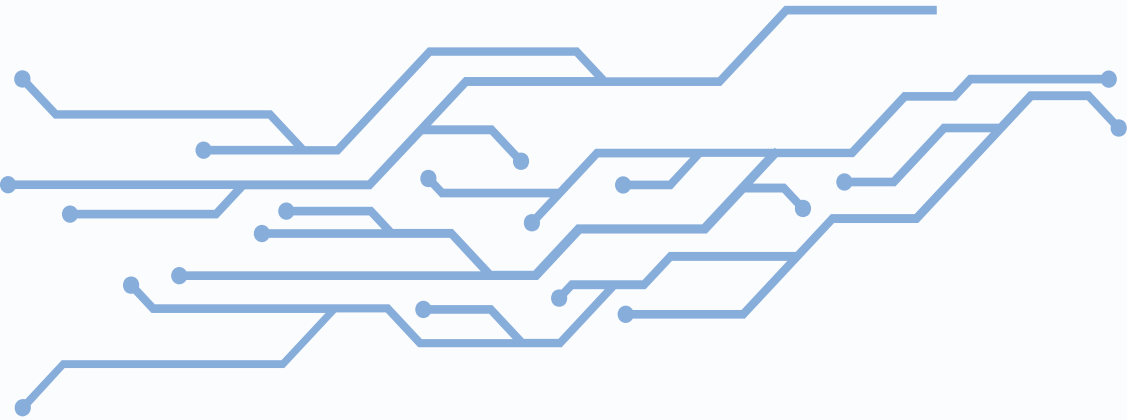




AI and Training - Threat or Opportunity?

The perspective of the Italian National School of Government

Agenda



-
- 01** The Scuola Nazionale dell'Amministrazione
 - 02** Italian Public Administration and AI
 - 03** **AI for Training**
 - 04** **Training for AI**
 - 05** Perils
 - 06** Conclusions
-



**Recruitment
and initial
training of
senior
officials**

Research



**In-service
training**





3.2 million people



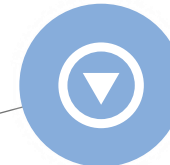
Majority of employees works in Education and Health sectors



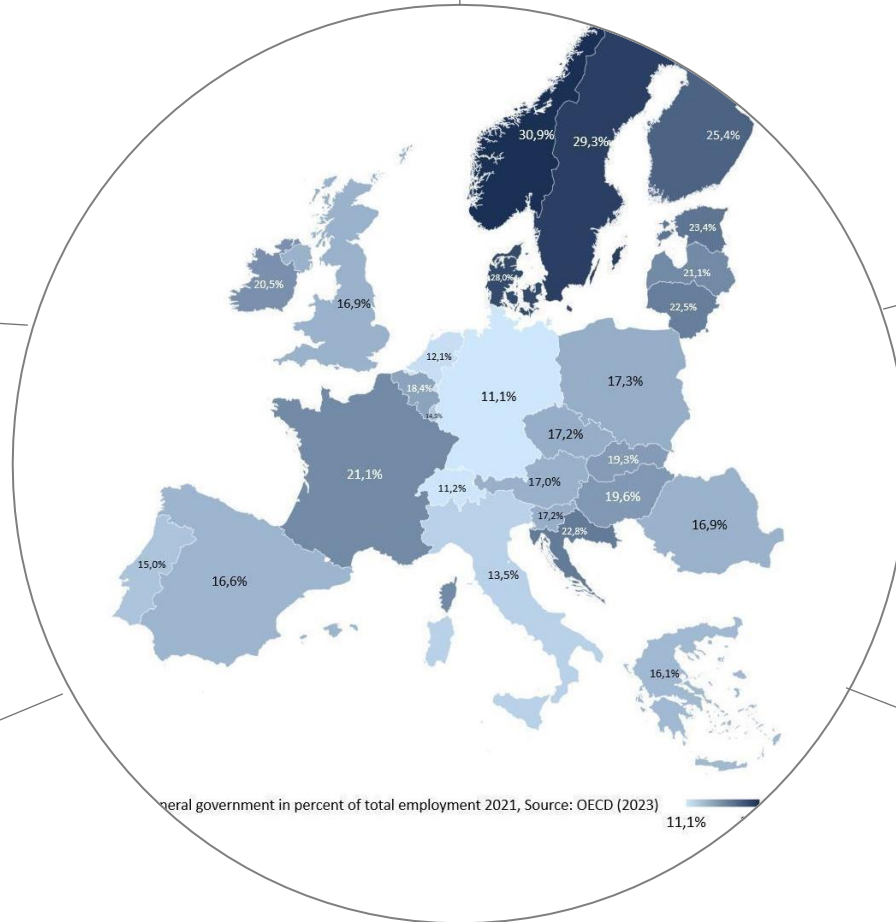
43% are graduates + Law and Economics - STEM

