AI FOR INDUSTRY

The Italian Institute of Artificial Intelligence

STRATEGIC PLAN

Updated July 2026

RESEARCH, ENGINEERING, INDUSTRY: AI4I'S STRATEGIC PLAN

The Strategic Plan is the Institute's planning framework for defining its strategic direction, intervention priorities, operating model and medium- to long-term development trajectory. The Plan was approved by the Supervisory Committee on 31 October 2025 and subsequently updated on 7 July 2026, reflecting the evolution of the Institute's organisational structure, the progressive consolidation of its activities, and developments in the technological and industrial landscape.

The Plan translates AI4I's mission into an integrated strategic and operational framework, setting out the objectives, areas of intervention, enabling capabilities and instruments through which the Institute advances research and supports its transfer to the industrial system.

At its core is a model designed to establish a stable connection between research, technology and industry. The production of new scientific knowledge is integrated with computing capacity, engineering, experimentation, training and technology transfer, creating a continuum from frontier research to industrial application.

AI4I addresses a diverse industrial ecosystem, comprising large companies and SMEs with different levels of technological maturity and different needs: from identifying where and how artificial intelligence can generate value to developing new R&D projects; from finding solutions already available on the market to experimentation, development and the scaling of advanced applications

The Plan responds to these needs through a modular structure in which capabilities, infrastructure and services can be activated and combined according to each project.

TWO SYSTEM-LEVEL OBJECTIVES, THREE STRATEGIC DIRECTIONS

The Plan identifies two overarching objectives: strengthening the competitiveness of the industrial ecosystem and reinforcing technological sovereignty in artificial intelligence.

These objectives are pursued through three strategic directions: attracting and concentrating high-level expertise; facilitating AI adoption by industrial enterprises; and fostering the development of a supply chain of AI-based products and services.

This approach reflects a fundamental principle of the Plan: competitiveness in artificial intelligence depends on the combined availability of scientific excellence, talent, computing infrastructure, engineering capabilities and technology transfer expertise. AI4I brings these elements together within a single system, reducing the distance between research, technological development and industrial adoption.

OBJECTIVES

Strengthening the competitiveness of the industrial ecosystem

Reinforcing technological sovereignty in artificial intelligence

KEY ACTION PILLARS

01 Attracting and concentrating high-level expertise

02 Facilitating AI adoption by industrial enterprises

03 Fostering the development of a supply chain of AI-based products and services

A FULL-CYCLE MODEL FOR AI DEVELOPMENT AND ADOPTION

AI4I's operating model covers the full AI development and adoption cycle. It starts with the assessment of industrial needs and technological opportunities and extends across applied and collaborative research, experimentation and prototyping, solution development and industrialisation, access to HPC and AI infrastructure, demand-supply matching, and skills development.

The model is structured around six areas of activity: advisory and discovery; applied and collaborative R&D; deployment and engineering; AI infrastructure, HPC and Peano services; matchmaking, ecosystem and funding; and training and skills development.

This modular approach enables AI4I to respond to different levels of technological maturity and different types of industrial demand. Depending on the specific need, the Institute can conduct dedicated R&D activities, directly develop a solution by coordinating internal capabilities, integrate internal resources with external providers, identify existing market solutions, provide computing capabilities, or design dedicated training pathways.

AN INTEGRATED ARCHITECTURE: CONNECTING CAPABILITIES, INFRASTRUCTURE AND ECOSYSTEM

The Strategic Plan translates this model into an integrated, multi-divisional architecture in which research, infrastructure, expertise and services operate as interconnected components of the same system.

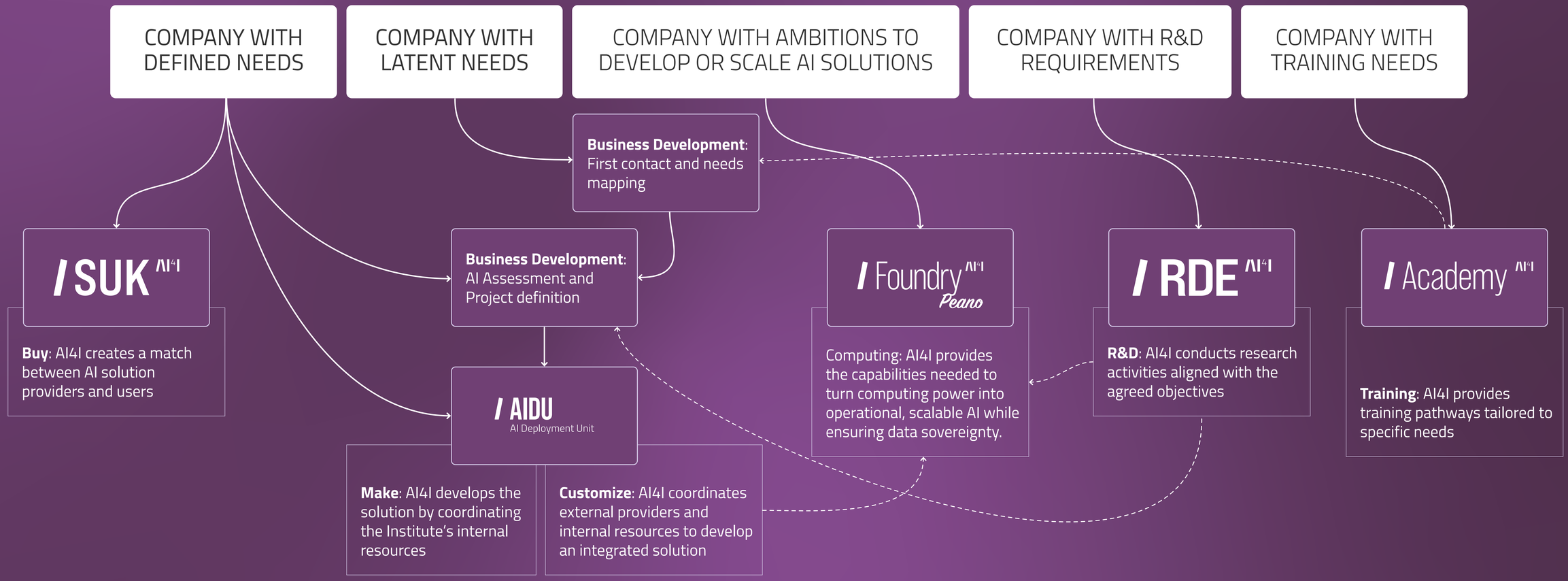
The Research, Development and Engineering Center, AI Foundry Peano, Institute for Advanced Study, SUK Ecosystem Platform, Academy and StartGarden perform distinct but complementary functions, spanning scientific research, technology development and engineering, computing, advanced knowledge and training, demand-supply matching and innovation valorisation.

Together, these components provide AI4I with the capabilities required to operate across the entire AI value chain, while creating multiple points of access for companies, researchers, technology providers and other actors in the innovation ecosystem.

