Three-Year Plan for IT in Public Administration 2017 - 2019

Annex 1: The framework of reference for the Three-Year Plan
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1.1 The regulatory context

The European Digital Agenda, signed by all Member States and endorsed by the European Commission in 2010, sets out the objectives for developing the digital economy and culture in Europe under the Europe 2020 strategy.

The Italian Digital Agenda was established on 1st March 2012: with the contribution of the unified Conference, Italy has developed its own national strategy, which emphasises the relationship between the national, regional and local levels and identifies priorities and actions to perform and measure on the basis of specific indicators, in line with the indicators of the European Digital Agenda itself. In compliance with the 2014-2020 Partnership Agreement, signed by Italy and the European Commission, the Council of Ministers also approved the national plans for the "National Broadband Plan"\(^1\) and "Strategy for Digital Growth"\(^2\).

The Agency for Digital Italy - established by Decree Law no. 83/2012, converted into Law no. 134/2012 and submitted to the powers of direction and supervision of the President of the Council of Ministers or of the Minister s/he delegates - has the task of ensuring the achievement of the objectives of the Digital Agenda in Italy in line with the European Digital Agenda as outlined in the Statute approved by Prime Ministerial Decree on 8th January 2014.

Law No. 208 of December 28, 2015 (Stability Law 2016), article 1, para. 513 provides for the Italian Digital Agencies to prepare a three-year Plan for IT in Public Administration, approved by the President of the Council of Ministers or the Delegated Minister, containing the list of IT and connectivity assets and services and related costs for each Administration.

The same law sets an annual cost savings target to reach at the end of the three-year period 2016-2018, equal to 50% of the average annual expenditure for the current management of the IT sector of the three-year period 2013-2015, net of service fees for connectivity. The principle is also that the savings generated by the administrations are primarily used for investments in technological innovation and that the savings are excluded from the spending through Consip and through the other central purchasing bodies. In fact, the objective to be reached depends on the level of use of the central purchasing bodies: in theory and for the sole purpose of further expediting the mechanism put in place with the Stability Law, if during the three-year period 2013-2015 all expenditure was passed by the central purchasing bodies, the savings target required for the national system would have been zero.

Subsequently, AghiD has implemented the necessary preparatory actions for the Plan by issuing Circular no. 2 2016\(^3\), which defines the means for acquiring ICT goods and services in the absence of the definition of this Plan and identifies the national projects to be used as a reference model.

The Code of Digital Administration (Legislative Decree no. 82 of 7th March 2005 et seq., hereafter CAD), an organic body of provisions governing the use of information technology by the Public Administration, assigns to the AghiD the task of proposing the technical rules - in accordance with the technical accessibility requirements of Article 11 of the Law of 9th January 2004 - for the implementation of the provisions of the CAD itself. Regarding the aforementioned technical rules, Legislative Decree no. 179 of 26th August 2016 requires that they are up to date and coordinated.

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Lastly, it should be recalled that the decrees governing the implementation of the CAD for the entire lifecycle of the IT Document in the Public Administration have recently come into force. Therefore, the time-frame for implementation of application solutions that realise an effective digitisation of the administrative processes of public administrations has matured.

1.2 The European framework

The three-year plan is the key instrument to promote the digital transformation of the Italian administration in line with European strategies and is an immediate departure from the EU programming and the European digital agenda that the Member States are bound to implement.

Below is a summary of the main EU address documents:


  Europe 2020 is the ten-year European Union strategy for growth and employment. Established in 2010 to create conditions conducive to smart, sustainable and inclusive growth, the strategy is implemented and controlled during the European Semester and the annual cycle of economic and budgetary coordination of EU countries.

- **Communication "A Digital Agenda for Europe", COM (2010) 0245, 19.5.2010**

  The Digital Agenda, presented in 2010 by the European Commission, is one of the seven flagship initiatives of the Europe 2020 strategy. The Agenda seeks to exploit the potential of ICT technologies to foster innovation, economic growth and progress.


