

## CO e-Service: the Italian eGovernment revolution for the Compulsory Communication of the employment status

The “Comunicazioni Obbligatorie – CO” (Italian for “Compulsory Communication”) is an innovative Italian e-service to simplify, centralize, and guarantee the interoperability of information about the employment/unemployment status of citizens (Italians, EU and extra-EU citizens) in Italy: more than 30 million communications. Since the 1st of March 2008, every single public and private employer must use the CO electronic service to notify any employee team variation. The communication is a real time process and notified to both public and private entities which manage information about employment status (e.g. employers, the Italian National Social Security Service - INPS, the Italian National Insurance at Work Service - INAIL, National Welfare Service, etc.)

Until the deployment of the CO e-service, most notifications required manual intervention at most stages. Since it has been activated, the CO e-service has processed over 380,000 user registrations, 10 million CO-notifications.

This innovative e-service reduces the famous Italian “burocratization”: most of the information and data are safely web shared (interoperability) and paper-documents are no longer needed. In accordance with the “strategic lines towards the achievement of the national eGovernment System”, the CO service improves the Public Administration’s efficiency; achieves full interoperability and complete cooperation between administrations; enhances the transparency, quality and efficiency of public administration and simplifies and reorganizes some administrative processes. In turn the CO service also enables public subjects to discover and suppress the “undeclared/ black work” for a better economical public governance.

The opportunity to access the actual and complete data of the Italian labour market represents a valuable Decision Support System (DSS) tool for politicians; in fact, it provides an extraordinary wealth of objective data about the labour market in real-time for a better and more effective planning of employment active policies. This article provides a general overview of the key actions towards CO Service development.



**Grazia Strano**  
Ministry of  
Labour and  
Social Security,  
Italy



**Daniele Lunetta**  
Ministry of  
Labour and  
Social Security,  
Italy



**Luca Torri**  
e-land S.r.l.,  
Italy



**Giorgio Genta**  
ETT S.r.l., Italy



**Giovanni Verreschi**  
ETT S.r.l., Italy

### Keywords

eGovernment, Labour e-Service, compulsory notification of employment status, interoperability, cooperative solutions, cooperative applications

“ One explanation for lack of inter-governmental interoperability is that initiatives are more likely funded by individual nations rather than through a central European body. ”

## 1 Introduction

### 1.1 The EU eGovernment recommendation and the Italian context

“The eGovernment action plan adopted today by the European Commission addresses five priority areas for 2010 (No citizen left behind, Raising efficiency, Implementing e-Procurement, Safe access to services EU wide, Strengthening participation and democratic decision-making) and underlines the commitment of the European Commission to delivering tangible benefits to all Europeans: eGovernment is the use of information & communication technologies (ICT) to make public administrations more efficient and effective and to make a practical difference to the daily lives of all citizens”. [1]

In response to Community recommendations, and in particular in accordance to the *Lisbon Agenda* and *i2010 initiative for jobs and growth* [2], the Italian Government has started issuing new regulations in order to liberalise the labour market and related services, and to innovate and make available electronically public services.

Italian primary actions (2000-2006) were more focused on the territorial infrastructure investments for the innovation. In this context the responsibility for job search services has been decentralised from the central level (Ministry of Labour) to the Regions and Provinces. Job related information has been managed by the local offices of labour (Centri per l'impiego) and this caused a certain degree of fragmentation and replication (the Italian National Social Security Service - INPS, the Italian National Insurance at Work Service - INAIL, National Welfare Service, etc).

If we consider that Italian public administration is divided into different levels of political management, namely Central Government, 20 Regions, 110 Provinces and about 8,100 Municipalities, it's easy to understand how this information was fragmented and unsynchronized.

The 2007 strategy has focused more on the sharing of common and consistent objectives between all types of administrations (concept of 'cooperative governance'). The aim is to guarantee full administrative interoperability, pursuant to the principle according to which citizens should perceive the public administration as a single entity.

In this context, on 30 October 2007 the Italian central government approved and issued an inter-ministerial law about a new electronic service to communicate hiring, contract renewing, etc. about employment status [3][4]. This innovation has been the result of the collaboration between the Italian Ministry of Labour and the Italian Ministry of Innovation. The law allows the innovative electronic services for labour (SIL - Sistema Informativo del Lavoro) to start.

### 1.2 The Italian implementation of the EU eGovernment recommendation

The SIL aims at the development of a common database to share homogeneous data on the labour market in real time. The achieved result is the “Comunicazioni Obbligatorie” - CO (Compulsory Communications) e-Service, an innovative Italian e-service to simplify, centralize, and guarantee the interoperability of information about the employment/unemployment status of people in Italy. The e-service also deals with the managing of the employers status (e.g. business name, ownership, etc).

