



**AI task force**

Artificial Intelligence at the service of the citizen

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**SEMIC2018**

# Pioneering Artificial Intelligence in the Public Administration

**Sofia - SEMIC 2018**



**AgID** The Agency for  
Digital Italy

*Marco Bani - @marcobani / Enzo Maria Le Fevre - @enzolefevre*



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# Dr. Marco Bani

Head of the Technical Secretariat and Institutional  
Relations

Agency for Digital Italy



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# Why?

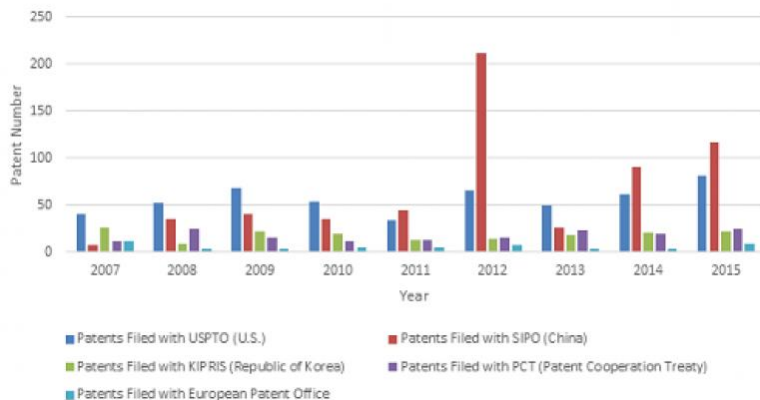
We need to understand the implications, requirements and impacts of using emerging technologies to foster the digital transformation of the public sector therefore producing more **effective** public services and rendering the Public Administration more **efficient**





We also need to bridge the gap with AI-fast growing countries

AI-related Patent Registration



Organizations with most-quoted AI-related research papers (2012-2016)

Rank	Organizations	Country	Quote
1	Microsoft	U.S.	6,528
2	Nanyang Technological University	Singapore	6,015
3	Chinese Academy of Sciences	China	4,999
4	CNRS	France	4,492
5	Carnegie Mellon University	U.S.	4,389
6	University of Toronto	Canada	4,315
7	Massachusetts Institute of Technology	U.S.	4,283
8	Google	U.S.	4,113
9	Tsinghua University	China	3,851
10	New York University	U.S.	3,506

Asian organizations among top 100

China 15 Singapore 3 Hong Kong 3 Malaysia 2 Japan 1 South Korea 1



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*"The challenge presented by the prospect of superintelligence, and how we might best respond is quite possibly the most important and most daunting challenge humanity has ever faced.*

*And-whether we succeed or fail-it is probably the last challenge we will ever face."*



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## NOT SO FAST



**STEPHEN HAWKING**  
Not afraid of black holes. A.I. is another story.



**BILL GATES**  
First you'll lose your job. Then it gets scary.



**STUART RUSSELL**  
Earth for the earthlings!



**NICK BOSTROM**  
Prepare for "Disneyland without children."



**MAX TEGMARK**  
Uh, can we talk about this?



**DEMIS HASSABIS**  
Full speed ahead!



**PETER THIEL**  
Will be a winner either way.



**STEVE WOZNIAK**  
Resigned to being a robot's pet.



**SAM ALTMAN**  
Sees intergalactic domination—or extinction.



**ELON MUSK**  
Eyeing the next flight to Mars.



**LARRY PAGE**  
Green-lighted Google Brain. 'Nuff said.



**YANN LeCUN**  
Chill, people! We got this.



**ANDREW NG**  
Trust the robot.



**MARK ZUCKERBERG**  
Worried? Tell my A.I. butler.



**RAY KURZWEIL**  
Eager to be a cyborg.

## HIT THE GAS



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One of the biggest challenges for today's politicians is technological transformation.

The digital revolution is at the core of every challenge and opportunity that Europe faces today.