  Through this Communication, the European Commission is proposing to remove all barriers to the creation of a single market for digital goods and services.


  The new eGovernment Action Plan 2016-2020 has political/strategic relevance, as it sets out certain basic principles on which all administrations in all Member States must base their own internal policies:

  - **digital by default**: Public Administrations must provide digital services as the default option;
  - **once only principle**: Public administrations should avoid asking citizens and businesses for information that has already been provided;
  - **inclusiveness and accessibility**: Public administrations must design digital public services that are by definition inclusive and meet the diverse needs of people, such as the elderly and people with disabilities;

4 The strategy is based on three pillars:

- to improve online access to goods and services across Europe for consumers and businesses - this involves the rapid elimination of the fundamental differences that separate the online world from the offline world in order to break the barriers that block online activity across borders;
- to create a favourable environment for digital networks and services to develop - this implies the availability of secure and reliable high-speed, high-speed infrastructures and services supported by regulatory conditions conducive to innovation, investment, fair competition and equal conditions;
- to maximise the growth potential of the European digital economy - this implies investment in ICT infrastructures and technologies, such as cloud computing and mega-data (big data), research and innovation to strengthen industrial competitiveness and improve public services, inclusion and skills.
openness and transparency of data and administrative processes;
- cross-border by definition: Public administrations must make available digital public services at cross-border level;
- inter-operable by definition: public services must be designed to operate in an integrated and uninterrupted manner throughout the single market;
- trust and security: right from the design stage, profiles related to personal data protection, privacy protection and computer security have to be integrated.

The New European Agenda for Skills has the main objective of improving the quality and relevance of skills training in order to keep pace with the rapid evolution of labour market needs, to provide all with a minimum set of basic skills and make the skills more understandable, facilitating easier worker mobility within the EU.

- Regulation 2016/679/EU "General Data Protection" (on the protection of natural persons with regard to the processing of personal data and on the free movement of such data), 27.4.2016
The European Data Protection regulation establishes rules on the protection of individuals with regard to the processing of personal data and the circulation of such data in compliance with fundamental rights and freedoms.

In the Communication "Towards a flourishing data-based economy", the European Commission aims to create an adequate general framework for the single market of big data (large amounts of data produced at high speeds from a variety of sources) and Cloud computing. The Commission is pushing for a "data-driven innovation economy", referring to the ability of businesses and public bodies to use information deriving from better analysis of data collected in order to develop better goods and services for individuals and organisations, including SMEs.

In the Open Data Communication, being the data freely accessible to all for reuse for commercial purposes and otherwise, the European Commission presents a package of three types of intervention aimed at overcoming the obstacles and fragmentation that still exist in the Union Europe through:
  - the adaptation of the regulatory framework for the re-use of data;
  - the mobilisation of financial instruments in support of "open data" and the implementation of actions aimed at the creation of European data portals;
  - coordination and sharing of experiences between Member States.

Directive 2013/37/EU is concerned with the re-use of public sector information through the amendment of Directive 2003/98/EC, the so-called Public Sector Information (PSI) Directive, and is intended to facilitate the re-use of the data of the Public administrations of the European Union.

It is compulsory for public bodies to make all the information in their possession reusable for commercial and non-commercial purposes, provided that the information is not excluded from the right of access under national law and in accordance with the rules on data protection.
Re-use of public sector information has for some time been one of the priorities of European Union policies, which is intended to give a strong impetus to the already significant growth of the raw data transformation sector that is the basis for the development of many applications such as maps, real-time traffic information and weather conditions, price comparison tools, and so on.\(^5\)

### 1.3 The European macroeconomic scenario

The main objective of the European Digital Agenda is to give rise to smart, sustainable and inclusive growth in Europe. The first of the seven pillars of the Digital Agenda is the Strategy for the Single Digital Market in Europe (A Digital Single Market Strategy for Europe)\(^6\), of a multi-year duration aiming to spread the opportunities inherent in digital technologies to citizens and businesses, in order to strengthen Europe’s position as a world leader in the digital economy. The EC believes that DSM can create opportunities for new businesses and allow existing ones to operate on a single market of over 500 million people, contributing over 400 billion euros annually to the European economy by creating new jobs and transforming public services.

