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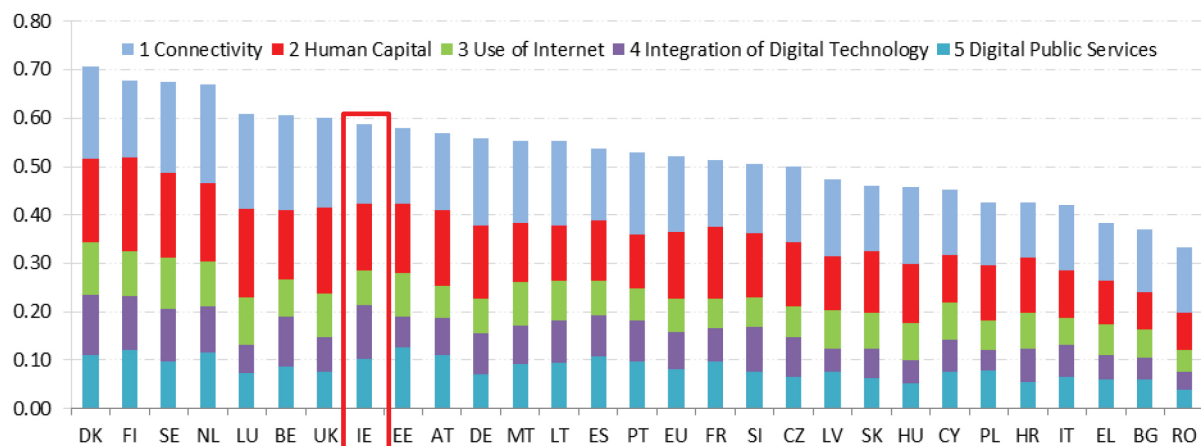
**Europe's Digital Progress Report 2017**

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# Europe's Digital Progress Report (EDPR) 2017 Country Profile Ireland

Europe's Digital Progress Report (EDPR) tracks the progress made by Member States in terms of their digitisation, combining quantitative evidence from the Digital Economy and Society Index (DESI)[1] with qualitative information on country-specific policies. It is structured around five chapters:

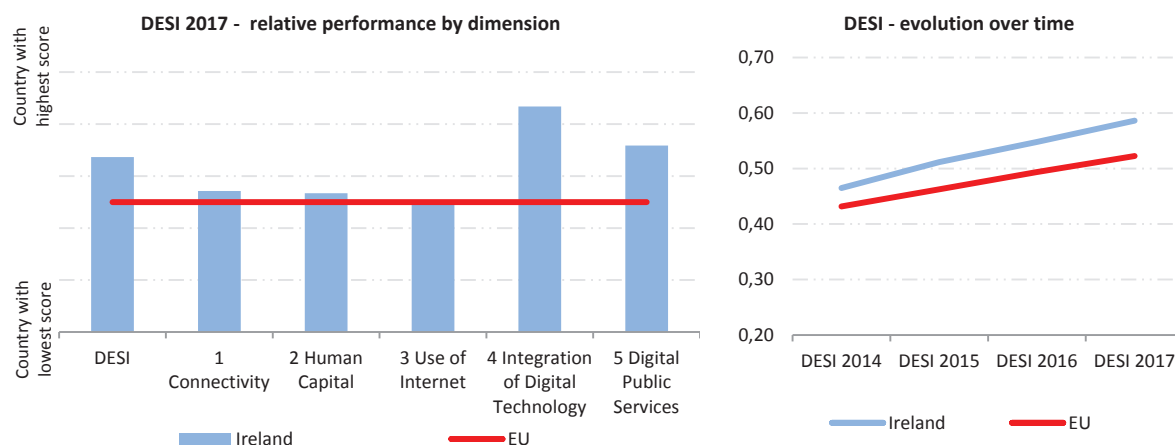| 1 Connectivity | Fixed broadband, mobile broadband, broadband speed and prices |
|---|---|
| 2 Human Capital | Internet use, basic and advanced digital skills |
| 3 Use of Internet | Citizens' use of content, communication and online transactions |
| 4 Integration of Digital Technology | Business digitisation and eCommerce |
| 5 Digital Public Services | eGovernment |



