

## Bridging the digital divide in the EU

### SUMMARY

Digital technologies play an important role in the everyday life of most Europeans; the internet allows people, businesses and governments to transform the ways they communicate and engage with one another. Yet some parts of the population are still excluded from using these new methods. Improving the EU fast broadband internet infrastructure is as important as upgrading the digital skills of citizens: 10% increase in broadband penetration may raise gross domestic product (GDP) by 1-1.5%, and by 2020, 90% of jobs will require some digital skills.

The digital divide has been substantially reduced over the last decade in Europe, but the gap remains far from closed: according to the 2015 European Commission's Digital Agenda Scoreboard, two related targets have already been met (all EU households can access basic broadband and 75% of all Europeans are regular internet users). However, there is a danger that targets related to fast and ultra-fast speed broadband will be missed, especially in rural areas. Furthermore, important challenges on internet use remain, as about half of the less-educated and the elderly in the population do not use it regularly, and about 58 million EU citizens (aged 16-74 years old) have never used it at all. The digital divide also varies across Member States.

The European Commission is working to improve the situation under the Digital Agenda for Europe and the Digital Single Market (DSM) strategy. Among the main EU support actions in place are proposals for legislation, different broadband funding mechanisms and support for multi-stakeholder partnerships and research projects to improve digital inclusion and assistive technologies.



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## The digital divide: an evolving concept

In 2001 the OECD defined the term 'Digital Divide' as 'the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICT) and to their use of the internet for a wide variety of activities'. Accordingly, there are two aspects to the Digital Divide: the first gap considers mainly the division between those who have access to ICT such as computers and the internet and those who do not. This type of scope often refers to the urban-rural divide, the latter having slower internet speeds, prices, and technological choice. The second gap refers to different types and levels of internet use, motivation and skills: looking at what uses and benefits people enjoy, once they have access to the internet. This also includes looking at the type of content and services accessed online (i.e. [eHealth](#), [eGovernment](#)), as well as whether these comply with [international web accessibility standards](#) to make their content accessible to all, including people with disabilities (according to the European Commission only about one third of public services websites were [accessible](#) to these groups).

The concept of the digital divide keeps evolving and broadening with new technological developments: some studies have looked into further digital divides emerging among internet users<sup>1</sup> who use multiple mobile devices like tablets and smartphones to access the internet. Increasingly mobile devices complement the way we access and use the internet: the number of EU citizens using [mobile devices](#) such as tablets and mobile phones to access the internet has increased from 36% in 2012 to 51% in 2014. Therefore, as digital technologies continue developing, some users embrace them and enhance their online experiences, while others have a limited internet use or do not use the technology at all. Given its dynamic nature, the digital divide will not disappear, and some argue that it will never close as long as other inequalities exist in society.<sup>2</sup>

## EU progress on bridging the digital divide: broadband connectivity

Broadband connectivity is of strategic importance for [growth](#) and innovation in all sectors of the economy: according to the Commission, a 10% increase in broadband penetration increases GDP by 1-1.5%. Improving access to broadband and ICT services, especially in remote areas, can increase the quality of life of individuals by facilitating access to services (e.g. eHealth and eGovernment) and the economic possibilities for local businesses, ultimately improving cohesion.

The [Digital Agenda for Europe](#) adopted in 2010 set three targets connected to broadband: (1) to bring 'basic broadband' to all Europeans by 2013; (2) access to 'fast broadband' speeds of above 30 Mbps (megabits per second) for all Europeans by 2020; (3) 'ultra-fast broadband' speed connections above 100 Mbps for at least 50% of European households by 2020. The Commission measures progress against these targets every year in its [Digital Agenda scoreboard](#).