Estonian Prime Minister Jüri Ratas  
At the European Parliament in Strasbourg, 5 July 2017

EU2017.EE



## 5 Digital Public Services

5 Digital Public Services	Italy		Cluster	EU
	rank	score	score	score
DESI 2018	19	52.5	48.0	57.5
DESI 2017	19	47.0	44.2	53.7

	Italy				EU
	DESI 2018		DESI 2017		DESI 2018
	value	rank	value	rank	value
<b>5a1 eGovernment Users<sup>11</sup></b>	<b>30%</b>	<b>28</b>	<b>NA</b>		<b>58%</b>
% internet users needing to submit forms	2017		2016		2017
<b>5a2 Pre-filled Forms</b>	<b>33</b> →	<b>21</b>	<b>33</b>	<b>19</b>	<b>53</b>
Score (0 to 100)	2017		2016		2017
<b>5a3 Online Service Completion</b>	<b>87</b> ↑	<b>14</b>	<b>84</b>	<b>16</b>	<b>84</b>
Score (0 to 100)	2017		2016		2017
<b>5a4 Digital Public Services for Businesses</b>	<b>81</b> →	<b>19</b>	<b>81</b>	<b>15</b>	<b>83</b>
Score (0 to 100) - including domestic and cross-border	2017		2016		2017
<b>5a5 Open Data</b>	<b>81%</b> ↑	<b>8</b>	<b>52%</b>	<b>19</b>	<b>73%</b>
% of maximum score	2017		2016		2017
<b>5b1 eHealth Services</b>	<b>24%</b>	<b>8</b>	<b>NA</b>		<b>18%</b>
% individuals	2017				

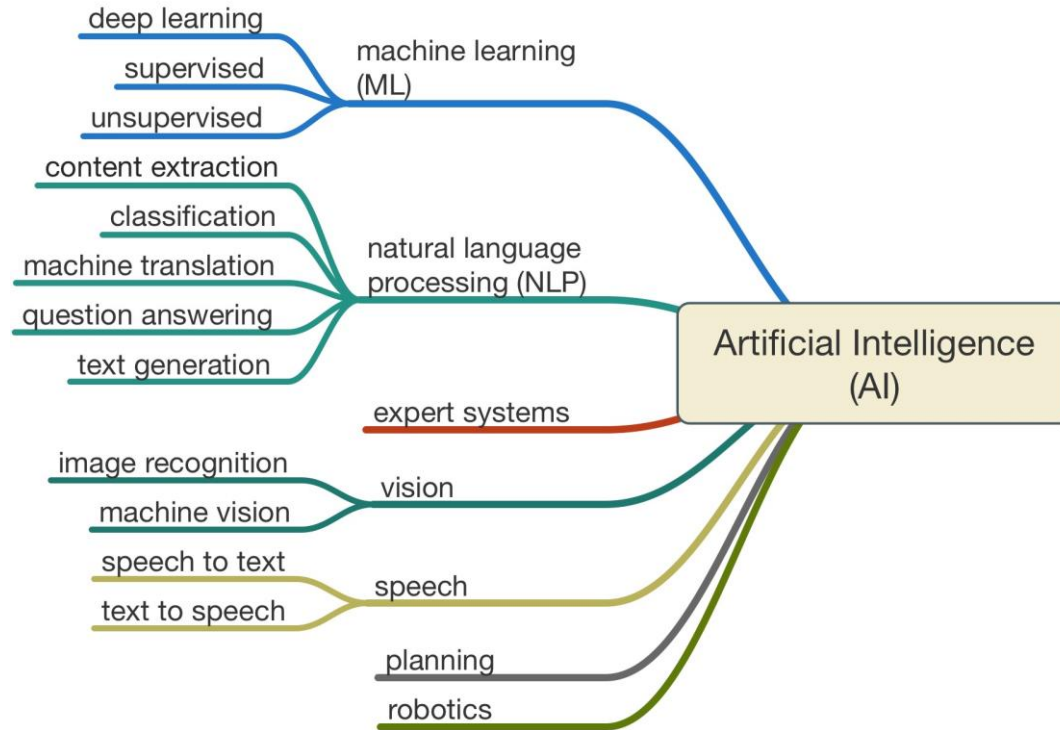




# What?

*"Technology is capable of doing great things. But it doesn't want to do great things. It doesn't want anything."*

*That part takes all of us. It takes our values and our commitment to our families and our neighbors and our communities, our love of beauty and belief that all of our faiths are interconnected, our decency, our kindness."*

