



ISTITUTO ITALIANO  
DI TECNOLOGIA

# FACTS & FIGURES

## IIT TODAY

Data last updated on 31<sup>st</sup> December 2024



# Organizational Chart

**MAGISTRATE OF THE CORTE DEI CONTI (COURT OF AUDITORS)**

**BOARD\***  
15 members

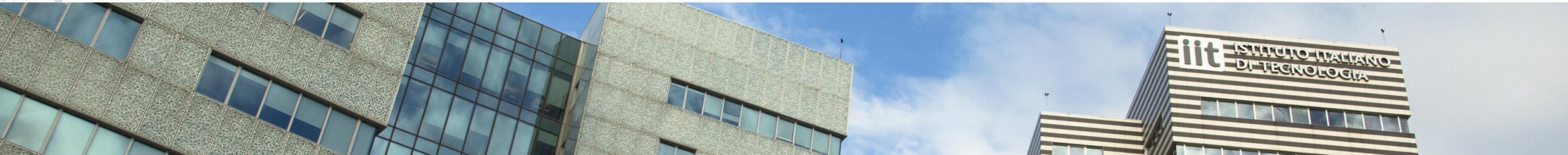
**STATUTORY AUDITORS\***  
3 members

(\*) statutory bodies

**EXECUTIVE COMMITTEE\***  
5 members

**PRESIDENT\***  
Gabriele Galateri di Genola

**SCIENTIFIC DIRECTOR\***  
Giorgio Metta



# Governance

## Board

Montanino Andrea (chairman)

Goitini Elena

Sala Marcello

Gubitosi Luigi

Sciuto Donatella

Marullo di Condojanni Sergio

Squitieri Raffaele

Nasi Alessandro

Stellacci Francesco

Pettiti Gianluca

Taddeo Mariarosaria

Profumo Alessandro

Ungaro Simone

Rivera Alessandro

Verona Gianmario

15 members

## Executive Committee

Galateri di Genola Gabriele (IIT president)

Metta Giorgio (IIT scientific director)

Inverardi Paola

Terzi Vittorio

Vaccaro Luciana

5 members

## Scientific Technical Committee

Sette Francesco (chairman)

Aguzzi Adriano

Khatib Oussama

Asfour Tamim

Kotz Sonja

Banin Uri

Marzari Nicola

Cangelosi Angelo

Molinari Elisa

Car Roberto

Nurmikko Arto

Chalfie Martin

Slotine Jean-Jacques

Cuniberti Gianaurelio

Vendruscolo Michele

Corboud Fumagalli Adrienne Sangiovanni Vincentelli Alberto

17 members

## Board of Statutory Auditors

Ali Francesco (president)

Di Felice Vincenzo

Vassallo Enrico

3 members

## Corte dei Conti (Court of Auditors)

Corsetti Adelisa

## General Counsel

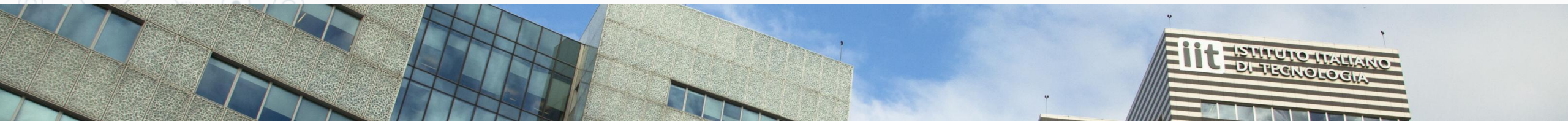
Cusmai Raffaele

## Audit, Risk Management Compliance Directorate

Vidili Valeriano (director)

Desiderio Stefano

Nigro Leonardo





# Scientific and Administrative Management

## Vice Scientific Director

(pending appointment)

## Director General

Moscone Fabrizio

## Committee of the SD

Athanassiou Athanassiou	Pellegrino Teresa
Caldwell Darwin	Tonini Raffaella
De Vivo Marco	Siciliano Velia
Decuzzi Paolo	Tirelli Nicola
Fellin Tommaso	Wykowska Agnieszka
Gustincich Stefano	Moscone Fabrizio (invited)
Manna Liberato	De Michieli Lorenzo (invited)
Mazzolai Barbara	Cagnoni Francesca (invited)
Natale Lorenzo	

14 members + 3 invited

## Research Support Directorates

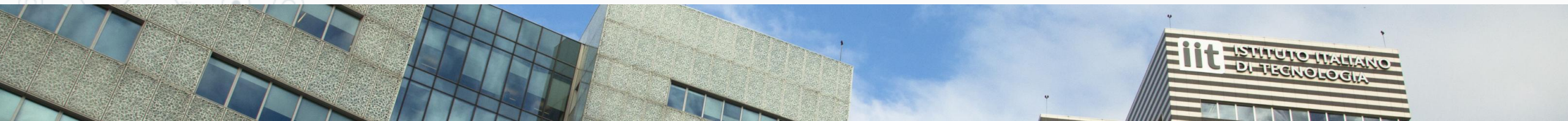
Bencetti Stefano	Gatti Massimiliano
Cagnoni Francesca	Greco Giuliano
De Michieli Lorenzo	

## Administrative Directorates

Caporali Andrea	Gelati Enzo
Firpo Cevolani Valeria	Monaldi Ilaria
Fontana Antonella	Monga Marco

## Principal Investigators and Facility Coordinators

85 Principal Investigators + 17 Facility Coordinators



# IIT Values

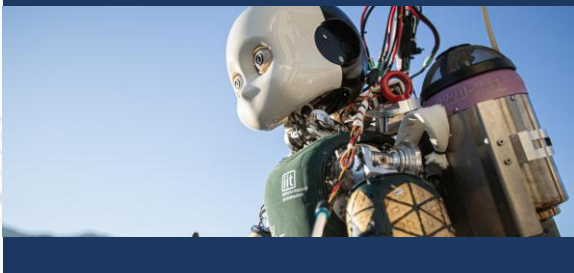
## Courage, Social Responsibility, Inclusion, and Integrity

Our values guide us:

- in exploring uncharted territories
- in always being aware of the impact our research has on society and the environment
- in valuing innovation and making technological progress accessible to everyone
- in acting according to the principles of transparency and honesty

### Courage

We like challenges, and we face them with determination, striving for excellence.



### Societal Responsibility

We aim to benefit humanity worldwide. We strive to help society develop for the common good.



### Inclusion

We welcome and cherish diversity in every form. We do not tolerate discrimination in any form. We are always inclusive, respecting individual freedom.



### Integrity

We adhere to scientific and moral integrity. We value and strive for openness, honesty, authenticity, sincerity, and transparent behavior. We communicate transparently.