### Progress on basic broadband

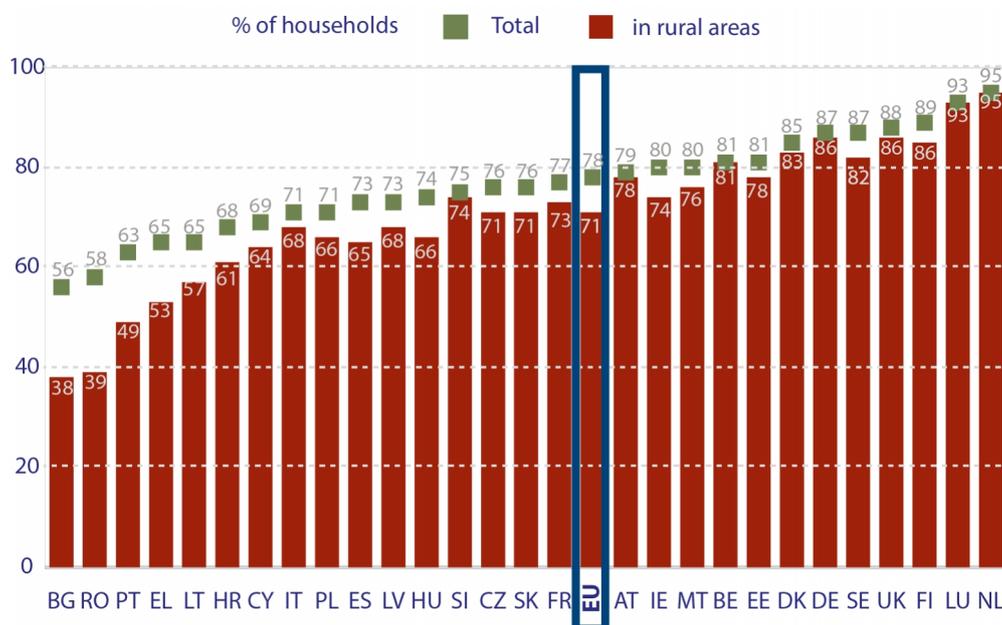
Over the last decade there has been good progress in both broadband coverage (i.e. the percentage of the population for which broadband services are available) and in broadband take-up (i.e. the actual take-up of these services as measured by the number of active households subscriptions). For instance the **'broadband for all by 2013'** target **was met on time**, as every household in the EU can access 'basic broadband' speeds of at least 144 Kbps (kilobits per second). Fixed terrestrial broadband technologies cover

97% of EU homes (90% in rural areas) and the remaining households can access basic broadband thanks to the [coverage of rural areas](#) by satellite. In terms of broadband take-up, growth has also been strong over the last decade. **By 2014, 70% of EU homes had a fixed broadband subscription (62% in rural areas), up from about 12% in 2004.**

In spite of the availability of fixed broadband, 30% of EU homes still do not have a subscription. According to Eurostat, the most significant reasons for households not having internet access are: that it is unnecessary (45%); lack of skills (41%); and because equipment (27%), and access (24%), is too expensive.

When considering broadband take-up progress by country, it is clear that wide disparities remain in the EU mainly along a North-South divide: the Netherlands, Luxembourg, Finland, the United Kingdom, Sweden and Germany registered the highest broadband penetration figures in 2014, while Bulgaria, Romania, Portugal and Greece have the lowest take-up rates in both rural and urban areas (see Figure 1).

**Figure 1 – Penetration rates for fixed broadband in rural and urban areas in 2014**



Data source: [Eurostat](#).

### Progress on fast and ultra-fast broadband

Both 'fast' and 'ultrafast' broadband coverage and take-up are still low in the EU, fast speed broadband is available to [68% of the EU population](#), but mainly in urban areas (only 25% in rural areas). In terms of take-up, only 31% of all broadband subscriptions are at least 30 Mbps and only 9% of EU households subscribe to 'ultra-fast broadband' (>100 Mbps). These two Digital Agenda targets seem unlikely to be achieved by 2020. According to European Commission [reports](#), growth in high speed broadband subscriptions (especially those offering above 30 Mbps) slowed slightly in 2014 compared with previous years, while growth in very high speed subscriptions (above 100 Mbps) remained stable. Overall, fixed high speed broadband penetration still varies significantly across the EU, with some Member States continuing to trail behind on [fast broadband](#). The Commission, through the Digital Agenda scoreboard, [analyses](#) the National broadband plans and their progress. Gradually, most Member States have adopted National Broadband Plans to develop their broadband policy. Some countries are planning substantial investments to improve fast-broadband availability. For instance, in June 2015, the Commission approved a €3 billion aid scheme in [Germany](#) to support high speed internet roll-out in urban and rural areas.