According to the Communication A Digital Single Market Strategy, in less than a decade most of the business will depend on digital ecosystems that will integrate digital infrastructures, hardware and software, applications and data. For the EU to remain competitive, to maintain a solid industrial base and to manage the transition to an industrial economy and intelligent service, the digitisation of all sectors will be necessary. Value added by the digital economy comes from 75% of traditional industries; however, the integration of digital technology in businesses is the weakest link: only 1.7% of EU businesses use advanced digital technologies at every opportunity\(^7\), while 41% do not use them at all. Digitisation offers unprecedented opportunities also to other sectors of the economy, such as transport (e.g., intelligent transport systems) or energy (e.g., smart networks, intelligent metres).\(^8\)

In this framework, the on-line presence of Public Administration is an essential element in improving cost efficiency and the quality of services offered to citizens and businesses. To this end, the European Commission has defined an action plan for e-Government 2016-2020\(^9\).

To describe in a concise way Italy’s position in the European scenario with which the Plan is to be compared, the DESI (Digital Economy and Society Index) has been taken\(^10\) as a reference, being an instrument developed by the European Commission to assess the state of progress of the digital economy and society annually in the Member States.

The DESI index evaluates five dimensions (connectivity, human capital, internet usage, digital technology integration, digital public services), consisting of a set of indicators that, individually analysed, allow us to understand the evolution over time of digital competitiveness of each Member State, also by comparison with the other States.

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\(^7\) Including mobile internet, cloud computing, social networks and metadata.

\(^8\) Cf. the Framework Strategy for a Resilient Energy Union, accompanied by a far-sighted policy on climate change [COM (2015) 80 final].


\(^10\) In March this year the DESI 2017 index was published, with data updated to 2016, which can be consulted at: [https://ec.europa.eu/digital-single-market/en/desi](https://ec.europa.eu/digital-single-market/en/desi)
As we can see from Figure 1, Italy is at a disadvantage overall in all its dimensions, demonstrating that the structural problems that have a significant impact on the overall result are numerous.

If you analyse data for each dimension, it is noted that, as far as the connectivity (Figure 2), the gap with the rest of Europe is shrinking (between 2016 and 2017, Italy goes from 15.7 to 9.3 points of difference compared with the average). This data confirms that long-term investment activities are working - Italy has made significant progress, in particular thanks to the sharp increase in coverage of NGA networks (Next Generation Access). However, the spread of fixed broadband is still limited, despite the decline in prices.

11 For the composition of the indicators and their sub dimensions: http://digital-agenda-data.eu/datasets/desi/indicators
As far as the use of the Internet, Italy is far behind the other Member States, as represented in Figure 3, particularly with regard to commercial transactions.

This delay in using the Internet is linked to many factors, including the poor quality of the range of services and digital content. There is evidence that, in those areas where the range has been expanded, the number of Internet users have also grown. In fact, taking the indicator of online music, video and games usage, as represented in Figure 4, there is a constant increase in the period 2005-2016 and, in 2017, Italy just surpasses the European average.
3) Internet Use: Italian internet users access the internet far less than the EU average. Italy is in 27th place.