An Integrated, Multi-Divisional Architecture

RDE Center	AI Foundry Peano	CSP IAS Institute for Advanced Study	SUK Ecosystem Platform	Academy	Startgarden
/ RDE	/ Foundry Peano	CSP IAS Institute for Advanced Study	/ SUK	/ Academy	/ StartGarden
▪ Industry oriented research ▪ Industrial Contracts ▪ Joint Labs ▪ R&D Consortia	▪ HPC Facility ▪ Model development ▪ Sandbox and Testing	▪ World-Class Scholars ▪ Seminars ▪ Lectures ▪ Special Programs	▪ Matchmaking ▪ AI Marketplace ▪ Technological Challenges ▪ Ecosystem Generator	▪ Orchestration of Training Programs ▪ Generation of Contents	▪ AI Startup Ecosystem ▪ Scientific and Technical Support ▪ Access to VC, Accelerators ▪ Access to computation

AI4I addresses the needs of the Italian industrial ecosystem, encompassing SMEs and large enterprises with diverse levels of maturity, through a modular operational structure integrating complementary resources and services



Activities and services atlas

1. Advisory and discovery

Supporting companies in project design and planning to maximise the likelihood of success in AI projects

- Needs and opportunity assessment
- Technology readiness assessment
- Roadmap and architecture definition

AI4I

2. Applied and collaborative R&D

Research and exploration of new application areas and emerging technologies

- R&D contracts, commissioned research, joint laboratories and consortia
- Experimentation and prototyping
- IP development
- On-site scientists

/ RDE AI4I

3. Deployment and Engineering

Development, validation and industrialization of solutions based on existing technologies, aligned with market needs

- Pilot deployment and execution in real-world environments
- Integration of existing solutions
- Scale-up support and quality assessment

/ RDE AI4I

4. AI infrastructure, HPC and Peano services

Access to computing infrastructure and cloud services throughout the AI project lifecycle

- HPC-as-a-Service computing and sandbox environments
- GPU resources for training and inference
- Support for utilisation of HPC infrastructure
- Secure environments for AI workloads
- CI/CD, MLOps e scaling to hyperscalers

/ Foundry AI4I Peano

5. Matchmaking, ecosystem, funding

Matching demand and supply to leverage the AI value proposition already available within the Italian market.

- Scouting and validation of AI solution providers
- Matching users and providers based on needs and market potential
- Funding calls and proposal support

/ SUK AI4I

6. Training and skills development

Training pathways and AI adoption support through the coordinated mobilisation of institutional and ecosystem resources

- Executive education, technical training, and tailored learning programmes
- Training programmes supporting the adoption of AI solutions
- Lectures, seminars, workshops, and bootcamps

/ Academy AI4I

Research, Development and Engineering Center

/ RDE AI4I	/ Foundry AI4I Peano	CSP IAS AI4I Institute for Advanced Study	/ SUK AI4I	/ Academy AI4I

- Industry oriented research
- Industrial Contracts
- Joint Labs
- R&D Consortia

RESEARCH, DEVELOPMENT AND ENGINEERING: FROM SCIENTIFIC EXCELLENCE TO INDUSTRIAL SOLUTIONS

The Research, Development and Engineering Center (RDE) is the scientific and technological core of AI4I. Its laboratories conduct both industry-oriented and mission-oriented research across technological and application domains, supported by engineering and deployment capabilities.

The organisational model combines specialised expertise with the ability to adapt to technological evolution and changing industrial demand. R&D Labs are conceived as agile units with a strong scientific focus, while the broader RDE structure provides the capabilities required to move from research to experimentation, engineering and deployment.

Collaboration with industry is an integral part of this model. Commissioned research, Joint Labs, R&D consortia and competitive projects provide different mechanisms for bringing together AI4I's scientific capabilities and industrial expertise, addressing specific technological challenges and supporting the development of new intellectual property and applications.

AI4I / Research, Development and Engineering Center

Specialized lab on AI technologies and application areas

Depth of expertise

Agile Units

Adaptability to technological evolution and market demand

R&D Lab Archetype

1 Director
1 Senior Researcher
2 Postdoctoral Researchers
2 PhD Students

RDE / AI4I Scientific Advisory Board

Chairman

Marco Pavone

Associate Professor @ Stanford University / Director of Autonomous Vehicle Research @ NVIDIA

Alberto Bemporad

Professor @ IMT School for Advanced Studies in Lucca

Luca Carlone

Associate Professor @MIT Coordinator @ MIT Laboratory for Information & Decision Systems (LIDS)

Alessandra Fidanzi

Head of Data, AI & Agile Experience, Center of Excellence @ ENI

Angela Schoellig

Professor @ Technical University of Munich / Associate Professor @ UTIAS/PI Coordinator @Robotics Institute Germany

Silvio Savarese

Executive Vice President, Chief Scientist @ Salesforce Research/ Adjunct Professor @ Stanford

Riccardo Zecchina

Professor @ Bocconi / Vodafone chair in Machine Learning and Data Science

RDE Center / Research domains

RDE Lab Domain **AI Security & Assurance**	*RDE Lab Domain* **AI for Materials Science**	*RDE Lab Domain* **Industrial AI & Decision Systems**	*RDE Lab Domain* **Physical AI & Robotics**
Securing AI-enabled systems and strengthening trust, safety and resilience in digital and cyber-physical infrastructures.	Accelerating materials discovery and engineering through AI-driven modelling, simulation and experimentation.	Transforming industrial operations and decisions through predictive, agentic and optimization systems.	Embedding intelligence into physical systems through perception, interaction, control and autonomous behaviour.
Cognitive Security	Automated Materials Discovery	Operations & Decision Intelligence	Robot Learning & Autonomous Systems
Trustworthy, Robust & Verifiable AI	Process-Structure-Property Modelling	Industrial Agents & Digital Twins	Human–Robot Interaction & Human-Centered AI

COMPUTATION AND GENERAL METHODS	Learning, Optimization & Reasoning	Foundation Models, Verticalization & Architectures	Efficient & Scalable AI Systems	Explainability, Causality, & World Model

RDE / Laboratories

AI Security& Assurance

Joint Lab LEONARDO
AI-BASED SOFTWARE QUALITY ASSURANCE

Alessio Gambi

ARTIFICIAL INTELLIGENCE SECURITY

Nicola Franco

CRYPTOGRAPHY FOR AI SYSTEMS

Tamer Mour

Cognitive security

NEW (example)

AI for Materials Science

ADVANCED MATERIALS & ENGINEERING DESIGN

Marco Maurizi

Material Cycle automation

NEW (example)

Industrial AI & Decision Systems

Decision systems for operations and optimization

NEW (example)