## EU progress on bridging the digital divide: internet usage

In addition to the three broadband targets, the Digital Agenda for Europe includes [two targets on internet use/digital inclusion](#): (1) increase regular internet use of the EU population from 60% in 2009 to 75% by 2015, and for 'disadvantaged' people, from 41% in 2009 to 60% in 2015; (2) halve the proportion of population that has never used the internet between 2009 and 2015 (to 15%).

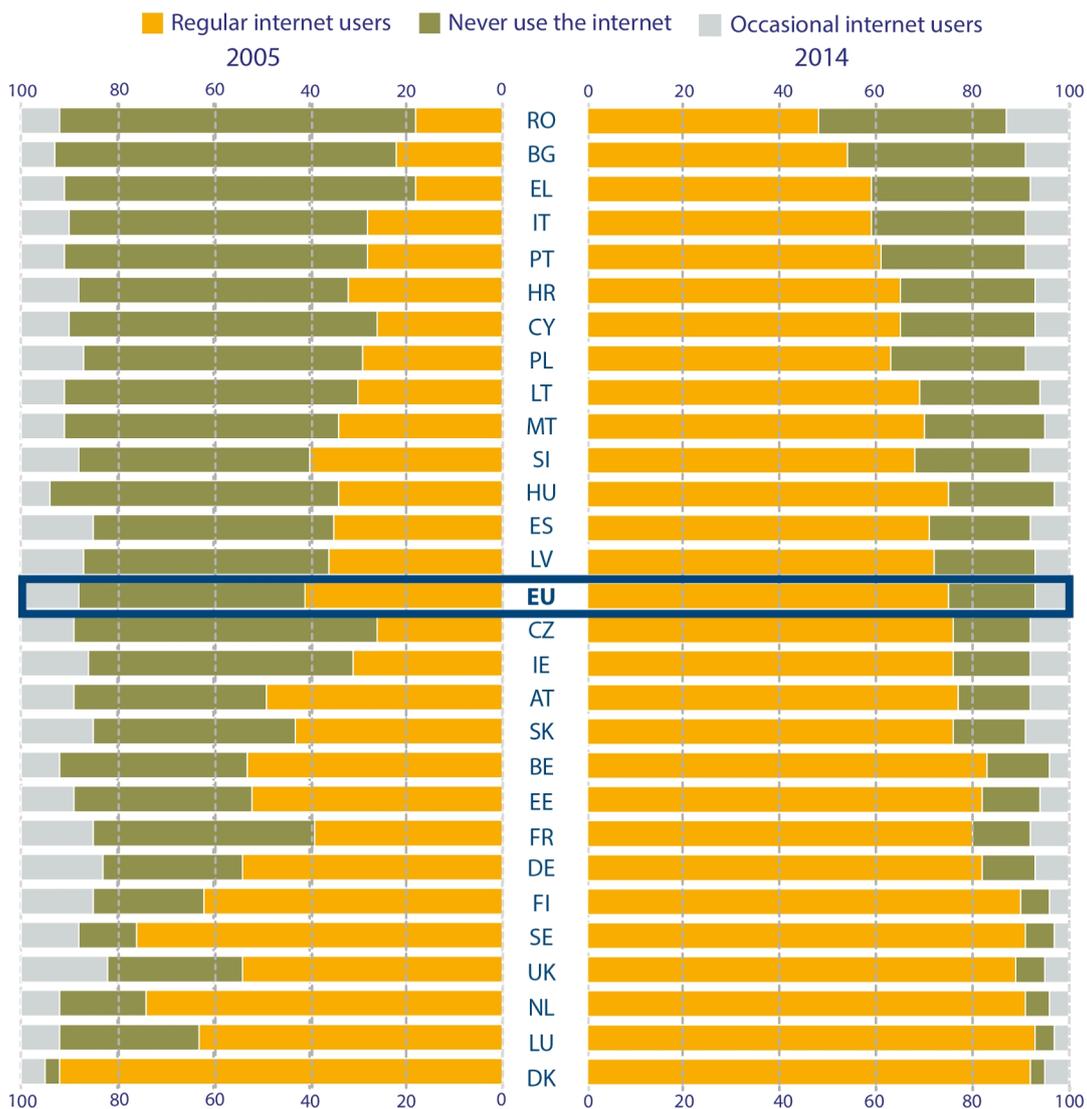
In terms of internet regular users, the first target was met in 2014. The **number of regular internet users** in the EU increased substantially over the last decade from 43% in 2005 to **75% in 2014** (see Figure 2). Usage is also more frequent, with 43% of the population (i.e. 77% of regular users) now using the internet almost every day, compared to 29% in 2005. Likewise, the number of **non-users (16-74 years old) has more than halved over the period**, from 43% in 2005 to **18% in 2014** (close to the Digital Agenda target of 15% non-users by 2015). This means that **about 58 million European citizens do not use the internet**. According to the [European Disability Forum \(EDF\)](#), non-users are mainly the elderly and people with disabilities; as **one in three persons with disabilities has never used the internet**, representing 54% of those who have never been online. Furthermore, **over 69% of people who lack basic digital skills are aged over 55 years**.

