



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

Annex 3: Synoptic framework of ICT spending in Central Public Administration



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1. Introduction

The path towards defining the Three-Year Plan for ICT in Public Administration envisaged the involvement of central and local PA (CPA and LPA) for collecting data and information useful for developing an updated picture of the main spending and project planning features in this area.

The first survey (hereinafter "AgID 2016 survey") was conducted in the period April-November 2016: attention was focused on the spending and relevance of the ICT activities of the main areas of the Central Administrations, according to the procedure illustrated in the Methodology Notes in the appendix. The survey was carried out with all the Ministries, some Pension Institutions and the Tax Agencies, whose activities are considered strategic for the implementation of synergies and centralisation measures in order to optimise total spending.

The Ministries were also asked to represent the IT spending of their peripheral facilities and entities they supervise and monitor.

This document presents the main evidence emerging from an examination of the data collected in terms of:

- Spending trend for the year 2016 and comparison with the average annual expenditure 2013-2015;
- Analysis of the main projects underway and being launched.

The provided, standardised and homogeneous data were shared with the authorities involved for verification and validation.

1.1 Reference Situation - Assinform 2015 survey

In the second half of 2015, AgID promoted¹ the implementation of the Third ICT Observatory in the Public Administration, together with Assinform:

- Explaining the information needs,
- Participating in defining the data collection and processing methodology that formed the Observatory database,
- Participating in defining checklists for the collection of data and information necessary for the development of the Observatory,
- Analysing the "views" of intermediary results and reports and the final report.

The following is a summary of the trend of ICT spending of the PA macro-sectors in the last five years.

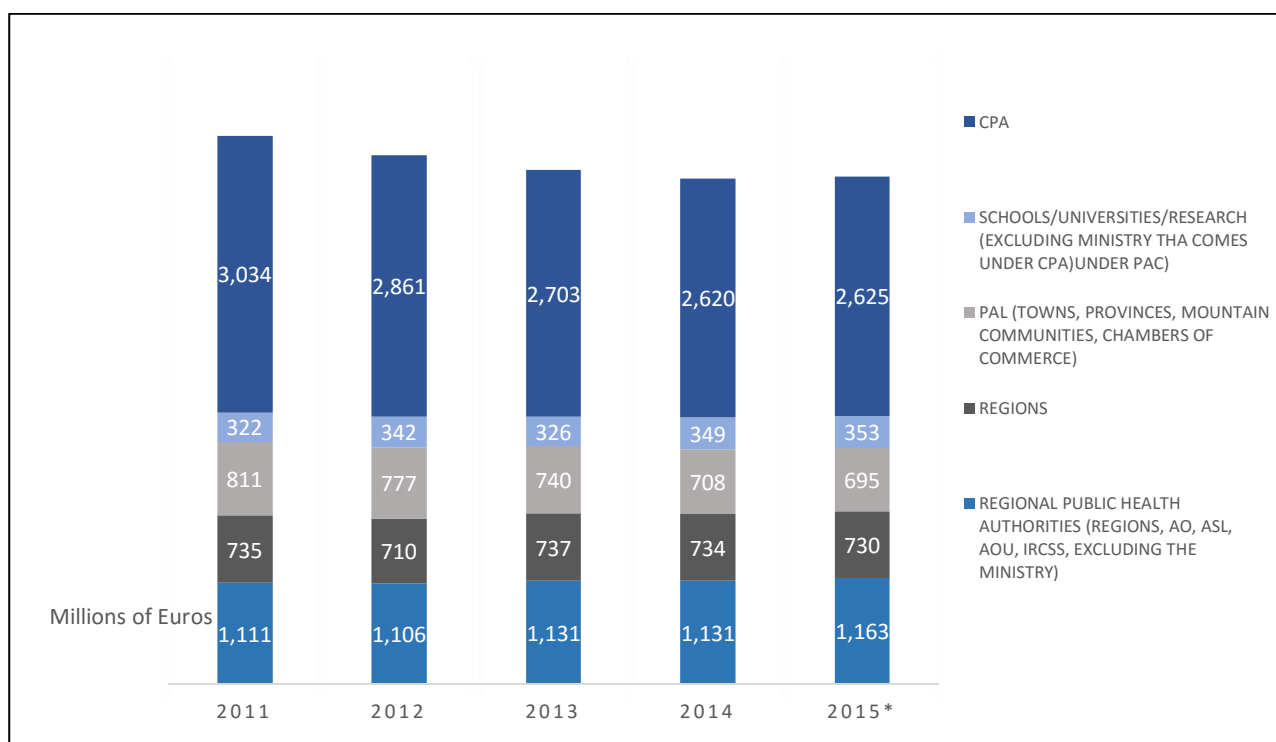


Figure 1 - ICT spending by type of PA - 2011 - 2015 (source: Assinform Observatory 2016)

The analysis carried out by Assinform shows that:

- In 2015, the calculated ICT spending was 5,571 €/million (47% of this spending was done by the CPAs and 21% by the health sector);
- In 2015, investment spending accounted for about 28% of total spending;
- During the period under review, spending on IT and TLC services continued to shrink until 2015. The

¹ The 3rd ICT Observatory in Public Administration - 2016 - was printed in July 2016 and presented in Rome on July 13, 2016, whose elaborations are based on analysis by:

- Questionnaires administered to 47 CPAs. 19 CPAs returned the questionnaires properly completed;
- History;
- Data collected by market operators (Comparison of demand and supply).

reduction in TLC spending, in particular, was more significant and partly attributable to the progressive transition to VOIP. The IT component recorded savings from rationalisation processes and the increased use of electronic trading and purchasing tools (e.g. the PA - MePA Electronic Marketplace - on the Consip website www.acquistinretepa.it) and the accession of many entities to the Purchasing Convention (see above, link to the Consip website).

The three-year average of the above-mentioned surveys, which was used below in order to define the *baseline* for AgID 2016 survey, is shown in the following graph:

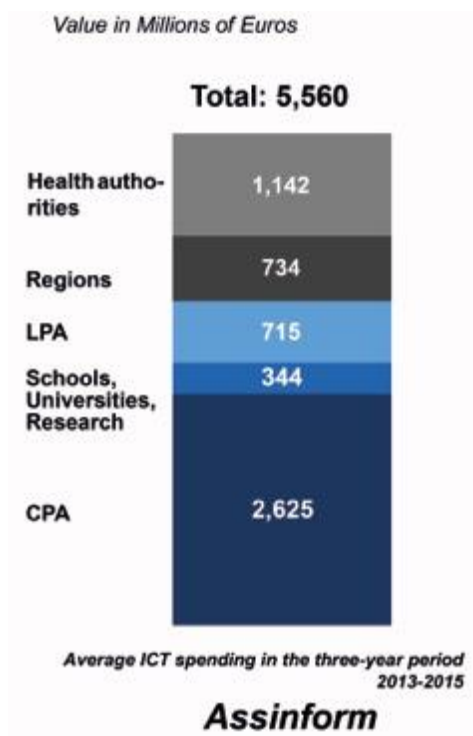


Figure 2 - ICT spending by type of PA - average three-year period 2013-2015 (source: Assinform 2016 Observatory)

1.2 Average ICT spending for the three-year period 2013-2015: Comparison between Assinform records and AgID records

AgID's analysis of data collected by the main Central Administration departments, conducted in the manner described in the Methodological Notes in the Appendix, led to a reconstruction of comparable spending with Assinform's computations.

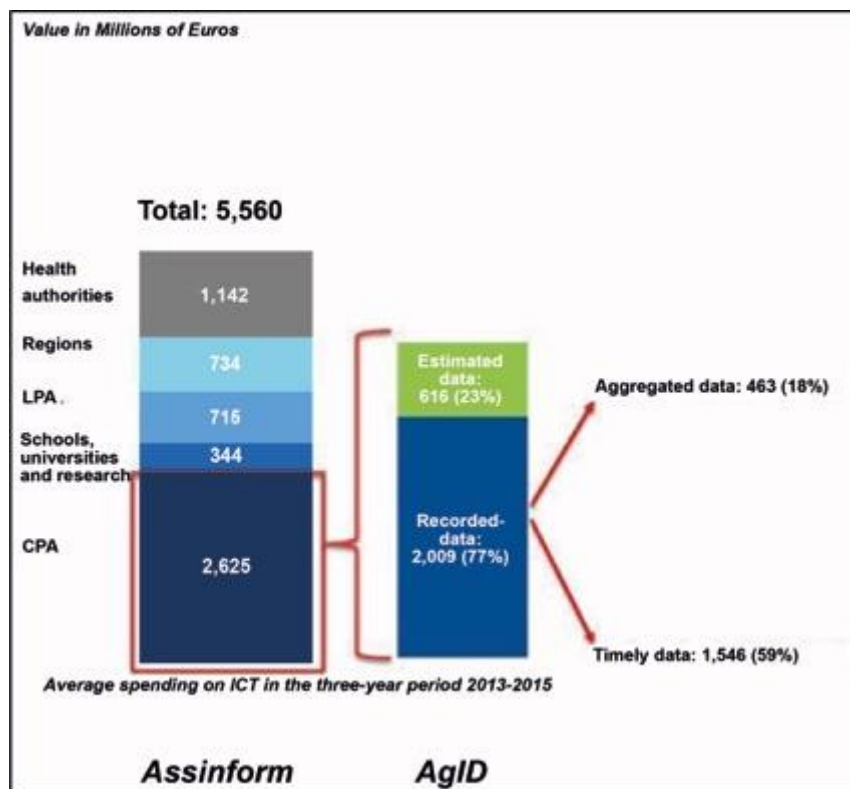


Figure 3 - ICT spending by type of PA baseline 2013 - 2015 (source: Assinform 2016 Observatory and AgID 2016 survey) ²

In particular, as illustrated in Figure 3:

- The overall 2013-2015 average spending - estimated by Assinform and referring to all public administrations - is around 5.5 billion euros;
- The average 2013-2015 average spending - estimated by Assinform and referring to central government - is about € 2.625 billion or about 50% of the above-mentioned figure;
- The average 2013-2015 spending - recorded by AgID - is € 2.6 billion;
- AgID data, for the average of the three-year period 2013-2015, captures ICT spending by public administration of around € 2.0 billion. This value corresponds to 77% of total ICT spending (see below) and corresponds to the sum of the timely data provided by the administration and the aggregate data provided by the administration without further details.

To this value is added the estimated amount of another € 600 million, for a total spending of € 2.6 billion. Calculation criteria are reported in the methodological notes appendix.

Assinform and AgID data records are therefore aligned and the average value for 2013-2015 therefore constitutes the Reference *baseline* for data analysis for 2016.

1.3 AgID 2016 survey

The survey was carried out involving the following administrations: ACI, Demanio Agency, Customs Agency,

² Timely data: Data transferred by administrations consistent with the minimum set of information required for analysis.
Aggregate data: Data transferred from administrations without the necessary detail for analysis.
Data updated February 2017.

Revenue Agency, Carabinieri Arms, Equitalia, INAIL, INPS, Ministry of Foreign Affairs (MAE), Ministry of Economy and Finance (MEF) Ministry of Culture and Tourism (MiBACT), Ministry of the Environment, Ministry of Defence, Ministry of Justice, Ministry of the Interior, Ministry of Labour, Ministry of Health, Ministry of Agriculture, Food and Forestry (MIPAAF), Ministry of Economic Development (MISE), Ministry of Infrastructure and Transport (MIT), Ministry of Education, University and Research (MIUR).

The analysis of the overall trend of PA's ICT expenditure for 2016, as illustrated in the following table, was conducted on the data provided by the CPAs involved on the basis of the criteria outlined in the methodological notes appendix and on the basis of estimates prepared from other sources of information and industry *benchmarks*.

| Type of analysis | Data type | Spending 2016 (Values in millions / €) | Notes |
|--|--|--|--|
| CPA Data recorded: Information from sample administrations examined | Timely data | 1,656 | The data relate to the 21 CPAs that returned the completed sheets with the minimum set of information required for the analysis. |
| | Aggregated data | 284 | The data are incremental with respect to the timely data and are related to 2 CPAs of the 21 involved: <ul style="list-style-type: none"> • The Ministry of Defence with regard to classified operational expenditure (classified information); • The MIUR with regard to the expenditure of the CINECA (University Fund) and the National Plan for the National School. These data were disclosed without the detail required for the analysis. |
| Sub-total | | 1,940 | |
| Estimated CPA data | Estimate data CPA involved with missing or incomplete data | 200 | The data relate to 2 CPAs of the 21 involved: <ul style="list-style-type: none"> • The Environment Ministry, with regard to spending for the Waste Tracking Control System (SISTRI) and the National Geoportale; • The MIPAAF, as far as AGEA is concerned (MIPAAF's in-house company). These data were not disclosed. |
| | Ratings by <i>benchmark</i> sector on unpublished data and CPAs outside the sample being examined | 485 | CPA data involved in the survey with absent or incomplete data, in particular for: <ul style="list-style-type: none"> • Polygraphic Institute and State Mint • Italian Financial Police • Bodies supervised and controlled by the Ministries on the ISTAT list (e.g. Infocamere and AIFA) • ISTAT In addition: <ul style="list-style-type: none"> • The Office of the Prime Minister of Italy • Authority • CNR |
| Sub-total | | 685 | |
| TOTAL | | 2,625 | |

Table 1 - Reconstruction of ICT CPA spending for the year 2016

The summary data reported for 2016 is therefore shown in Figure 4.