PRAXIS VERIFIABLE INTELLIGENCE

Carlo Ciliberto

ROBUST AND INTELLIGENT AUTONOMOUS SYSTEMS

Luca Laurenti

Physical AI & Robotics

EDGE AI & INTELLIGENT SENSING

Michele Magno

MULTIMODAL AI FOR INDUSTRY

Committed (coming soon)

VERTICALIZATION OF FOUNDATION MODELS

Committed

PHYSICAL HOLISTIC INTELLIGENCE

Leonel Rozo

HUMAN-MACHINE INTERACTION

Committed

MACHINE INTELLIGENCE FOR ROBOT AUTONOMY

Daniele Gammelli

EFFICIENT & EMBODIED AI

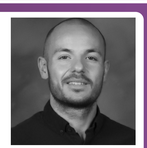
Committed

Agentic orchestration for Cyber-Physical Systems

NEW (example)

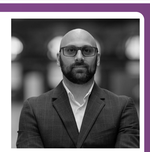
COMPUTATION AND GENERAL METHODS

SCALABLE ARTIFICIAL INTELLIGENCE



Massimiliano Lupo Pasini (resident Oak Ridge)

HPC ARCHITECTURE AND METHODS



Riccardo Di Maria

INTELLIGENT DEVELOPMENT AND LARGE-SCALE SYSTEMS

Sebastiano Panichella

RDE / LABS

/ AIS
AI Security

Lab highlights

- Security for AI Agents
- Cybersecurity infrastructure (Threat Modeling, Detection, Resilience)
- Product Optimization

Research Director

Nicola Franco

Director of Director of AI Security Lab at AI4I, with expertise in AI security, model robustness, and quantum methods for AI verification; previously led European research initiatives on AI system security and resilience at Fraunhofer IKS.

/ AQUA
AI-based Software Quality Assurance

Lab highlights

- Test automation for safety-critical software
- AI-assisted test generation and debugging
- Data-driven regression testing

Research Director

Alessio Gambi

Director of AI-Based Software Quality Assurance Lab at AI4I, with expertise in test automation and testing of self-driving cars and cyber-physical systems; also affiliated with the Austrian Institute of Technology (AIT), previously at the University of Passau and Saarland University.

/ AMED
Advanced Materials & Engineering Design

Lab highlights

- Advanced Materials Design
- Materials Discovery & Screening
- Foundation Models for Materials and Structures

Research Director

Marco Maurizi

Director of AI for Advanced Materials & Engineering Design Lab at AI4I, expert in AI for advanced materials and engineering design, with international research experience and postdoctoral training at the University of California, Berkeley.

/ CRYPTO
Cryptography for AI Systems

Lab highlights

- Cryptography for AI Systems
- Cryptography for machine learning
- Encrypted inference and model integrity
- Semantic watermarking for AI-generated content

Research Director

Tamer Mour

Director of Cryptography for AI Systems Lab at AI4I, with expertise in cryptography and computational complexity applied to machine learning; PhD from the Weizmann Institute of Science, with postdoctoral experience at MIT CSAIL and Harvard, currently also affiliated with Bocconi University.

RDE / LABS

/ EIS
Edge AI & Intelligent Sensing

Lab highlights
- Edge AI & Intelligent Sensing
- Edge AI and on-device inference
- Wearable and distributed sensing
- Low-power embedded systems

Research Director

Michele Magno

Director of Edge AI & Sensing Lab at AI4I, with expertise in edge computing, sensing, and resource-constrained autonomous systems; Professor at ETH Zurich, Integrated Systems Laboratory.

/ HPC|AM
HPC Architecture and Methods

Lab highlights
- Scalable HPC and HPC-AI convergence
- Engineering services for model development, training, validation, and deployment
- National infrastructure for research, startups, and enterprises
  (Entered the global TOP500 in June 2026, rank #315, 4.53 Pflop/s)

Research Director

Riccardo Di Maria

Director of HPC Architecture and Methods Lab at AI4I and lead of AI Foundry Peano, the Institute's supercomputing infrastructure integrating HPC, cloud, and engineering services across the full AI lifecycle.

/ IDEALS
Intelligent Development and Large-Scale Systems

Lab highlights
- Intelligent Development and Large-Scale Systems
- DevOps and MLOps for complex systems
- Testing and validation of cyber-physical software
- Data-driven software maintenance and evolution

Research Director

Sebastiano Panichella

Director of Intelligent Development and Large-Scale Systems Lab at AI4I, with expertise in software engineering, cloud computing, and testing of autonomous systems; currently Senior Researcher at the University of Bern, previously at the Zurich University of Applied Sciences (ZHAW); PhD from the University of Sannio.

/ MIRA
Machine Intelligence for Robot Autonomy

Lab highlights
- Embodied autonomy for high-risk environments
- Trajectory optimization and control for aerospace applications
- Fleet coordination for future mobility

Research Director

Daniele Gammelli

Director of Machine Intelligence for Robot Autonomy Lab at AI4I, with expertise in reinforcement learning and trajectory optimization for autonomous systems, and a Visiting Faculty in the Department of Aeronautics and Astronautics at Stanford University. He received his Ph.D. from the Technical University of Denmark (DTU) in 2022, where his doctoral thesis was nominated for the DTU Best Thesis of the Year Award and the DTU Young Researcher Award.

RDE / LABS

/ PHI
Physical Holistic Intelligence

Lab highlights

Digital Twins & Simulation
Embodied AI
Smart Robotics
Human–Robot Collaboration

Research Director

Leonel Rozo

Director of Physical Holistic Intelligence Lab at AI4I, researcher in AI and robotics, with experience as a team leader at the Italian Institute of Technology and as Lead Research Scientist at the Bosch Center for AI.

/ PRAXIS
Verifiable Intelligence

Lab highlights

- Verifiable Intelligence: explicit guarantees on AI decisions
- Calibrated human-machine interfaces
- Formal methods combined with statistical learning

Research Director

Carlo Ciliberto

Director of Praxis Verifiable Intelligence Lab at AI4I, with expertise in statistical learning theory, structured prediction, and agentic systems; Associate Professor at University College London (UCL), where he also serves as Acting Director of the UCL AI Centre; previously postdoctoral researcher at MIT and the Italian Institute of Technology (IIT).

/ RIAS
Robust and Intelligent Autonomous Systems

Lab highlights

- Formal robustness of autonomous systems
- Vulnerability detection
- Provable safety in uncertain environments

Research Director

Luca Laurenti

Director of Robust and Intelligent Autonomous Systems Lab at AI4I, with expertise in formal verification and the reliability of data-driven systems; Assistant Professor at TU Delft.