A CO is the notification that any employer, either public or private, has to forward when recruiting, processing, shifting or dismissing any employment relationship. By means of the innovative e-service, the new employment status is notified to Ministry of Labour, the Italian National Social Security Service (INPS), the Italian National Insurance at Work Service (INAIL) and the local public administration (“Centro per l'Impiego” – CPI – Centre for Labour). In turn, this e-service manages the employment status information from the first search to retirement.

Until the activation of the CO service, the information about employment status was partially fragmented: some information was centralized for health and welfare purposes, while other information (e.g. search for work, hiring, shifting, etc) was locally managed at Province and Regional levels. The innovative CO e-service has been designed to integrate already available regional systems and to support any public administration to

provide an up-to-date e-service to people living in Italy. Data is real-time managed and accessible to other public services for health, welfare, immigration etc.

The CO e-service has been designed to allow a simplification of administrative procedures, in particular:

- data is shared among different public institutions,
- communication about the labour market is centralized and standardized,
- it aims at being one of the first Italian on line service – developed by a public administration - that provides information accessible to different end-users (private companies, public entities, etc.),
- it reduces the replication of data,
- it enables to supervise the labour market and defines politics according to labour market needs and lacks,
- it represents an innovative instrument to find undeclared workers

## 2 Materials and Methods

Whenever the employment status changes a notification has to be processed and registered, so the “Comunicazione Obbligatoria” – CO is the notification that any employer, either public or private, has to forward when recruiting, processing, shifting, dismissing etc. an employment relationship. The enabled user (enterprise, Centre for Labour, temporary agency, etc) notifies the change and the local public register stores the data and forwards it to the national welfare service and other public involved services and institutions. This data transmission is allowed by the NCN (Nodo di Coordinamento Nazionale) system, a CO e-service module which is based on web-services technology.

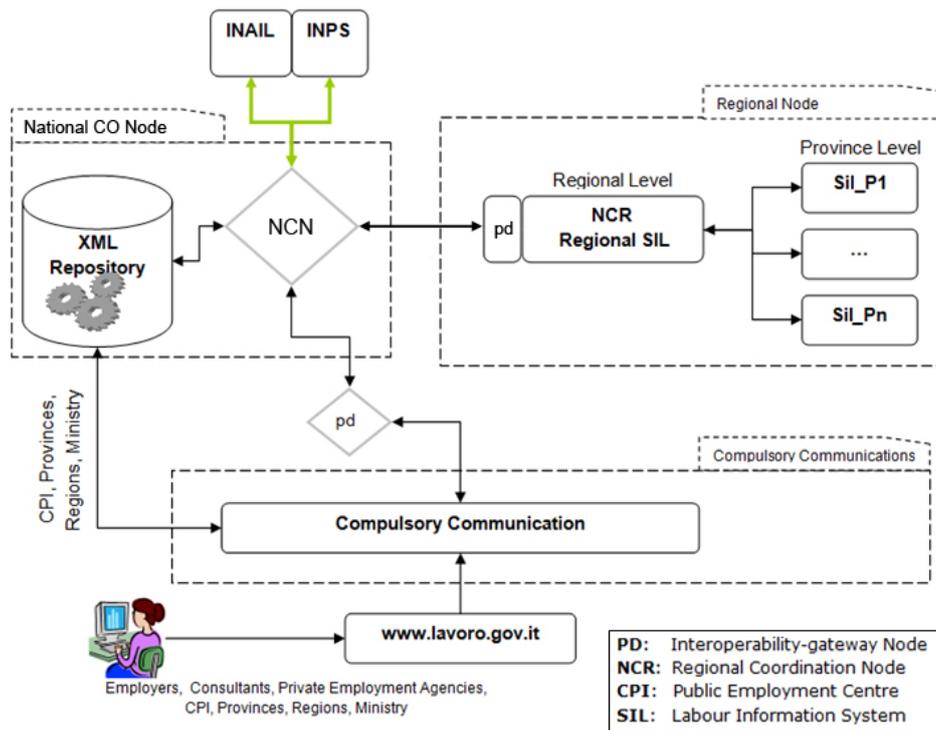
In the case of hiring, the enabled user has to provide the worker’s personal data, qualification, applied contract (CCNL), salary etc. at the latest a day before the first working day. In the other cases (shifting, dismissal, etc.) notification must be given at latest five days after the event.

In Italy, until a few months ago, the information about employment status was managed at either Regional or Province level<sup>1</sup> and this resulted in a very low level of integration. The Italian government issued the basic recommendations and every Region applied these at regional level, while every Province was in charge of the development of the service. Only in a few Provinces the developed services were able to communicate and share data at regional level.

A Ministry Decree (issued 30 October 2007) [3] stated that from March 1, 2008 this information has to be available both at regional level and at national level. Furthermore, data has to be packaged in a standard format in order to be shared with other national public services [4][5].

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<sup>1</sup> The Italian public administration is divided in different levels of political management: Central Government, 20 Regions, 110 Provinces and about 8100 Municipalities



**Figure 1:** The CO communication architecture. It has been developed in order to process up to 10.000 simultaneous sessions, 500.000 daily notifications (where the average national working days are 250/365), 5.000.000 daily transactions to the database, and about 12.000 transactions per minute.