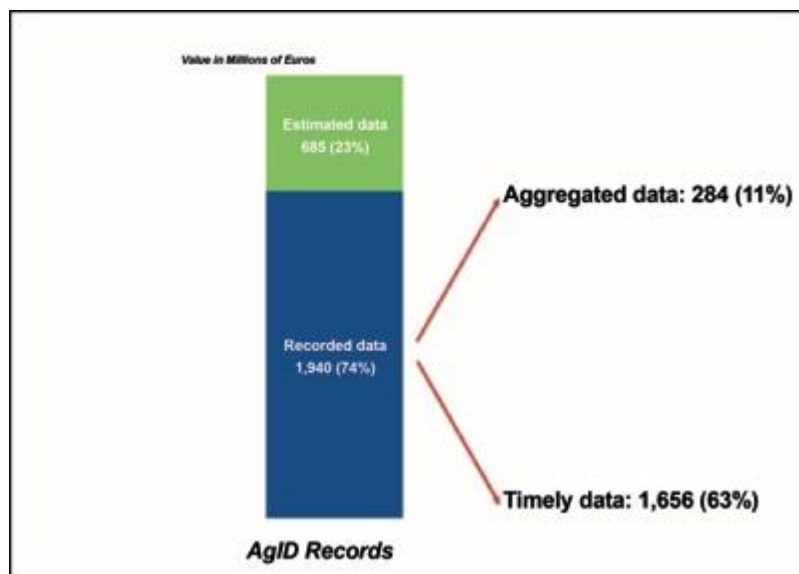


Figure 4 - ICT spending for CPA 2016 - AgID Survey

The following detail analysis was conducted on the timely data that, as indicated in the previous figure, account for 63% of total estimated expenditure for all CPAs. The administrations involved have provided useful information for further analysis for a total amount of € 1.6 billion.

It is therefore stated that the aggregate data (€ 284 million) or the estimated expenditure (€ 685 million) are not included in the following paragraphs.

2. Overview of trends in ICT spending in CPA

Figure 5 shows the total spending for the year 2016 and the divergence from the average for the three-year period 2013-2015.

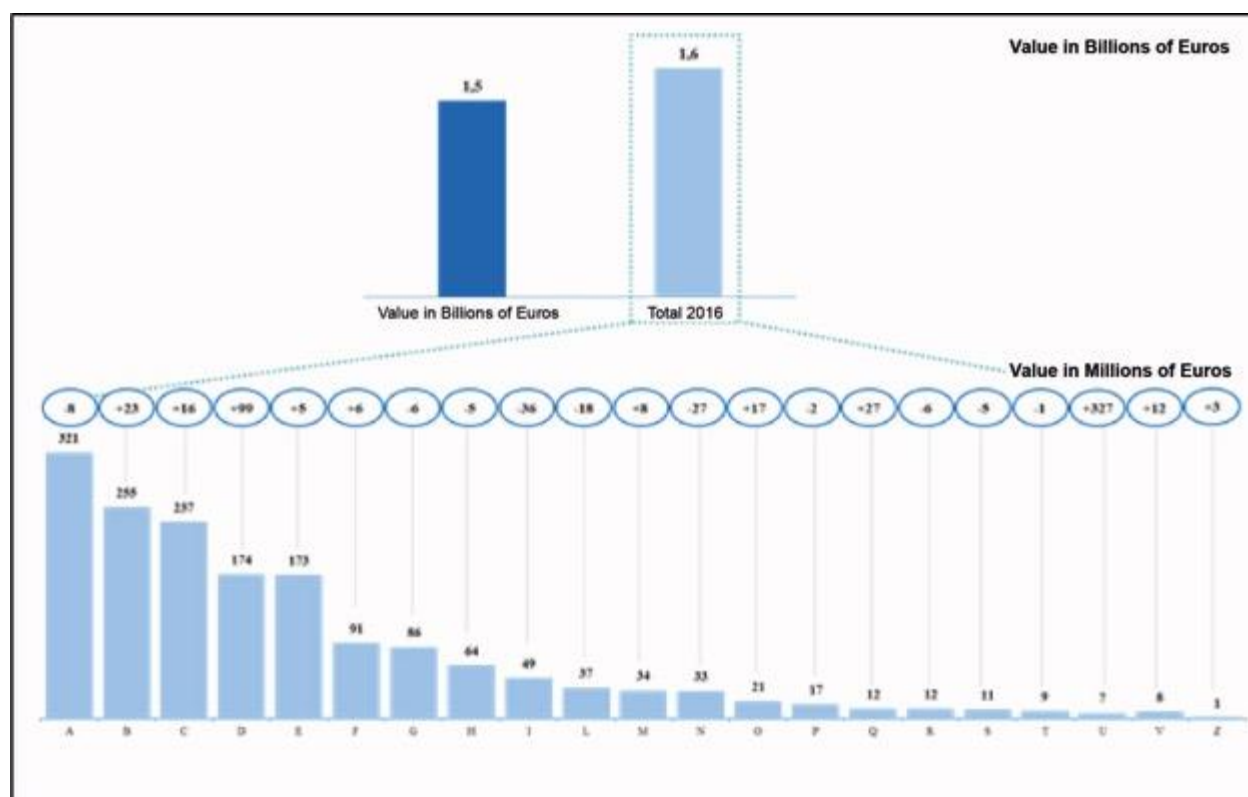


Figure 5 - Total ICT spend 2016 and comparison with the average value of the three-year period 2013-2015

From the previous figure, it is clear that approximately 82% of the expenditure analysed refers to 7 administrations out of 21. Therefore, some of the analyses proposed in the following paragraphs will be devoted to these administrations, called "*Big Spenders*".

Figure 6 highlights³, in relation to the 7 *big spender* CPAs of 2016, the magnitude of individual Administration spending on the total, as well as the percentage weight of the Opex component on the total Capex / Opex and the IT component on total ICT.

³ The graph above is divided into four quadrants:

1. The quadrant for Opex spending above 50% of the total and IT spending less than 50%;
2. The quadrant for Opex spending over 50% of the total and IT spending over 50%;
3. The quadrant for Opex spending below 50% of the total and IT spending less than 50%;
4. The quadrant for Opex spending above 50% of the total and IT spending more than 50%;

Data updated February 2017.

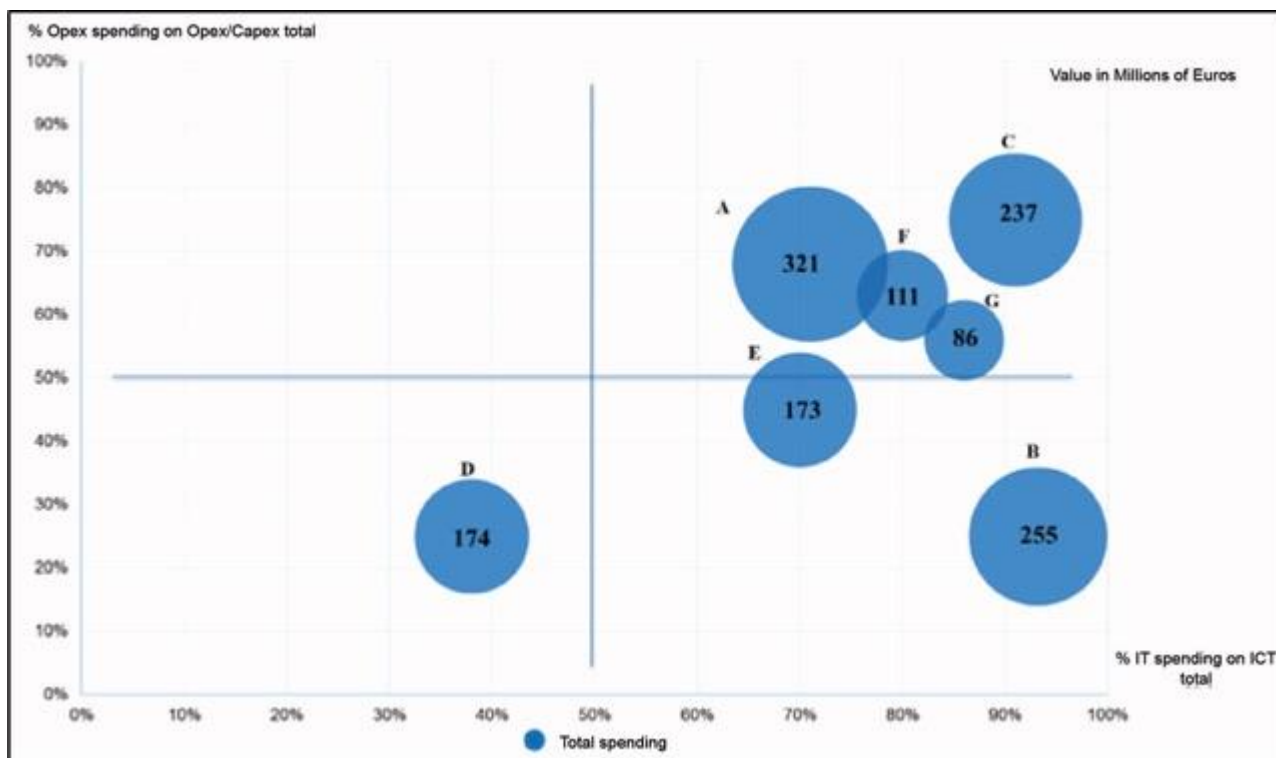


Figure 6 - Big spenders: Importance of Opex and IT spending components on 2016 total

This first view of the synthesis shows that, even considering a small number of Central Administrations, the choices underpinning IT spending in the PA have uneven logic, which also results from poor coordination and addressing.

Table 2 shows the total expenditure for 21 CPAs.

Based on the data available, the following table shows the 2016 expenditure, the average value for the years 2013-2015, the absolute and the percentage deviation from the 2016 total (€ 1,656 million) and, in the last column, the significance of each administration's spending on the 2016 total.

| CPA | Total Spending 2016 (a) | Total average spending 2013- 2015 (b) | Difference (a-b) | Difference % | % 2016 spending on total |
|--|-------------------------------|---|----------------------|-----------------|--------------------------------|
| A | € 320,655,738 | € 348,360,656 | - € 27,704,918 | -8% | 19% |
| B | € 255,289,656 | € 205,565,274 | € 49,724,383 | 24% | 15% |
| C | € 237,531,900 | € 204,603,329 | € 32,928,571 | 16% | 14% |
| D | € 174,134,690 | € 87,579,864 | € 86,554,826 | 99% | 11% |
| E | € 173,140,000 | € 165,583,490 | € 7,556,510 | 5% | 10% |
| F | € 90,698,670 | € 85,521,394 | € 5,177,275 | 6% | 5% |
| G | € 86,381,776 | € 91,476,908 | - € 5,095,132 | -6% | 5% |
| H | € 63,794,263 | € 67,277,000 | - € 3,482,737 | -5% | 4% |
| I | € 49,351,834 | € 77,403,457 | - € 28,051,623 | -36% | 3% |
| L | € 37,340,550 | € 45,791,062 | - € 8,450,512 | -18% | 2% |
| M | € 34,520,611 | € 32,000,000 | € 2,520,611 | 8% | 2% |
| N | € 33,112,292 | € 45,571,672 | - € 12,459,380 | -27% | 2% |
| O | € 21,092,616 | € 18,095,548 | € 2,997,068 | 17% | 1% |
| P | € 17,213,115 | € 17,496,435 | - € 283,321 | -2% | 1% |
| Q | € 12,508,197 | € 9,836,066 | € 2,672,131 | 27% | 1% |
| R | € 12,491,528 | € 13,235,710 | - € 744,181 | -6% | 1% |
| S | € 10,942,623 | € 11,475,410 | - € 532,787 | -5% | 1% |
| T | € 9,240,212 | € 9,306,870 | - € 66,658 | -1% | 1% |
| U | € 7,195,902 | € 1,686,885 | € 5,509,016 | 327% | 0% |
| V | € 8,048,534 | € 7,173,667 | € 874,867 | 12% | 0% |
| Z | € 1,231,721 | € 1,190,291 | € 41,430 | 3% | 0% |
| Total with timely data | € 1,655,916,427 | € 1,546,230,987 | € 109,685,440 | 7% | 100% |
| Total additional aggregated data (Min. Defence and MIUR) | € 284,000,000 | | | | |
| Total estimate involved CPA and sector benchmarks of other CPAs | € 685,083,573 | | | | |
| TOTAL CPA | €2,625,000,000 | | | | |

Table 2 Total ICT expenditure 2016 and comparison with the average value of the three-year period 2013-2015

The total expenditure for 2016 is up 7% from the average for the three-year period 2013-2015 and, in particular, the most significant expenditure increases concern the D, Q and U administrations, although the increase in absolute terms is not significant.