<table>
<thead>
<tr>
<th>DESI 2017</th>
<th>Italy</th>
<th>DESI 2016</th>
<th>EU</th>
<th>DESI 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>rank</td>
<td>value</td>
<td>rank</td>
<td>value</td>
</tr>
<tr>
<td>3x1 News</td>
<td>60%</td>
<td>26</td>
<td>17%</td>
<td>26</td>
</tr>
<tr>
<td>%individuals who used internet in the last 3 months</td>
<td>2016</td>
<td>2015</td>
<td>2016</td>
<td>2015</td>
</tr>
<tr>
<td>3x2 Music, Videos and Games</td>
<td>79%</td>
<td>14</td>
<td>NA</td>
<td>2016</td>
</tr>
<tr>
<td>%individuals who used internet in the last 3 months</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
</tr>
<tr>
<td>3x3 Video on Demand</td>
<td>13%</td>
<td>14</td>
<td>NA</td>
<td>21%</td>
</tr>
<tr>
<td>%individuals who used internet in the last 3 months</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
</tr>
<tr>
<td>3x1 Video Calls</td>
<td>34%</td>
<td>23</td>
<td>34%</td>
<td>22</td>
</tr>
<tr>
<td>%individuals who used internet in the last 3 months</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
</tr>
<tr>
<td>3x2 Social Networks</td>
<td>60%</td>
<td>22</td>
<td>58%</td>
<td>23</td>
</tr>
<tr>
<td>%individuals who used internet in the last 3 months</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
</tr>
<tr>
<td>3x1 Ranking</td>
<td>42%</td>
<td>23</td>
<td>43%</td>
<td>23</td>
</tr>
<tr>
<td>%individuals who used internet in the last 3 months</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
</tr>
<tr>
<td>3x2 Shopping</td>
<td>41%</td>
<td>25</td>
<td>39%</td>
<td>25</td>
</tr>
<tr>
<td>%individuals who used internet in the last 3 months</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
<td>2016</td>
</tr>
</tbody>
</table>

Figure 4 - Use of the Internet, for activities performed online. Year 2017

The structural disadvantage of Italy is also given by the size of our businesses, as confirmed by the indicator of the integration of digital technologies. If you analyse the performance of the e-commerce indicator (Figure 5), Italy, after a positive trend, seems to be unable to bridge the gap with the European average. The shortage of supply generates a shortage of demand, hence the low level of Internet use.

Figure 5 - Integration of digital technologies: use of eCommerce by companies in Italy and in the main European countries. DESI 2017

Analysing the dimension in the detail Indicators (Figure 6), it emerges, in particular, that the percentage of small and medium-sized businesses that sell online remains very low.
4) Integration of Digital Technology: Italy is bridging the gap with the EU regarding companies’ digitization. 30% of companies use electronic billing, far above the EU average (18%). SMEs, however, rarely use electronic sales channels.

The electronic invoicing data confirms that a continuing and consistent policy for the promotion of digital services ensures good results.

Another major structural disadvantage, which can be corrected only in the long run, is given by the human capital indicator. In the age group of 20 to 29, only 15 people out of 1,000 have a degree in technical and scientific disciplines (Figure 7). Italy is well below the EU28 average (18.5 out of 1000 people), but also far behind compared with comparable member States (24 out of a thousand people).

In terms of the dimension that refers to digital public services, Italy has one of the lowest levels of service usage in Europe (Figure 8). Even in this case, the data may depend on the fact that Italy appears to have one of the lowest percentages of Internet usage in general. However, it is also worth pointing out that the DESI index does not always reflect the real situation, as the indicators used are of a general nature and
within them it is difficult to recognise specific, even complex and articulated services offered by public administrations: for example, in Italy, the service offered by the Ministry of the Economy and Finance, for compilation online of the Form 730 based on a form already filled in containing all health and land data is not recognisable for DESI calculation.

Figure 8 - Public digital services: DESI eGovernment in Italy and the EU. DESI 2017

Despite what the DESI reported, in order to evaluate the progress made and to estimate future developments, it is necessary to understand the starting point and to analyse the trend of evolution. Italy is at least three years behind in the growth curve over most EU Member States. Because growth data has an impact on the indices defined in Europe, it is necessary to implement - over time - long-term structural interventions. Countries that are more advanced and have higher DESI indices are those who started investing in digitisation in the late 1990s and early 2000s. They did so, in fact, with steadfast continuity and effort, and also made use of a fundamental ingredient: a political stability from which derives the political will to implement long-term structural reforms.