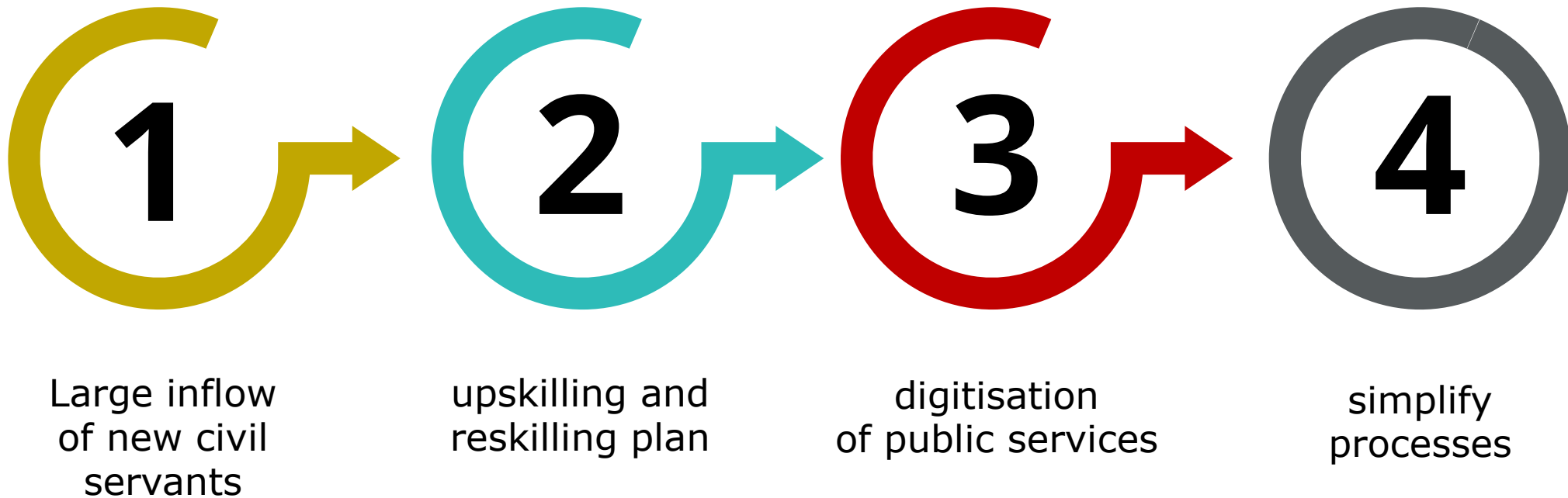


13.5% of the country's whole workforce work in the public sector



50 years average age

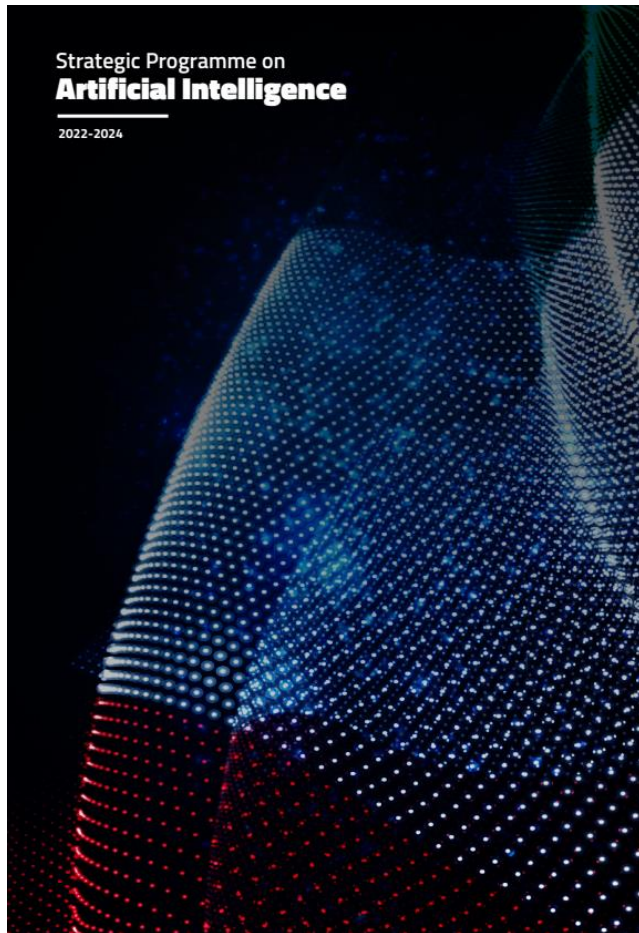




'Italy Tomorrow':
Italian Recovery and Resilience Plan



Strategic Programme on Artificial Intelligence 2022-2024



3 areas

Talent and Skills

Research

Applications

23 key policies

Summary of key policies

Talent and Skills	Research		Applications	
			For enterprises	For Government
<p>A.1 Strengthening the National PhD Program Increasing the number of PhDs</p>	<p>B.1 Building on the Italian AI research ecosystem Creating a hub & spoke research architecture with territorial expertise</p>	<p>B.5 Promoting multi-disciplinary AI National champions Launching challenges on specific themes with measurable and competitive result evaluation</p>	<p>D.1 Making AI a pillar that supports enterprises' Transition 4.0 Introducing of tax credit or vouchers for the recruitment of STEM profiles; updating the list of software and hardware expenses that are eligible for Transition 4.0 incentives</p>	<p>E.1 Creating integrated datasets for Open Data and Open AI Models Integrating PA data feeds to create a national interoperable data lake; updating the guidelines for Open Data for AI models with large and annotated datasets</p>
<p>A.2 Attracting and retaining talents Attracting young researchers who are beneficiary of high-profile international grants such as the ERC</p>	<p>B.2 Launching the Italian AI Research Data and Software Platform Creating a structural connection of existing and new platforms, data and computing infrastructure devoted to AI and open-source libraries</p>	<p>B.6 Launching public-private AI research-innovation calls Promoting projects on priority sectors but with free-initiative proposals aiming at transferring skills from research to industries</p>	<p>D.2 Supporting the growth of innovative spinoffs and startups Fostering collaboration within start-up ecosystems: offering public procurement to start-ups for purchasing goods and services</p>	<p>E.2 Strengthening AI solutions in the PA and the GovTech ecosystem Introducing periodic calls to identify and support start-ups with potential AI-based solutions to PA's pain points</p>