On the other hand, there are significant percentage reductions in the total expenditure for 2016 compared with the average for the previous three years for Administration I and N. However, account should be taken, as shown in Table 1, that a significant part of the spending of these ministries has not been included in the detail tables because the data was provided only at aggregate level.

The following paragraphs provide detailed breakdowns of spending by type of book keeping in Capex and Opex and for the purpose of ICT and TLC spending.

The reading of data must nevertheless take into account the lack of some contextual information related to the presence of *in-house* companies for ICT, which influence, for example, the division between Capex / Opex and the sizing of some spending components both IT and TLC.

Table 3 lists the main in-house companies in the ICT field relative to the Sample Central PA.

| CPA | Main <i>in house</i> companies in the ICT sector |
|--|--|
| MEF | Sogei SpA IPZS SpA |
| Income Revenue Authority | |
| State property office | |
| Customs agency | |
| Equitalia | Sogei SpA (for 50%) |
| ACI | ACI Informatica SpA |
| Ministry of Defence | Agenzia Industrie Difesa [Defence Industries Agency] |
| Agriculture, food and forests ministry | Agea |
| Ministry of Economic Development | Infratel SpA – Infocamere scpa |
| Ministry of Infrastructure and Transport | Uirnet SpA |
| Ministry of Education, University and Research | Cineca |

Table 3 - Major in-house ICT sector companies

3. Analysis of 2016 Expenditure

The analysis of timely data was articulated according to the following views:

- Breakdown by type of expenditure Capex / Opex;
- Breakdown for IT / TLC expenditure components;
- Breakdown for Consip / non Consip purchasing mode.

3.1 Capex / Opex spending

Table 4 shows the Investment Expenditure (Capex) and Current Management Expenditure (Opex) for 2016 and the relative impacts on the total amounts.



| CPA | Capex Expenditure 2016 | % Capex on total | Opex Spending 2016 | % Opex on total | Total expenditure 2016 |
|--------------|------------------------------|---------------------|-----------------------|--------------------|----------------------------|
| A | € 101,639,344 | 32% | € 219,016,393 | 68% | € 320,655,738 |
| B | € 190,936,535 | 75% | € 64,353,122 | 25% | € 255,289,656 |
| C | € 60,244,503 | 25% | € 177,287,398 | 75% | € 237,531,901 |
| D | € 90,546,084 | 75% | € 29,810,594 | 25% | € 120,356,678 |
| E | € 94,386,000 | 55% | € 78,754,000 | 45% | € 173,140,000 |
| F | € 33,829,510 | 37% | € 56,869,160 | 63 % | € 90,698,670 |
| G | € 38,295,502 | 44% | € 48,086,275 | 56% | € 86,381,776 |
| H | € 17,601,749 | 28% | € 46,192,513 | 72% | € 63,794,263 |
| I | € 41,839,675 | 85% | € 7,512,160 | 15% | € 49,351,834 |
| L | € 14,850,734 | 40% | € 22,489,816 | 60% | € 37,340,550 |
| M | € 13,881,582 | 40% | € 20,639,029 | 60% | € 34,520,611 |
| N | € 5,907,569 | 18% | € 27,204,723 | 82% | € 33,112,292 |
| O | € 5,628,393 | 27% | € 15,464,222 | 73% | € 21,092,616 |
| P | € 12,295,082 | 71% | € 4,918,033 | 29% | € 17,213,115 |
| Q | € 7,180,328 | 57% | € 5,327,869 | 43% | € 12,508,197 |
| R | € 4,370,265 | 35% | € 8,121,263 | 65% | € 12,491,528 |
| S | € 4,180,328 | 38% | € 6,762,295 | 62% | € 10,942,623 |
| T | € 3,834,949 | 42% | € 5,405,263 | 58% | € 9,240,213 |
| U | € 1,688,525 | 23% | € 5,507,377 | 77% | € 7,195,902 |
| V | € 4,465,740 | 55% | € 3,582,794 | 45% | € 8,048,534 |
| Z | €520,000 | 42% | € 711,721 | 58% | € 1,231,721 |
| TOTAL | € 748,122,397 | 47% | € 854,016,020 | 53% | € 1,602,138,416 (*) |

(*)The total expenditure does not coincide with the total reported in the general picture for the reasons outlined in the Methodological Notes.

Table 4 - Capex-Opex Expenditure 2016 and % relevance on total

Overall, for the CPAs, the expenditure is divided as follows: 47% Capex and 53% Opex.

It is noteworthy that only 7 administrations record Capex spending over 50% with the maximum value of 85% for administration I, which has started significant infrastructure investments.

The 82% largest percentage of OPEX spending is recorded for Administration N, which confirms the policy of managing its full IT outsourcing system.

Figure 4 shows for the 7 *Big spenders* the detail of the Capex / Opex breakdown for 2016 and its variations compared to the average of the three-year period 2013-2015.



Figure 7 - Capex / Opex components for 2016 and variations over the three-year period 2013-2015

As anticipated, in the graph of Figure 7, it is recorded that there is an incidence of the Capex share exceeding 50% of the total expenditure only for 3 of the 7 *big spenders* and, more precisely, for administrations D, B and E, spending expanding over the past three years.

Expenditure Capex annual 2016 on the Media Triennium 2013-2015

Table 5 shows for each Administration the comparison between Capex spending for the year 2016 and the average value recorded for the three-year period 2013-2015 in absolute terms and percentages.

| CPA | Capex Expenditure 2016 (a) | Capex Expenditure Average 2013-2015 (b) | Variance (a-b) | Variance (%) |
|--------------|----------------------------------|---|----------------------|-----------------|
| A | € 101,639,344 | € 102,459,016 | - € 819,672 | -1% |
| B | € 190,936,535 | € 145,247,634 | € 45,688,900 | 31% |
| C | € 60,244,503 | € 55,197,811 | € 5,046,693 | 9% |
| D | € 90,546,084 | € 21,969,966 | € 68,576,118 | 312% |
| E | € 94,386,000 | € 81,532,490 | € 12,853,510 | 16% |
| F | € 33,829,510 | € 36,477,206 | - € 2,647,696 | -7% |
| G | € 38,295,502 | € 42,080,526 | - € 3,785,025 | -9% |
| H | € 17,601,749 | € 14,472,000 | € 3,129,749 | 22% |
| I | € 41,839,675 | € 56,673,188 | - € 14,833,513 | -26% |
| L | € 14,850,734 | € 17,182,657 | - € 2,331,922 | -14% |
| M | € 13,881,582 | € 12,000,000 | € 1,881,582 | 16% |
| N | € 5,907,569 | € 17,856,728 | - € 11,949,160 | -67% |
| O | € 5,628,393 | € 3,380,682 | € 2,247,712 | 66% |
| P | € 12,295,082 | € 11,972,832 | € 322,250 | 3% |
| Q | € 7,180,328 | € 4,918,033 | € 2,262,295 | 46% |
| R | € 4,370,265 | € 3,922,956 | € 447,310 | 11% |
| S | € 4,180,328 | € 4,344,262 | - € 163,934 | -4% |
| T | € 3,834,949 | € 5,142,723 | - € 1,307,774 | -25% |
| U | € 1,688,525 | € 1,442,623 | € 245,902 | 17% |
| V | € 4,465,740 | € 4,369,772 | € 95,968 | 2% |
| Z | € 520,000 | € 514,623 | € 5,377 | 1% |
| TOTAL | € 748,122,397 | € 643,157,728 | € 104,964,669 | 16% |

Table 5 - Comparison Capex year 2016 and average three-year period 2013-2015

Altogether Capex spending for the year 2016 increased by 16% compared to the average of the three-year period 2013-2015. In particular, it appears that the largest increase concerns Administration D, with a growth of 312%; this figure is first motivated both by the strong increase in the total expenditure previously highlighted and by the number of projects planned by the Administration in the three-year period 2016-2018. O and Q administrations also display a high percentage increase, although not very significant in absolute terms.

Opex annual spending trend 2016 on the average three-year period 2013-2015

Table 6 shows for each Administration the comparison between Capex spending for the year 2016 and the average value recorded for the three-year period 2013-2015 in absolute terms and percentages.

| CPA | Opex Spending 2016 (a) | Opex Spending average 2013-2015 (b) | Variance (a-b) | Variance (%) |
|--------------|------------------------------|---|-----------------------|--------------|
| A | € 219,016,393 | € 245,901,639 | - € 26,885,246 | -11% |
| B | € 64,353,122 | € 60,317,640 | € 4,035,482 | 7% |
| C | € 177,287,398 | € 149,405,518 | € 27,881,880 | 19% |
| D | € 29,810,594 | € 34,053,813 | - € 4,243,218 | -12% |
| E | € 78,754,000 | € 84,051,240 | - € 5,297,240 | -6% |
| F | € 56,869,160 | € 49,044,189 | € 7,824,971 | 16% |
| G | € 48,086,275 | € 49,396,382 | - € 1,310,107 | -3% |
| H | € 46,192,513 | € 52,805,000 | - € 6,612,487 | -13% |
| I | € 7,512,160 | € 20,730,269 | - € 13,218,110 | -64% |
| L | € 22,489,816 | € 28,608,405 | - € 6,118,589 | -21% |
| M | € 20,639,029 | € 20,000,000 | € 639,029 | 3% |
| N | € 27,204,723 | € 27,714,943 | - € 510,220 | -2% |
| O | € 15,464,222 | € 14,714,866 | € 749,356 | 5% |
| P | € 4,918,033 | € 5,523,603 | - € 605,570 | -11% |
| Q | € 5,327,869 | € 4,918,033 | € 409,836 | 8% |
| R | € 8,121,263 | € 9,312,754 | - € 1,191,491 | -13% |
| S | € 6,762,295 | € 7,131,148 | - € 368,852 | -5% |
| T | € 5,405,263 | € 4,164,147 | € 1,241,116 | 30% |
| U | € 5,507,377 | € 244,262 | € 5,263,115 | 2155% |
| V | € 3,582,794 | € 2,803,895 | € 778,899 | 28% |
| Z | € 711,721 | € 675,668 | € 36,053 | 5% |
| TOTAL | € 854,016,020 | € 871,517,414 | - € 17,501,395 | -2% |

Table 6 - Comparison Opex year 2016 and average value three-year period 2013-2015

Overall, Opex spending for 2016 sees a slight decrease (-2%) over the average of the 2013-2015 three-year period.

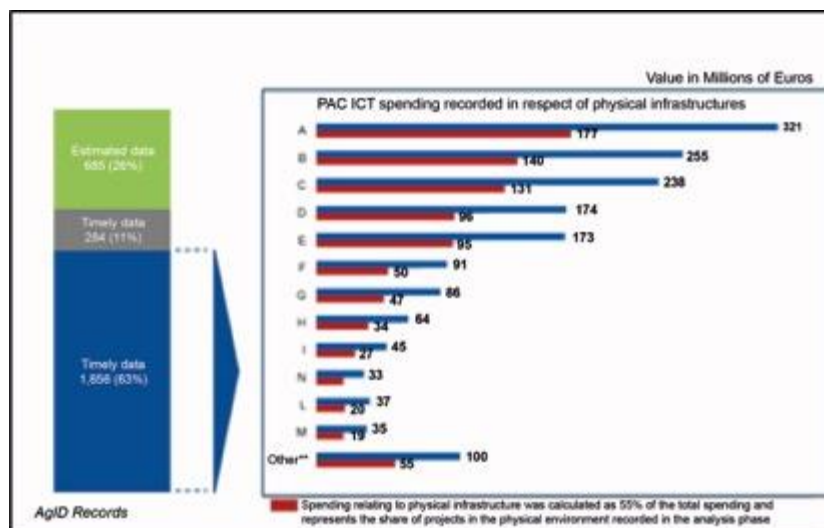
The most significant positive increases are for Administration V, an increase of 28% compared to the average for 2013-2015, and Administration C with an increase of 19%. As noted above, for the Tax Agencies the incidence of this part of the costs is related to the activities that are carried out by Sogei SpA.