RDE / Laboratory incentives

VALUE-GENERATION OBJECTIVES

- **Company agreements**
- **Royalties / Patents**
- **Competitive grants**

Yearly evaluation process

SCIENTIFIC OBJECTIVES

- **Publications**
- **Conferences**
- **Impact in scientific and technical communities**

RDE / Collaborations

COMMISSIONED RESEARCH

Company contracts AI4I to carry out a **specific Research and Development project** aimed at solving specific company challenges

JOINT LAB

A **longer-term partnership** blending industry expertise with applied research to create innovation

LEONARDO

COMPETITIVE GRANTS

A collaborations among **multiple organizations** to share competences and resources

ITALIA AI FACTORY

INFRA+ EDIH 2.0

MEMBERSHIP

Leading technological and industrial enterprises become part of AI4I life and contribute to shape AI4I strategy

AI Foundry Peano

RDE | Foundry Peano | CSP IAS Institute for Advanced Study | SUK | Academy

- HPC Facility
- Model development
- Testing
- Sandbox

AI FOUNDRY PEANO: COMPUTING POWER AS AN INDUSTRIAL CAPABILITY

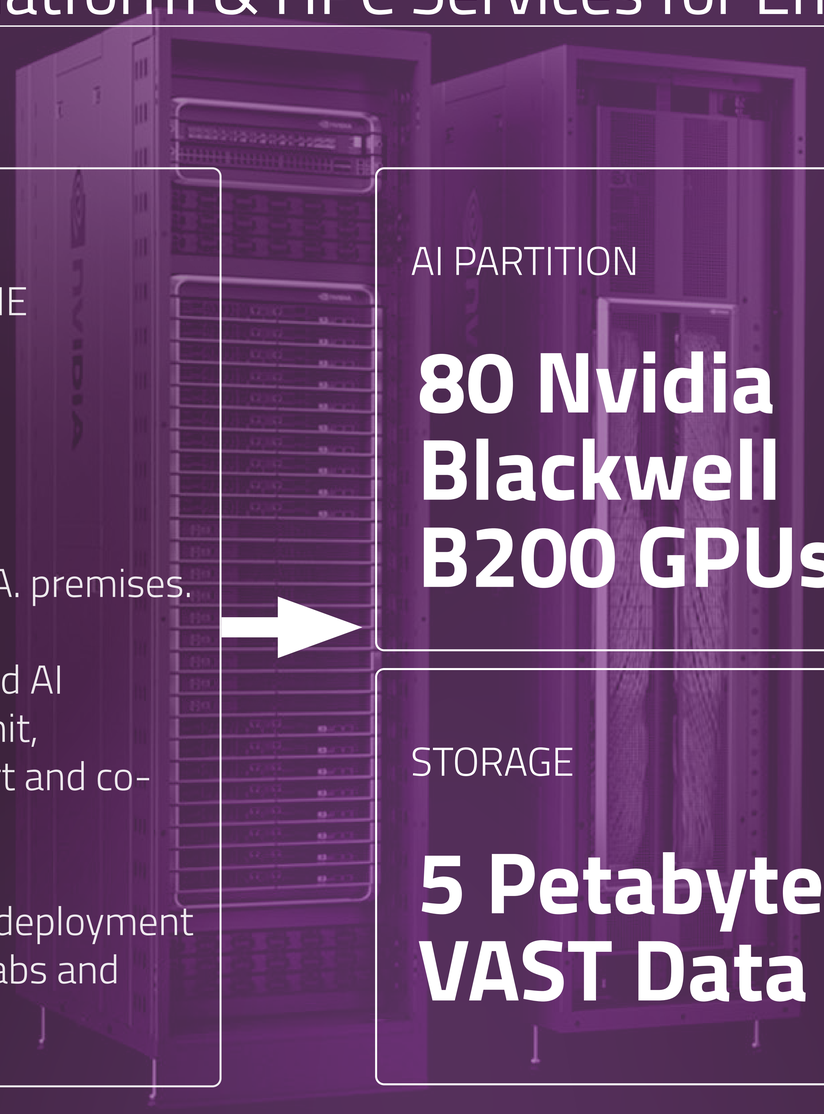
AI Foundry Peano is AI4I's HPC and AI infrastructure, designed to turn computing power into an operational capability for research and industry.

The Foundry integrates high-performance computing, AI infrastructure, development environments and specialised engineering services across the entire application lifecycle. It supports model development, training and inference, experimentation, testing, validation and scaling, while maintaining control over data and applications within a governed operational perimeter.

Its operating model goes beyond access to computing resources. A dedicated team of HPC and AI specialists provides technical support and co-development capabilities, enabling companies to access advanced infrastructure even when they do not have specialised internal expertise. In this model, computing becomes a managed service combining infrastructure, engineering and expertise to support the transition from experimentation to industrial-scale deployment.

Technological sovereignty is an integral part of this approach: the infrastructure is designed around control of the data and application lifecycle, security and the ability to operate AI workloads within a trusted environment.

AI Foundry: Managed Platform & HPC Services for Enterprises



FULL CONTROL OF THE DATA AND APPLICATION LIFECYCLE INSIDE ONE OPERATIONAL PERIMETER

What: state-of-the-art computing infrastructure and services.

Where: hosted within Leonardo S.p.A. premises.

Who: dedicated AI4I team of HPC and AI specialists within the Engineering Unit, providing hands-on technical support and co-development capabilities.

Objective: accelerate RDE Labs and deployment of AI models, supporting both AI4I Labs and external partners.

AI PARTITION

80 Nvidia Blackwell B200 GPUs

GENERAL PURPOSE

68 Nvidia Hopper H200 GPUs

STORAGE

5 Petabyte VAST Data

Enterprise storage for model training and AI assets

AI Foundry: Managed Platform & HPC Services for Enterprises

SOVEREIGNTY
AS COMPETITIVE CRITERION

AI Foundry Peano

- **Fully proprietary**
- **On-premise**
- **Local Cloud**
- **No external service dependency**
- **Full data/application lifecycle control**

#315 TOP 500
4.53 Pflop/s

#101 HPCG
82.6337 Tflop/s

TOP500 The List.

The message is that heterogeneous AI infrastructure can also deliver credible scientific computing performance

Peano is not "one cluster": it is a system designed around different workload shapes

AI Foundry Peano is where Italy turns compute into governed AI capability for research, industry, and SMEs

- Powerful, but **accessible**
- Secure, but **agile**
- National, but **industrial**

AI4I Foundry between National and Edge Assets

NATIONAL FACTORIES

- High-performance HPC/AI (model training, inference and HPC simulation)
- Large resource pools with high-performance, geo-distributed, redundant interconnections
- Security, sovereignty and domain isolation from data to applications
- Flexible access for SMEs, industry, research and the public sector

Foundry AI4I Peano

Pilot line & Tecnology Accelerator

- End-to-end orchestration and integration
- Interoperability across computing resources, data and platform services
- Security, governance and compliance
- Confidential computing in trusted, reliable environments (TRE and TEE)
- Specialised/vertical R&D asset

EDGE AI AND COMPUTING

- Regional and edge infrastructures (low-latency inference)
- Close to users, applications and industrial value chains
- Cloud-native and multi-cloud integration
- Support for vertical use cases and local services