<p>A.3 Strengthening AI skills in the Public Administration Activating three cycles of new PhD programmes specifically designed for the general needs of government</p>	<p>B.3 Creating Italian AI Research Chairs Allocating specific funds for a single Principal Investigator (PI), already enrolled in universities and national research centres to promote collaboration with industries and public bodies</p>	<p>C.1 Funding research and applications of Creative AI Funding projects that integrate academic research in the frontier field of Creative AI with its industry applications</p>	<p>D.3 Promoting the go-to-market of AI technologies Promoting Sperimentazione Italia, an instrument which allows experimentations through a temporary exemption from existing regulations</p>	<p>E.3 Creating a common Italian language dataset for AI development Creating an open and shared language resource, a structured collection of digital datasets of Italian documents, freely available for algorithms training</p>
<p>A.4 Promoting STEM courses and careers Integrating activities, methodologies and contents aimed at developing STEM within the curricula of all school cycles</p>	<p>B.4 Creating AI-PRIN Curiosity-Driven Initiatives Promoting calls devoted to fundamental curiosity-driven AI research and trustworthy AI</p>	<p>C.2 Promoting bilateral projects for returning professionals Launching calls for projects focused on specific topics defined by Italian priorities co-funded by another country with at least one researcher coming back to Italy</p>	<p>D.4 Supporting enterprises in AI Product Certification Defining a national governance system supporting the certification of AI products going to the market with higher risk profiles</p>	<p>E.4 Creating datasets AI/NLP based analytics for feedback/service improvement Creating annotated dataset of citizens-PA interactions to support development/integration of AI providers to develop innovative PA services</p>
<p>A.5 AI in ITS ("Istituti Tecnici Superiori") Expanding programming courses and including applied AI courses and internships in all ITS curricula</p>			<p>D.5 Promoting AI Information campaign for enterprises Organizing communication and awareness actions on AI. The campaigns will include the dissemination of the National Strategic Programme for AI to entrepreneurs</p>	<p>E.5 Creating datasets for service improvement in PA Creating a very large annotated dataset of satellite images of urban and environmental landscapes, as well as digitised land registry</p>
				<p>E.6 Introducing cross-authority case processing Introducing AI-based technologies to automate the sorting and preparation of inquiries for processing</p>