As far as Administration U is concerned, the percentage increase on the basis of the information collected is due to the inability to isolate and account for much of ICT operating costs over the past three years

compared to total current expenditure.

Focus on physical infrastructure spending

Figure 5 shows the proportion of spending on physical infrastructure for individual administrations.



*The following administrations have been included under the item others: Ministry of the Environment, MISE, Agenzie Demanio, MAE, Labour Ministry, MIPAAF, Ministry of Health, MIBACT, Police

Figure 8 - CPA ICT 2016 spending on physical infrastructure

In order to provide an initial assessment of the impact of physical infrastructure expenditure on total ICT spending in CPA, analysis of the planning of the projects submitted by the administrations themselves has started: overall the amount of on-going projects and those ready to start relating to physical infrastructure weighs in at about 55% of the total amounts declared.

It was therefore assumed to apply this percentage weight to the total 2016 expenditure of each administration.

3.2 IT / TLC spending

The following macro-items of expenditure were considered for the IT component:

- Hardware
- Software
- Software licences including the related maintenance
- IT Services (e.g. Management Services, SPC Cloud).

The following macro-items of expenditure were considered for the TLC component:

- Apparatus and systems
- Connectivity
- Voice and data services
- TLC services (e.g. Contact Centre, Smart Cities).

It should be noted that the analyses carried out do not take into account the investments made in the ultra-broadband that will have their effects in future years.

Table 7 shows the detail of IT and TLC Expenditure for 2016.

| CPA | IT expenditure 2016 | % IT spending on total | 2016 TLC Spending | % TLC spending on total | Total expenditure 2016 |
|--------------|------------------------|------------------------------|----------------------|-------------------------------|----------------------------|
| A | € 194,622,007 | 64% | € 108,319,672 | 36% | € 302,941,679 |
| B | € 169,912,732 | 95% | € 8,728,897 | 5% | € 178,641,629 |
| C | € 190,412,185 | 92% | € 15,476,471 | 8% | € 205,888,656 |
| D | € 66,083,232 | 38% | € 108,051,458 | 62% | € 174,134,690 |
| E | € 113,913,997 | 70% | € 49,191,694 | 30% | € 163,105,691 |
| F | € 72,741,541 | 80% | € 17,957,129 | 20% | € 90,698,670 |
| G | € 32,083,211 | 91% | € 3,225,106 | 9% | € 35,308,317 |
| H | € 56,566,327 | 89% | € 7,227,935 | 11% | € 63,794,263 |
| I | € 31,380,011 | 64% | € 17,971,823 | 36% | € 49,351,834 |
| L | € 35,958,576 | 84% | € 6,954,721 | 16% | € 42,913,296 |
| M | € 31,453,325 | 91% | € 3,067,286 | 9% | € 34,520,611 |
| N | € 30,383,558 | 92% | € 2,728,734 | 8% | € 33,112,292 |
| O | € 12,285,637 | 58% | € 8,806,979 | 42% | € 21,092,616 |
| P | € 11,319,328 | 66% | € 5,893,785 | 34% | € 17,213,114 |
| Q | € 8,409,836 | 67% | € 4,098,361 | 33% | € 12,508,197 |
| R | € 10,155,839 | 81% | € 2,335,689 | 19% | € 12,491,528 |
| S | € 9,760,029 | 89% | € 1,179,229 | 11% | € 10,939,258 |
| T | € 9,114,313 | 99% | € 125,899 | 1% | € 9,240,213 |
| U | € 2,607,872 | 60% | € 1,721,311 | 40% | € 4,329,184 |
| V | € 6,930,325 | 86% | € 1,118,209 | 14% | € 8,048,534 |
| Z | € 947,000 | 79% | € 253,860 | 21% | € 1,200,860 |
| TOTAL | € 1,097,040,882 | 75% | € 374,434,247 | 25% | € 1,471,475,129 (*) |

(*) The total expenditure does not coincide with the total expenditure of Capex / Opex for the reasons outlined in the Methodological Note

Table 7 - IT / TLC Expenditures 2016 and % relevance on total

Table 7 shows that total expenditure for 2016 has the following composition: 75% IT and 25% TLC.

For ICT spending, incidence rates below the average are recorded for administrations O, D and U.

Regarding TLC spending, administrations M, B, H, T, S, N and the three Fiscal Agencies state a percentage of TLC spending on the total decisively lower than average, and in all cases less than 15%. For Administration B and Fiscal Agencies, including Administration H, even if to a lesser extent, this element is strongly influenced by the characteristic of conventional relationships with Sogei. The total fees paid by the administrations to Sogei include a part relating to TLC infrastructures that is difficult to separate out.

For the R and S administrations, the data is consistent with the number of locations and switching choices from traditional telephony to VOIP.

While for Administration T, available data refers only to central locations and does not contain peripheral location data.

The graph shown in Figure 9 highlights, with regard to the 7 *big spenders* 2016, the IT / TLC components' detail for 2016 and its relative variations over the three-year period 2013-2015.

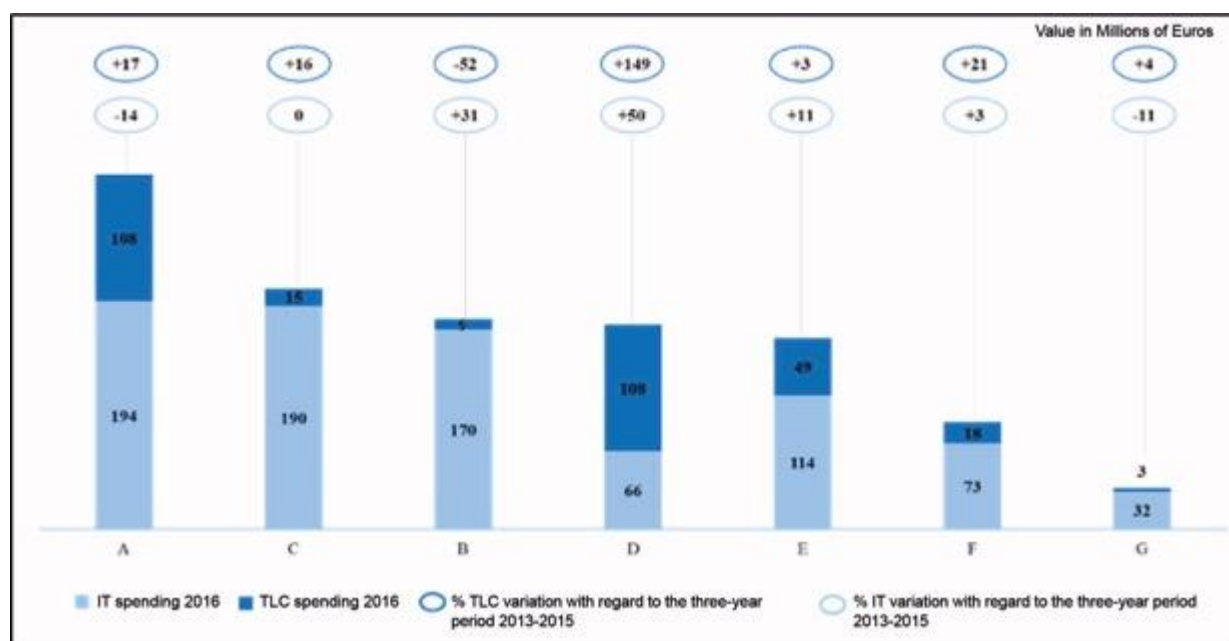


Figure 9 - IT-TLC 2016 for the 7 big spenders - comparison with the three-year 2013-2015

It is easy to see that for 6 of the 7 *Big spenders* spending on IT components is significantly higher than the part intended for TLC components.

Only for Administration D, in 2016, the TLC spending share is dominant (108 million / €) compared to IT spending (66 million / €).

Annual IT Spending trend 2016 on the Average three-year period 2013-2015

Table 8 shows for each Administration the comparison between IT spending for 2016 and the average IT expenditure recorded in the three-year period 2013-2015 in absolute terms and percentages.

| CPA | IT expenditure 2016 | Average IT spending 2013-2015 (b) | Variance (a-b) | Variance (%) |
|--------------|------------------------|--------------------------------------|---------------------|--------------|
| A | € 194,622,007 | € 225,061,018 | - € 30,439,011 | -14% |
| B | € 169,912,732 | € 129,357,903 | € 40,554,829 | 31% |
| C | € 190,412,185 | € 190,429,381 | -€ 17,196 | 0% |
| D | € 66,083,232 | € 44,200,291 | € 21,882,941 | 50% |
| E | € 113,913,997 | € 102,961,970 | € 10,952,027 | 11% |
| F | € 72,741,541 | € 70,696,796 | € 2,044,746 | 3% |
| G | € 32,083,211 | € 36,059,653 | - € 3,976,442 | -11% |
| H | € 56,566,327 | € 59,896,000 | - € 3,329,673 | -6% |
| I | € 31,380,011 | € 43,794,477 | - € 12,414,466 | -28% |
| L | € 35,958,576 | € 36,393,177 | - € 434,601 | -1% |
| M | € 31,453,325 | € 29,100,000 | € 2,353,325 | 8% |
| N | € 30,383,558 | € 43,372,866 | - € 12,989,308 | -30% |
| O | € 12,285,637 | € 7,250,960 | € 5,034,677 | 69% |
| P | € 11,319,328 | € 11,594,864 | - € 275,535 | -2% |
| Q | € 8,409,836 | € 5,573,770 | € 2,836,066 | 51% |
| R | € 10,155,839 | € 10,714,406 | - € 558,567 | -5% |
| S | € 9,760,029 | € 10,072,768 | - € 312,739 | -3% |
| T | € 9,114,313 | € 9,376,479 | - € 262,166 | -3% |
| U | € 2,607,872 | € 2,254,508 | € 353,364 | 16% |
| V | € 6,930,325 | € 5,916,551 | € 1,013,774 | 17% |
| Z | € 947,000 | € 920,021 | € 26,979 | 3% |
| TOTAL | € 1,097,040,882 | € 1,074,997,861 | € 22,043,021 | 2% |

Table 8 - Annual IT spending 2016 and comparison with the average value of the three-year period 2013-2015

In 2016, the largest increases in IT spending in percentage terms compared to the previous three years concern the Administrations:

- O, mainly due to the increase in hardware purchases for the renewal of obsolete equipment;
- Q, mainly due to the increase in the purchase of application services for the evolution of the ClicLavoro portal;
- D, owing to the general increase in spending, as already mentioned, linked to the increase in projects and planned investments starting in 2016.

Annual TLC spending trend 2016 on the Average three-year period 2013-2015

Table 9 shows for each administration the comparison between TLC spending 2016 and the average expenditure calculated for the three-year period 2013-2015 in absolute terms and percentages.

| CPA | 2016 TLC Spending (a) | Average TLC spending 2013-2015 (b) | Variance (a-b) | Variance (%) |
|--------------|-----------------------|------------------------------------|---------------------|--------------|
| A | € 108,319,672 | € 92,215,011 | € 16,104,661 | 17% |
| B | € 8,728,897 | € 18,124,222 | -€ 9,395,325 | -52% |
| C | € 15,476,471 | € 13,389,981 | € 2,086,490 | 16% |
| D | € 108,051,458 | € 43,379,573 | € 64,671,885 | 149% |
| E | € 49,191,694 | € 47,737,911 | € 1,453,783 | 3% |
| F | € 17,957,129 | € 14,824,599 | € 3,132,530 | 21% |
| G | € 3,225,106 | € 3,098,747 | € 126,359 | 4% |
| H | € 7,227,935 | € 7,381,000 | - € 153,065 | -2% |
| I | € 17,971,823 | € 33,608,980 | - € 15,637,157 | -47% |
| L | € 6,954,721 | 1,697,884.85 | € 5,256,836 | 310% |
| M | € 3,067,286 | €2,900,000 | € 167,286 | 6% |
| N | € 2,728,734 | 2,198,805.613 | € 529,929 | 24% |
| O | € 8,806,979 | € 10,844,587 | - € 2,037,609 | -19% |
| P | € 5,893,785 | € 5,901,572 | - € 7,786 | 0% |
| Q | € 4,098,361 | € 4,262,295 | - € 163,934 | -4% |
| R | € 2,335,689 | € 2,521,303 | - € 185,614 | -7% |
| S | € 1,179,229 | € 1,391,842 | - € 212,613 | -15% |
| T | € 125,899 | € 6,158,669 | - € 6,032,769 | - 98% |
| U | € 1,721,311 | € 1,868,852 | - € 147,541 | -8% |
| V | € 1,118,209 | € 1,257,116 | - € 138,907 | -11% |
| Z | € 253,860 | € 252,103 | €1,758 | 1% |
| TOTAL | € 374,434,247 | € 315,015,053 | € 59,419,194 | 19% |

Table 9 - Total TLC expenditure 2016 and comparison with the average value of the three-year period 2013-2015

In 2016, the largest increases in TLC spending in percentage terms compared to the previous three years concern the Administrations:

- F, due to increased spending on CED-related infrastructure, connectivity charges (SPC), and increased voice and data traffic;
- C, mainly due to increased costs for the Contact Centre;
- A, due to increased spending on network infrastructures linked to CEDs, network security investments and telephone switchboards;
- D, for the overall rise in spending linked, as already mentioned, to the increase in projects and planned investments;

- N mainly for increased cost of connectivity charges (SPC).