Three orchestration domains managed as an integrated system

</> Computing Resources

Dynamic and predictive planning, resource optimization

Data

Federation, orchestration, management and distributed data access, coordinating infrastructure, data and services

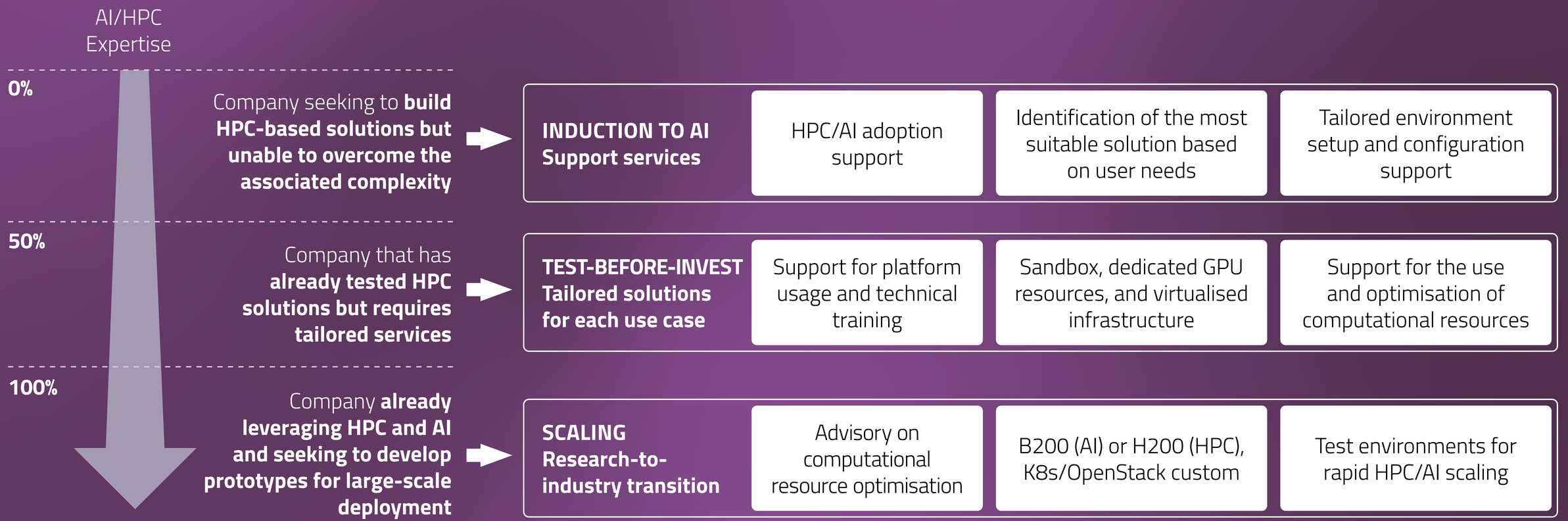
Services

Service and platform exposure and orchestration to enable applied AI securely, scalably and interoperably

Customised offer

Unlike other HPC/AI and cloud services, Foundry meets the needs of its target companies without requiring advanced skills or specialised expertise, effectively removing barriers to adoption

A service is not compute time alone, it is **expertise packaged** around **controlled infrastructure**



CSPIAS
Institute for Advanced Study

RDE AI4I | Foundry Peano AI4I | CSP IAS AI4I Institute for Advanced Study | SUK AI4I | Academy AI4I

- World-Class Scholars
- Seminars
- Lectures
- Special Programs

INSTITUTE FOR ADVANCED STUDY: CONNECTING AI4I TO THE INTERNATIONAL RESEARCH FRONTIER

The Institute for Advanced Study (IAS), a collaboration with Fondazione Compagnia di San Paolo, which also finances it through a multi-year agreement, strengthens AI4I's international scientific dimension by creating a platform for interaction among world-class scholars, researchers and industry experts.

Through seminars, lectures, workshops, schools and special programmes, IAS promotes scientific exchange on emerging areas of artificial intelligence and related disciplines, bringing international expertise into direct contact with AI4I's research community and industrial ecosystem.

Its role extends beyond scientific dissemination. IAS contributes to advanced training, technology transfer and the development of strategic collaborations, strengthening the circulation of knowledge between frontier research and industrial innovation.

AI4I / CSP \ IAS / Institute for Advanced Study

CSP IAS AI4I
Institute for Advanced Study

Fostering an international scientific community by connecting scholars, researchers, and industry experts through seminars, workshops, and flagship public events

Driving innovation and supporting the industrial ecosystem via technology transfer, advanced training, and strategic collaborations

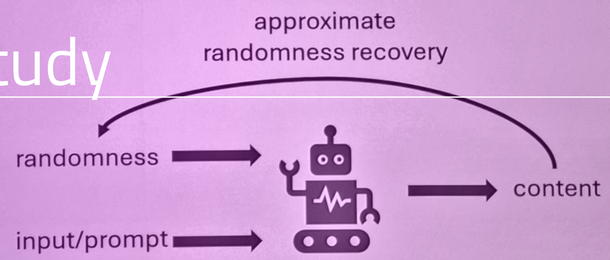
AI4I AI FOR INDUSTRY
The Italian Institute of Artificial Intelligence

Fondazione Compagnia di San Paolo

Bill Dally
NVIDIA Chief Scientist

Lectio Magistralis
November 7, 2025

AI4I / CSP \ IAS / Institute for Advanced Study



2025 / 2026 SCIENTIFIC SEMINARS

June 30, 2025

Marco Pavone

Associate Professor of Aeronautics and Astronautics @ Stanford University
Senior Director, Autonomous Vehicle Research @ NVIDIA

September 16, 2025

Alberto Bemporad

Professor of Control Systems, IMT School for Advanced Studies Lucca

September 22, 2025

Riccardo Zecchina

Director of the Department of Computing Sciences and full professor of Theoretical Physics at Bocconi University in Milan

November 25, 2025

Pietro Perona

Allen E. Puckett Professor of Electrical Engineering;
Director, Information Science and Technology – California Institute of Technology (Caltech)

January 19, 2026

Volkan Cevher

Associate Professor at Ecole Polytechnique Federale de Lausanne

March 17, 2026

Konstantin Novoselov

Nobel Prize in Physics; Foreign Associate of the National Academy of Sciences, USA;Founder and Director of the Institute for Functional Intelligent Materials (I-FIM).