The CO e-service has been designed to communicate with the already available autonomous regional systems (Lombardia, Valle d'Aosta, Piemonte, Veneto, Friuli Venezia Giulia, Emilia Romagna, Toscana, Marche, Umbria, Puglia, Lazio, Abruzzo and Liguria) and to provide a transitional service to the Regions (Sicilia, Calabria, Molise, Sardegna, Campania and the independent province of Trento) where data integration at a wider level was yet to date<sup>2</sup>.

To do this, the CO e-service provides four basic communication models, namely, UNILAV, UNISOMM, URG, and VARDATORI. The UNILAV and UNISOMM are the models to communicate hiring, shifting (e.g. from part-time to full-time), extending, and dismissing. The UNILAV is designed for both public and private end users with the exception of temporary employment agencies, while UNISOMM is specifically designed to make temporary agencies able to send their COs.

The VARDATORI is a standardized model to communicate changes in the business unit of the employer (e.g. after a fusion, buying, etc). In case of factoring requirements, the URG is the model to communicate an urgent hiring.

In this context the basic software and hardware requirements were the system capability to manage and process incoming and forwarding data.

**Table 1** presents an estimate about the amount of compulsory communications per year. The estimate has been done under the hypothesis that the amount of communication hardly changes in the future.

<sup>2</sup> The independent Province of Bolzano will join the CO-service next 1<sup>st</sup> December 2008

*Table 1 : Estimate of compulsory communication*

Region	Autonomous system	Regional Population	Estimated compulsory communications/year
Abruzzo	Yes	1.276.000	665.000
Basilicata	Yes	610.000	318.000
Calabria	No	2.070.000	1.079.000
Campania	No	5.800.000	3.021.000
Emilia Romagna	Yes	3.950.000	2.057.000
Friuli Venezia Giulia	Yes	1.180.000	617.000
Lazio	Yes	5.242.000	2.732.000
Liguria	Yes	1.640.000	856.000
Lombardia	Yes	9.000.000	4.685.000
Marche	Yes	1.450.000	756.000
Molise	No	330.000	172.000
Piemonte	Yes	4.300.000	2.237.000
Puglia	Yes	4.100.000	2.132.000
Sardegna	No	1.660.000	866.000
Sicilia	No	5.100.000	2.662.000
Toscana	Yes	3.500.000	1.838.000
Trentino Alto Adige	No	930.000	482.000
Umbria	Yes	832.000	434.000
Valle d'Aosta	Yes	120.000	62.000
Veneto	Yes	4.500.000	2.329.000
<b>Total</b>		<b>57.590.000</b>	<b>30.000.000</b>
<b>Autonomous system – Total</b>		<b>41.700.000</b>	<b>21.718.000</b>
<b>Transitional system – Total</b>		<b>15.890.000</b>	<b>8.282.000</b>

The CO e-service is organized in different functional modules that mimic the federal approach in Italy to job market monitoring. In particular, when a user sends a CO the notification is collected at provincial level where it receives its protocol number and the exact date and time of registration. The COs are then collected at regional level, where by means of the interoperability-regional-gate they are forwarded to the local Centre for Labour (Centro per l'Impiego - CPI)<sup>3</sup> at a national level. The CO is univocally registered at national level by means of the XML-Repository module that makes the information available for both further notifications to other national public services (e.g. National Health Service) and statistical purpose. A specific "CO Queue handler" has been developed to parallelize and optimize the incoming communication stream. The enabled end user can then directly interact with the national portal to monitor the CO and the employment status of a worker. The COs are sent to the upper and lower area level towards electronic-gates ("Porta di Dominio") that guarantee the confidentiality and security of communication through user identification, authentication, and authorization.

Data format are in accordance to the CNIPA recommendations [6] and the exchange data format is the "Busta di eGovernment" [7].

<sup>3</sup> The working relationship has to be stored by the local public administration (i.e. Centre for Labor) in charge of the data handling of both the worker and the employer, that means that if a worker works and lives in cities belonging to different provinces, the working-relationship has to be univocally registered in both Provinces (and in particular in the two Centers for Labor).

According to European recommendations regarding eGovernment services, the developed functionalities and related information are web accessible. The CO e-services manages the access to restricted areas according to user rights.