As for broadband penetration, analyses show wide disparities across the EU with North-South geographical divides. In five northern European countries (Sweden, the Netherlands, Luxembourg, Finland and Denmark) nearly all citizens are regular internet users, with rates over 90%, while in five southern Member States the number of non-users remains about one third of the population (Romania, Bulgaria, Greece, Italy and Portugal), nearly double the EU average. The [DESI index](#) shows that Member States are at different levels of ICT development and are progressing at different speeds towards Digital Agenda goals, impacting on their overall economic and social development. To increase cohesion those differences will need to be narrowed. Similarly, five of the top ten countries ranked by the [World Economic Forum](#) Networked Readiness Index, are EU Member States, whereas others appear much lower. According to the report, ICTs act as a driver of social development and transformation, with impacts extending beyond productivity gains and some EU countries benefiting more than others.

When it comes to disadvantaged groups, the Digital Agenda target was met in 2014, as 60% of them were internet regular users. The 'disadvantaged', according to the European Commission definition, include four socio-economic categories: the 'low educated', 'the unemployed', 'the retired' and those '55-74 years old'. When considering the separate categories, there are some major differences, as the majority of the unemployed (about 70%) were regular internet users in 2014, as opposed to only about half of the 'low educated' (52%) and the elderly (50%). This could be due to internet use as one of the main tools to find a job, and to the high level of youth unemployment in some countries. Thus the **Digital Divide on internet use is largely driven by age (see Figure 3) and education levels**. According to the [OECD](#), the breadth of internet activities carried out by users with tertiary education is on average 58% higher than those with lower education [levels](#).