April 28, 2026

Andrea Ferretti

AI Research Engineer at Bending Spoons

May 04, 2026

Davide Scaramuzza

University of Zurich, head of the Robotics and Perception Group

May 15, 2026

Massimiliano Pontil

Principal Investigator at IIT and Co-Director of the ELLIS Unit Genoa; Professor at UCL and member of the UCL Centre for Artificial Intelligence

June 18, 2026

Pierfrancesco Urbani

CNRS researcher at the Institute of Theoretical Physics, CEA Saclay, France

July 15, 2026

Nicolò Cesa-Bianchi

Professor at the University of Milan (Università degli Studi di Milano)

July 16, 2026

Ali Jadbabaie

Civil and Environmental Engineering Department, Laboratory for Information and Decision Systems and Institute for Data, Systems, and Society, MIT

July 17, 2026

Lorenzo Mattozzi

Associate Architect at MVRDV

Fredy Fortich

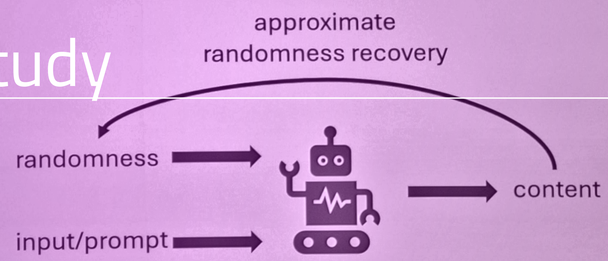
Architect / Engineer, BIM and AI expert at MVRDV

July 27, 2026

Xiaoyu (Rayne) Zheng

Ph.D., University of California, Berkeley

AI4I / CSP \ IAS / Institute for Advanced Study



2025 / 2026 ROUND TABLE / LECTIO & SCHOOLS

November 7, 2025

Lectio Magistralis

EVOLUTION OF AI HARDWARE
How Deep-Learning Hardware is Improving the Human Experience

Bill Dally

Chief Scientist and Senior Vice President of Research at NVIDIA

November 25, 2025

Round Table

Disruptive Ideas and Applications in the AI of the Near Future

Pierluigi Contucci, Marc Mezard, Fabio Pammolli, Pietro Perona, Riccardo Zecchina

February 2-5, 2026

IAS WINTER SCHOOL

Cryptography and Machine Learning

March 30, 2026

Lectio Magistralis

PAST, PRESENT, FUTURE, AND FAR FUTURE OF MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE

Jürgen Schmidhuber

Co-Chair, Center of Excellence for Generative AI, King Abdullah University of Science and Technology and Scientific Director, Swiss AI Lab, IDSIA

February 12, 2026

Round Table

Dialogue on Artificial Intelligence and Scientific Discovery

Angelo Maria Petroni, Pierluigi Contucci, Simone Severini, Fabio Pammolli

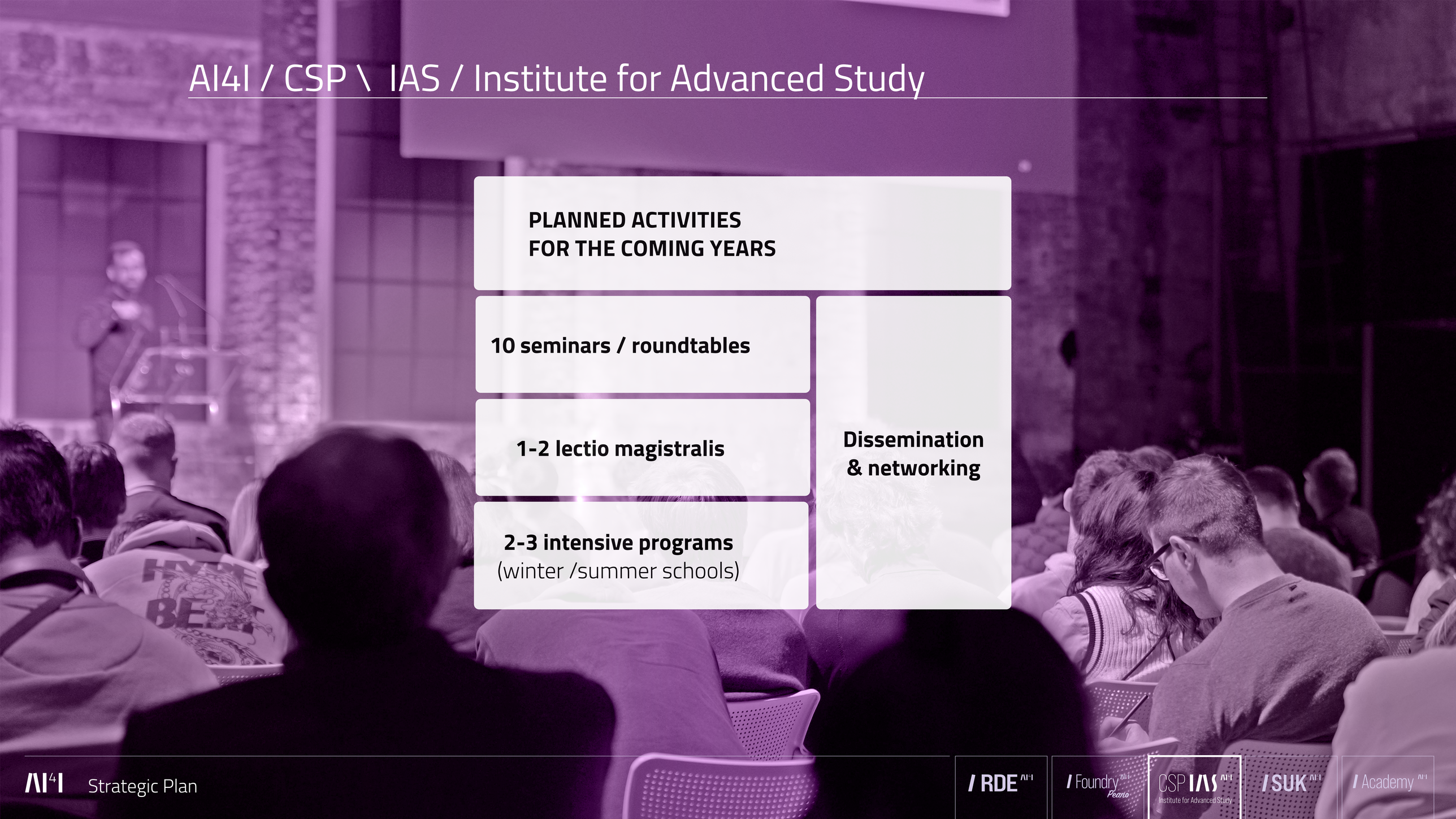
July 21, 2026

Workshop

Generative AI for Software Engineering: From Research Evidence to Industrial Impact

Alessio Gambi, Mattia Fazzini, Fabio Calefato, Fabio Palomba, Gemma Catolino, Riccardo Coppola, Luciano Baresi, Antonio Vetrò, Leonardo Mariani,Tommaso Fulcini, Dario Di Nucci

AI4I / CSP \ IAS / Institute for Advanced Study



PLANNED ACTIVITIES FOR THE COMING YEARS

10 seminars / roundtables

1-2 lectio magistralis

2-3 intensive programs
(winter /summer schools)

Dissemination & networking

SUK
Ecosystem Platform

- Matchmaking
- AI Marketplace
- Technological Challenges
- Ecosystem Generator

SUK ECOSYSTEM PLATFORM: BUILDING A TRUSTED MARKET FOR AI SOLUTIONS

SUK is the ecosystem platform through which AI4I connects industrial demand with technology supply.