The CO e-service web front end is the portal <http://www.lavoro.gov.it/co> that is organized in four thematic areas:

- Legislative Procedure Information: to provide information about the CO, the CO users, laws, FAQ and glossary
- Access to the regional e-service for labour (“Sistemi Informativi del Lavoro” – SIL): to provide information about different regional e-services, the transitional service and information about the enabled-user registration
- Technical Support: to provide manuals, templates, user’s guides
- Press Area

The screenshot shows the main page of the CO web portal. At the top, there is a header with the logo 'CO' and the text 'Ministero del Lavoro e della Previdenza Sociale lavoro.gov.it'. Below this, the main heading is 'COMUNICA FACILE' with the subtitle 'le comunicazioni obbligatorie on line'. A central table lists 'Servizi informativi delle Regioni' for various Italian regions. The page also includes a 'PRIMO PIANO' section with news items and several utility buttons like 'SERVIZIO FAX SERVER' and 'SCARICA MODELLI E ALLEGATI'.

Servizi informativi delle Regioni		
Abruzzo	Liguria	Sicilia
Basilicata	Lombardia	Toscana
Calabria	Marche	Umbria
Campania	Molise	Valle d'Aosta
Emilia Romagna	Piemonte	Veneto
Friuli Venezia Giulia	Puglia	Provincia Autonoma Bolzano
Lazio	Sardegna	Provincia Autonoma Trento

Figure 2: the CO web portal main page

### 3 Results and discussion

The described e-service represents a very important innovation in Italy, where until few a weeks ago information about employment status was highly fragmented and independently managed by different public administrations (Provinces, Regions, the Italian National Social Security Service - INPS, the Italian National Insurance at Work Service – INAIL, National welfare Service, etc.). The CO e-Service had a very high impact on administrative procedures: nowadays operators don't have to deal with manual intervention at most stages anymore and they can focus their activities towards value-added services. In turn the administration is able to provide more productive and less expensive services.

The CO e-Service is the major result of the Italian government's actions to simplify the administrative procedure related to the job-market and it represents a concrete action to put the citizen first. Data are real time managed and public administration can provide immediate information and service to the citizen.

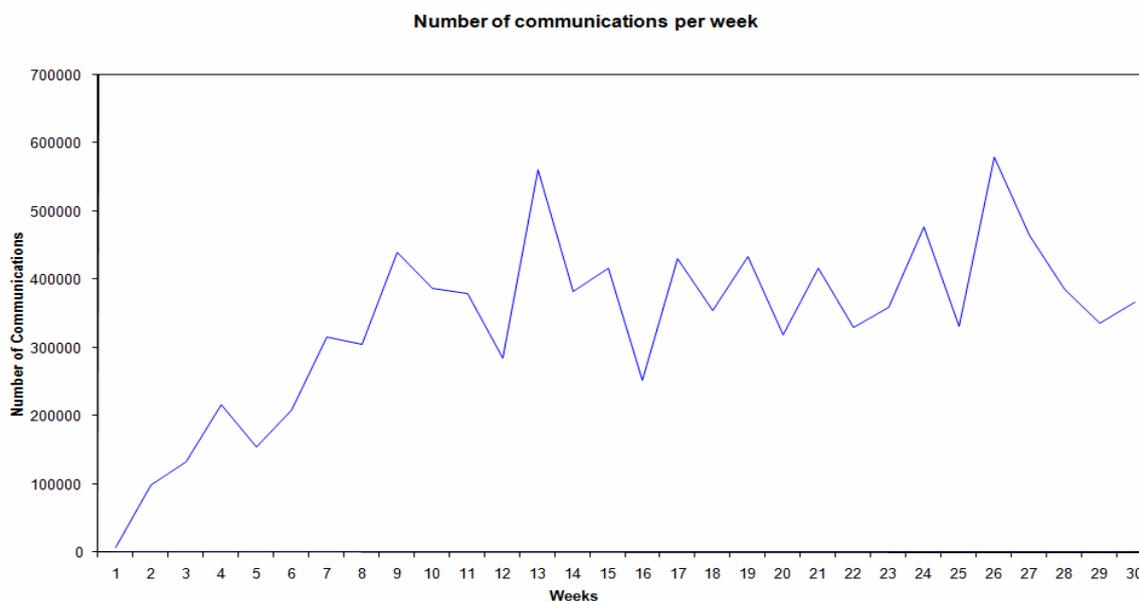
Since its activation – the system started 11 January 2008 - until 31 July 2008, CO e-Service has achieved about 10 million communications (see Table 2), notified by more than 380,000 enabled users, and the trend is growing (see Figure 3).