3.3 Licence Spending on Total IT 2016

Table 10 shows for each administration, for the year 2016, total licence fees, total IT spending and the percentage of licence spending on total IT spending.

| CPA | Total IT spending 2016 | Licence spending 2016 | % Licence spending on total IT | Average licence spending 2013-2015 |
|--------------|------------------------|-----------------------|--------------------------------|------------------------------------|
| A | € 194,622,007 | € 35,642,274 | 18% | € 71,881,224 |
| B | € 169,912,732 | € 11,913,975 | 7% | € 15,323,083 |
| C | € 190,412,185 | € 4,400,000 | 2% | € 4,917,431 |
| D | € 66,083,232 | € 16,803,679 | 25% | € 6,209,225 |
| E | € 113,913,997 | € 39,238,852 | 34% | € 31,518,169 |
| F | € 72,741,541 | € 3,711,191 | 5% | € 13,692,623 |
| G | € 32,083,211 | € 2,421,772 | 8% | € 2,380,108 |
| H | € 56,566,327 | € 5,581,813 | 10% | € 5,845,000 |
| I | € 31,380,011 | € 9,007,775 | 29% | € 5,710,238 |
| L | € 35,958,576 | € 4,911,676 | 14% | € 4,684,577 |
| M | € 31,453,325 | € 3,882,269 | 12% | € 3,591,799 |
| N | € 30,383,558 | € 230,000 | 1% | € 258,545 |
| O | € 12,285,637 | € 1,042,838 | 8% | € 847,023 |
| P | € 11,319,328 | € 614,754 | 5% | € 532,787 |
| Q | € 8,409,836 | € 2,180,328 | 26% | € 1,557,377 |
| R | € 10,155,839 | € 1,565,260 | 15% | € 1,548,065 |
| S | € 9,760,029 | € 328,760 | 3% | € 333,558 |
| T | € 9,114,313 | € 1,885,853 | 21% | € 1,413,337 |
| U | € 2,607,872 | € 176,230 | 7% | € 135,246 |
| V | € 6,930,325 | € 595,660 | 9% | € 415,775 |
| Z | € 947,000 | € 115,000 | 12% | € 126,581 |
| TOTAL | € 1,097,040,882 | € 146,249,957 | 13% | € 172,921,771 |

Table 10 - License Expenditure Year 2016, relevance to total IT and comparison with the average value of the three-year period 2013-2015

The 2016 figure for licences is very high - about € 146 million- that is 13% of the total IT expenditure recorded.

As a percentage, the highest levels of licensing expense are reported in administrations E, I, Q, D.

In general, it should be noted that comparing the average of the three-year period 2013-2015 and only 2016 on licensing costs, therefore, only one annuity may be indicative. In fact, it is necessary to consider that licensing contracts usually have a multi-year duration and include both the purchase of licences, with cash outflows mainly in the first contract year, and maintenance with annual fees.

From this evidence emerges the opportunity to launch system actions to aggregate and standardise the demand and purchase of these software through the Consip central shopping station.

3.4 Total Voice and Data Services Expenditure on Total TLC 2016

Table 11 shows for each administration, for the year 2016, the total expenditure on Voice Services and data on total TLC, total TLC expenditure, and % of Voice and data services spending on total TLC.

| CPA | Total TLC expenditure 2016 | Total Voice and Data Services 2016 on Total TLC | % Voice and Data Services Expenditure on Total TLC |
|--------------|-------------------------------|--|--|
| A | € 108,319,672 | € 2,459,016 | 2% |
| B | € 8,728,897 | € 2,345,243 | 27% |
| C | € 15,476,471 | € 1,114,078 | 7% |
| D | € 108,051,458 | € 34,104,395 | 32% |
| E | € 49,191,694 | € 2,383,320 | 5% |
| F | € 17,957,129 | € 0 | 0% |
| G | € 3,225,106 | € 21,600 | 1% |
| H | € 7,227,935 | € 501,127 | 7% |
| I | € 17,971,823 | € 1,387,150 | 8% |
| L | € 6,954,721 | € 242,979 | 3% |
| M | € 3,067,286 | € 163,952 | 5% |
| N | € 2,728,734 | € 187,750 | 7% |
| O | € 8,806,979 | € 6,270,492 | 71% |
| P | € 5,893,785 | € 1,418,375 | 24% |
| Q | € 4,098,361 | € 409,836 | 10% |
| R | € 2,335,689 | € 176,148 | 8% |
| S | € 1,179,229 | € 185,656 | 16% |
| T | € 125,899 | € 3,279 | 3% |
| U | € 1,721,311 | € 540,984 | 31% |
| V | € 1,118,209 | € 0 | 0% |
| Z | € 253,860 | € 0 | 0% |
| TOTAL | € 374,434,247 | € 53,915,379 | 14% |

Table 11 - Voice and Data Services 2016 Expenditure relating to Total TLC

Currently, based on the available data, total Voice and Data Services expenditure for 2016 is approximately € 54 million, where the total TLC expenditure is approximately € 374 million. Therefore, the percentage of spending on Voice and Data Services on total TLC is 14%.

3.5 Consip / No Consip spending

Table 12 shows the details of the Consip and No Consip spending for 2016 relative to all the administrations in the sample.

| CPA | Consip 2016 spending | % Consip spending on total | No Consip 2016 spending | % No Consip spending | Total expenditure 2016 |
|--------------|----------------------|----------------------------|-------------------------|----------------------|----------------------------|
| A | € 131,396,119 | 43% | € 171,545,560 | 57% | € 302,941,679 |
| B | € 178,641,629 | 100% | € 0 | 0% | € 178,641,629 |
| C | € 205,888,656 | 100% | € 0 | 0% | € 205,888,656 |
| D | € 112,625,823 | 65% | € 61,508,867 | 35% | € 174,134,690 |
| E | € 124,277,456 | 76% | € 38,828,235 | 24% | € 163,105,691 |
| F | € 71,212,738 | 79% | € 19,485,932 | 21% | € 90,698,670 |
| G | € 5,749,446 | 16% | € 29,558,871 | 84% | € 35,308,317 |
| H | € 42,848,175 | 67% | € 20,946,088 | 33% | € 63,794,263 |
| I | € 17,377,832 | 35% | € 31,974,002 | 65% | € 49,351,834 |
| L | € 12,890,539 | 30% | € 30,022,757 | 70% | € 42,913,296 |
| M | € 7,705,332 | 22% | € 26,815,279 | 78% | € 34,520,611 |
| N | € 3,009,253 | 9% | € 30,103,039 | 91% | € 33,112,292 |
| O | € 8,778,150 | 42% | € 12,314,465 | 58% | € 21,092,616 |
| P | € 11,229,507 | 65% | € 5,983,607 | 35% | € 17,213,114 |
| Q | € 6,434,426 | 51% | € 6,073,770 | 49% | € 12,508,197 |
| R | € 3,470,132 | 28% | € 9,021,397 | 72% | € 12,491,528 |
| S | € 1,750,570 | 16% | € 9,188,688 | 84% | € 10,939,258 |
| T | € 2,342,581 | 25% | € 6,897,632 | 75% | € 9,240,213 |
| U | € 3,591,479 | 83% | € 737,705 | 17% | € 4,329,184 |
| V | € 8,048,534 | 100% | € 0 | 0% | € 8,048,534 |
| Z | € 1,200,860 | 100% | € 0 | 0% | € 1,200,860 |
| TOTAL | € 960,469,236 | 65% | € 511,005,893 | 35% | € 1,471,475,129 (*) |

Table 12 - Consip-No Consip year 2016 and % relevance on total

For the purchasing component outside Consip, the highest percentages are recorded for the following administrations:

- N (91%), mainly due to the ongoing contract for the purchase of application and infrastructure services (2013-2017);
- S (84%), mainly due to the ongoing contract for the purchase of application and infrastructure services (2013-2017);
- R (72%), mainly due to the ongoing contract for the purchase of application services (2013-2018).

In absolute terms, Administration A has the highest amount, about € 171 million. With reference to that administration, Consip's spending is mainly related to the purchase of hardware (91 € / Mln), application

services (44 € / Mln), licenses (35 € / Mln).

The chart in Figure 10 highlights, for the 7 *Big spender* Administrations, the details of Consip / No Consip purchasing mode for 2016.

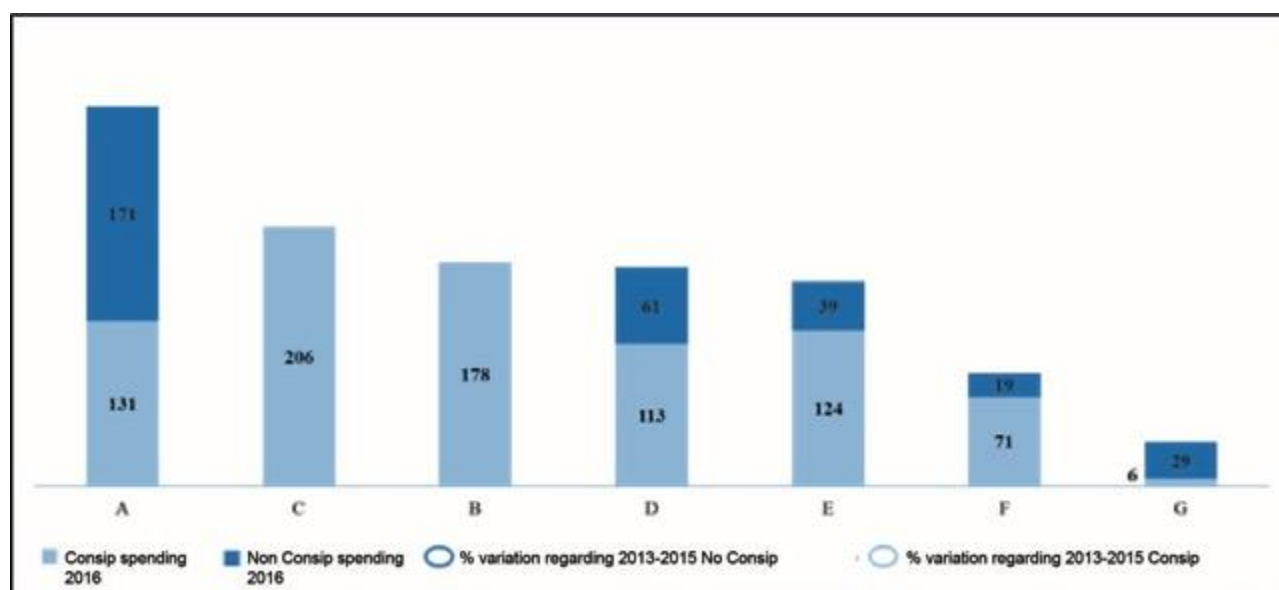


Figure 10 - Consip - No Consip purchasing for the 7 Major Administrations in 2016

For 5 of the 7 *big spenders* the share of Consip 2016 expenditure is higher than 50% of the total expenditure.

Only for the G and A Administrations the share of No Consip spending is over 50%.

4. Overview of CPA ICT projects

During the survey, 496 projects were enumerated for a total multi-year cost of over € 1.9 billion, which are currently underway or in the process of starting 451 for a multi-year cost of around € 1.8 billion.