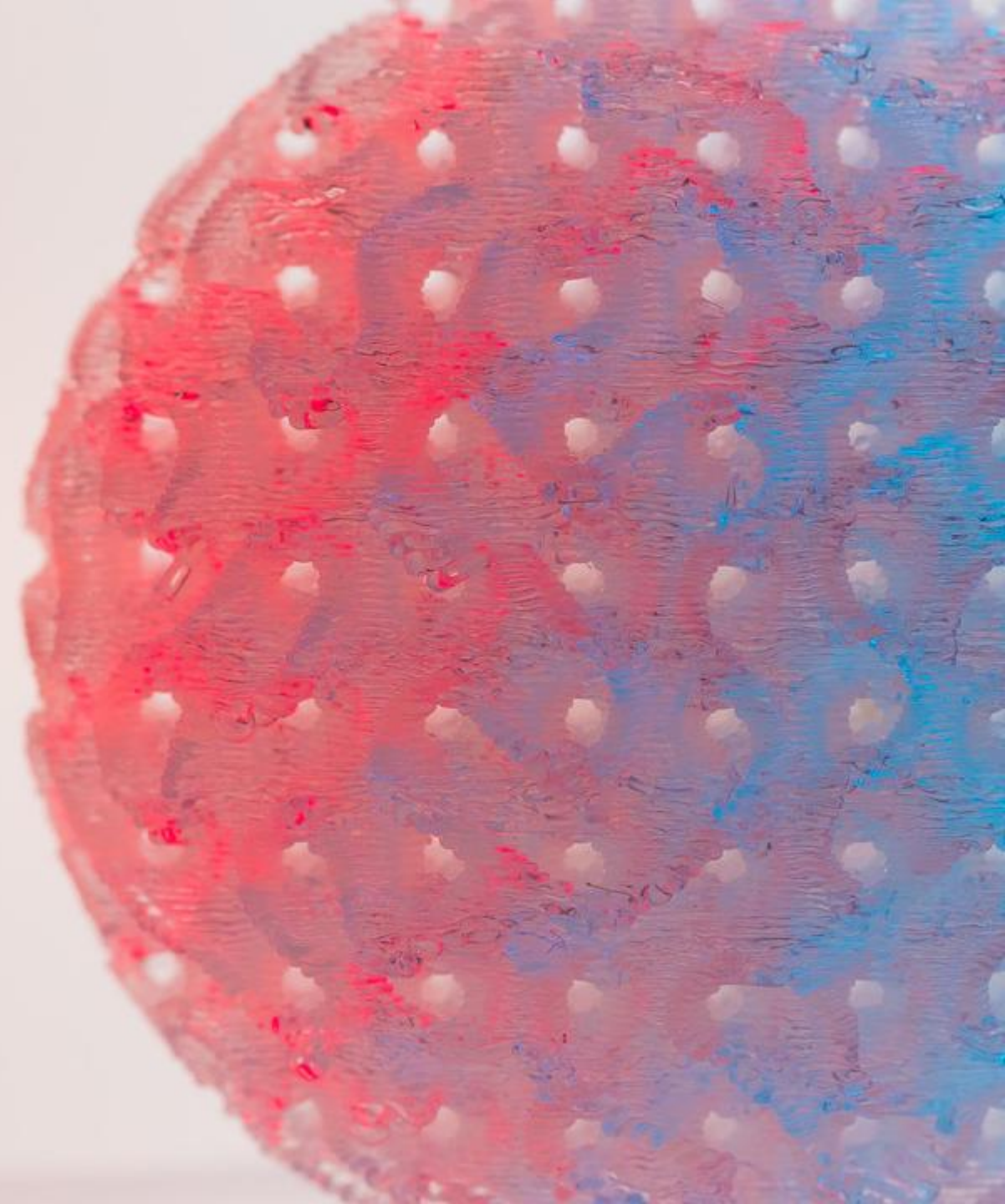


ISTITUTO ITALIANO  
DI TECNOLOGIA

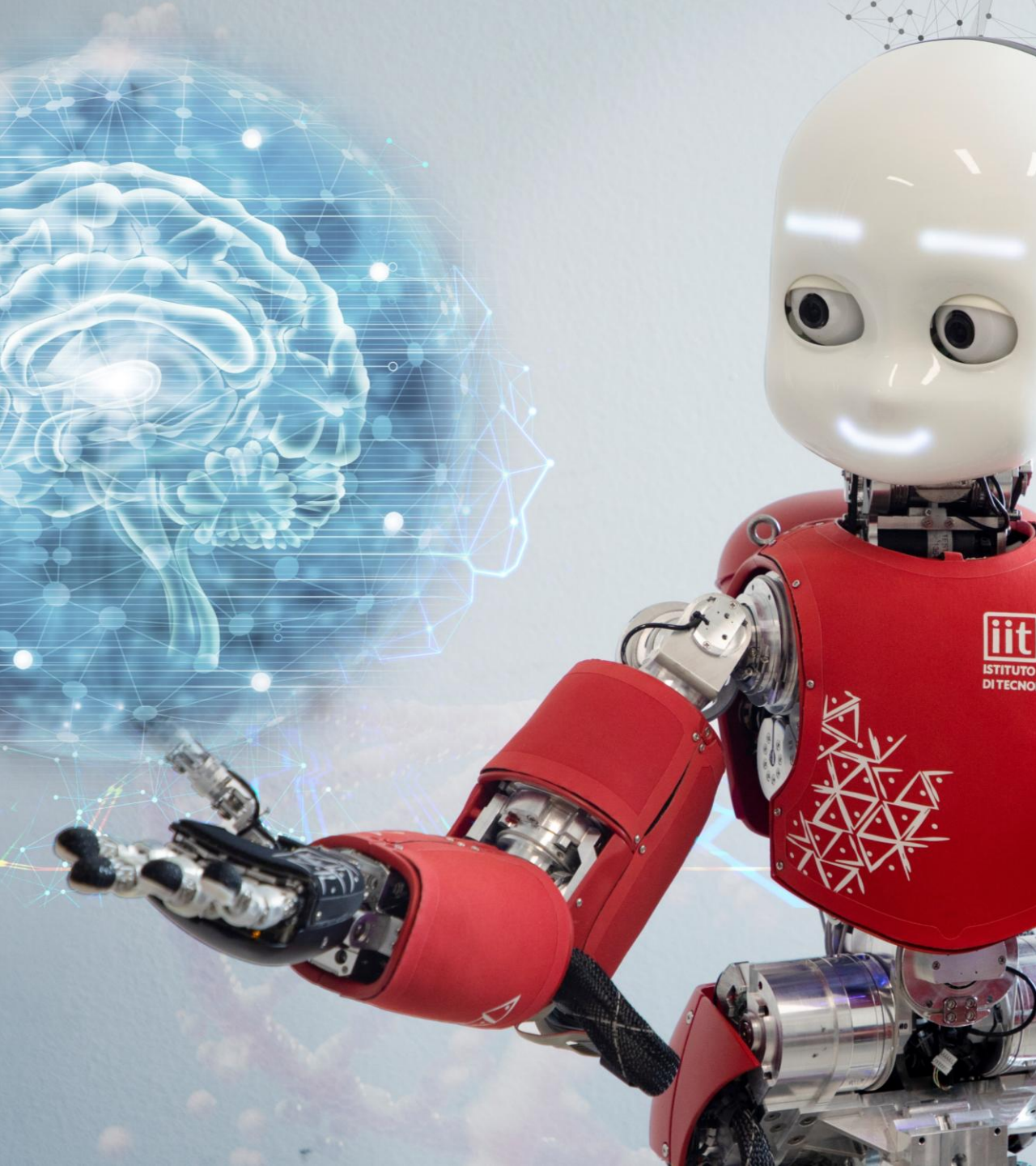
# Strategic Plan

## 2024-2029

Vision, Programme and Numbers







# IIT Research Plan

## Vision, Mission and Programme

### Artificial Intelligence for Healthcare and Earthcare

4



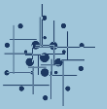
Research  
Domains

1



Blue Sky  
Programme

5

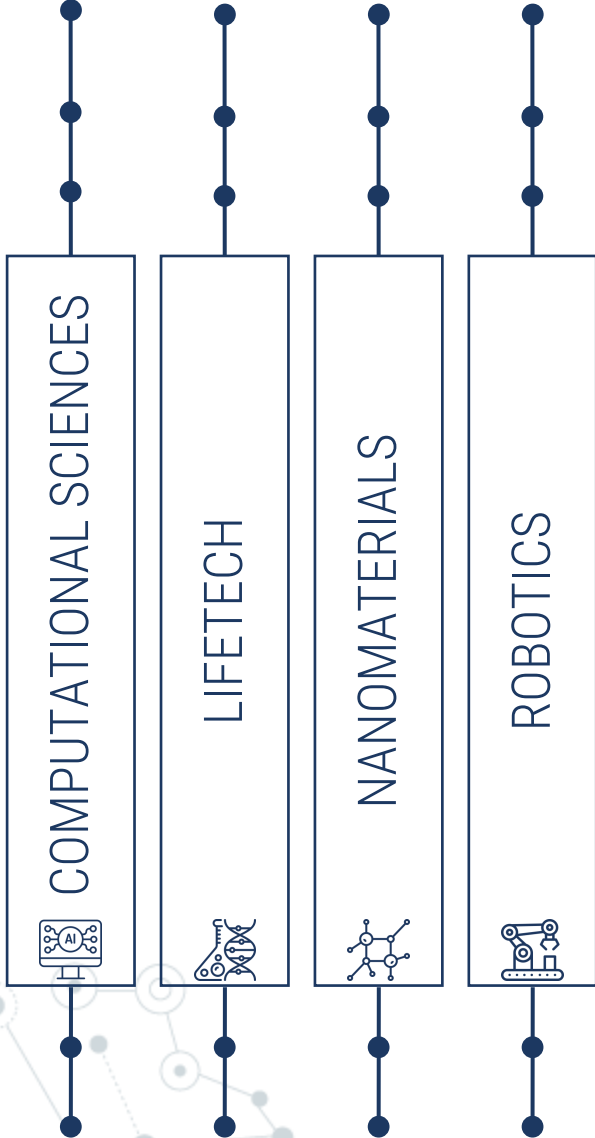


Flagship  
Programmes

We strive to conduct **outstanding scientific research**, develop **cutting-edge technologies**, and foster a **creative research environment**