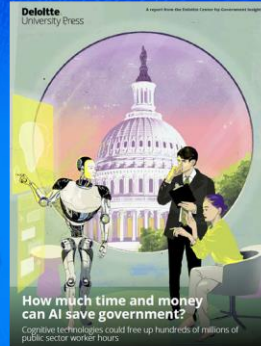
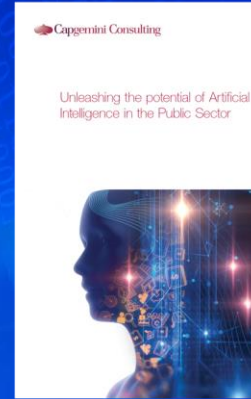




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# Risks for governments (and citizens)



Do nothing



Do it the wrong way



## WHAT ARE THE POTENTIAL DAMAGES ASSOCIATED WITH IA SYSTEMS

### DIGITAL

- ✓ Automated phishing of fake emails, websites and links to steal information.
- ✓ Massive hacking, through the automated discovery of system vulnerabilities.
- ✓ Deceive AI systems by exploiting to own advantage the defects in the interpretation of reality by AI.

### PHYSICAL

- ✓ Automated terrorism using drones or autonomous vehicles as weapons.
- ✓ Swarms of Robots trying to achieve the same goal.
- ✓ Remote attacks, made possible by the fact that autonomous robots can be controlled from any distance.

### POLITICAL

- ✓ Propaganda, through images and fake videos that are easily generated.
- ✓ Automatic removal of dissent, thanks to the possibility to find, analyze and automatically remove texts and images.
- ✓ Personalized persuasion, with the use of public information to influence someone's opinion.

Source: AI experts list the real dangers of artificial intelligence, Dave Gershgorin Feb. 2018



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Predictive Analysis



Computer Vision



Detection



Natural language  
processing

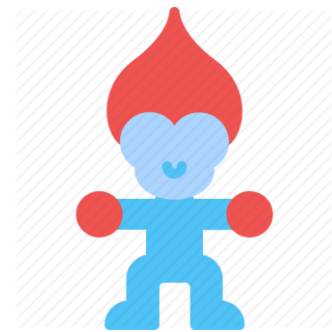
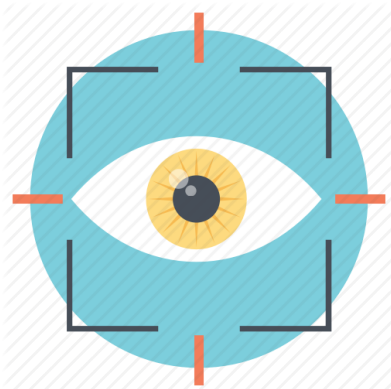




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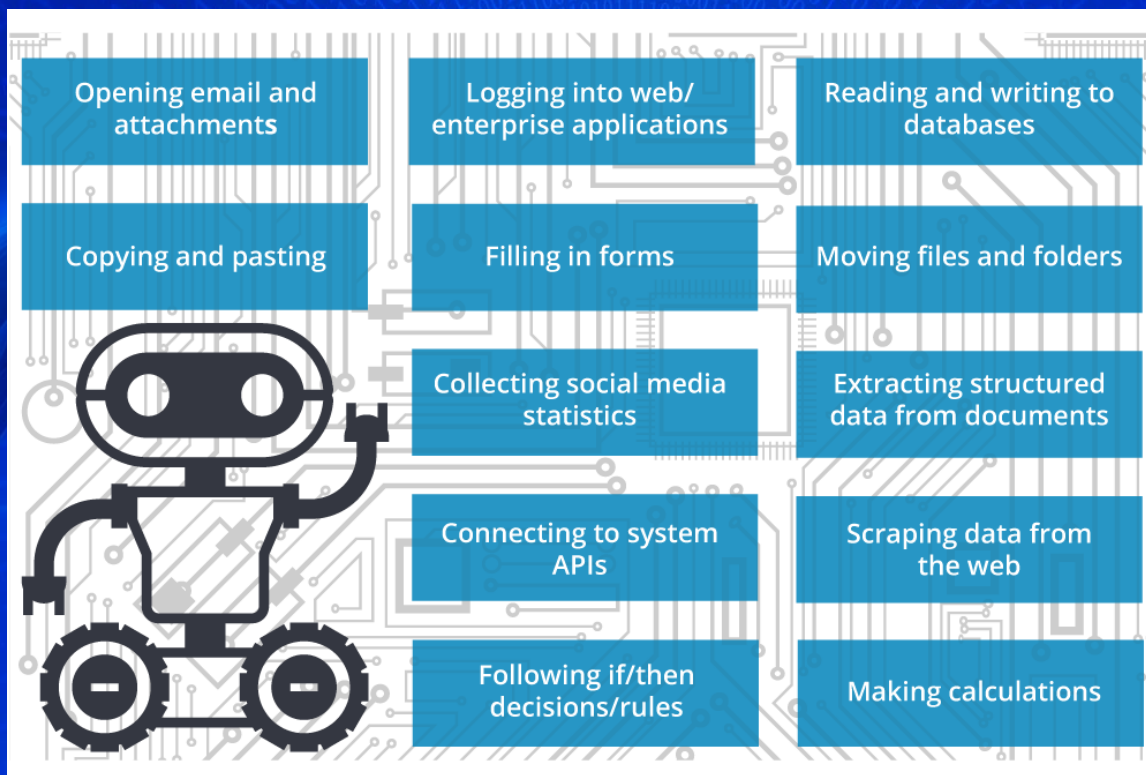
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## USES OF ARTIFICIAL INTELLIGENCE