It is emphasised as:

- The amounts of ICT projects shown below represent the total multi-year cost;
- The 2016 data analysis will serve as a basis for providing useful guidance for planning the interventions for the 2017-2018 two-year period;
- In the current year the overall picture shows that no rationalisation or redirection actions have been initiated on the Strategic Model;
- The administrations have not always launched initiatives in order to apply what is indicated in the AgID Newsletter *n.2 of 24/06/2016* and MEF *n.16 of 17/05/2016*.

4.1 Distribution of projects by purpose

With the objective of completing the economic framework for the Three-Year Plan, a first mapping of the 451 projects under way or being started with respect to the Strategic Model was carried out.

The result of this mapping is summarised in Figure 11, where the number and total cost of the 451 projects are presented for purposes other than those provided for in the Chapters of the Three-Year Plan that

describe the constituent elements of the Strategic Model or with respect to specific institutional activities Of the individual administration to carry out their duties.

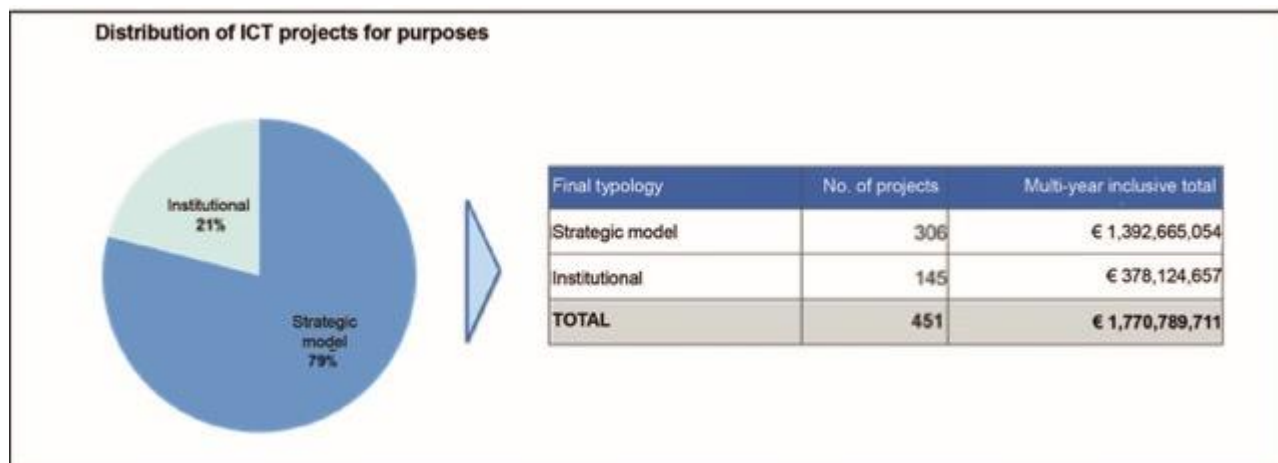


Figure 11 - Distribution of ICT projects for purposes

Of the 451 projects currently under review or in the launch phase, the projects mapped on the Strategic Model (306 projects) account for 79% of the total, amounting to around € 1.4 billion.

The 306 projects referring to the Strategic Model are distributed as shown in Figure 12 below. It is emphasized that, from the economic point of view, it has become apparent that projects related to the acquisition of licensing renewals have been considered as a whole, although in the Strategic Model this area is not highlighted.

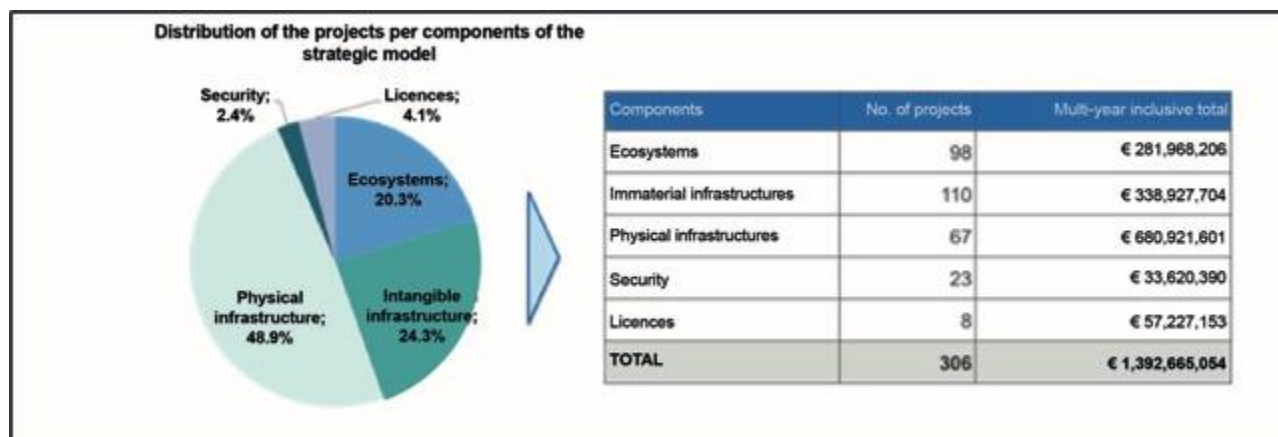


Figure 12 - Distribution of ICT projects for analysed macro-areas

The most significant total cost amount is that of physical infrastructure of approximately 681 million euros.

At the level of the number of the 306 projects mapped, most of these are related to intangible infrastructures (110) and ecosystems (98).

4.2 The CPA projects and the PA's Strategic Model

Based on the above, it was considered useful to continue the analysis of projects relating to physical and intangible infrastructures and ecosystems. The following table shows the details of the 275 projects for a total multi-year cost of approximately € 1.3 billion.

| CPA | Physical infrastructures | | Intangible infrastructures | | Ecosystems | | Total | |
|--------------|--------------------------|--------------------|----------------------------|--------------------|------------|--------------------|------------|----------------------|
| | No. | Cost € | No. | Cost € | No. | Cost € | No. | Cost € |
| A | 2 | 0 | 2 | 10,491,803 | 5 | 19,836,066 | 9 | 30,327,869 |
| B | 6 | 14,334,142 | 31 | 87,208,046 | 12 | 75,713,383 | 49 | 177,255,571 |
| C | 0 | 0 | 2 | 4,892,732 | 6 | 34,455,176 | 8 | 39,347,908 |
| D | 17 | 246,188,525 | 9 | 87,416,896 | 9 | 6,967,213 | 35 | 340,572,634 |
| E | 2 | 32,735,436 | 10 | 10,425,758 | 10 | 15,085,728 | 22 | 58,246,922 |
| F | 7 | 138,944,278 | 5 | 18,553,443 | 15 | 79,617,912 | 27 | 237,115,633 |
| G | 0 | 0 | 3 | 1,466,091 | 7 | 5,566,143 | 10 | 7,032,234 |
| H | 1 | 1,561,500 | 5 | 90,295,945 | 9 | 16,156,871 | 15 | 108,014,316 |
| I | 17 | 174,266,275 | 7 | 12,511,867 | 0 | 0 | 24 | 186,778,142 |
| L | 4 | 60,400,000 | 10 | 5,285,000 | 0 | 0 | 14 | 65,685,000 |
| M | 2 | 6,520,697 | 1 | 1,083,643 | 6 | 12,282,369 | 9 | 19,886,709 |
| N | 0 | 0 | 5 | 3,650,772 | 0 | 0 | 5 | 3,650,772 |
| O | 3 | 1,846,236 | 7 | 1,237,654 | 3 | 1,160,149 | 13 | 4,244,039 |
| P | 1 | 2,868,852 | 1 | 262,295 | 0 | 0 | 2 | 3,131,147 |
| Q | 0 | 0 | 0 | 0 | 2 | 10,307,833 | 2 | 10,307,833 |
| R | 1 | 897,839 | 2 | 1,624,170 | 13 | 4,819,363 | 16 | 7,341,372 |
| S | 1 | 29,952 | 7 | 508,689 | 0 | 0 | 8 | 538,641 |
| U | 2 | 327,869 | 3 | 2,012,900 | 0 | 0 | 5 | 2,340,769 |
| V | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Total | 67 | 680,921,601 | 110 | 338,927,704 | 98 | 281,968,206 | 275 | 1,301,817,511 |

Table 13 - Distribution and cost of CPA projects for macro-areas of the Strategic Model

As shown in the previous table at cost level, most relevant projects focus on physical infrastructure, which weighs about 52% of the total, for a total amount of 681 million euros.

4.3 Physical infrastructure projects

This sub-scheme covers 52% of total project spending for a total of 67 interventions. Within it, Data Centre (29 total) and Connectivity (25 total) projects are the most numerous. Beside these it was considered useful to isolate and highlight two other domains Telephony - Voip and Cloud.

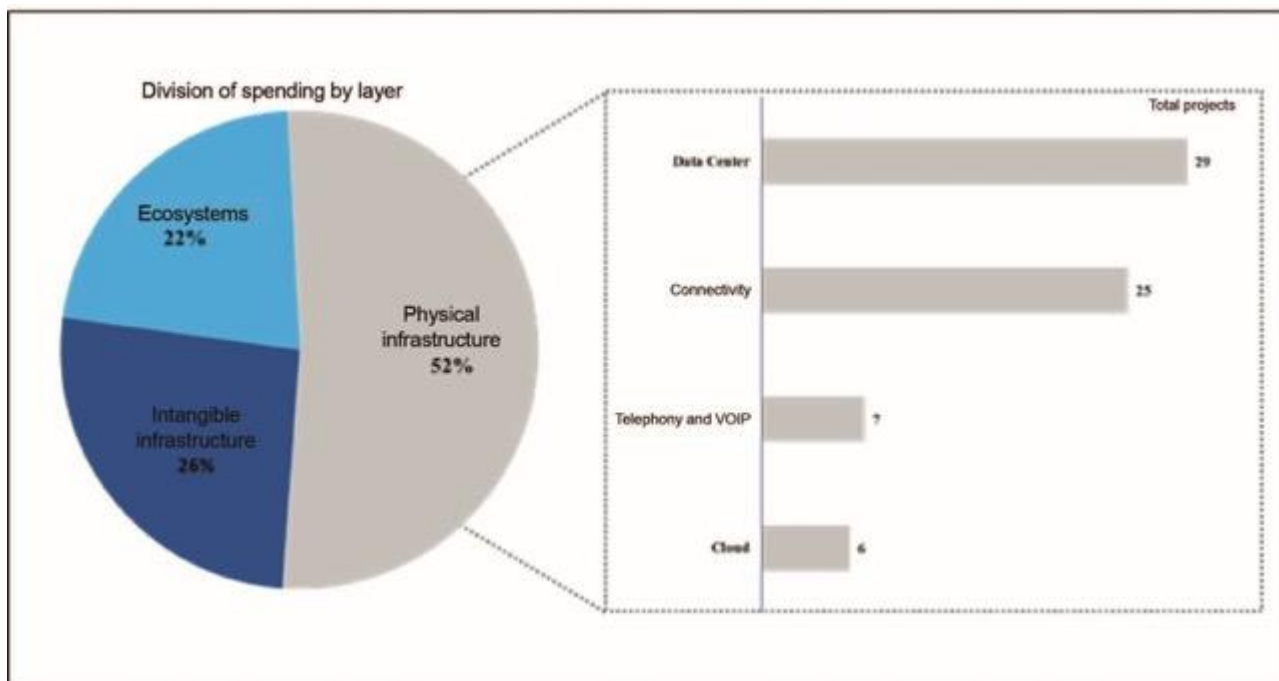


Figure 13 - Distribution of CPA spending - focus on physical infrastructure

Projects in Data Centre

The following table lists the administrations that have declared projects in the Data Centre, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| A | 2 | € 0 | 3 | NA |
| B | 3 | € 10,760,552 | 2.7 | € 3,958,390 |
| D | 7 | € 102,991,803 | 2.6 | € 5,658,890 |
| E | 1 | € 28,235,607 | 2.6 | € 10,589,849 |
| F | 2 | € 26,077,104 | NP | NA |
| H | 1 | € 1,561,500 | 3 | € 520,500 |
| I | 8 | € 32,645,111 | NP | NA |
| L | 2 | € 60,000,000 | NP | NA |
| M | 1 | € 6,015,000 | NP | NA |
| O | 1 | € 81,967 | 1 | € 81,967 |
| R | 1 | € 897,839 | 2.8 | € 320,657 |
| TOTAL | 29 | € 269,266,484 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 14 - Physical infrastructures: Data Centre projects

The most important part of these projects, even in terms of expenditure, for those projects is that of the D administration (7 projects for a total cost of about 103 million €) and the Administration I (8 projects for a total cost of about 33 million €).