1.4 Digital citizenship

Digital citizenship can be defined as the complex of citizens' rights and duties formulated to adapt to the development of e-government and the enjoyment of digital services. Compared with traditional citizenship, digital citizenship creates a legal space in which citizens' rights and duties can be exercised both in the physical reality and in the virtual world of the web. In this sense, citizens' equality of treatment involves a uniform distribution network, where the full exercise of their rights can be achieved by minimising the digital divide. Amongst the main features regulated by the law are: digital identity (understood as the availability of a unique digital identity assigned to citizens by administrations); the protection of personal data; digital access and inclusion; training for the acquisition of digital skills; information and use of public digital content; the participation of citizens in political decision-making; the daily enjoyment of the benefits of digital technologies. Amongst the duties identified, however, are compliance with the rules of the web and the sharing of its digital content.

The law passed on 7th August 2015, no. 124 contains in Article 1 the Digital Citizenship Charter, a strong signal to support the intention of the government to strengthen and effectively enforce the digital rights of citizens.

12 http://www.treccani.it/enciclopedia/cittadinanza-digitale_(Lessico-del-XXI-Secolo)/
citizens in dealings with public administrations. Specifically, the aim is to provide citizens and businesses with the right to access all data, documents and services of their interest in digital mode, with the aim of simplifying access to personal services by reducing the need for physical access to public offices. The Legislative Decree of 26th August 2016, no. 179 introduces changes to the CAD to follow the principles and criteria set out in the aforementioned Law 124/2015. From these emerge: (i) the identification of tools to define the minimum level of security, quality, usability, accessibility and timeliness of public administration online services, (ii) the principle of digital first; (iii) digital literacy; (iv) participation with remote procedures in the decision-making process of public institutions; (v) full availability of electronic payment systems; and, (vi) reduction of the digital divide by stimulating the development of basic digital skills. The State's commitment to promoting a true digital culture reflects the government's willingness to spread among citizens, with particular regard to the categories at risk of exclusion, not only IT knowledge and skills but also awareness and knowledge about the values, opportunities, rules and risks associated with the use of technologies.

In this way, it is recognised that the opportunities offered by the network and digital technologies must be available to everyone and that the digital inclusion, information and literacy of citizens are objectives which are inspired by policies on infrastructures and administrative simplification, of which this three-year Plan is key, that integrates, completes and follows the 2014-2020 Digital Growth Strategy documents and the National Broadband Plan.

The future of Italy - for citizens as well as for businesses - is sustainable only if the state is able to provide its citizens and businesses with concrete, innovative and non-discriminatory access to digital technologies by offering them cultural, infrastructural and economic instruments to become an integral part of the new global community, to exercise the new rights of digital citizenship and to compete equally on international markets.

Access to knowledge, social relations, economic opportunities and public services offered over the Internet must be encouraged, starting with the lowering of physical barriers to access, within a unitary strategy involving investment and use of all the technologies needed: from fibre optics to a high-speed mobile network, Wi-Fi in public places to the development of the cloud, focusing attention on security aspects and data protection for citizens.

In this context, the PA can act as a model and represent an important accelerator for digitisation of the country, provided it knows how to transform itself fundamentally, embracing a digital-by-default approach. All this is also thanks to the cloud technologies, which enable optimisation of the economic efficiency of technological investments and their environmental sustainability, and to the application integration made possible by inter-operable systems that offer services according to defined and accessible standards.

By overcoming the heterogeneity of the current range and the integration of sector services through the Enabling Platforms such as the Digital Public Identity Service and the National Register of Resident Population, each Italian citizen will have an online civic profile from which he/she can access the information and public services that concern him/her. A personalised interaction site with the Public Administration and its branches, enriched by the announcements on the opportunities and public obligations that the system will filter in relation to the specific master profile.

However, the rights of digital citizenship must be inclusive and must be exercised by everyone, especially by the most disadvantaged section of the population. Based on the latest available data from the Digital
Agenda Scoreboard\textsuperscript{13}, the use of the Internet over the last 12 months accounts for 71.0\% of the population, compared with an EU average of 83.5\% and the percentage of Italians who have never used the Internet is 24.7\%, compared with the corresponding EU average of 14.4\%.