- ✓ STRENGTHEN IT SECURITY AND PRIVACY
- ✓ PREVENT TUMOURS AND DISEASES
- ✓ MAKE MORE EFFICIENT USE OF CLEAN ENERGY
- ✓ ENSURE GREATER FINANCIAL SECURITY
- ✓ TRANSFORM GLOBAL EDUCATION
- ✓ IMPROVE HEALTH AND WELL-BEING
- ✓ INFLUENCE ECONOMIC GROWTH
- ✓ CONTRAST CLIMATE CHANGE
- ✓ REDUCE INCOME DISPARITY
- ✓ REDUCE GENDER DISPARITY

Source: Artificial Intelligence and life in 2030, One hundred year study on Artificial Intelligence”, Stanford University, 2016







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# Who?

*"We need both kinds of people: people who can hack the technology and people who can hack the bureaucracy."*

*The overarching goal here is to get everything to grow together inevitably joining up into a forest canopy so as to create a functional and interconnected system."*

Todd Park – CTO US Digital Services



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# The creation of the AI Task Force

OBJECTIVE: Understanding how the new possibilities offered by the AI can affect the construction of a new relationship between state and citizens



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## OBJECTIVE: Understanding how the new possibilities offered by the AI can affect the construction of a new relationship between state and citizens

- analyze the potential applications of AI in public services
- study the economic, social and cultural implications on the introduction of AI in public services
- to define risks and strategic opportunities for Italian public administrations
- mapping the work started by the public administrations and the main Italian and international research centers
- make recommendations on the AI at the service of the citizen for the PA to prepare the AI-ready public administration, if not AI First

How?





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# Dr. Enzo Maria Le Fevre

Senior Expert European and International Relations  
Agency for Digital Italy

Lead – OECD Thematic Group on Emerging Technologies  
in the Public Sector



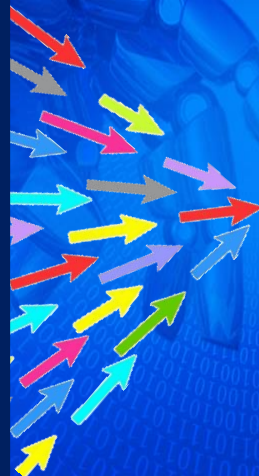
# The White Paper

*9 Challenges connected to the use of AI for services to the citizens*



La sfida dell'IA al servizio del cittadino

1	ETICA
2	TECNOLOGIA
3	COMPETENZE
4	RUOLO DEI DATI
5	CONTESTO LEGALE
6	ACCOMPAGNARE LA TRASFORMAZIONE
7	PREVENIRE LE DISUGUAGLIANZE
8	MISURARE L'IMPATTO
9	L'ESSERE UMANO



1. Ethics
2. Technology
3. Human capacity
4. Role of data
5. Legal context
6. Supporting transformation
7. Preventing inequalities
8. Impact measurement
9. Human being





