaul footprint is now capable of handling one gigabit per second – which is more than even the busiest base station at full capacity will require based on current technologies and projections.

Technological innovation

We are always looking for ways of innovating in our network to improve our customers' experience.

Recently we have been changing the way we use spectrum to improve data coverage. By moving 3G data traffic from its traditional spectrum band (2.1 MHz) down to the 900 MHz band – a process known as “re-farming” – we can significantly improve our data coverage and in-building reception, and we have done this in ten markets.

Fixed network

In addition to our mobile businesses, we also provide fixed broadband and calls in 16 markets. We have started to modernise our fixed networks to deliver much higher data speeds to the home, through a combination of upgrades to traditional copper lines and the introduction of the latest fibre technology.

In Spain we are upgrading copper lines. In Portugal, we are extending our fibre network, and in New Zealand, the acquisition of TelstraClear gives us a high speed fixed network. We have also announced plans in conjunction with Orange in Spain to build a fibre network which will pass 40% of homes by 2017.

Elsewhere we are securing wholesale access to third-party fibre networks. In Germany we have announced a next-generation access agreement with Deutsche Telekom. In Italy we have an agreement with Metroweb to lease their fibre in Milan. In New Zealand we are interconnecting with a government fibre initiative called Ultra Fast Broadband, in Qatar we interconnect with Qatari National Broadband Networks and in the Netherlands we are accessing KPN's fibre network allowing us to cover 20% of homes.



Vodafone, the most preferred operator in Turkey

Over the last 12 months the Turkish network has been enhanced with the modernisation of nearly 1,100 legacy 2G sites with the latest single RAN hardware and the implementation of around 1,200 and 2,500 new 2G and 3G sites respectively. We have attained the number one position in independent benchmark tests for data transfer speeds. Vodafone is the first telecommunications firm in Turkey to be awarded the BS25999 certification for business continuity, underlining our commitment to reliable communication services for our customers. As a result of our actions we are now seen as the preferred operator in Turkey measured by benchmark net promoter scores.