# Strategic Plan 2024-2029

Research Domains



Advancing the State of the Art

Industrial Translation

Clinical Translation

Scientific Mission

Tech Transfer Mission

Sustainability

Healthcare

Social Challenges





# Strategic Plan 2024-2029

Research Domains



Advancing the State of the Art

Industrial Translation

Clinical Translation

Scientific Mission

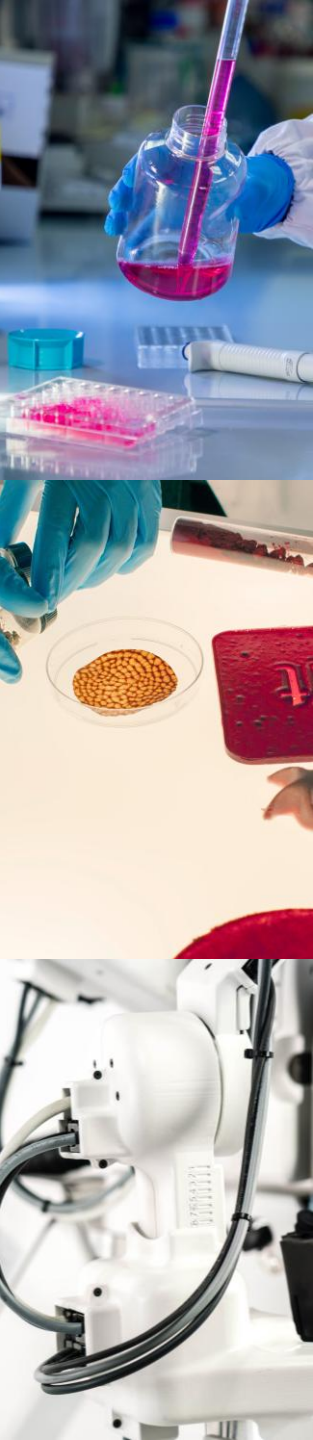
Tech Transfer Mission

Flagship Programmes (5)

Sustainability

Healthcare

Social Challenges



# IIT Research Domains

## Computational Sciences, Technologies for Life Science (LifeTech), Nanomaterials and Robotics

Each research domain consists of independent research units, each led by a Principal Investigator and supported by state-of-the-art facilities.

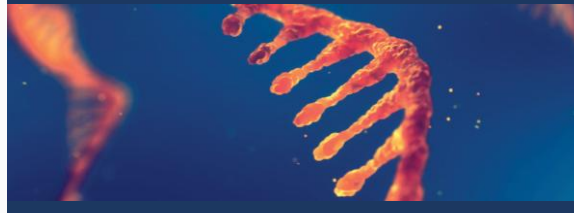
### Computational Sciences

We focus on computational chemistry and physics, artificial intelligence, and the hardware enabling high-performance computing (HPC).



### LifeTech

We develop technologies in RNA molecular biology and neuroscience, leveraging computational methods and artificial intelligence.



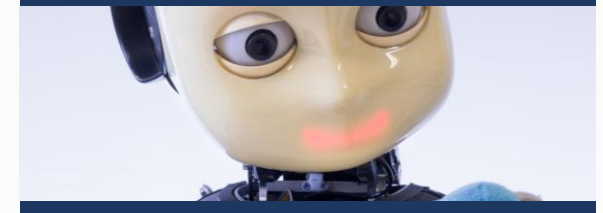
### Nanomaterials

We design materials that meet the needs of sustainable development, energy, and healthcare, by fine-tuning their intrinsic properties.



### Robotics

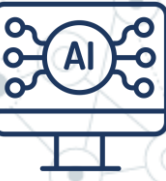
We design a variety of hardware and software robots intended to operate in factories, homes, or hospitals.



The research domains strive to advance **applied research** areas (e.g., Flagship Programs) as well as fundamental, purely **exploratory research** (Blue Sky Research)



# Computational Sciences

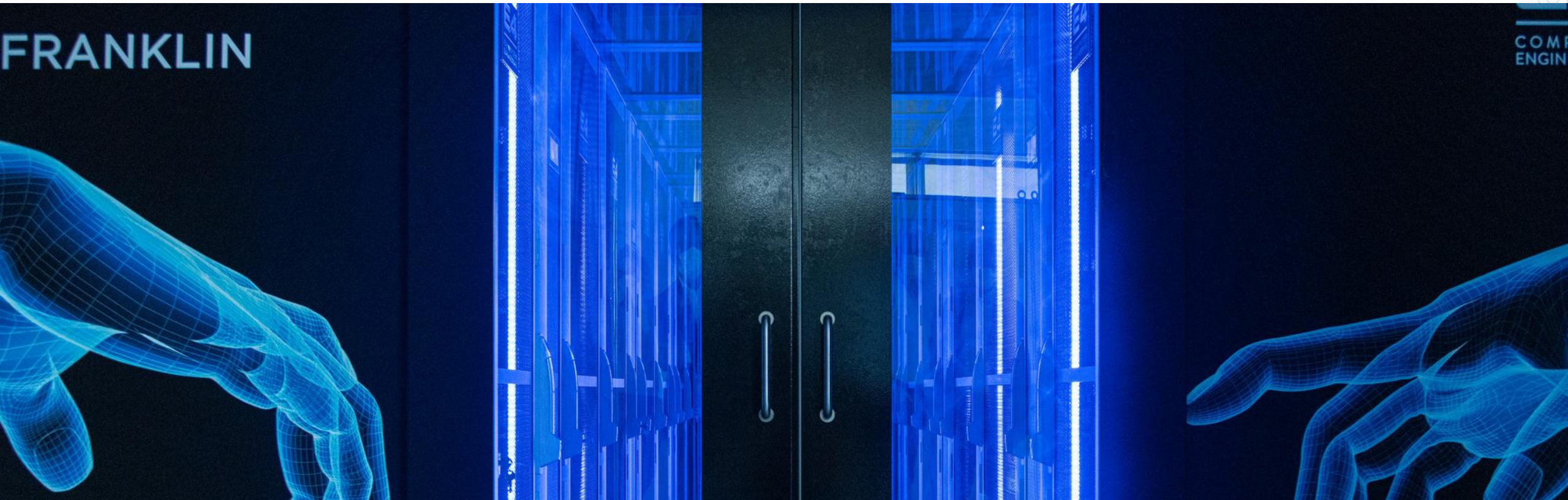


## Atomic and Molecular Simulations and Machine Learning Mathematics

Our researchers study computational chemistry and physics, AI, and high-performance computing. These fields accelerate drug discovery, the engineering of new materials, and algorithmic optimization.

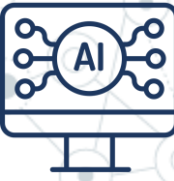
We boast an extremely powerful platform for bioinformatics and the engineering of new medicines.

We have achieved remarkable results in technology transfer and the development of 'embodied' AI for robotics.