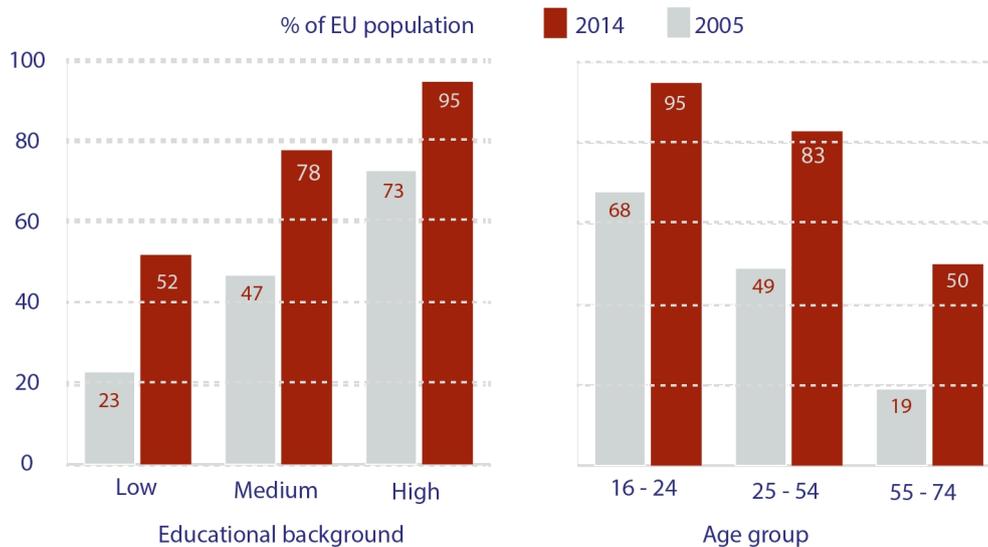
When looking at the country differences for certain disadvantaged groups, wide differences are also observed in the elderly: the large majority have used the internet in Nordic countries whereas a majority of the elderly have not used it in others, especially in southern countries (see Figure 4).

Figure 2 – Progress in regular internet use and on internet non-users



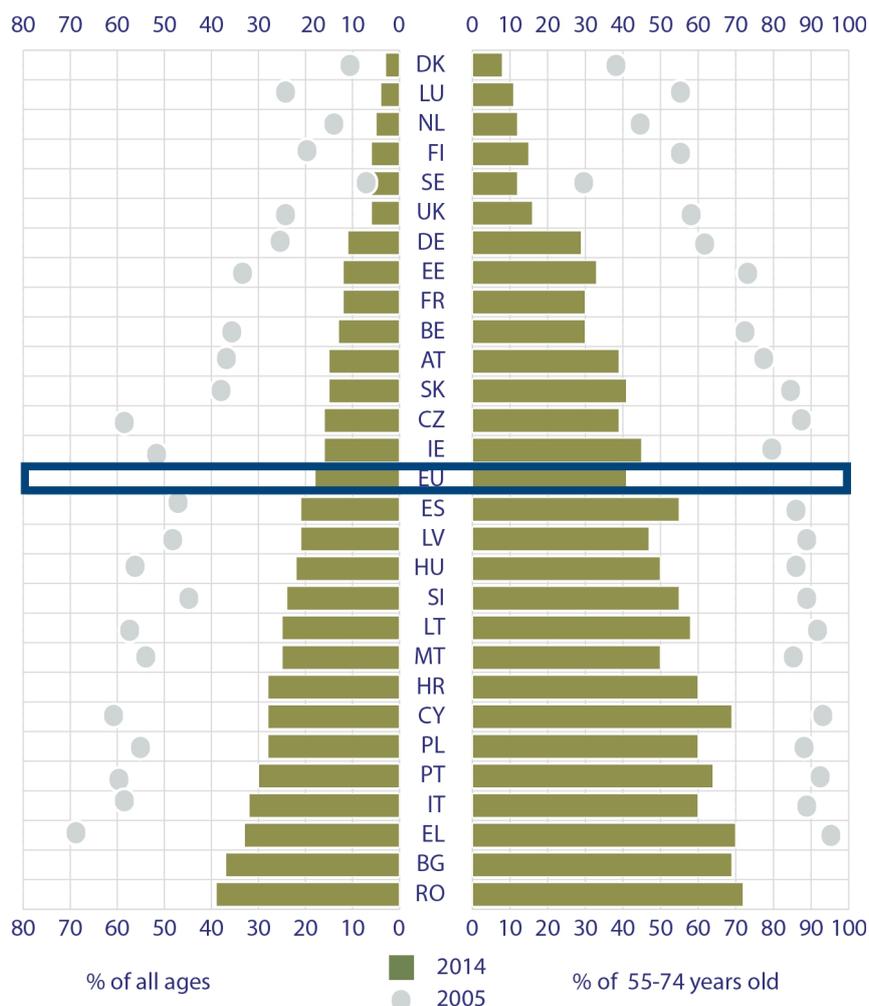
FR, BG and RO: earliest available data is from 2006; HR; from 2007. Source: Eurostat.