The problem of the \textit{digital divide} in our country is so widespread and established that we can talk of gaps characterised by diverse components. There is an economic gap that deprives important sections of the Italian population and micro-entrepreneurial fabric of the opportunities offered by new technologies through income issues. There is a cultural gap that persists in the "analogical" behaviours of the past but that are inefficient today, preventing citizens and businesses from exercising their rights of citizenship and of the market; we use the Internet and digital little because we do not understand them or because we have not grasped the extraordinary potential or because we have not yet established a climate of trust in the quality and certainty of information and services published on the net. Finally, there is an infrastructure gap, which excludes access to the network of parts of the population and thousands of businesses. With regard to the availability of high-speed Internet connections, only 43.9\% of Italian households are covered by this supply, compared to a European average of 70.9\%.

The problem of the \textit{digital divide} is therefore not only represented by the lack of a network infrastructure, but, more often, by the lack of a network culture and the lack of economic conditions needed to benefit from it. It follows that even in areas with fully operational infrastructures, the effective dissemination of connectivity remains low. Only 77.1\% of Italian households have a broadband Internet connection, compared with a European average of 82.9\%, and considering only fixed broadband connections (excluding mobile ones), the percentage of connected households falls to 55.2\%, against an EU average of 73.8\%.

1.5 Businesses

The "good idea" designed to revolutionise the history of the world - as has been the case for so many ideas that have emerged in the last twenty years and today represent the Internet-based architecture and services we use every day - can be inspired by the creative and inventive force of the smallest among Italian companies, which must therefore be able to develop their business in an environment of constant and non-discriminatory connection to the global business fabric.

Despite the delays highlighted in the preceding paragraphs, the digitisation process is rapidly expanding into Italian businesses and the subsequent change represents a challenge and an opportunity at the same time. The required transformation is not only of a technological nature, but concerns the entire organisational sphere and requires the introduction of new skills that are often difficult to find and which require new training courses.

To support this transformation, the Ministry of Economic Development has developed a National Industry Plan 4.0 2017-2020\textsuperscript{14}, with the aim of encouraging the automation and interconnection of industrial production.

This Plan is based on four strategic guidelines:

- to stimulate private investment in the adoption of the technologies that enable Industry 4.0;
- to ensure adequate network infrastructures, guarantee data security and protection, collaborate in defining international interoperability standards;
- to create skills and promote research through ad hoc training courses;

\textsuperscript{13} \url{http://digital-agenda-data.eu/}
\textsuperscript{14} \url{www.sviluppoeconomico.gov.it/index.php/it/incentivi/impresa/industria-4-0}
• to spread the knowledge and potential of Industry 4.0, and ensure public/private governance for achieving the goals laid out.

It is above all small- and medium-sized enterprises which, although with different intensity, present a delay in launching technology initiatives and digital transformation. They appear to focus on cost reduction and efficiency recovery issues that are also reflected in IT activities, both in the use of basic equipment and in the introduction of more sophisticated solutions and platforms.

In fact, the digital market in Italy is - and will continue to be - supported by large-scale investments, which are expected to grow between 2015 and 2018 at an average annual rate of 3.1%, above the overall performance of the sector.

The Assinform Report 2017\(^\text{15}\) in fact, in 2016, showed a growth of 1.8% of the Italian digital market (IT, telecommunications and content) strengthening the trend started in 2015 (+1%) and overturning the downward trend of previous years. The positive trend of growth should also be confirmed in 2017 (about 1.7%) and in 2018 (about +2%).

The expected trend is the result of several factors: the macroeconomic environment (e.g., GDP growth forecasts), government policies (e.g., the National Broadband Plan and the Digital Growth Strategy), the dynamics of ICT supply, the technological scenario.

The development of a Three-Year Plan for IT in Public Administration is a concrete lever to ensure a positive growth trend for businesses as it identifies the strategies to guide investment and provides a reliable framework in terms of time and money.