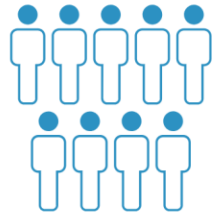




# Computational Sciences



## Who we are



**206**

Scientific Staff



**12**

Research Units



**4**

Facilities



**5**

IIT Centres involved



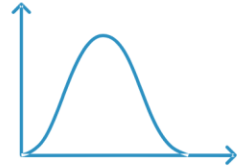
**33%**

Women



**25**

Countries of origin



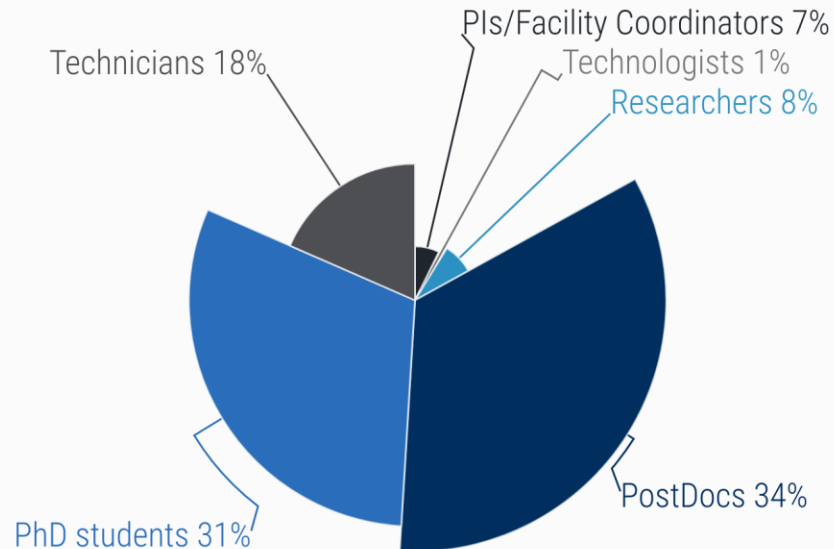
**63%**

Under 35

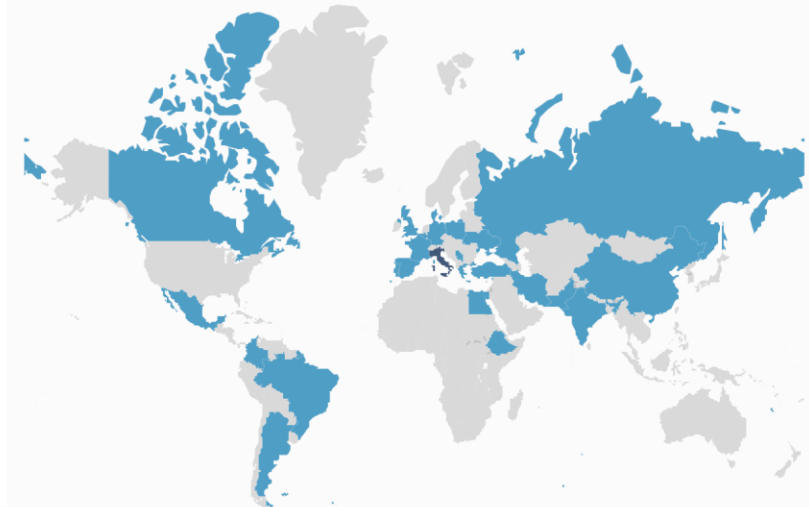
IIT Centres involved



Scientific Staff



Countries of origin of the Scientific Staff



# Technologies for Life Science (LifeTech)

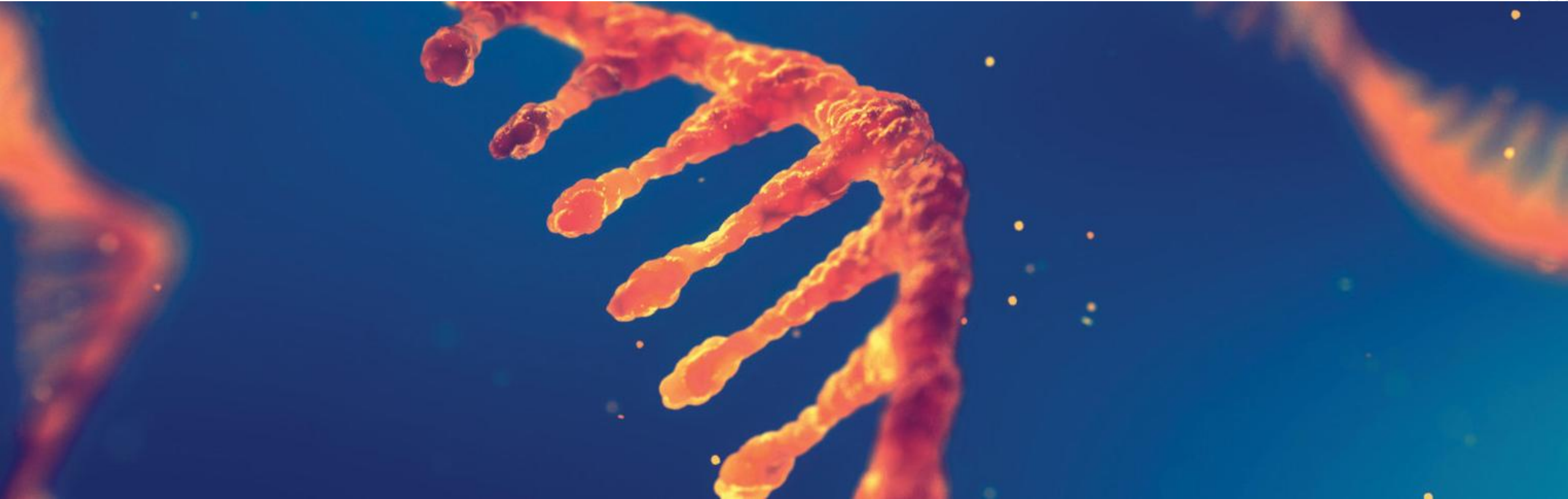


## Molecular Biology of RNA and Neurosciences

Our researchers use computational methods and AI to engineer molecules and for applications in medical genomics for personalized medicine.

Among our goals is also robotics for healthcare and smart devices for drug delivery.

We boast world-class expertise in non-coding RNA and genomics, and we study cutting-edge computational methods in bioinformatics. We are involved in broad, multi-scale, and multimodal experimental neurosciences.