It addresses one of the structural barriers to AI adoption: the information asymmetry between companies seeking to identify, compare and assess technologies and a fragmented supply market in which the maturity, scalability and delivery capabilities of available solutions can be difficult to evaluate. On the demand side, companies may face latent or unexpressed needs, unclear priorities and uncertainty regarding returns and implementation risks.

SUK acts on both sides of this market. For users, it provides access to qualified and validated AI solutions and specialised expertise. For providers, it creates access to qualified industrial use cases and potential customers while supporting solution validation and market positioning.

Through assessment, use-case definition, provider scouting, matching and implementation support, the platform is designed to make AI investments less risky, more comparable and easier to implement, while contributing to the development of a stronger national technology ecosystem.

AI4I as the Engine for Matching AI Demand and Supply

TECHNOLOGY SUPPLY

Market Fragmentation and Lack of Transparency
Limited Comparability of Solutions
Limited Verifiability of Maturity and Delivery
Integration and Scalability Challenges

INDUSTRY DEMAND

Latent or Unexpressed Demand
Unclear Business and Organisational Priorities
Uncertainty in ROI and Risk Assessment
Difficulty Evaluating Solutions

Information Asymmetry

The market requires a **trusted actor to qualify demand and supply**, making AI investments less risky, more comparable, and easier to finance.

SUK: The Ecosystem Connecting AI Demand and Supply

AI USERS

Concrete Needs, Market Challenges and Barriers

/SUK AI4I *For Users*

Access to Qualified and Validated AI Solutions

Support Through Enabling Services and Specialized Expertise (e.g., HPC, testing, experimentation, and scale-up support)

SUK facilitates the matching of demand and supply, reduces the perceived risk of AI adoption, and strengthens trust in available solutions, contributing to the growth of the national technologies ecosystem

AI PROVIDERS

Market-ready AI solutions and specialised technological expertise

/SUK AI4I *For Providers*

Direct Access to Qualified Industrial Use Cases and Potential Customers

Solution Validation and Market Positioning through AI4I

AI4I / SUK - Services for Users

STANDARD SERVICES

Orientation & Advisory Services

- **Assessment & Requirements Verification**
- **Support in use case definition**

Solution & Providers Matching

- **Ad-hoc Scouting of AI Providers**
- **Support for Provider Matching**
- **Facilitation of Agreement definition**

Support with funding opportunities

PREMIUM SERVICES

- **In-depth assessment services**
- **Advanced use case definition**
- **Project Design**
- **Implementation support with KPI monitoring**

ENTER THE AI MARKETPLACE

https://suk.ai4i.it

/SUK AI4I

SUK: Initial Results (July 2026 Data)

141
Qualified Producers

59 Innovative Startups, 35 SMEs and 46 Innovative SMEs

With AI solutions across key business processes: document management, production & quality, analytics, forecasting & planning, customer & market development, trust & governance.

187
AI Solutions

TRL 6 and ready for implementation

Structured matchmaking processes combined with tutoring and advisory services to support SMEs throughout their AI adoption journey.

1
support model "AI-MATCH"

Tested and scalable across the Italian Chambers of Commerce network, building on an initial pilot with the Turin Chamber of Commerce

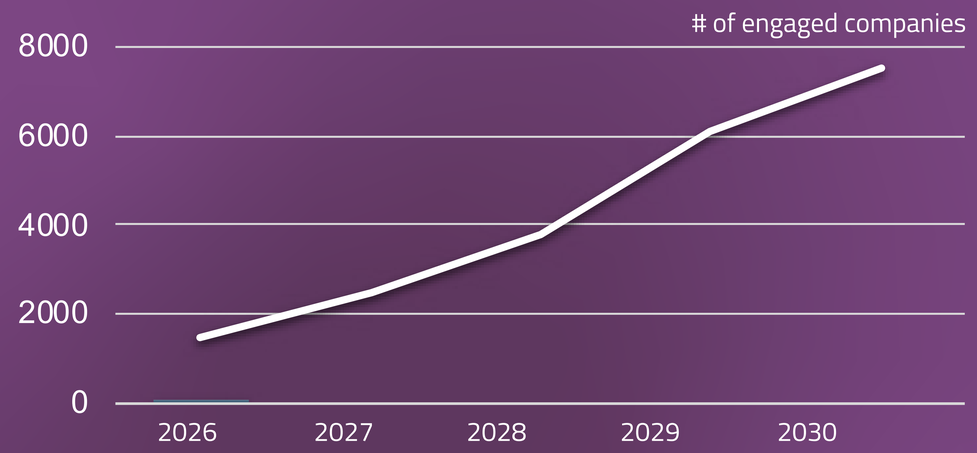
142
Users with Potential Demand for AI Solutions

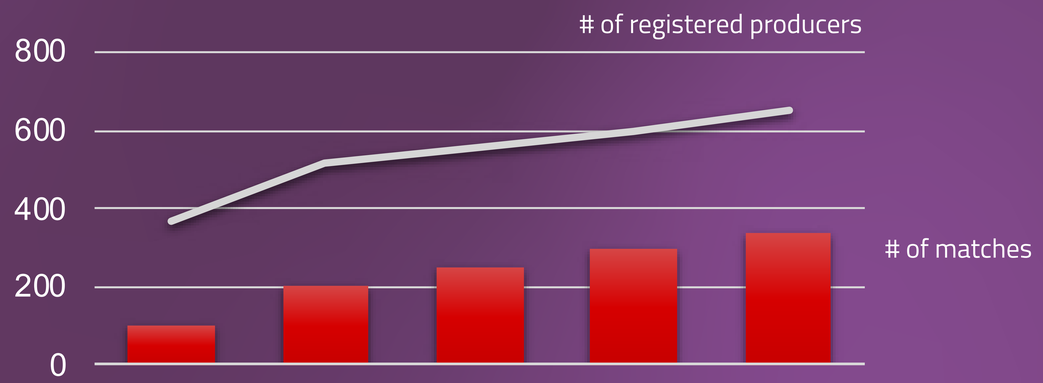
30
Application areas

Leveraging Chamber of Commerce funding for national development

- €450K secured through two "AI-MATCH" calls funded by the Chambers of Commerce of Turin and Cuneo.
- 110 companies supported through matchmaking and accompaniment services; 50 companies already engaged in Turin, with 60 additional companies expected in Cuneo.
- National agreement with Unioncamere, a national network of 60 Chambers of Commerce

AI4I / SUK - Key Objectives





8000+

ENGAGED COMPANIES

600+

ENGAGED PRODUCERS

1

MATCH PER DAY

AI4I ACADEMY

RDE AI4I

Foundry AI4I
Peano

CSP IAS AI4I
Institute for Advanced Study

SUK AI4I

Academy AI4I

- Orchestration of Training Programs
- Generation of Contents

AI4I ACADEMY: BUILDING THE SKILLS REQUIRED FOR AI ADOPTION

AI4I Academy addresses the skills dimension of technological transformation. The Strategic Plan recognises that access to technology alone is not sufficient to drive adoption: organisations also need the capabilities required to assess, implement and integrate AI into their processes.