Digital Economy and Society Index (DESI) 2017 ranking

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| | Ireland | | Cluster | EU |
|---|---|---|---|---|
| | rank | score | score | score |
| **DESI 2017** | **8** | **0.59** | **0.63** | **0.52** |
| DESI 2016[2] | 8 | 0.55 | 0.60 | 0.49 |

Ireland ranks 8th in DESI 2017. The ICT sector is a priority strategic sector for Ireland and Ireland has the ambitious goal to become *"The most attractive location in the world for ICT Skills availability*[3]*."* Ireland`s top ranking in Science, Technology, Engineering and Mathematics (STEM) graduates and in the use of e-commerce by SMEs is encouraging in this respect as is the relatively high availability and growing use of fast Internet. However, other indicators are less promising. 7% of rural homes still do not have access even to basic fixed broadband and the take-up of fixed broadband remains well below the EU average. In addition, more than half of the population still does not have basic digital skills, well below the EU average and even further behind the leading digital countries in the EU. This situation does not seem to be improving.

Ireland belongs to the high performance cluster of countries[4].

Ireland is well aware of the challenges it faces and addresses them actively with evidence-based policy. It has a National Digital Strategy in place since 2013 to drive digital adoption in three key areas: enterprise, citizens and education. It is also addressing infrastructure challenges and eGovernment through separate initiatives. Digital objectives are also integrated in comprehensive enterprise and skills strategies[5].

[2] The DESI 2016 was re-calculated for all countries to reflect slight changes in the choice of indicators and corrections to the underlying indicator data. As a result, country scores and rankings may have changed from the previous publication. For further information please consult the DESI methodological note at https://ec.europa.eu/digital-single-market/en/desi.

[3] ICT Skills Action Plan 2014-2018

[4] High performing countries are Denmark, Finland, Sweden, the Netherlands, Belgium, the UK, Ireland, Luxembourg and Estonia.

[5] National Skills Strategy 2025 (2016); Enterprise 2025 (2015)

# 1 Connectivity

| 1 Connectivity | Ireland | | Cluster | EU |
| --- | --- | --- | --- | --- |
| | rank | score | score | score |
| **DESI 2017** | **11** | **0.65** | **0.75** | **0.63** |
| DESI 2016 | 15 | 0.61 | 0.73 | 0.59 |

| | Ireland | | | | | EU |
| --- | --- | --- | --- | --- | --- | --- |
| | **DESI 2017** | | | **DESI 2016** | | **DESI 2017** |
| | value | | rank | value | rank | value |
| **1a1 Fixed Broadband Coverage** <br> % households | 96% <br> 2016 | → | 20 | 96% <br> 2015 | 19 | 98% <br> 2016 |
| **1a2 Fixed Broadband Take-up** <br> % households | 69% <br> 2016 | ↑ | 18 | 65% <br> 2015 | 20 | 74% <br> 2016 |
| **1b1 Mobile Broadband Take-up** <br> Subscriptions per 100 people | 96 <br> June 2016 | ↑ | 7 | 87 <br> June 2015 | 7 | 84 <br> June 2016 |
| **1b2 4G coverage**[6] <br> % households (average of operators) | 94% <br> 2016 | | 10 | NA | | 84% <br> 2016 |
| **1b3 Spectrum**[7] <br> % of the target | 70% <br> 2016 | ↓ | 10 | 74% <br> 2015 | 10 | 68% <br> 2016 |
| **1c1 NGA Coverage** <br> % households | 82% <br> 2016 | ↑ | 13 | 80% <br> 2015 | 14 | 76% <br> 2016 |
| **1c2 Subscriptions to Fast Broadband** <br> % subscriptions >= 30Mbps | 60% <br> June 2016 | ↑ | 8 | 51% <br> June 2015 | 9 | 37% <br> June 2016 |
| **1d1 Fixed Broadband Price**[8] <br> % income | 1.9% <br> price 2016, income 2015 | ↑ | 22 | 2.1% <br> price 2015, income 2015 | 23 | 1.2% <br> price 2016, income 2015 |

Ireland has further increased its performance in the Connectivity dimension, now ranking 11th among EU countries. 4G coverage, at 94%, as well as take–up of mobile broadband, at 96%, are both well above the EU average. Spectrum harmonisation is also above average.