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*"Developing and promoting AI will be very much a European, not just a national project.*

*It is an opportunity that Europe, collectively, should not hesitate to grasp firmly.*

*To that end, we will need an open and inclusive debate that involves all our countries on how best to use these new technologies: how to respect fundamental rights such as privacy, liberty, security and non-discrimination."*

Andrus Ansip - Vice-President of the European Commission





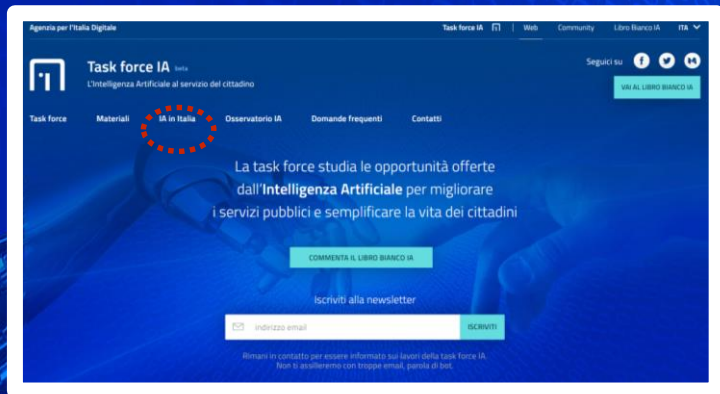
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# Artificial Intelligence Ecosystem



Denominazione	Tipologia	Sito Web	Città	Regione
AGS	Azienda	https://www.ags-ic...	Pero (MI)	Lombardia
Aikospace	Startup	http://www.aikospac...	Torino	Piemonte
Armage Lab UNIMORE	Università	http://armagelab.uni...	Modena	Emilia-Romagna
All Industries	Università	http://www.allindust...	Roma	Lazio
Almawave	Azienda	http://www.almawave...	Roma	Lazio
ART-UNIROMA3 Tor...	Università	http://art.unroma2.it/	Roma	Lazio
Athlios	Azienda	http://www.athlios.it	Cagliari	Sardegna
Axel	Azienda	http://www.axel.ai	Milano	Lombardia
Babelforage	Startup	http://babelforage.com	Roma	Lazio
Biorexica	Azienda	http://www.biorexica...	Cesena (FC)	Emilia-Romagna
Brain Control	Startup	http://www.braincon...	Siena	Toscana
Buzzoolle	Azienda	http://www.buzzoolle...	Napoli	Campania
Casaleggio Associati	Centro di Ricerca	https://www.casaleg...	Milano	Lombardia
Catchy	Startup	http://www.catchy.it	Roma	Lazio
CedarBS	Azienda	http://www.cedarBS...	Roma, S.Vito Norma...	Lazio, Puglia, Veneto
CELI	Azienda	https://www.celi.it/	Torino, Milano	Piemonte, Lombardia
Centro Piaggio UNPI	Centro di Ricerca	http://www.centropi...	Pisa	Toscana
CINECA	Azienda	https://www.cineca.it	Bologna, Milano, Ro...	Emilia-Romagna, Lo...
CLP-UNIUD	Università	http://clp.dims.uniud.it	Udine	Friuli Venezia Giulia
Competitor	Azienda	https://competitor.c...	Carpi	Emilia-Romagna

With “Artificial Intelligence Ecosystem” we want to map the Italian producers and users of AI solutions (startups, companies, public and private research entities, Public Administrations, etc.), to facilitate the construction of relationships, the sharing of knowledge, and allow Italy to have the size of its strengths in the field of AI.