The Academy therefore combines executive education, technical training and tailored learning programmes, together with seminars, workshops and bootcamps. Training programmes can be connected directly to adoption pathways, allowing skills development to accompany technological assessment and implementation.

The Academy operates by mobilising AI4I's internal expertise and the wider scientific and industrial ecosystem, making skills development an integral component of the Institute's technology transfer model.

Academy AI4I

FROM RESEARCH TO ADOPTION

AI Skills for Businesses, Professionals, and Public Institutions

The Academy makes AI4I's unique assets accessible through training and education: cutting-edge research, engineering expertise, computing capabilities, and ecosystem solutions.

The Academy provides the specialised skills needed to support the dissemination and adoption of AI solutions.

01 MOBILIZE

AI4I units, together with qualified external content providers and partners where appropriate, contributing to the development of the national ecosystem.

/ SUK AI4I / RDE AI4I / Foundry AI4I Peano CSP IAS AI4I Institute for Advanced Study

02 DEVELOP

Modular learning pathways tailored to technical levels, organisational needs, and learning objectives

03 TRANSFER

Training designed around real-world use cases, infrastructures and practical tools to support implementation

B2B AND B2C OFFER

- Flagship seminars
- Adoption pathways
- Use case workshops
- HPC training
- Technical and engineering modules
- Demos and digital content

STARTGARDEN: TURNING INNOVATION INTO NEW ENTREPRENEURIAL CAPACITY

StartGarden completes AI4I's architecture by focusing on the development of the AI startup ecosystem and the valorisation of scientific and technological innovation.

The model combines scientific and technical support, access to computing capabilities, and connections with venture capital and accelerators, providing an environment in which technologies and research outcomes can develop into new entrepreneurial initiatives.

In this way, AI4I extends its role beyond research and technology transfer to support the creation and growth of new technology supply, contributing to the development of a more structured and competitive national AI ecosystem.

A LEAN AND EFFICIENT STRUCTURE

The Strategic Plan highlights how AI4I is designed to deliver its broad research, technology-transfer and ecosystem-building mission while maintaining a deliberately lean and cost-efficient organisational structure.

This is enabled in part by strategic partnerships, agreements and shared arrangements with key institutional partners, including the Italian Institute of Technology, Fondazione CRT-OGR, which provide access to complementary capabilities and to facilities while significantly limiting the need to replicate overhead-intensive functions and assets internally.

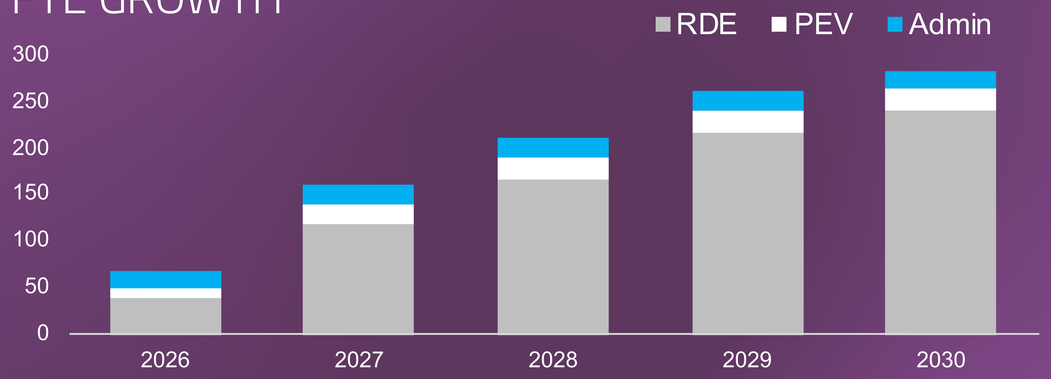
As a result, the Institute can concentrate a larger share of its people and financial resources on its core mission: research, technology development and engineering, together with the functions directly supporting technology adoption by Italian manufacturing SMEs and the growth of startups and innovative SMEs.

This operating model allows AI4I to combine a broad institutional mandate with a relatively light support structure, maximising the resources devoted to scientific, technological and industrial impact.

Headcount, Funding and Efficiency

SHARE OF POSITIONS FUNDED BY THIRD PARTIES

FTE GROWTH



PERSONNEL COST SHARE BY AREA

	2026	2027	2028	2029	2030
RDE	53%	66%	72%	77%	79%
PEV	16%	16%	13%	11%	10%
Admin	30%	18%	15%	12%	11%

RESEARCH, DEVELOPMENT, ENGINEERING (RDE)

The RDE function lies at the core of the Institute's activities and comprises the **RDE Labs**, the **Engineering Unit**, the **Deployment Unit**, and the unit responsible for managing the **AI Foundry Peano**.

PARTNERSHIP, ECOSYSTEM & VALORISATION (PEV)

This function develops partnerships and funding opportunities, translating industrial needs into projects, grants and adoption pathways. It integrates demand-supply matchmaking (**SUK**), training (**Academy**), outreach activities, intellectual property valorization and spin-off creation (**Startgarden**).

ADMINISTRATION & GOVERNANCE (ADMIN)

This function ensures the effective operation of the Institute, overseeing administration, finance, procurement, human resources, compliance and governance support, while ensuring sustainability, transparency and consistency across internal processes.

Foundations and Innovation Hubs

OGR*
Fondazione CRT*
Fondazione Compagni di San Paolo*

Industrial & Trade Associations

Camera di Commercio di Torino
Confindustria Cuneo
Unione Industriali Torino
Assolombarda
Unioncamere Nazionale
Confindustria Nazionale

Leading Technological Firms

Leonardo*
Stellantis
Fastweb
Fibercop

... Many More

AI4I PARTNERS

* *Initial Partners*

Incubators, Accelerators, VC funds

Zest*
cdp
Liftt
Techstars
Scientifica Venture Capital
Invitalia

Universities & Research Centers

IIT*
Politecnico di Milano
Università di Genova
IMT Alti Studi Lucca
Politecnico di Torino
Università Commerciale Luigi Bocconi
Oak Ridge - National Laboratory

Competence Centers

MADE*
+CIM 4.0

HPC Centers and Partners in innovation initiatives

Cineca*
IT4LIA

AI FOR INDUSTRY

The Italian Institute of
Artificial Intelligence

Thank You