In contrast, 7% of rural homes still have no access to fixed broadband. Take-up of fixed broadband is relatively low at 69% of households and fixed broadband remains relatively expensive compared with most other EU countries. On the other hand, those with fixed Internet access increasingly have the possibility to upgrade to fast broadband and are taking advantage of this option. NGA coverage increased substantially over the last year (to 82% of households, well above the EU average at 76%). Subscriptions to fast broadband have again seen a significant increase over the last year to 60% of total fixed broadband subscriptions, from 51% in 2015.

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[6] This is a new DESI indicator measuring the average coverage of telecom operators' 4G networks.

[7] There is a decrease in most of the Member States due to the additional EU harmonisation of the 700 MHz band in April 2016.

[8] Due to a slight methodological change, historical data was re-calculated.

The 2015 National Broadband Plan (NBP) Intervention Strategy provides for the delivery to all premises of a minimum download of 30mbps and a minimum upload of 6Mbps, via a mix of private and public intervention. The National Broadband plan is eligible for €75m under the ERDF programme 2016-2020 and the investment model chosen is gap-funding with the winning bidder(s) to provide a wholesale service. The procurement process, which is ongoing, allows for the contracts to be awarded in two separate lots to separate bidders or in a combined third lot in a national scheme. The contract aims at building a fixed open access (predominantly FTTH) network within 5 years for a 25 years operational concession, thus the roll out may only be completed by 2022. After 25 years, the infrastructure shall be transferred to the operating bidder. In 2016, Ireland enacted the Broadband Cost Reduction Regulations (S.I. 391 of 2016) effective from 20 July 2016, which transposed most of the requirements of the Broadband Cost Reduction Directive in Ireland.

In execution of the Programme for a Partnership Government, the Irish Government established a Mobile Phone and Broadband Taskforce to identify short term solutions to broadband/mobile phone coverage deficits and to investigate how to improve the conditions for providing better services to consumers prior to full build and rollout of the network planned under the National Broadband Plan State intervention (NBP), such as the optimisation of the usage of spectrum bands (e.g. to free spectrum in the 700MHz band, optimise requirements to reduce costs of deployment of broadband networks).

The key policy challenge to achieve the targets is to overcome the geographic divide between the rural and the urban areas. Besides emerging infrastructure-based competition posed by the national electricity provider's joint venture with the market leader mobile operator to the incumbent, the Irish NBP allocates substantial state aid measures to foster the supply side. Furthermore, there are also several demand side measures, including the connection of public service facilities.

# 2 Human

Capital

| 2 Human Capital | Ireland | | Cluster | EU |
| --- | --- | --- | --- | --- |
| | rank | score | score | score |
| **DESI 2017** | **12** | **0.56** | **0.68** | **0.55** |
| DESI 2016 | 12 | 0.55 | 0.66 | 0.53 |

| | Ireland | | | | | EU |
| --- | --- | --- | --- | --- | --- | --- |
| | DESI 2017 | | | DESI 2016 | | DESI 2017 |
| | value | | rank | value | rank | value |
| **2a1 Internet Users** <br> % individuals | 79% <br> 2016 | ↑ | 12 | 78% <br> 2015 | 12 | 79% <br> 2016 |
| **2a2 At Least Basic Digital Skills** <br> % individuals | 44% <br> 2016 | → | 24 | 44% <br> 2015 | 22 | 56% <br> 2016 |
| **2b1 ICT Specialists**[9] <br> % individuals | 3.7% <br> 2015 | ↓ | 10 | 4.0% <br> 2014 | 7 | 3.5% <br> 2015 |
| **2b2 STEM Graduates** <br> Per 1000 individuals (aged 20-29) | 25 <br> 2014 | ↑ | 1 | 22 <br> 2013 | 4 | 19 <br> 2014 |

In Human Capital, Ireland ranks 12th among EU countries, slightly above the EU average; but well below the average of high-performing countries. There is no indication of improvement in any but the STEM graduate indicator. Whilst Ireland ranks first for STEM graduates, it ranks very low (24th place) when it comes to basic digital competences of the general population. Only 44% of the population has basic digital skills, well below the 56% EU average. Ireland trails even further behind high-performing countries (corresponding figure between 61% and 86%). The share of ICT specialists of employed individuals is also below the EU average and shows no improvement.