Figure 3 – Progress in internet regular use according to age groups (% of the EU population)



Source: Eurostat.

Figure 4 – 55-74 years old who have never used the internet in 2014 by country



Source: [Eurostat](#).

### Main EU actions to bridge the digital divide

At EU level several recent policies have considered improving broadband coverage and how to get all citizens online, such as the [eEurope 2005](#) and [eEurope 2002](#) plans, or [the i2010](#) strategy. The Commission is working to improve the Digital Divide situation under the [Digital Agenda for Europe](#) (2010) and its [Digital Single Market \(DSM\)](#) strategy adopted in May 2015, mainly through three different types of actions: funding instruments, regulation and stakeholder engagement.

#### Funding

There are different EU funding instruments available to Member States to increase broadband deployment projects, including **new funding possibilities** such as the Connected Europe Facility ([CEF](#)) and the European Fund for Strategic Investments (EFSI) – proposed by European Commission President Jean-Claude Juncker and operational since September 2015 – together with the existing Structural funds grants. The CEF and EFSI provide new financial instruments (e.g. guarantees, loans, equity). The original CEF proposal for digital projects was €9.2 billion but suffered a significant cut by the [Council](#) to a final budget of €1.14 billion. Out of this envelope, €170 million facilitates private and public investment to stimulate the deployment and modernisation of broadband networks (with about one third of projects aiming at speeds above 100 Mbps). However, it is not clear how many projects will target rural areas. It is also not yet clear how much will be allocated to broadband investment projects within EFSI. The

**structural funds** are already well established in providing [grants](#) for digital inclusion and broadband projects to support EU cohesion and social inclusion. The [European Regional Development Fund](#) invested €14.6 billion in ICT projects during 2007-2013, helping over five million citizens access broadband. In the current programming period (2014-2020), ICT-related categories of expenditure in the Structural Funds imply an estimated investment of €21.4 billion. The main funds concerned are the ERDF with €17.8 billion and European Agricultural Fund for Rural Development (EAFRD) with €1.5 billion. Out of these, a total of €6.4 billion is allocated to finance high speed broadband deployment by 2020. Under the [Framework Programmes](#), the EU has long co-funded **research projects** on improving ICT and digital inclusion. This support continues under the new [Horizon 2020 programme in the societal specific challenges](#) and through the [European Innovation Partnership on Active and Healthy Ageing](#) and the [Assistive Living Programme](#) (AAL). These programmes fund ICT projects resulting in products and services supporting the elderly/disabled, such as assistive technologies, personalised medicine, integrated care, digital inclusion or social innovation projects.

### Regulation

The EU has adopted legislation on reducing the [cost of high speed broadband networks](#) and provided [Broadband State Aid Guidelines](#) with a [new General Block Exemption Regulation](#), which declares certain categories of aid, such as [as aid for broadband infrastructure](#), compatible with the internal market under certain conditions.<sup>3</sup> The aim is to encourage investments in fast speed broadband in both urban and rural areas to meet the Digital Agenda related targets by 2020. More broadly the Commission proposed a [Regulation for a single telecommunications market](#) (the 'Connected Continent' regulation), aimed at amending the EU telecommunications regulatory framework to **move towards a Digital Single Market** and incentivise the sector to invest in new technologies and services (including broadband). The initial regulation included a wide array of proposals, such as the improved [coordination of the radio spectrum allocation](#), which could be used to improve internet access in areas where terrestrial broadband is not available. However the [final agreement](#) has narrowed the proposal to two main aspects (roaming and net neutrality). A review of [EU telecoms rules](#) in 2016 will consider the spectrum coordination and other instruments to improve broadband availability.