*Table 2: Achieved communications from 11/01/2008 until 31/07/2008*

Region	Hiring	Shifting	Processing	Dismissing	Total
Abruzzo	131.722	29.397	9.583	66.261	236.963
Basilicata	71.989	7.469	3.934	31.108	114.500
Calabria	177.851	20.886	9.528	55.758	264.023
Campania	449.481	57.606	27.440	181.084	715.611
Emilia Romagna	820.093	323.233	67.920	325.837	1.537.083
Friuli Venezia Giulia	79.691	11.962	14.610	43.027	149.290
Lazio	718.500	73.343	52.083	243.947	1.087.873
Liguria	116.184	19.555	13.637	51.021	200.397
Lombardia	874.114	157.790	109.785	442.675	1.584.364
Marche	129.893	17.832	16.181	54.941	218.847
Molise	144.721	88.339	2.564	65.934	301.558
Piemonte	335.144	51.155	49.311	165.394	601.004
Puglia	109.520	9.478	5.308	47.349	171.655
Sardegna	176.141	33.110	14.105	67.400	290.756
Sicilia	408.965	51.569	33.153	163.349	657.036
Toscana	334.630	49.868	44.447	146.625	575.570
Trento	58.935	11.901	5.958	30.282	107.076
Umbria	77.198	11.639	9.622	34.724	133.183
Valle d'Aosta	15.543	2.534	1.407	6.473	25.957
Veneto	438.280	75.502	70.590	235.509	819.881
Total	5.673.995	1.104.432	561.270	2.461.138	9.800.835

Besides the number of communications, Table 2 also reports the typology of the communication (hiring, shifting, processing, dismissing).

The opportunity to access to the actual situation of the labour market represents a very valuable tool that enables politicians to plan activities and policies to push employment in a better way.



*Figure 3: number of communications vs. time*

The centralization of the data storage at national level by means of the XML-Repository Module also enables different monitoring functionalities for statistical purposes. Enabled users (i.e. inspectors) can access to the “Cruscotto” (dashboard) section where they can aggregate, cluster, etc. information and print statistic. For

instance Figure 4 reports the distribution of hiring according the economical sectors and Figure 5 describes the typology of the applied employment contract.

Correlating the reported results (Figure 4 and Figure 5) it is possible to better understand the labour market in Italy. It is important to consider that achieved data are related to a short period, five months, because CO e-Service became mandatory – for employers – from March 1st 2008, so data analysis has only a limited value.

Starting from this consideration, we can note that more than 50% of communications are related to season-jobs (restaurants and hotels, building, education, public and social services, etc) and about 70% of communications are related to temporary contracts.

Permanent contracts generate a very little amount of communications (people under temporary contracts are more dynamic than people under permanent contracts) and in general the most of these communications (about 2,000 communications a day) concern the shift from a temporary contract to the permanent one.

Figure 6 describes in detail the percentage distribution of the CO, where each bar is the percentage amount of communication achieved by the regional system divided the national total amount. Namely Tot is the regional total amount percentage, P is the number of communication related to permanent contracts, T is the number of communication about temporary contract and S is the specific-purpose contract number of communications. Figure 6 supports the speculation about Figure 4 and Figure 5 - in fact, the number of temporary contracts reaches its peak in Emilia Romagna (worldwide known for his touristic feasibility), Lombardia and Lazio, where the two biggest Italian cities, i.e. Rome and Milan, play a central role in the temporary labour market.

Figure 7 reports a more detailed description of the distribution of the CO according the citizen employment status (HI = Hiring, DI = Dismissing, SH = Shifting) versus the contract typology (P = permanent contract, T = temporary contract, S = specific-purpose contract). This distribution – even if related only to a short observation period - allows an interesting qualitative and quantitative analysis of labour market in Italy, and highlights great differences between regions.

The “Cruscotto” represents a valuable, innovative, effective and powerful Decision Support System (DSS). In fact, it provides an extraordinary wealth of objective data about the labour market in real-time. Politicians can plan actions to boost specific economical sectors according to local citizens’ background and skills and local industries and services needs.

Improving Regional active policy for labour market would improve the National capability to support employment in relation to:

- the evolution of economy system,
- the cultural background,
- the production system,
- the education system,
- the system of vocational training,
- equal opportunities,
- areas of disadvantage.

Note that the data published does not give a picture of employment level but only an idea of the evolution of the Italian labour market.