When it comes to high-end and dedicated ICT jobs, Ireland continues to face shortages. Since 2012 the share of enterprises who tried to recruit ICT specialists, but experienced difficulties, has remained above 50%, one of the highest in Europe, with no improvement. This is consistent with recent findings of the Irish authorities, which also confirm continuing ICT skill shortages both in the ICT sector and in other sectors, for example financial[10].

In the past year efforts were focused on the implementation and review of earlier strategies and actions. The National Skills Strategy, adopted in early 2016, builds on and commits to earlier digital initiatives like the ICT Skills Action Plan, Digital Strategy for Schools 2015-2020, and Springboard+. The overall policy aim is to meet ICT skills needs in the future primarily through education, including re-skilling and up-skilling.

The ICT Skills Action Plan 2014-2018, is being reviewed and a new plan will be published in 2017. The Plan set the ambitious goal to make Ireland the global leader for ICT talent and skills. The concrete target is to meet 74% of industry demand for high-level ICT skills from the education system by 2018, from 60% in 2014; and concrete targets were set for the

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[9] Historical data have been revised by Eurostat.

[10] *"National Skills Bulletin 2016",* September 2016

number of ICT graduates. This notwithstanding, one of the actions was also to address shortages by attracting ICT workers from outside Ireland. Last year, over 40% of work permits issued in Ireland were for ICT jobs. However, as recognised by Ireland, competition for international talent is fierce. According to a third party report Ireland is currently the sixth most attractive European destination for high-end tech talent[11].

Ireland cooperates with stakeholders in defining skills needs and identifying possible actions. The Expert Group On Future Skills Needs, comprising government, employers and trade unions, continues to advise government, based on evidenced-based research carried out by the Further Education and Training Authority (SOLAS). In September 2016, the EGFSN published its annual skills bulletin which analysed the demand and supply side of ICT skills in detail, confirming the challenges the country is facing in this regard.

A flagship initiative involving industry is Ireland`s apprenticeship programme, with ICT being one of the key areas. A recent development is the introduction of new-style occupational *'earn-and-learn'* apprenticeships in software development as of 2016/17. This was in response to industry demand for software development skills as also identified in the 2016 National Skills Bulletin of the EGFSN. In addition, Ireland's National Digital Skills and Jobs Coalition was launched in April 2017..

Regarding digital inclusion, in 2013, as part of the National Digital Strategy, Ireland set the ambitious goal to halve the number of "non-liners" by 2016, reducing the number of non-liners by 288,000 people. In this regard, the BenefIT programme provided over 140,000 training places between 2008 and 2015. The 2016 and 2017 budgets reserved funding for a further 30 000 places for each year. However, Eurostat figures do not show a significant increase in the number of Internet users in the past years and the share of people[12] who never used the Internet fell from 18% in 2012 to only 15% in 2016. A review of BenefIT was scheduled for 2016.

In summary, Ireland continues to monitor skills challenges and address any gaps actively, using an evidence-based approach and involving stakeholders. A detailed review of key schemes is important to inform future policy and actions.

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**Highlight 2017:[13] CoderDojo**

CoderDojo is a global movement of free after-school coding clubs for children. The children are taught by volunteer IT professionals. CoderDojo was founded in Ireland in 2013. There are now over 1100 dojos in 60+ countries in the world. In 2015 a total of almost 34 000 children with an average age of 11, attended dojos. In 2016, CoderDojo's annual Coolest

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[11] *The State of European Tech,* Slush and Atomico, 2016

[12] Between the ages of 16 to 74

[13] "Highlight 2016" was about Springboard+, which incorporates the ICT skills conversion programme, provides flexible, free, part-time higher education and training courses for unemployed and previously self-employed people who require up-skilling or cross-skilling in order to return to sustainable employment.

Projects award in Dublin attracted entries from more than 800 children from across Ireland and Europe[14].