Projects in Connectivity environment

The following table lists the administrations that have declared projects in the Network and connectivity environment, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 1 | € 1,647,541 | 3 | € 549,180 |
| D | 8 | € 131,557,377 | 2.5 | € 6,577,868 |
| F | 4 | € 110,162,256 | NP | NA |
| I | 6 | € 126,440,164 | 6 | € 3,512,227 |
| L | 1 | € 0 | NP | NA |
| M | 1 | € 505,697 | NP | NA |
| O | 1 | € 124,924 | 1 | € 124,924 |
| P | 1 | € 2,868,852 | 2.9 | € 989,259 |
| S | 1 | € 29,952 | NP | NA |
| V | 1 | NP | NP | NA |
| TOTAL | 25 | € 373,172,828 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 15 - Physical infrastructures: connectivity projects

The most important part, including in terms of expenditure, is that of the Administration D (8 projects for a total cost of about 132 million €), the Administration I (6 projects for a total cost of about 126 million €) and

Data updated February 2017.

the F administration (4 projects for a total cost of approximately 110 million €).

Projects in the field of Telephony and VOIP

The following table lists the administrations that have declared projects in the field of Telephony and VOIP, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|--------------------|
| B | 1 | € 846,050 | 1 | € 846,050 |
| D | 2 | € 11,639,344 | 2.5 | € 2,327,869 |
| I | 3 | € 15,181,000 | 5 | € 1,012,067 |
| O | 1 | € 1,639,345 | 1 | € 1,639,345 |
| TOTAL | 7 | € 29,305,739 | 2.4 | € 1,755,389 |

Table 16 - Physical Infrastructures: Telecom and Voip projects

The most significant part of the projects also in terms of spending is that of the I Administration (3 projects for a total cost of about € 15 million).

With reference to other Administrations that have not reported projects in the field of Telephony and VoIP, it is noted that in many cases the Administrations have already made the transition to VOIP.

Projects in cloud environment

The following table lists the administrations that have declared projects in the Cloud environment, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 1 | € 1,080,000 | 2 | € 540,000 |
| E | 1 | € 4,499,829 | 2.8 | € 1,585,364 |
| F | 1 | € 2,704,918 | NP | NA |
| L | 1 | € 400,000 | NP | NA |
| U | 2 | € 327,869 | 1.5 | € 109,290 |
| TOTAL | 6 | € 9,012,616 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 17 - Physical Infrastructures: Cloud Environment Projects

It is noted that only 5 Administrations have announced that they have started projects for the transition to the Cloud.

4.4 Intangible infrastructure projects

The projects covered by this sub-section cover 26% of total project expenditure, and among the major projects are those in the field of Document Management and Conservation (23 projects), Personnel Management System (18 projects), Databases (15 projects) Re-engineering of administrative processes (14

projects).

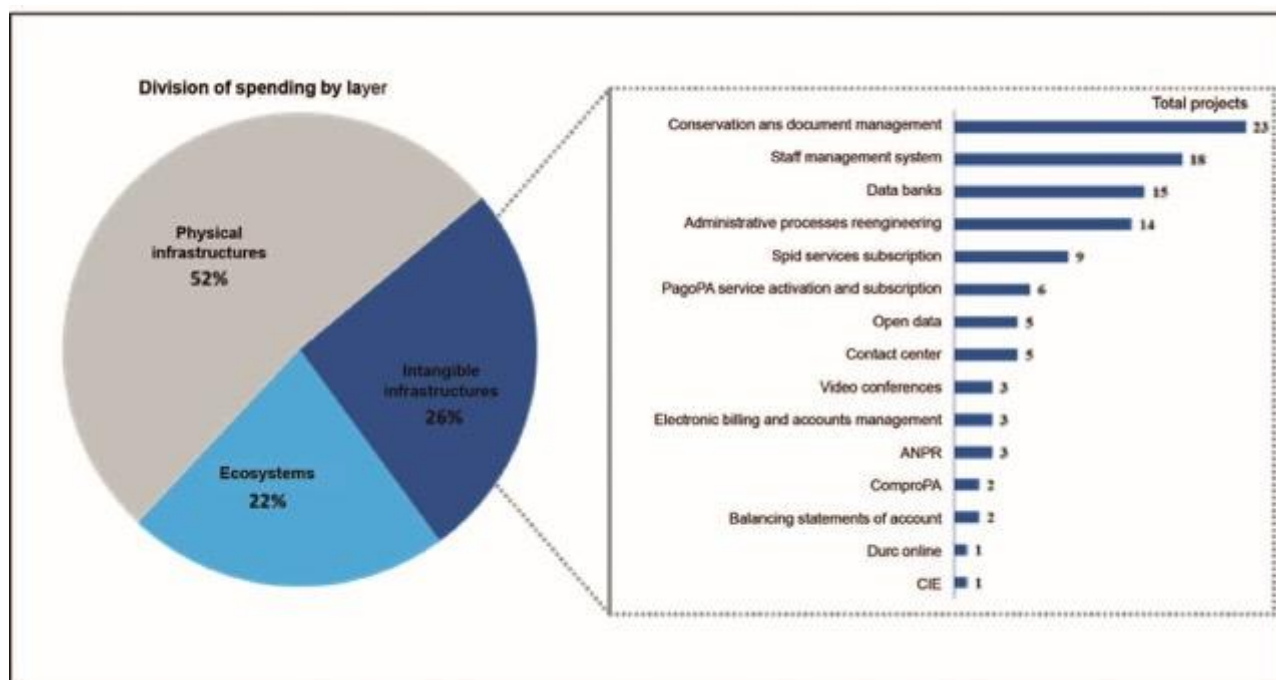


Figure 14 - Distribution of CPA spending - focus on intangible infrastructure

Though numerically many projects in terms of total amount, interventions of this type have resulted in a total expenditure lower than that of physical infrastructure. This indicates, at first glance, how intangible infrastructures do not yet play a key role in the choices of administrations in terms of the use of available resources.

Projects in the field of Document Management and Conservation

The following table lists the administrations that have declared projects in this field, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 4 | € 8,732,169 | 2.5 | € 873,217 |
| F | 3 | € 9,127,213 | NP | NA |
| H | 1 | € 2,952,248 | 3 | € 984,082 |
| I | 3 | € 6,911,128 | NP | NA |
| L | 3 | € 3,935,000 | NA | NA |
| N | 2 | € 1,073,100 | 2 | € 268,275 |
| O | 2 | € 221,231 | 1 | € 110,616 |
| R | 1 | € 722,530 | 1 | € 881,487 |
| S | 2 | € 327,869 | NP | NA |
| U | 2 | € 2,012,900 | 2.1 | € 624,342 |
| TOTAL | 23 | € 36,015,387 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 18 - Intangible Infrastructures: Document Management and Conservation projects

The most significant part of the projects in terms of expenditure is also the one related to the B Administration Projects (4 projects for a total cost of € 9 million), the Administration I (3 projects with a total cost of € 7 million), and of the F administration (3 projects for a total cost of € 9 million).

These costs must be added to those that all administrations will have to deal with to adapt their systems to CAD rules in order to implement process digitization and document dematerialization.

These costs have not yet been valued and are added to those highlighted in the table. There is a need to set up a systemic project that rationalizes spending and ensures the strategic goal achievement.

Projects in the Personnel Management System environment

The following table lists the administrations that have declared projects that relate to all the personnel management activities, the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 9 | € 24,983,886 | 2.9 | € 957,237 |
| D | 2 | € 2,213,115 | 2.5 | € 885,246 |
| G | 1 | € 502,568 | 1 | € 502,568 |
| I | 2 | € 4,086,080 | 11 | € 185,731 |
| O | 3 | € 977,079 | 1 | € 325,693 |
| S | 1 | € 16,885 | NP | NA |
| TOTAL | 18 | € 32,779,614 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 19 - Intangible Infrastructures: Project Areas Personnel Management System

In this area are included projects related to personnel management systems, among which are:

- 9 indicated by Administration B for a total cost of € 25 million related to the adjustment and evolution of the NoiPA system, the information system for the production and management of the payslip should also be extended to the management of the non-economic components of the personnel, thus supporting the recent PA reform and the creation of a single role;
- 3 projects out of 6, indicated respectively by the Administration I, the Administration O and the G Administration, for which further studies are being carried out to verify possible integration with the Administration B system.

Projects in Data Banks

The following table lists the administrations that have declared projects for the creation / management / evolution of Data Banks, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 6 | € 13,339,475 | 1.9 | € 1,170,129 |
| C | 1 | € 3,226,321 | NP | NA |
| D | 1 | € 491,804 | 0.5 | € 983,606 |
| E | 1 | € 1,577,707 | 2.8 | € 562,916 |
| H | 1 | € 74,014,291 | 3 | € 24,671,230 |
| L | 2 | € 400,000 | NP | NA |
| N | 1 | € 610,500 | 2 | € 305,250 |
| R | 1 | € 901,639 | 2 | € 450,819 |
| U | 1 | NP | NP | NA |
| TOTAL | 15 | € 94,561,737 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 20 - Intangible Infrastructure: projects covering Data Banks

For these projects, administrations have been asked to evaluate the possible re-engineering of the registry in anticipation of the implementation of ANPR.

Projects in the Reengineering of Administrative Processes

The following table lists the administrations that have announced projects in the context of Reengineering of Administrative Processes in Digitization, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| D | 2 | € 1,106,557 | 1.6 | € 345,799 |
| E | 6 | € 6,680,302 | 3.1 | € 359,526 |
| H | 1 | € 1,111,950 | 3 | € 370,650 |
| I | 1 | € 506,865 | NP | NP |
| L | 3 | € 600,000 | NP | NA |
| N | 1 | € 1,147,500 | 1.9 | € 600,053 |
| TOTAL | 14 | € 11,153,175 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 21 - Intangible Infrastructures: Reengineering projects for administrative processes

The most significant part of the project also in terms of expenditure is that of the E administration (6 projects for a total cost of € 7 million).

Projects for Membership and Activation Services at SPID

The following table lists the administrations that have declared projects in the Membership and activation

Data updated February 2017.

services at SPID, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 3 | € 1,259,321 | 1 | € 419,774 |
| D | 1 | NP | NP | NA |
| F | 1 | € 819,672 | NP | NA |
| L | 1 | € 150,000 | NP | NA |
| O | 1 | € 14,754 | 1.7 | € 8,679 |
| S | 2 | NP | NP | NA |
| TOTAL | 9 | € 2,243,747 | NP | NA |

NP = Not Achieved; NA = Not Applicable

Table 22 - Intangible Infrastructures: Membership and Activation at SPID

SPID related costs are related to the number of PA services and procedures in place for identification.

Projects in the field of Membership and Activation Services on PagoPA

The following table lists the administrations that have activated transition projects on PagoPA.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 2 | € 517,522 | 2 | € 129,380 |
| E | 1 | € 523,935 | 2 | € 264,138 |
| G | 1 | € 447,389 | 1 | € 447,389 |
| H | 1 | € 1,005,216 | 3 | € 335,072 |
| S | 1 | € 0 | NP | NA |
| TOTAL | 6 | € 2,494,062 | NP | NA |

NP = Not Achieved; NA = Not Applicable

Table 23 - Intangible Infrastructure: Membership and service activation on PagoPA projects

Projects in Contact Centre environment

The following table lists the administrations that have declared projects in the Contact Centre, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|--------------------|
| A | 1 | € 7,131,148 | 3 | € 2,377,049 |
| B | 1 | € 2,933,606 | 3 | € 977,869 |
| E | 1 | € 1,422,334 | 2 | € 717,060 |
| H | 1 | € 11,212,240 | 3 | € 3,737,413 |
| O | 1 | € 24,590 | 1 | € 24,590 |
| TOTAL | 5 | € 22,723,918 | 2.4 | € 1,893,660 |

Table 24 - Intangible Infrastructures: Contact Centre projects

Projects in the Open Data field

The following table lists the administrations that have declared projects in the open data field, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 1 | € 327,869 | 2 | € 163,935 |
| E | 1 | € 221,480 | 2.3 | € 96,296 |
| M | 1 | € 1,083,643 | NP | NA |
| N | 1 | € 819,672 | 1.5 | € 546,448 |
| P | 1 | € 262,295 | 1.2 | € 218,579 |
| TOTAL | 5 | € 2,714,959 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 25 - Intangible Infrastructures: Open Data projects

Projects in the ANPR field

The following table shows the project related to ANPR.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|---------------------------------------|--------------------|-------------------------|---------------------------|-------------------|
| D | 1 | € 17,000,000 | 2.5 | € 6,800,000 |
| D (system to be integrated into ANPR) | 1 | € 4,105,420 | 4.5 | € 912,315 |
| L | 1 | € 200,000 | NP | NA |
| TOTAL | 3 | € 21,305,421 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 26 - Intangible Infrastructures: projects covering ANPR