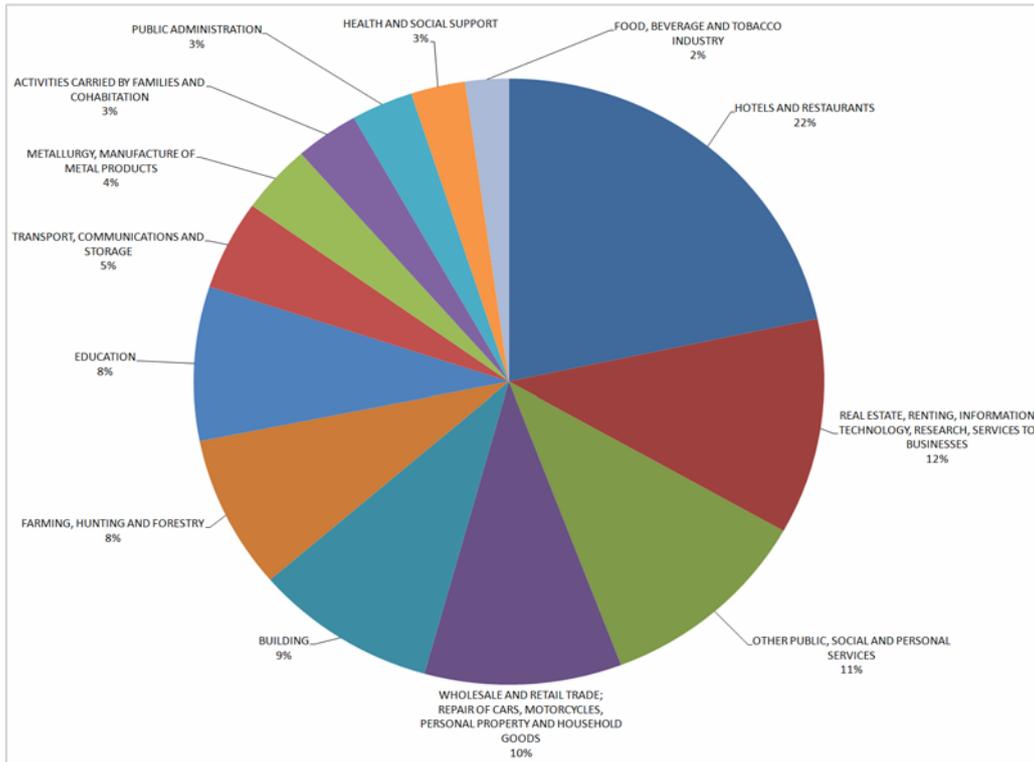


Figure 4: distribution of employers economic sectors related to the achieved COs

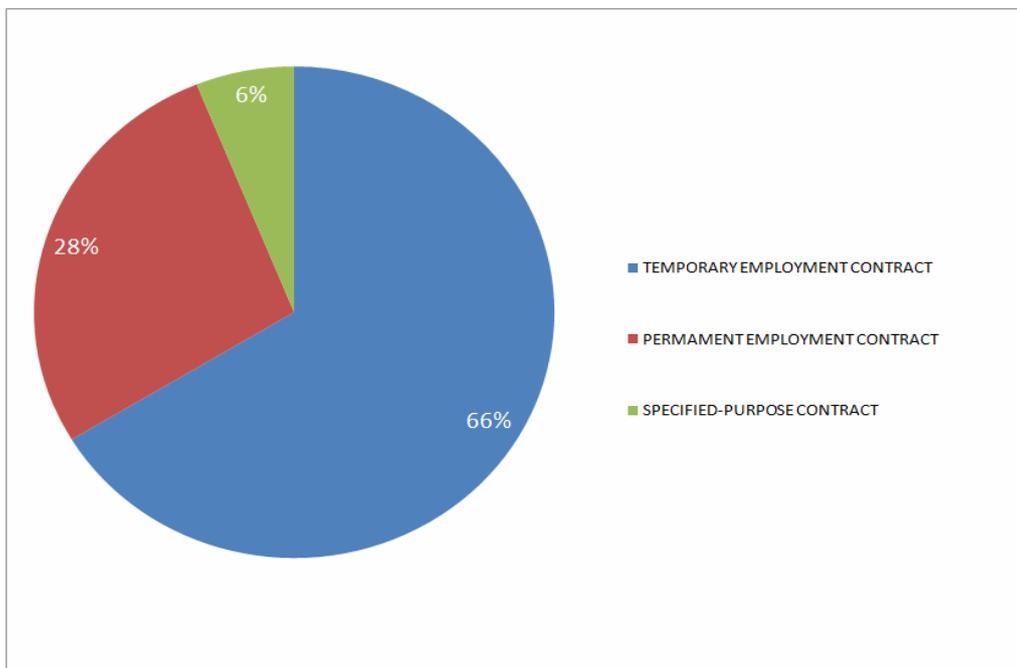


Figure 5: distribution of the contract typology related to the achieved COs

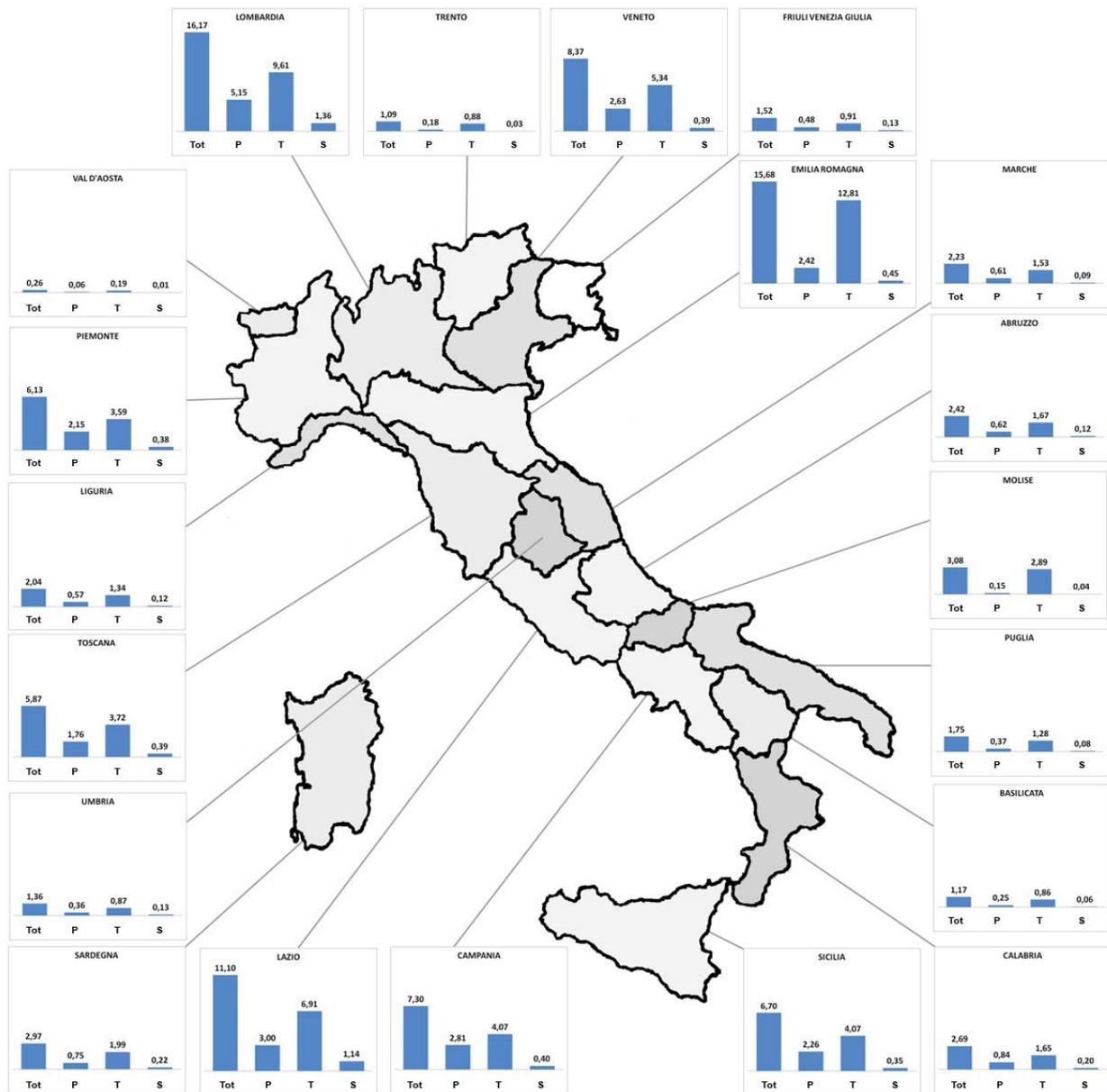


Figure 6: Percentage of achieved CO region by region

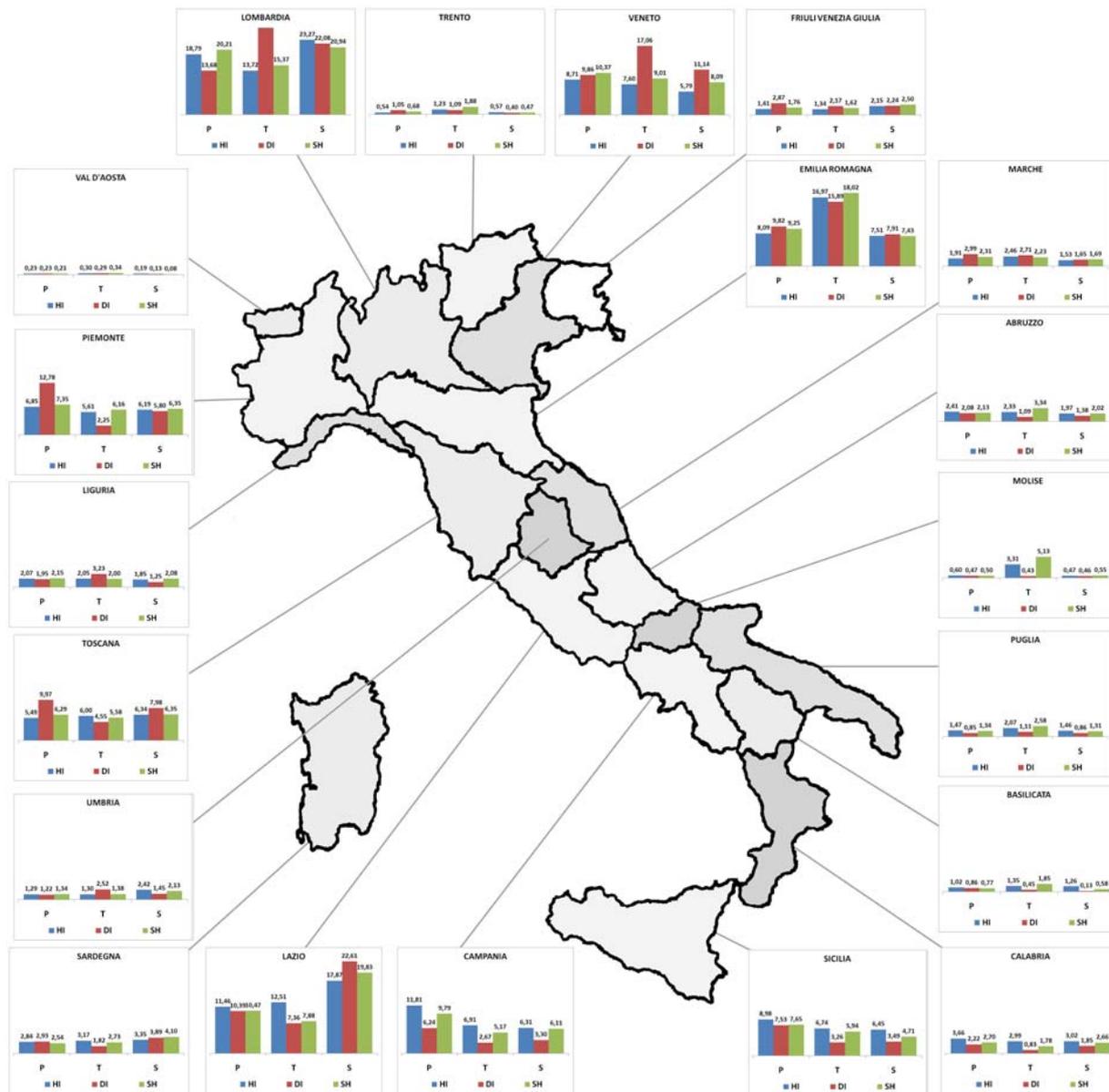


Figure 7: details about the percentage of CO according the typology of contract (P – permanent, T – temporary, S – specific contract) and employment status (HI – hiring, DI – dismissing, SH – shifting)

According to the Italian Ministry of Labour, the CO eService is actually increasing the transparency, quality and efficiency in public job-market related services. Simultaneously it is possible to simplify the burden arising from public administration and reduce the digital divide. It achieves full interoperability and complete cooperation between administrations; enhances the transparency, quality and efficiency of public administration, simplifies and reorganizes some administrative processes.

Every single electronic communication substitutes at least four past hardcopy communications: before the introduction of the CO e-Service, every employer had to notify any change in his workforce employment status to different public entities: INAIL, INPS, UTG (i.e. the