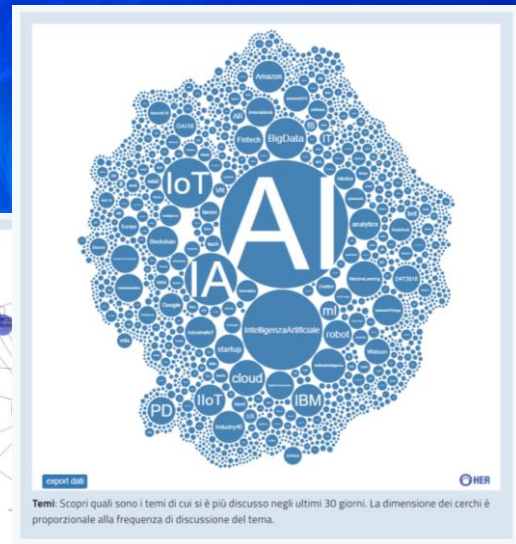
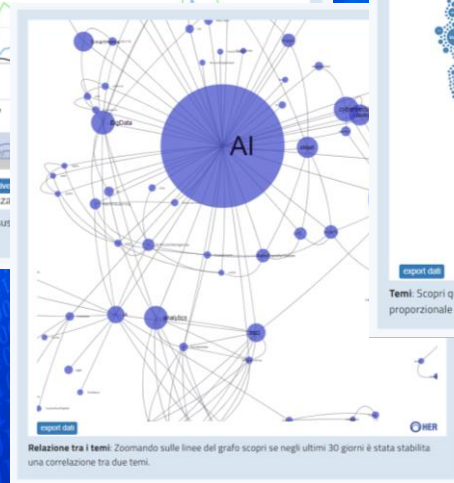
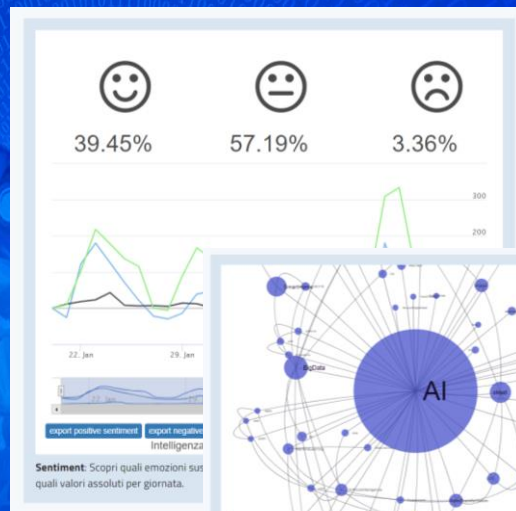
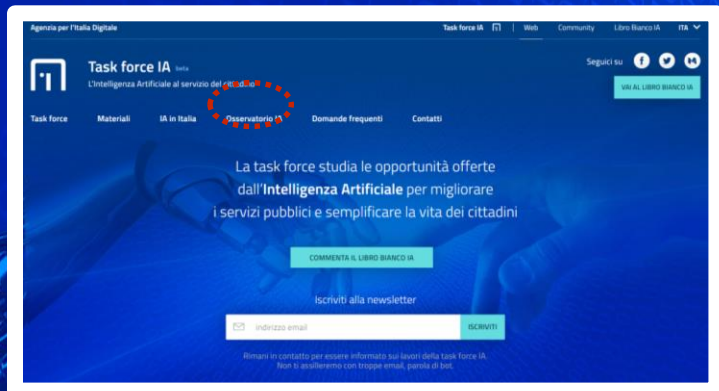
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# Italian Observatory on Artificial Intelligence



The Italian Observatory on Artificial Intelligence is an initiative of the AI task force in cooperation with the research institute **HER - Human Ecosystem Relations**. Using the most advanced technologies, such as NLP (Natural Language Processing), Machine Learning, Sentiment and Emotional Analysis, the Observatory collects and analyze public conversations about artificial intelligence on social networks in Italy so to capture the sentiment about AI in the country.