A.3 Strengthening AI skills in the Public Administration

E.1 Creating integrated datasets for Open Data and Open AI Models

E.2 Strengthening AI solutions in the PA and the GovTech ecosystem

E.3 Creating a common Italian language dataset for AI development

E.4 Creating datasets AI based analytics for feedback/service improvement

E.5 Creating datasets for service improvement in PA



Focus of the Italian AI debate:

- how the Italian civil service can seize the opportunities offered by AI to improve the efficiency of the public sector?
- its impact on ethics, privacy and data management?
- how to manage AI in training, education and research?



AI for Training



Training for AI



- What are the impacts of AI in terms of: **training objectives, methodologies, learning?**
- How can we use AI in **civil service training?**
- How will it improve **training tools** and **teaching/learning capabilities?**





Training Tools

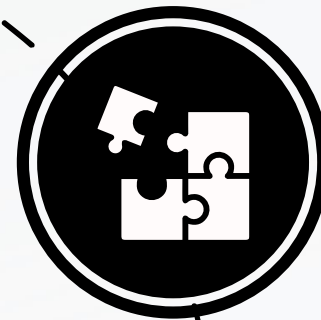
New tools and technologies to support syllabus design and delivery

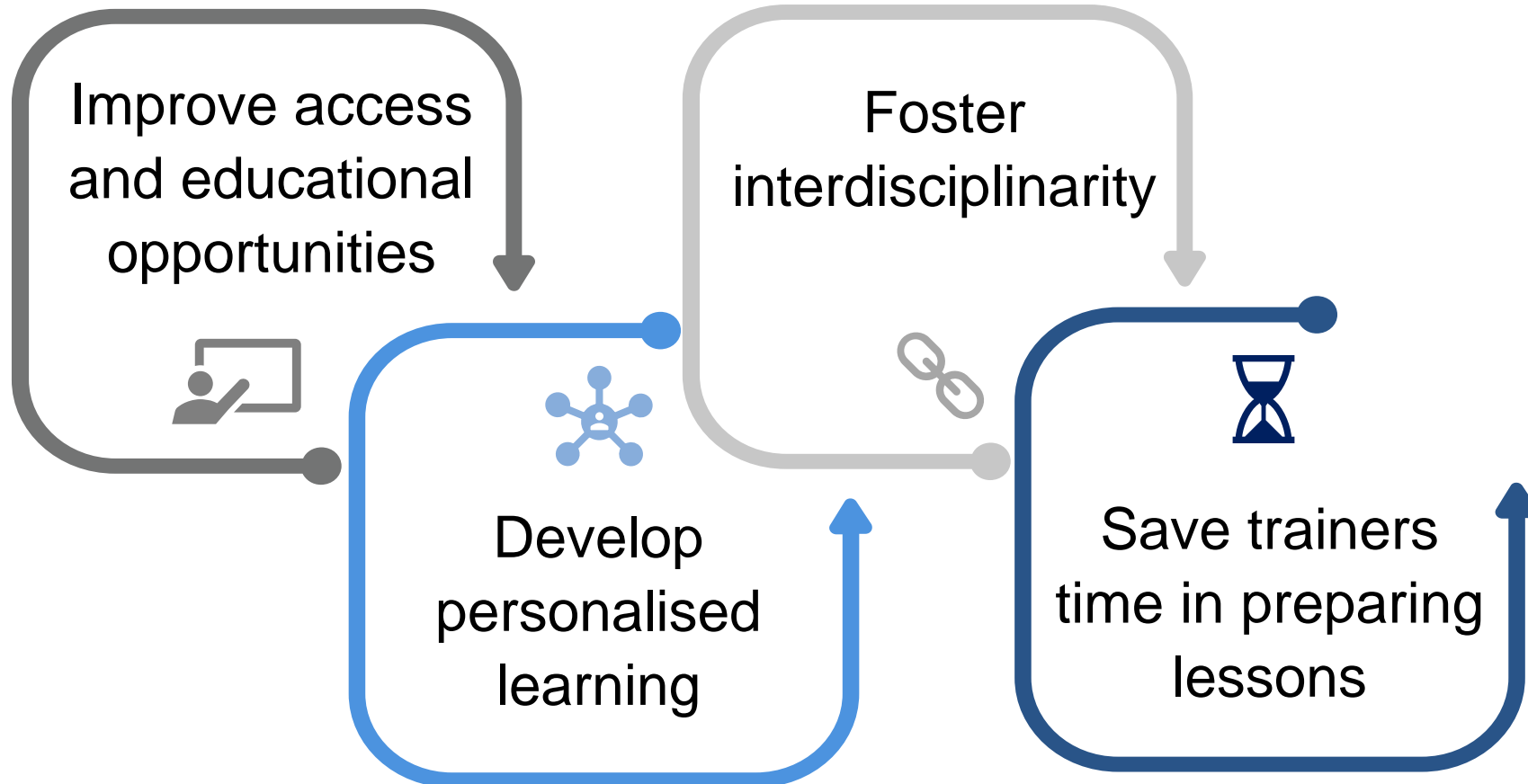
Metodologie

New teaching approaches and new subjects

Teaching Staff

New professional profiles in academia and training.





Possible AI uses:

- **Virtual tutors**
- **Automated assessment systems**
- **Personalisation of learning**
- **Automated feedback and differentiated responses**
- **Intelligent tutors**
- **Data research and analysis**
- **Co-design and co-creation of learning paths**



Example - Generative AI for Syllabus Design:

- Draft a new syllabus or revamp an existing one
- Develop learning objectives
- Add pedagogical variety (lectures, readings, cases, simulations, quiz etc.)