Territorial Government Office), and local CPI. At present, every communication is electronically registered once and the registration identification number is shared among the public entities that are due to manage the employment data. Citizen data are inserted only once into the system and public officers belonging to different public entities haven't to input the same information several times.

Adopting the CO e-Service, the Italian Government did a fundamental innovation toward the data redundancy reduction, data sharing and interoperability.

By means of special functionalities such the “Cruscotto”, the CO e-Service also offers innovative powerful tools to politicians for a better policy to boost the employment and reduce unemployment.

The achieved results boost the further CO e-Service development and some further compulsory notifications are under designing and will be soon managed:

- “Comunicazioni Obbligatorie Gente Di Mare – COGDM”, i.e. the CO e-Service specifically designed to manage the compulsory notifications for maritime workers [8]
- “Istanze”, i.e. a service to manage the employment of Extra-EU citizens in response to a direct request of a public subject.

## Acknowledges

Authors would like to thank the whole ETT team for the development CO e-Service excellent work, and they'd like to thank Ugo Galassi, Dario Ceccoli, Marco Velludo and Antonio Novellino for their support while writing this paper. Authors would like to thank also Sistemi Informativi s.p.a. for their support.

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## Authors

[Grazia Strano](#)

General Director Technology Innovation and Communication Department  
Ministry of Labour and Social Security, Italy  
<http://www.epractice.eu/people/14162>

[Daniele Lunetta](#)

Director First Division of Technology Innovation and Communication Department  
Ministry of Labour and Social Security, Italy  
<http://www.epractice.eu/people/14163>

[Luca Torri](#)

CEO, e-land S.r.l., Reggio Emilia, Italy  
<http://www.epractice.eu/people/14116>

Giorgio Genta

Technical Director, ETT S.r.l., Genoa, Italy

[giorgio.genta@ettsolutions.com](mailto:giorgio.genta@ettsolutions.com)

<http://www.epractice.eu/people/gentagiorgio>

Giovanni Verreschi

CEO, ETT S.r.l., Genoa, Italy

[giovanni.verreschi@ettsolutions.com](mailto:giovanni.verreschi@ettsolutions.com)

<http://www.epractice.eu/people/14039>



The European Journal of ePractice is a digital publication on eTransformation by ePractice.eu, a portal created by the European Commission to promote the sharing of good practices in eGovernment, eHealth and eInclusion.

Edited by P.A.U. Education, S.L.

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