# Technologies for Life Science (LifeTech)



## Who we are



**430**

Scientific Staff



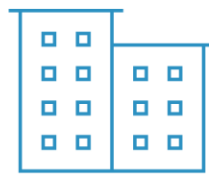
**32**

Research Units



**4**

Facilities



**7**

IIT Centres involved



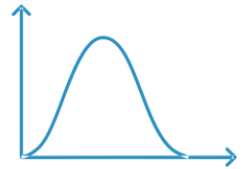
**54%**

Women



**38**

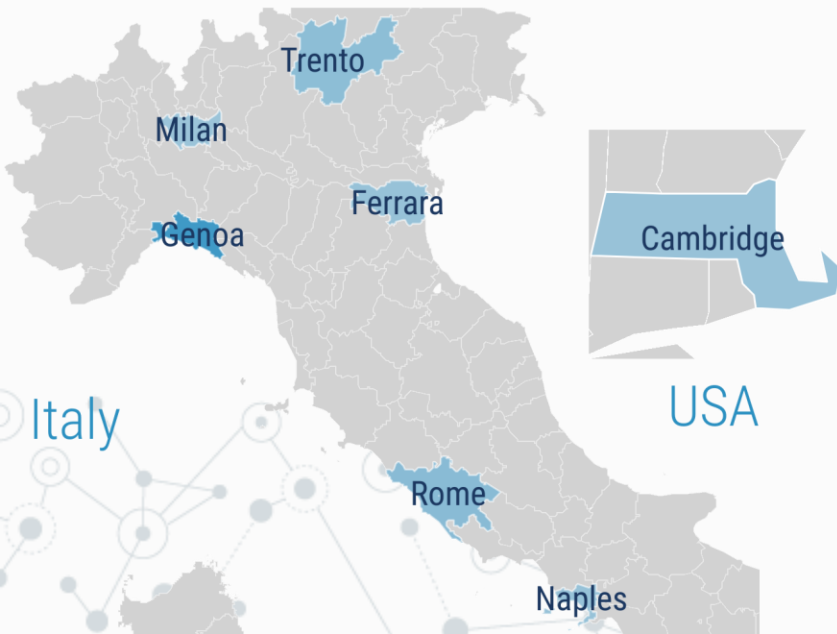
Countries of origin



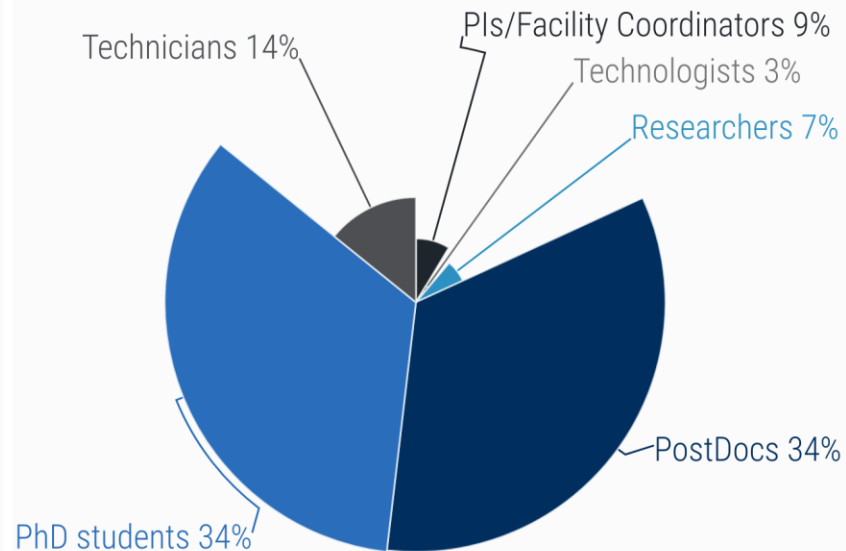
**63%**

Under 35

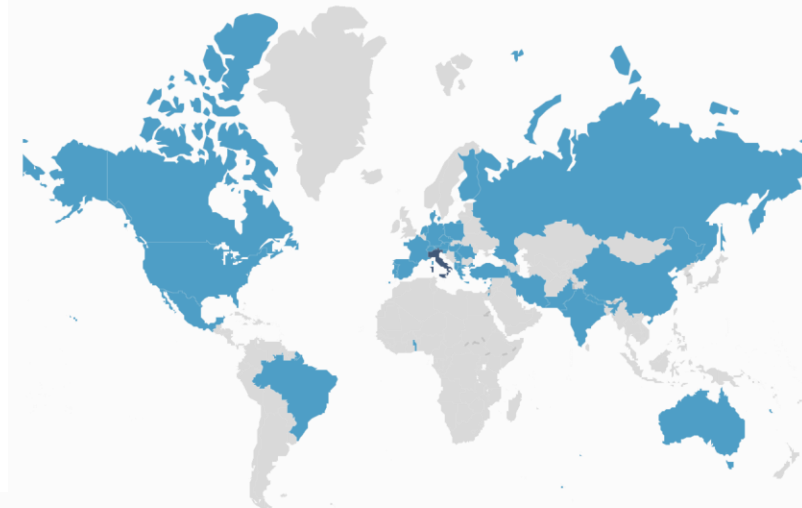
IIT Centres involved



Scientific Staff



Countries of origin of the Scientific Staff





# Nanomaterials

## Advanced Chemistry, Physics, and Engineering

Our researchers have extensive experience in designing new materials to meet the growing needs of sustainable development in sectors such as energy and healthcare. We design materials with the goal of refining their mechanical, optical, thermal, or electrical properties.

We boast theoretical, engineering, and computational expertise in material simulation.

We are committed to environmental sustainability, the energy sector, and applications in medicine and healthcare.