### Stakeholder engagement

The EU supports actions to mobilise stakeholders with digital inclusion projects. A 2013 [study](#) by [Telecentre Europe](#) has estimated that there are about 250 000 organisations in Europe actively working at national and local levels to help disadvantaged citizens to bridge the digital divide. At EU level, the [Grand Coalition for Digital Jobs](#) includes more than 80 stakeholders committed to improving citizens' digital skills and their employability, though the Coalition does not specifically targeting disadvantaged groups. Improving digital skills is of strategic economic importance for Europe, as it has been estimated that by 2020, 90% of jobs will require some digital skills and there could be a gap of 825 000 unfilled vacancies for ICT professionals in Europe. [Enhancing digital skills](#) is also an action included in the Commission's DSM Strategy.

### The European Parliament's position

The Parliament has been consistently supportive of efforts to foster development of broadband infrastructure, improve digital skills<sup>4</sup> and narrow the digital divide. In its November 2014 [resolution](#), it stressed the **need to tackle and combat the digital divide** to fully benefit from the DSM and to guarantee the inclusion of all citizens in the digital

era, regardless of their income, social situation, geographical location, health or age. Similarly, in May 2015, it adopted [a resolution](#) in which it expressed its support for the full implementation of the [UN Convention on the Rights of Persons with Disabilities](#), the first human rights treaty to address access to ICT, in its Article 9. As part of this resolution, the Parliament has urged the Council to accelerate its work on the [proposal for a directive on the accessibility of public sector bodies' websites](#).

## Next steps

The Commission plans a comprehensive review of telecom rules by 30 June 2016, including proposals that could help further reduce the digital divide, such as more spectrum coordination, a review of the Universal Service Directive that might include broadband as a basic right,<sup>5</sup> and more incentives for boosting high-speed broadband investment. The European Parliament is working on an [own-initiative report](#) with ideas for the DSM, which can then be used for the Commission's proposals to include more emphasis on bridging the digital divide. Some stakeholders such as [AGE platform Europe and EDF](#) have called for a more *inclusive* DSM Strategy and [several MEPs have called for more ambition within it](#). Similarly the European Council [on 25-26 June 2015](#) supported use of the strategy as a vehicle for inclusive growth in all regions within the EU.

## Further reading

[Digital Agenda Scoreboard 2015: Most targets reached](#), European Commission, June 2015.

[Society and the internet: How Networks of Information and Communication are changing our Lives](#), Graham M., Castells. M, and Dutton W.H., Oxford University Press, 2014.

[E-skills and e-leadership skills 2020: Trends and forecasts for the European ICT professional and digital leadership labour market' \(2015\)](#), Empirica, 2015.

[Broadband infrastructure. Supporting the digital economy in the EU](#), Ron Davies, EPRS, 2015.

## Endnotes

<sup>1</sup> See for instance [Society and the Internet](#), Graham M, Castells, M and Dutton W.H., 2014.

<sup>2</sup> [The Evolution of the Digital Divide: The Digital Divide turns to Inequality of Skills and Usage](#), Jan van Dijk, 2012.

<sup>3</sup> See point 71 of Commission Regulation (EU) No 651/2014 of 17 June 2014.

<sup>4</sup> See resolutions '[European broadband: investing in digitally driven growth](#)' (6 July 2011), '[Completing the digital single market](#)' (11 December 2012), '[Digital agenda for growth, mobility and employment](#)' (12 September 2013).

<sup>5</sup> In a 2015 reply to a [MEP question](#), the Commission stated that the universal service review will look into 'the role of broadband within universal service, which grants end-users access to a certain defined minimum set of telecoms services, at an affordable price'. Several Member States have already defined a connection to a network permitting internet access at broadband speeds within the scope of universal service at national level: Belgium, Croatia, Finland, Spain and Sweden (1 Mbps), Malta (2 Mbps), Latvia (disabled end-users only). Other Member States have started to look at extending the scope of the universal service obligations to include broadband provision of 1 Mbps or higher (Latvia, Slovenia and the UK).

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