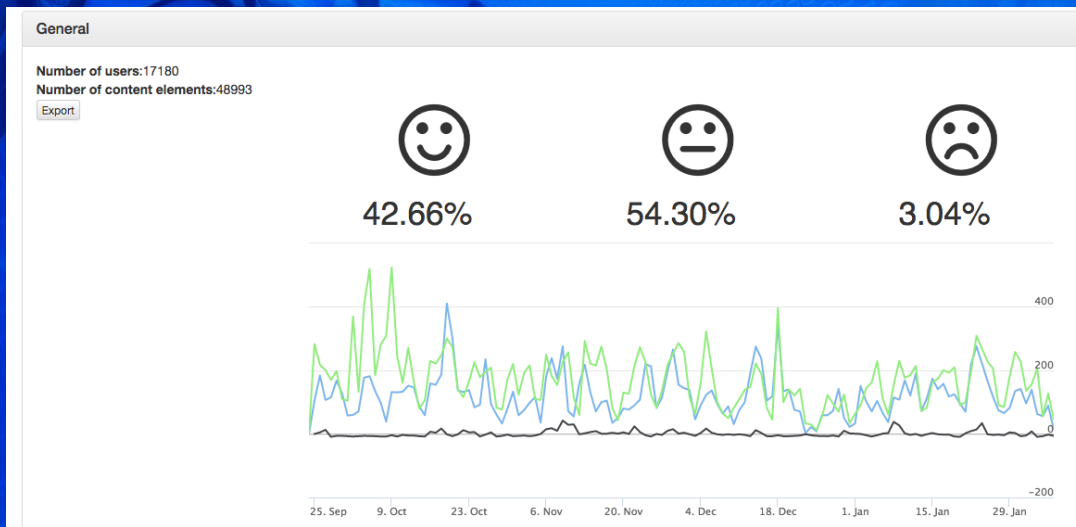
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# Sentiment analysis - Observatory on AI







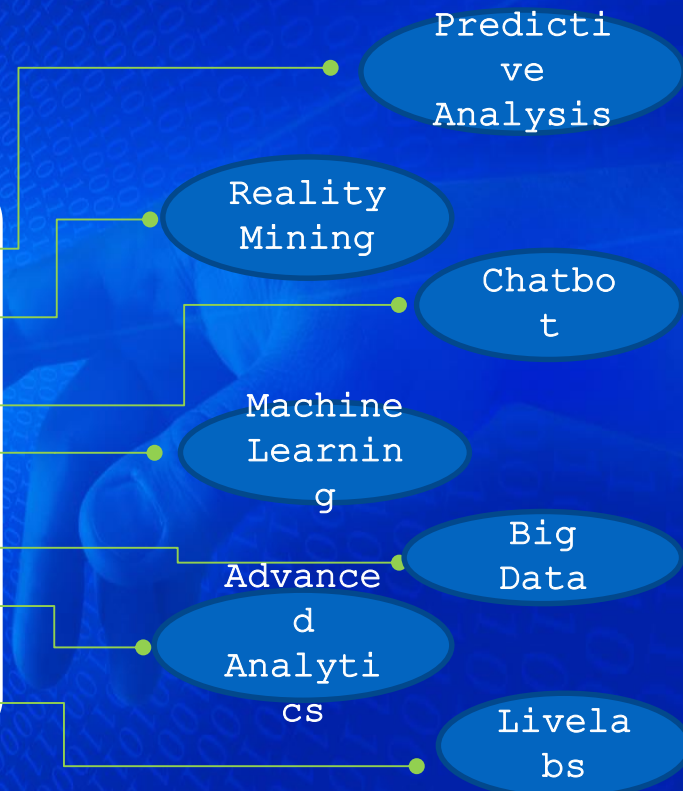
# What next?