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[14] *"Hundreds of children present 'cool' CoderDojo projects"* Irish Times, June 19 2016

# 3 Use of Internet

| 3 Use of Internet | Ireland | | Cluster | EU |
|---|---|---|---|---|
| | rank | score | score | score |
| **DESI 2017** | **16** | **0.48** | **0.60** | **0.48** |
| DESI 2016 | 18 | 0.43 | 0.57 | 0.45 |

| | Ireland | | | | | EU |
|---|---|---|---|---|---|---|
| | **DESI 2017** | | | **DESI 2016** | | **DESI 2017** |
| | value | | rank | value | rank | value |
| **3a1 News** | 49% | ↑ | 28 | 48% | 28 | 70% |
| % individuals who used Internet in the last 3 months | 2016 | | | 2015 | | 2016 |
| **3a2 Music, Videos and Games**[15] | 73% | | 22 | NA | | 78% |
| % individuals who used Internet in the last 3 months | 2016 | | | | | 2016 |
| **3a3 Video on Demand**[16] | 24% | | 10 | NA | | 21% |
| % individuals who used Internet in the last 3 months | 2016 | | | | | 2016 |
| **3b1 Video Calls** | 42% | ↑ | 17 | 36% | 21 | 39% |
| % individuals who used Internet in the last 3 months | 2016 | | | 2015 | | 2016 |
| **3b2 Social Networks** | 70% | ↑ | 13 | 66% | 15 | 63% |
| % individuals who used Internet in the last 3 months | 2016 | | | 2015 | | 2016 |
| **3c1 Banking** | 64% | → | 12 | 64% | 11 | 59% |
| % individuals who used Internet in the last 3 months | 2016 | | | 2015 | | 2016 |
| **3c2 Shopping** | 71% | ↑ | 9 | 63% | 13 | 66% |
| % internet users (last year) | 2016 | | | 2015 | | 2016 |

Overall, the use of online services in Ireland is broadly comparable with the EU average. An exception is online news: when it comes to the share of Internet users who get their news on line, there is a sizeable difference between Ireland (49%) and the EU average (70%). On the other hand, Irish Internet users are increasingly taking advantage of video calls and online shopping, as attested by strong year-own-year growth in both of these indicators.

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[15] Break in series due to a change in the Eurostat survey.

[16] Break in series due to a change of data source. New source is Eurostat.

# 4 Integration of Digital Technology

| 4 Integration of Digital Technology | Ireland | | Cluster | EU |
|---|---|---|---|---|
| | rank | score | score | score |
| **DESI 2017** | **2** | **0.56** | **0.44** | **0.37** |
| DESI 2016 | 2 | 0.54 | 0.41 | 0.35 |

| | Ireland | | | | EU |
|---|---|---|---|---|---|
| | **DESI 2017** | | **DESI 2016** | | **DESI 2017** |
| | value | rank | value | rank | value |
| **4a1 Electronic Information Sharing** | **25%** | **21** | 25% | 21 | 36% |
| % enterprises | 2015 | | 2015 | | 2015 |
| **4a2 RFID** | **4.0%** | **13** | 4.0% | 13 | 3.9% |
| % enterprises | 2014 | | 2014 | | 2014 |
| **4a3 Social Media** | **36%** ↑ | **3** | 35% | 2 | 20% |
| % enterprises | 2016 | | 2015 | | 2016 |
| **4a4 eInvoices** | **15%** | **15** | NA | | 18% |
| % enterprises | 2016 | | 2015 | | 2016 |
| **4a5 Cloud** | **24%** ↑ | **5** | 21% | 5 | 13% |
| % enterprises | 2016 | | 2015 | | 2016 |
| **4b1 SMEs Selling Online** | **30%** ↓ | **1** | 32% | 1 | 17% |
| % SMEs | 2016 | | 2015 | | 2016 |
| **4b2 eCommerce Turnover** | **21.8%** ↑ | **1** | 19.2% | 1 | 9.4% |
| % SME turnover | 2016 | | 2015 | | 2016 |
| **4b3 Selling Online Cross-border** | **16.2%** | **1** | 16.2% | 1 | 7.5% |
| % SMEs | 2015 | | 2015 | | 2015 |

In Integration of Digital Technology, Ireland ranks 2nd. In all of the EU, Irish SMEs make the most use of the opportunities offered by online commerce, including cross-border. Irish businesses also rank high in the use of social media and cloud services, with 3rd and 5th place respectively. There is scope for a more widespread use of other digital technologies like eInvoicing or electronic information sharing within businesses.