- Change difficulty levels or develop more impactful sessions

National Schools of Government need to:

- support trainees and staff to become AI-literate
- support courses participants to use generative AI tools effectively and appropriately in their learning experience
- adapt teaching and assessment methodologies to incorporate the ethical use of AI and support equal access

		PROGRESSION		
		UNDERSTAND	APPLY	CREATE
A S P E C T S	Mindset on AI and education	Understanding benefits & risks	Contextual strategies	Steering long-term impact
	Ethics of AI	Human agency	Human-centred use	AI society skills
	AI toundational knowledge	Algorithm and data literacy	Use AI analytics	Coding and data models
	Application skills	Test and use	Infusing uses	Integrating AI tools
	AI pedagogy	AI tor teaching	Alto deepen learning	AI tor co-creation
	Professional development	Alto assist administrative tasks	AI tor curriculum design and delivery	AI empowering teaches

Source: SNA elaboraion on UNESCO 2023

AI in government

- Automate simple, repetitive cognitive tasks, freeing up working time for more valuable activities
- Increase predictive capabilities, improving data-driven decision-making
- Support user-centred service customisation, increasing the effectiveness of services.

AI in government

Civil servants need be better equipped to:

- integrate AI in their daily work
- improve services to citizens and businesses
- support digital transformation for innovation, the economy and progress

Training Course **AI4ItalianGov**



Goals

To achieve improved use, understanding and reinforcement of AI to improve:

- Public sector internal processes
- Public services design and delivery
- Public services management of services
- Policy making.