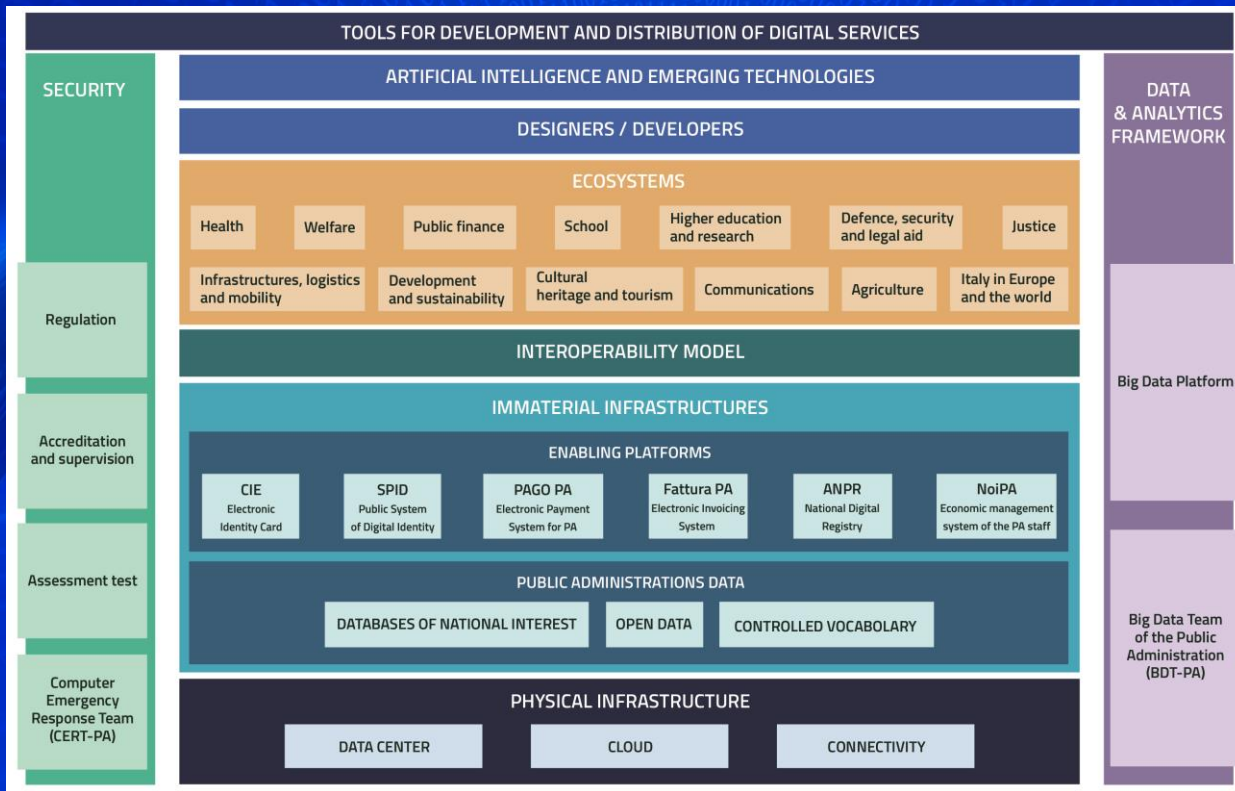
- **Open Innovation Calls** – Promoting Innovative Procurement to integrate AI solutions in public services
- **Creating pilot projects** – Accelerating the use of AI in the Public Sectors
- **Research and Education** – Creating synergies with research institutions to promote development of AI solutions for the PA



# Open Innovation Procurement

	Amministrazione	Tipologia	Regione	Ambito/Cluster/Ecosistema Progettualità
1	ARPA Val d'Aosta	PAL	Valle d'Aosta	Ambiente
2	ASL Roma 1	PAL	Lazio	Sanità
3	Consorzio Arsenal	PAL	Veneto	Sanità
4	Comune Sesto Fiorentino	PAL	Toscana	Servizi al cittadino
5	Roma Capitale	PAL	Lazio	Beni Culturali
6	Regione Emilia Romagna	PAL	Emilia-Romagna	Servizi al cittadino / Trasporti
7	Ministero Interno (VFF)	PAC	*	Ambiente
8	MiBACT	PAC	*	Ambiente
9	ISTC- QNR	PAC	*	Competenze
10	ICCD - MiBACT	PAC	*	Beni Culturali






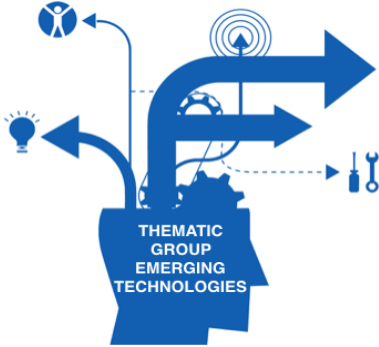




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**E-Leaders**  
Thematic Group on  
Emerging Technologies  
(AI & Blockchain)

**Italy coordinates the OECD Thematic Group on Emerging Technologies in the Public Sector**

**Goals:**      **Mapping of the State of the Art and of current use of Emerging Technologies in the PA**  
**Drafting the Guidelines on the use of AI and blockchain in the Public Sector**  
**A support group to exchange practices and information**



**Task Force AI**

L'Intelligenza artificiale al servizio del cittadino

**Thank you**

***Website: <https://ia.italia.it/en/>***

***Twitter: @AgidGov #taskforceIA***



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