# Nanomaterials

## Who we are



**443**

Scientific Staff



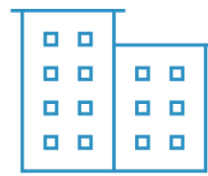
**27**

Research Units



**5**

Facilities



**6**

IIT Centres involved



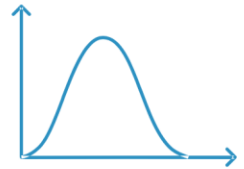
**43%**

Women



**42**

Countries of origin



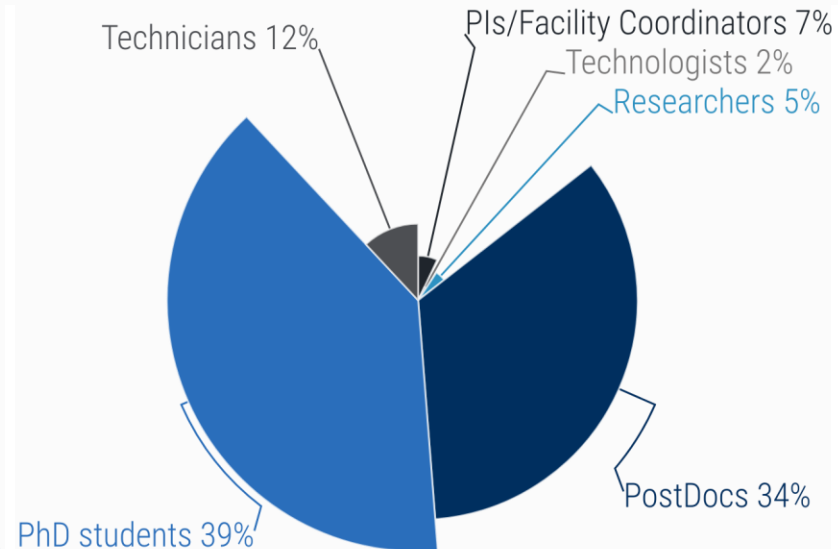
**69%**

Under 35

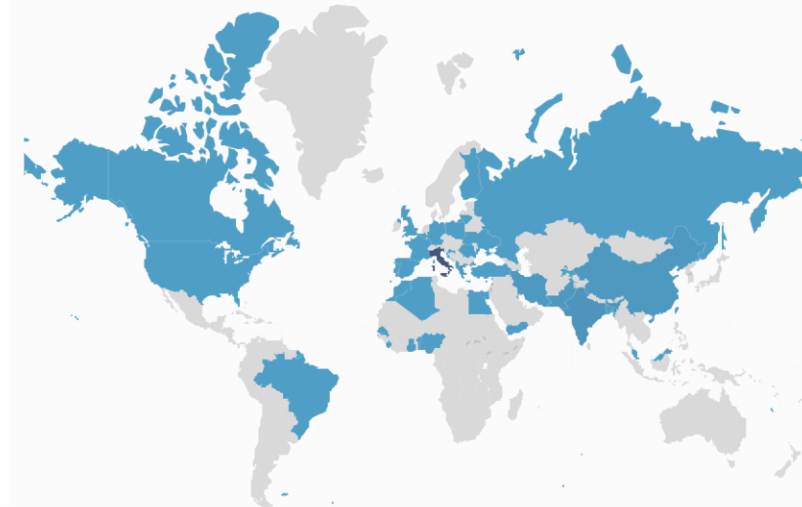
IIT Centres involved



Scientific Staff



Countries of origin of the Scientific Staff



# Robotics

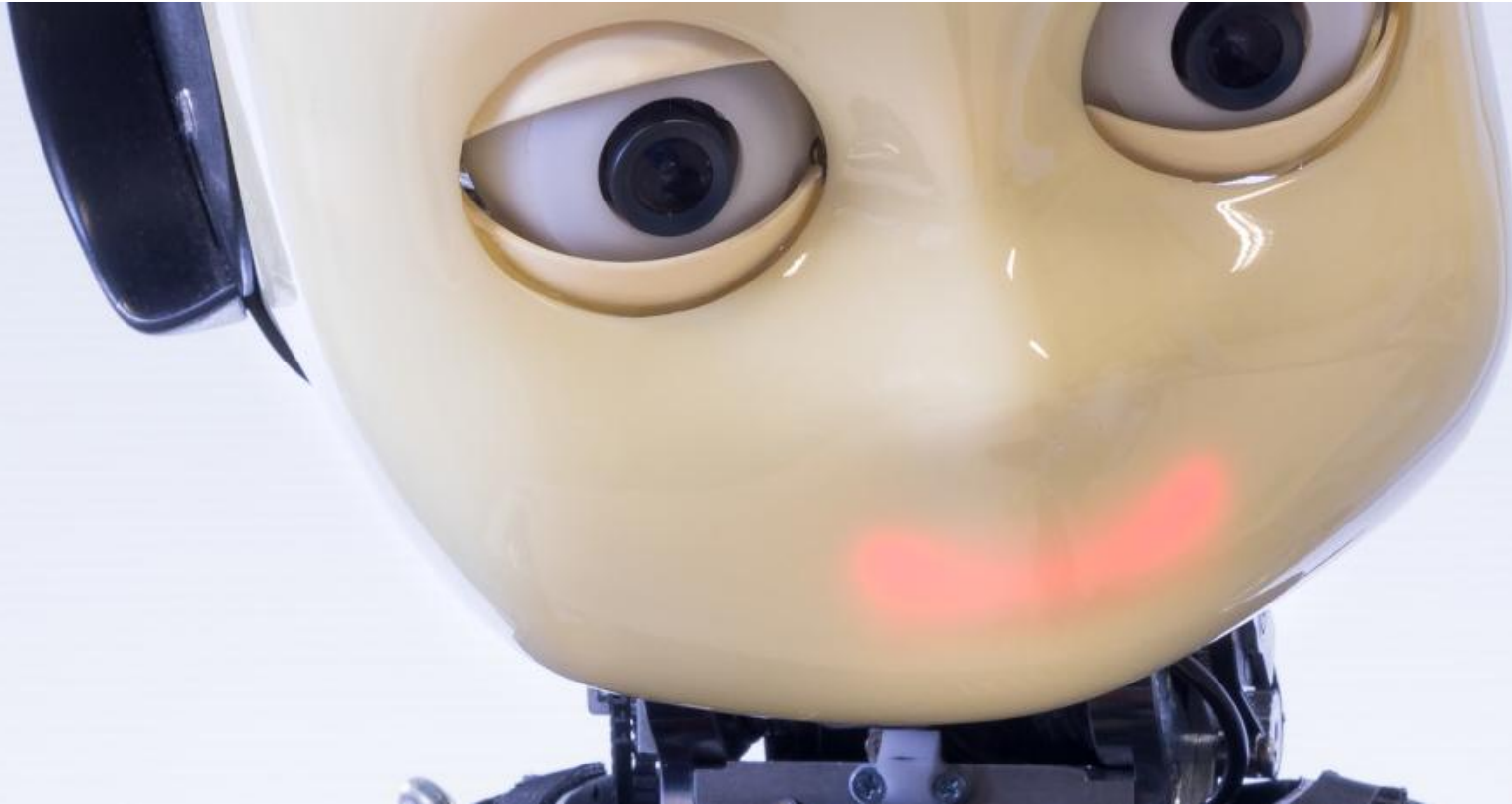


## Control Theory, Electronics, Artificial Intelligence (AI), Psychology, and Cognitive Neurosciences

Our researchers design a range of robots developed to operate in various contexts: from factories to homes to hospitals, covering everything from hardware components to software.

We boast high engineering expertise and deep knowledge in electric motor actuation. We are experts in locomotion and humanoid robotics, human-robot interaction, and embodied AI.

Our approach is bioinspired and closely related to neuroscience and cognitive sciences.





# Robotics



## Who we are



**451**

Scientific Staff



**14**

Research Units



**5**

Facilities



**Genoa**

Headquarters



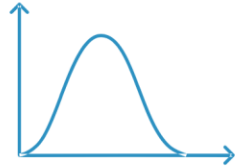
**26%**

Women



**39**

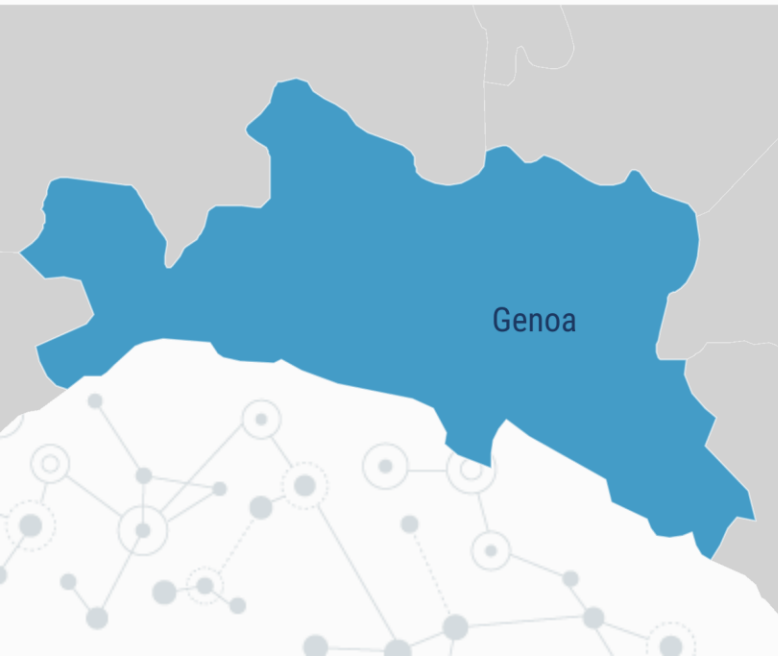
Countries of origin



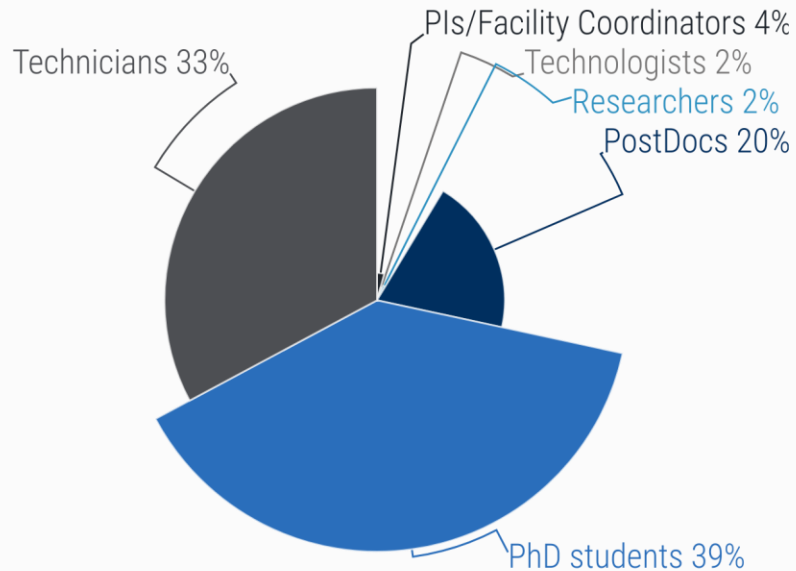
**73%**

Under 35

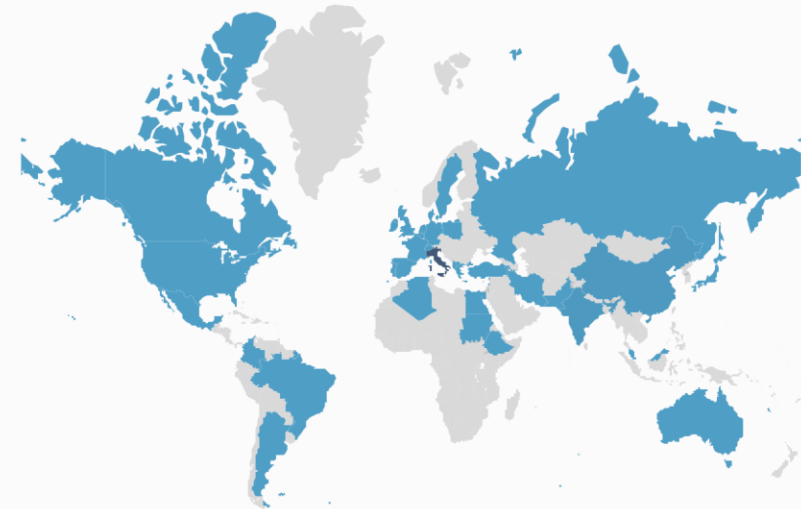
The whole IIT Robotics is at the headquarters