Target

Senior and middle managers in Italian civil service



Topics

- understanding which AI tools to integrate in their work processes
- identifying applications of AI in different policy areas
- developing advanced skills in data collection, analysis and management
- ethical aspects



Competency Framework for the Italian Civil Service

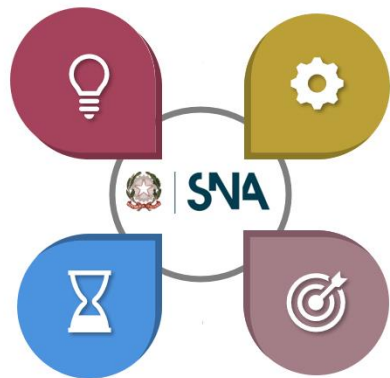
Cognitive Area	Management Area	Realisation Area	Relational Area	Self management Area
Problem solving	Process management	Responsible decision-making	Management of internal and external relations	Emotional resilience
Strategic vision	Co-worker development	Result-oriented	Negotiation	Self- development
Systems thinking	Group leadership		Orientation to the quality of the service	Organizational awareness
	Promoting change			

Inbound SNA



- **AI4Training – Workshops for SNA trainers and staff:** how, when and where to use AI in training
- Pilot project on **using AI for competency assessment and training**
- Developing the **use of AI in training cycle processes**
- Developing an **integrated system for collecting and analysing training data**
- Developing a **customised AI tool** for the SNA

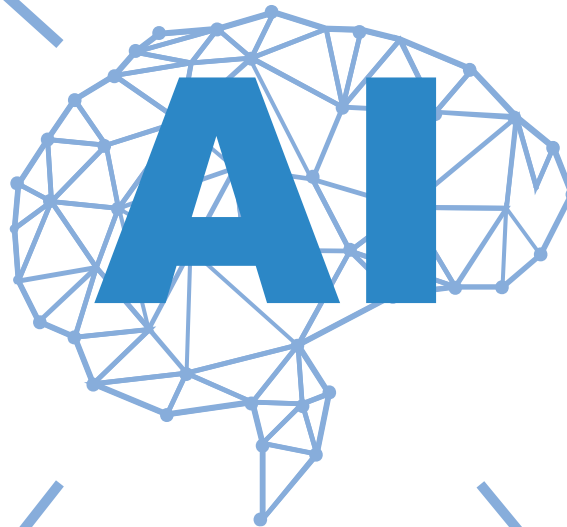
Outbound SNA



- **AI4PA - Artificial Intelligence & Training for Public Administration**
European research project with the Schools of Government of Spain and Portugal
- **AI4ItalianGov – AI Training Programme for Italian Civil Servants**
- **Italian Network on IA and Training** together with universities and other public sector training schools



Ethical issues linked to how data is gathered, stored and analysed, together with the risk of bias in terms of gender, education, age, origins etc.



Privacy (Data protection)

AI divide to ensure large sectors of the population, such as the elderly, the less-educated and recent immigrants do not get left behind, as happened with the digital transformation

European Union AI Bill

Main points:

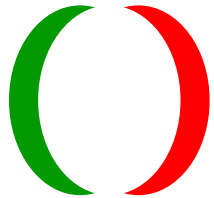
- visibility and transparency of algorithms
- interaction with systems and generation of new data
- processing of personal data and consent
- use of sensitive and biometric data
- non-reliance on fully automated decision-making processes
- copyright and authorship of generated content

National Agency for the supervision of AI systems

Example: AESIA (Spain)

Working together

National level



- Universities
- National Government School
- Training Centres

International level



- European Union
- National Government Schools
- International Organisation



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SNA *Presidenza del Consiglio dei Ministri*
Scuola Nazionale dell'Amministrazione

Founded in 1957, the Scuola Nazionale dell'Amministrazione (SNA), the Italian National School of Government, is part of the Cabinet Office structure and is tasked with recruiting and training middle and senior management for the Italian civil service, promoting innovation and reform and fostering research.



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