Ireland's digital enterprise strategy[17] aims to encourage businesses across sectors to harness digital technology, in particular eCommerce, and also to strengthen the ICT industry, a strategic and priority sector in Ireland with significant export potential.

As for the former, the Trading Online Voucher Scheme continued to be a popular flagship initiative with businesses across sectors, with the participation of over 2600 businesses and counting. It offers financial assistance, training and advice to small businesses to help them develop e-commerce capabilities. Participating businesses reported sales increases on average by 21%, with an 84% jump in sales leads. 60% began to export for the first time.

As for support for the ICT sector, Ireland is keen to attract start-ups and help them grow and succeed. In the past year the National Digital Research Centre (NDRC) continued to support

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[17] "*Enterprise 2025*", 2015

start-ups in the critical initial phases, investing in sound concepts and accelerating them through a 3 or 6-month programme of activities. The aim of these programmes is to validate the commercial potential of the start-up and to limit the risk to a level that makes the start-up attractive to commercial investments. The NDRC also provides hands-on mentoring, which is critical for very young start-ups. By spring 2016, the NDRC invested in over 200 companies.

Once start-ups secured commercial funding, they typically become HPSU (High Potential Start Up) clients of Enterprise Ireland, the state agency responsible for the development and growth of Irish companies in global markets. Enterprise Ireland invested €32 million in Irish start-ups in 2016 and supported a total of 229 start-up companies, the highest number to date in a single year. Many of these companies are active in the ICT sector. In January 2017, Enterprise Ireland published its *"Build Scale, Expand Reach 2017 – 2020"* strategy and part of this four year plan seeks to support more start-ups of scale.

The Dublin Digital Hub continues to provide office space and support for tech companies. It is currently home to 86 digital enterprises employing almost 650 people.

Ireland continues to treat ICT as a priority area of its enterprise policy. The popularity of the Trading Online initiative shows that enterprises are open to digital technologies. Given its success, it may be worthwhile to explore whether similar initiatives aimed at the take-up of other technologies might prove equally beneficial.

# 5 Digital Public Services

| 5 Digital Public Services | Ireland | | Cluster | EU |
|---|---|---|---|---|
| | rank | score | score | score |
| **DESI 2017** | **7** | **0.67** | **0.59** | **0.55** |
| DESI 2016 | 10 | 0.58 | 0.57 | 0.51 |

| | Ireland | | | | | EU |
|---|---|---|---|---|---|---|
| | DESI 2017 | | | DESI 2016 | | DESI 2017 |
| | value | | rank | value | rank | value |
| **5a1 eGovernment Users** | **58%** | ↑ | **5** | **56%** | **4** | **34%** |
| % internet users (last year) | 2016 | | | 2015 | | 2016 |
| **5a2 Pre-filled Forms** | **35** | → | **18** | **35** | **17** | **49** |
| Score (0 to 100) | 2016 | | | 2015 | | 2016 |
| **5a3 Online Service Completion** | **89** | ↓ | **10** | **90** | **9** | **82** |
| Score (0 to 100) | 2016 | | | 2015 | | 2016 |
| **5a4 Open Data**[18] | **80%** | ↑ | **3** | **44%** | **18** | **59%** |
| % of maximum score | 2016 | | | 2015 | | 2016 |

In Digital Public Services, Ireland is performing relatively well and ranks 7th, up 3 places since last year. In the provision of Open Data Ireland jumped from 18th to 3rd place (The setting up of the Open Data Portal in June 2015 contributed to this).  In other areas, there has not been a significant improvement.

Following the 2015 adoption of a comprehensive eGovernment strategy, in December 2016, the Government published Ireland's Open Government Partnership National Action Plan 2016-2018. One of the key commitments is to improve access to public services through technology.  In particular, the Government aims to replace multiple Government issued cards with one safe and secure smart Public Services Card. Actions will also be focused on providing a secure Government Network, on sharing commonly needed applications across the public service and on implementing a Government Cloud to safely store and maintain data and applications.

The Action Plan recognises that not all citizens will have the capacity to access digital or web-based solutions and commits to cater for this too. This is especially important in view of the low levels of basic digital skills in Ireland.

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[18] Change of data source. The historical data have also been restated. The new source is the European Data Portal.