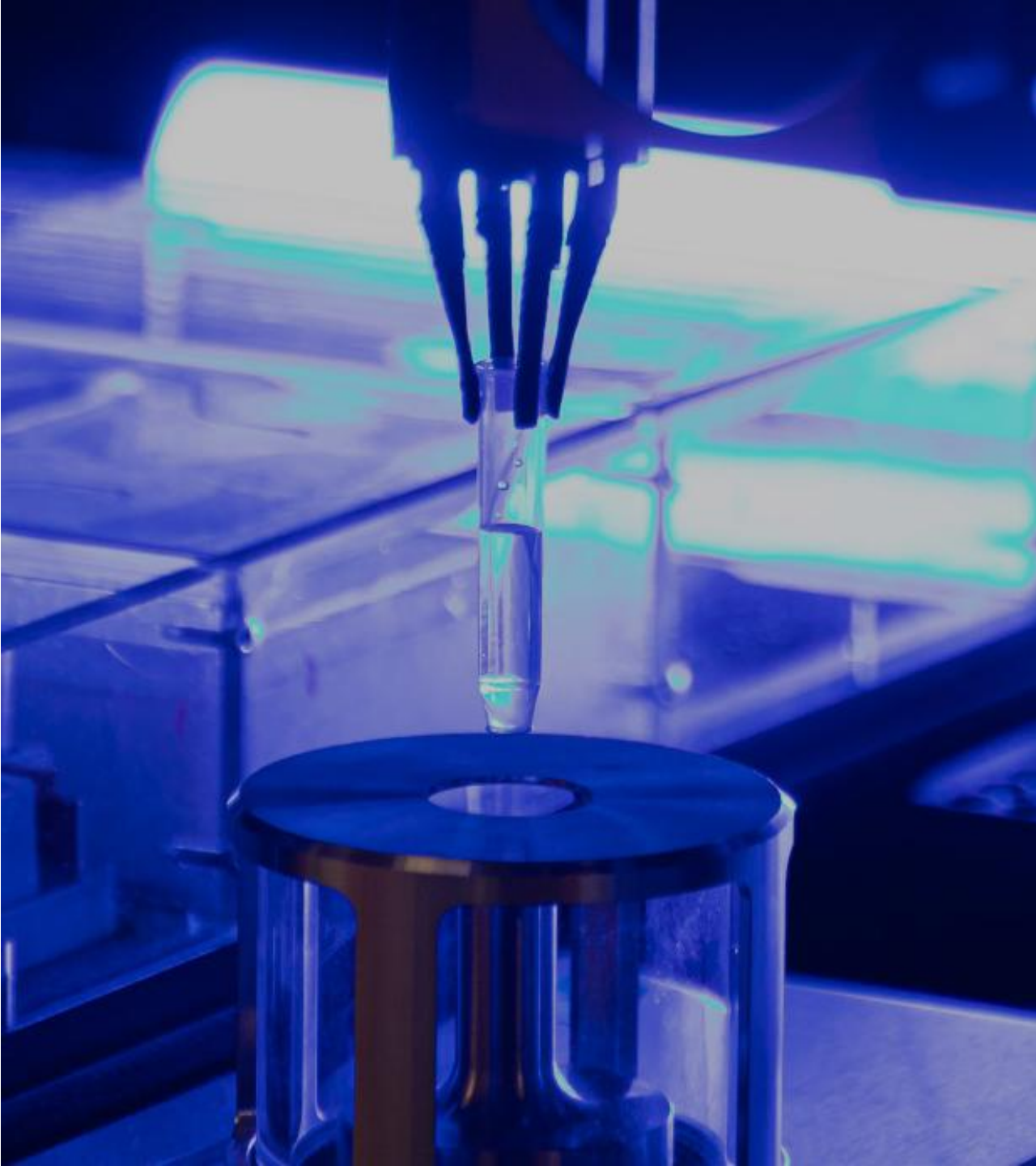


Scientific Staff



Countries of origin of the Scientific Staff





# Blue Sky Research

## A Visionary Research Programme

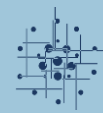
We are guided by curiosity, whose results can be unpredictable and surprising

Focus 1



Promotion of  
excellence and  
discoveries

Focus 2



Attractiveness  
and  
Internationalization

Focus 3



Cutting-edge  
research  
laboratories

**“The science of today is the technology of tomorrow.”**  
Edward Teller – Hungarian and American physicist (1908-200)

# Flagship Programmes

## Collaborations across research domains with visionary and ambitious goals

The IIT Flagship programmes aim to address global challenges (climate and aging), technological needs (energy, bioengineering, digital), and emerging trends (AI), leveraging the strengths of IIT research.

### Technologies for Sustainability

We aim to manipulate matter at various scales to create a world without pollutants.

Contribution of each Research Domain



### Brain and Machines

We aim to understand and model how the brain processes information to generate behavior.

Contribution of each Research Domain



### RNA Technologies

We aim to understand biology and to find druggable pockets in the molecular processes of cells.

Contribution of each Research Domain



### Teaching Science to Computers

We aim to develop new methods for instilling the laws of physics into data-driven algorithms.

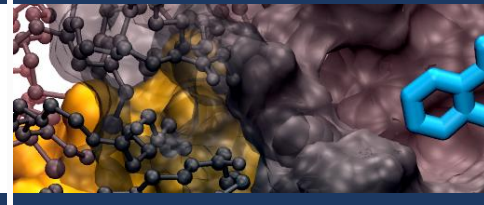
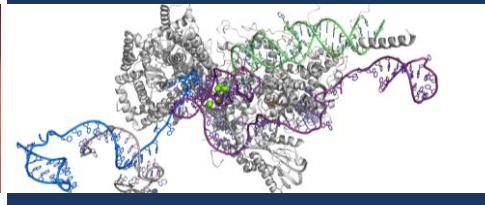
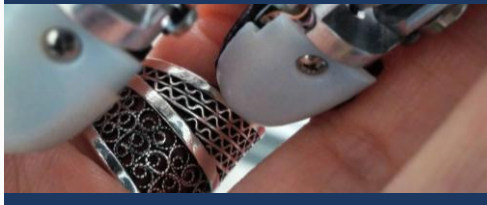
Contribution of each Research Domain



### Technologies for Healthy Living

We aim to develop low-cost, noninvasive sensing devices to assess the health status of a person.

Contribution of each Research Domain





# Technologies for Sustainability

## Objectives



### Current activities (2024-2025)

Material valorisation and upcycle to build new devices



### Mid-term objective (2026)

Proof-of-concept low-energy, sustainable (materials) robots for environmental monitoring and remediation



### End-of-plan objective (2029)

Low-emission tech, substitution of critical materials, and end-of-life solutions for critical technology/products



# Brain and Machines

## Objectives



### Current activities (2024-2025)

From technology for brain recording to cognitive rehabilitation and robotics



### Mid-term objective (2026)

Multiscale, multimodal description of brain activity and behaviour, computational models, and interactive robots



### End-of-plan objective (2029)

Models of neural activity and behaviour translated into adaptive robots for intuitive human-robot interaction



# RNA Technologies

## Objectives



### Current activities (2024-2025)

Engineered RNA molecules and their patenting



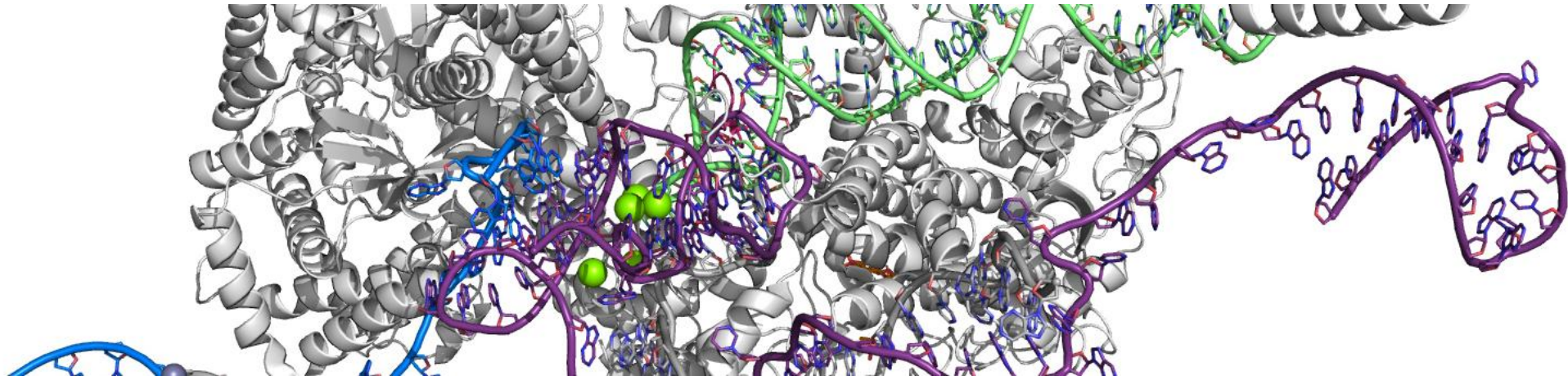
### Mid-term objective (2026)

Create novel RNA drugs, initiate a start-up and collaborations, lead a national RNA-focused scientific network



### End-of-plan objective (2029)

Progress an RNA molecule to the investigational new drug stage





# Teaching Science to Computers

## Objectives



### Current activities (2024-2025)

Efficient and “democratic” machine learning applied to materials, biomolecules and robotics