Projects in the Videoconferencing field

The following table lists the administrations that have declared projects in Videoconferencing, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| F | 1 | € 8,606,557 | NP | NA |
| I | 1 | € 1,007,794 | NP | NA |
| S | 1 | € 163,934 | NP | NA |
| TOTAL | 3 | € 9,778,285 | NP | NA |

NP = Not Achieved; NA = Not Applicable

Table 27 - Intangible Infrastructures: projects in Videoconferencing

Projects in the field of Accounting and Electronic Billing

The following table reports the administration directories that have declared projects in the electronic and accounting management environment, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 1 | € 2,351,518 | NP | NA |
| C | 1 | € 1,666,412 | NP | NA |
| G | 1 | € 516,134 | 1 | € 516,134 |
| TOTAL | 3 | € 4,534,065 | NP | NA |

NP = Not Achieved; NA = Not Applicable

Table 28 - Intangible Infrastructures: Project Areas Accounting Management and Electronic Billing

Projects in the field of ComproPA

The following table shows the project for ComproPA, with MIT, MEF, AgID, SOGEI, REVENUE AGENCY, ANAC, CONSIP's participation.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|--------------------|
| B | 2 | € 16,260,220 | 3 | € 2,710,037 |
| TOTAL | 2 | € 16,260,220 | 3 | € 2,710,037 |

Table 29 - Intangible Infrastructures: ComproPA projects

Projects in the Area of Accounting Harmonization

The following table reports the administration directories which have declared projects in the Accounts Plan Harmonization, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 2 | € 16,502,459 | NP | NA |
| TOTAL | 2 | € 16,502,459 | NP | NA |

NP = Not Achieved; NA = Not Applicable

Table 30 - Intangible Infrastructures: projects under the Accounts Plan Harmonization

In this context, two projects have been announced by Administration B. in particular, the SIOPE+ enabling platform at the design stage is noted: an evolution of the SIOPE system (useful for cash flow management) in order to ensure the analysis and evaluation of expenditure, monitoring and control of public accounts, and to promote the implementation of fiscal federalism through harmonization and standardization of schemes and data flows.

4.5 Ecosystem Projects

This sub-scheme covers 22% of total project spending for a total of 98 interventions. Projects in the Public Finance environment are included in this (31).

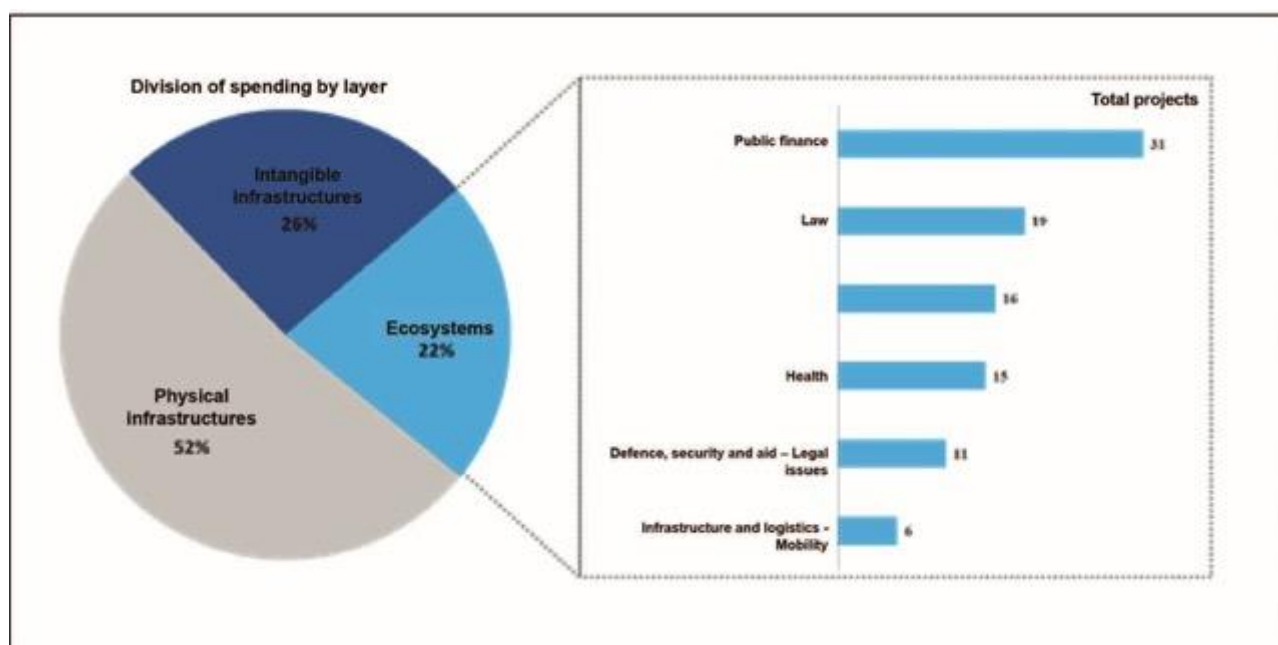


Figure 15 - Distribution of CPA spending - Focus on Ecosystems

Public Finance Ecosystem Projects

The following table reports the administrations that have declared projects in the Public Finance environment, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| A | 1 | € 1,557,377 | 3 | € 519,126 |
| B | 8 | € 11,963,745 | 1 | € 1,495,468 |
| C | 6 | € 34,455,176 | NP | NA |
| D | 1 | € 901,639 | 1.75 | € 515,222 |
| G | 7 | € 5,566,142 | 1 | € 795,163 |
| H | 7 | € 10,720,356 | 3 | € 512,146 |
| V | 1 | NP | NP | NA |
| TOTAL | 31 | € 65,164,435 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 31 - Ecosystems: Public Finance

Ecosystem Justice Projects

The following table report the administration directories that have declared projects in the field of Justice, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| B | 1 | € 549,633 | 1 | € 549,633 |
| E | 1 | € 701,489 | 3 | € 233,830 |
| F | 15 | € 79,617,912 | NP | NA |
| H | 2 | € 5,436,516 | 3 | € 906,086 |
| TOTAL | 19 | € 86,305,550 | NP | NA |

NP = Not Achieved; NA = Not Applicable

Table 32 - Ecosystems: Justice

Welfare Ecosystem Projects

The following table reports the administrations that have declared projects in Welfare, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| A | 4 | € 18,278,689 | 3 | € 1,523,224 |
| B | 1 | € 627,049 | 3 | € 209,016 |
| E | 9 | € 14,384,239 | 2.6 | € 614,711 |
| Q | 2 | € 10,307,833 | 3.5 | € 1,472,548 |
| TOTAL | 16 | € 43,597,810 | 2.9 | € 939,608 |

Table 33 - Ecosystems: Welfare

Ecosystem Health Projects

The following table reports the administration directories that have declared projects in the Health environment, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|--------------------|
| B | 2 | € 62,572,956 | 3.0 | € 10,428,826 |
| R | 13 | € 4,819,363 | 1.4 | € 264,800 |
| TOTAL | 15 | € 67,392,320 | 1.5 | € 2,995,214 |

Table 34 - Ecosystems: Health

Defence, security and rescue Ecosystem Projects - legality

The following table reports the administration directories that have declared projects in the field of Defence, Security and Rescue - Digital Citizenship, the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| D | 8 | € 6,065,574 | 2.7 | € 280,813 |
| O | 3 | € 1,160,149 | 1 | € 386,716 |
| TOTAL | 11 | € 7,225,722 | 2.1 | € 312,801 |

Table 35 - Ecosystems: Defence, Security and Rescue - Legality

Infrastructural and Logistics Projects - Mobility

The following table reports the administration directories that have declared projects in the infrastructure and logistics field - Mobility, with the number of projects and the total cost.

| CPA | Number of projects | Total multi-annual cost | Average duration in years | Average unit cost |
|--------------|--------------------|-------------------------|---------------------------|-------------------|
| M | 6 | € 12,282,369 | NP | NA |
| TOTAL | 6 | € 12,282,369 | NA | NA |

NP = Not Achieved; NA = Not Applicable

Table 36 - Ecosystems: Infrastructure and Logistics - Mobility



Appendix: Methodological note

In AgID survey, 21 CPAs were directly involved, largely significant in terms of ICT spending.

The administrations have been required, through the compilation of detailed data sheets, to provide the general information of the administration, projects and contracts in the field of ICT in progress or at the start-up stage with a total cost equal to or greater than the Community threshold. Subdivision of ICT spending according to Opex / Capex, IT / TLC, Consip / No Consip.

Forecast data for the three-year period 2016-2018 and average values for the three-year period 2013-2015 were required.

With regard to the contributions received, for the two-year period 2017-2018, the data are still incomplete and the result of estimation by the same administrations, making the statistical confidence interval too large for a reliable analysis.

For this reason, the results of the study focused on the year 2016 and the comparison with the average annual expenditure of the three-year period 2013-2015.

Below is the detail of the received sheets for which the degree of completeness of the information is indicated in relation to the cognitive needs required to perform a complete analysis of the data:

| Administration | Completeness of the information provided Key: High = information provided 75% - 100% of the required set; Media = information provided 50% - 75% of the required set; Low = information provided <50% of the required set. |
|----------------|--|
| A | High |
| B | High |
| C | High |
| D | Medium |
| E | High |
| F | High |
| G | Medium |
| H | High |
| I | High |
| L | High |
| M | High |
| N | Medium |
| O | Medium |
| P | High |
| Q | High |
| R | High |
| S | Medium |
| T | Low |
| U | Medium |
| V | Medium |
| Z | Low |

Table a - Completeness of information provided by CPAs

Basic assumptions:

- The figures presented are net of VAT;
- The breakdown of investment expense (Capex) and current expenditure (Opex), reflecting the classification of 'year-by-year' budget data, was chosen to identify the total expenditure of each administration recorded, even when it did not coincide with the total amount in view of the expenditure allocated between ICT and TLC, which represents the "cash" expenditure with the only exception being administration D, which, on an indication of the administration itself, considered the "incidental" expenditure coinciding with that "for cash";
- The total share of expenditure between Capex / Opex does not coincide with that allocated for IT / TLC, since the former represent the costs of the year and the second "cash" expenses carried out in the year;
- The data of the Z, T, D, L and G administrations may not be complete;
- All the amounts received through the survey have been standardised and rounded off excluding the decimal.



Below is the glossary of terms and acronyms used in this document.

| Terms and Acronyms | Description |
|--------------------|---|
| AGEA | Agricultural Payments Agency |
| AgID | The Agency for Digital Italy |
| AIFA | Italian Drug Agency |
| ANPR | National Register of Resident Population |
| AO | Hospital Agency |
| AOU | University Hospital Agency |
| ASL | Local Health Authority (ASL) |
| CAD | Digital Administration Code |
| Capex | Capital Expenditures (expenses for investment) |
| CED | Data processing centre |
| CINECA | Interuniversity Consortium for Northern Italy's Automatic Calculation |
| CNR | National Research Council |
| Consip | Concessionary Public Information Services |
| DL | Executive order |
| D. Lgs. | Legislative decree |
| DM | Ministerial decree |
| DPCM | Decree of the President of the Council of Ministers of the Italian Republic |
| DURC | Single insurance contribution payment certificate |
| ICT | Information and Communication Technologies |
| In-house | Internally performed or managed service |
| IP | Internet Protocol |
| IPZS | Polygraphic Institute and State Mint |
| IRCCS | Institute of Hospitalization and Scientific Care |
| ISTAT | National statistics institute |
| IT | Information Technology |
| VAT | Value-added tax |
| LPR | Line Printer Remote protocol |
| NA | not applicable |
| NC | Not Complete |
| NP | Not received |
| Opex | Operating Expenditures (Current Expenditure) |
| Outsourcing | Outsourcing of performance or service |
| PA | Public Administration |
| CPA | Central Public Administration |
| LPA | Local Public Administrations |
| PRA | National Vehicle Register |
| RENDE | Dematerialized Statement |
| SCNTT | National centralised numberplate and transit system |
| SDI | Spatial Data Infrastructure |
| Sogei | Società Generale d'Informatica S.p.A. |
| SPC | Public connectivity system |
| Consip Expenditure | Costs made through Consip purchase tools |
| No Consip Expense | Cost not effected through Consip purchase tools |
| SPID | Digital Identity Public System |
| SSN | National health service |
| TLC | Telecommunications |
| VoIP | Voice over Internet Protocol |

Table b - Terms and Acronyms