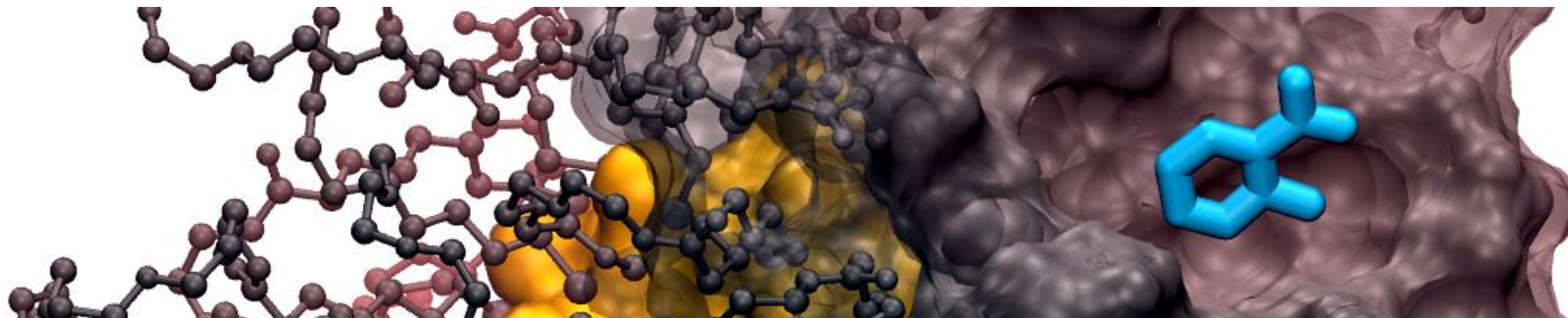
### Mid-term objective (2026)

Reveal, understand, and compute new fundamental principles of chemical and biological processes and of human behaviour



### End-of-plan objective (2029)

Efficient and predictive algorithms and software to model complex chemical systems in biology, medicine, materials sciences, and for analysing human behaviour



# Technologies for Healthy Living

## Objectives



### Current activities (2024-2025)

One-health approach to a number of “use-cases”



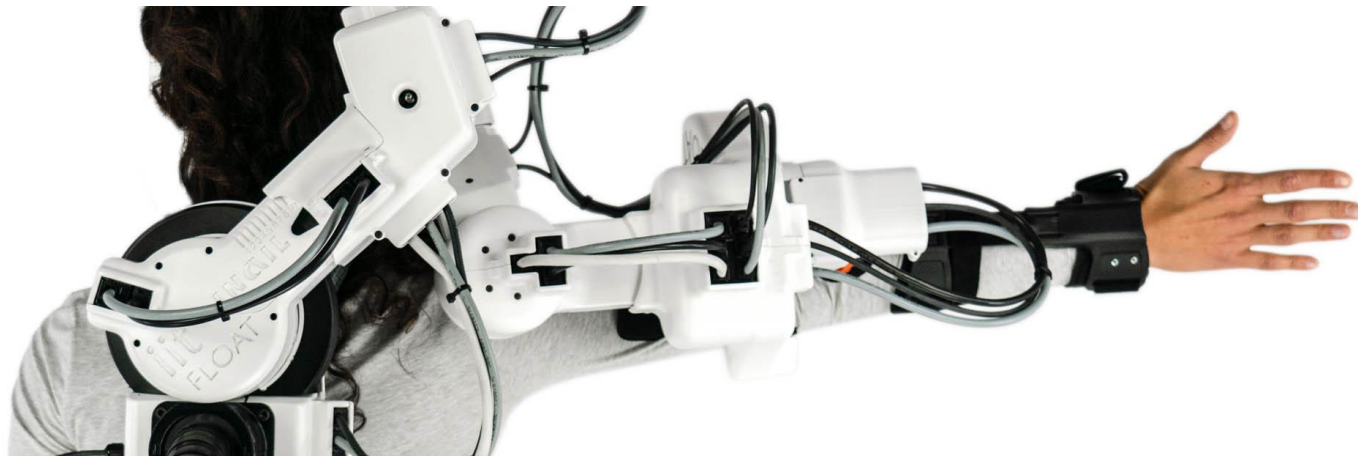
### Mid-term objective (2026)

Proof of concept of the intelligent and reactive environment



### End-of-plan objective (2029)

Quantitatively assess the value added to healthcare systems by intelligent and reactive environments



# IIT in numbers

## Staff, Research Centres and Results

14

Centres

12 in Italy  
2 US outstations  
50.000 m<sup>2</sup> of labs



1888

Staff

70 countries of origin  
36 years average age  
44% women  
80% scientific staff



913

Competitive Projects

473.3 MEUR  
+4.1 MEUR in kind contribution  
259 ongoing projects



21800+

Publications

718k+ citations  
110k+ impact factor



1001

Industrial Projects

124.7 MEUR  
+28.9 MEUR in kind contribution  
185 ongoing projects



1326

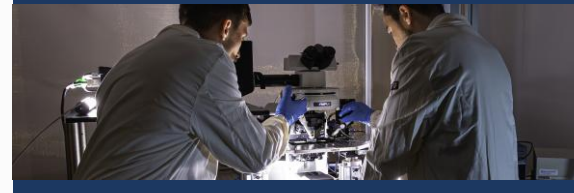
Patents

440 inventions



15

Joint Labs



37

Startups

50+ Business Idea





# IIT Centres



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Convergent Technologies, Morego, GENOA (headquarters)



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Advanced Biomaterials for Health Care, Università Federico II di Napoli, NAPLES



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Biomolecular Nanotechnologies, Università del Salento, LECCE



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Cultural Heritage Technology, Università Ca' Foscari, VENICE



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Genomic Science, Campus IFOM-IEO, MILAN



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Human Technologies, Erzelli, GENOA



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Joint Industrial Research, GENOA



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Life Nano & Neuroscience, Sapienza Università di Roma, ROME



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Material Interfaces, Scuola Superiore Sant'Anna, PONTEDERA



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Nano Science and Technology, Politecnico di Milano, MILAN



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Nanotechnology Innovation, Scuola Normale Superiore, PISA



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Neuroscience and Cognitive Science, Università di Trento, TRENTO



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Robotics and Intelligent Systems, San Quirico, GENOA



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Sustainable Future Technologies, Politecnico di Torino, TURIN



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Synaptic Neuroscience and Technology, Università di Genova, GENOA



ISTITUTO ITALIANO DI TECNOLOGIA

Center for Translational Neurophysiology, Università di Ferrara, FERRARA



ISTITUTO ITALIANO DI TECNOLOGIA

IIT@Harvard  
Harvard University, CAMBRIDGE, MA (USA)

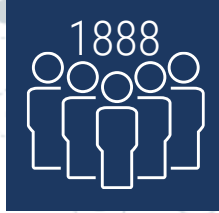


ISTITUTO ITALIANO DI TECNOLOGIA

IIT@MIT  
Massachusetts Institute of Technology, CAMBRIDGE, MA (USA)

# Staff

## Composition, Countries of origin, Average age



**80%**  
Scientific Staff

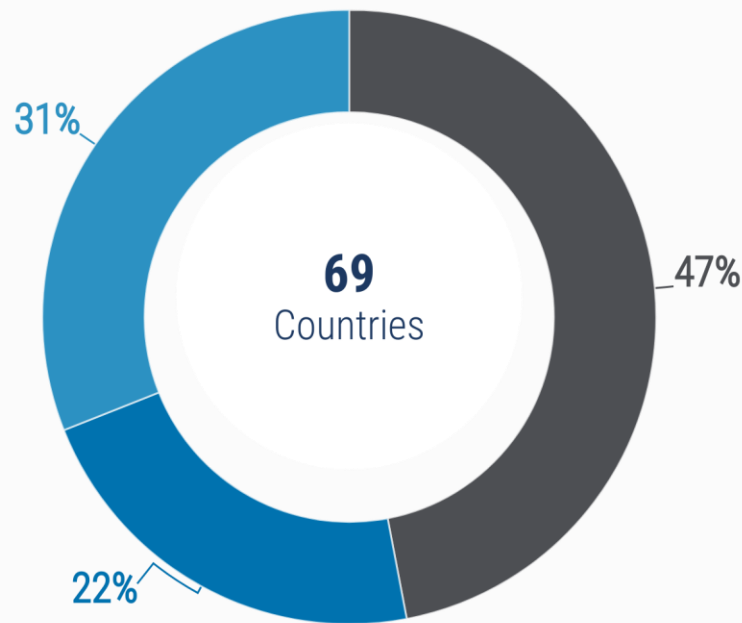


**44%**  
Women



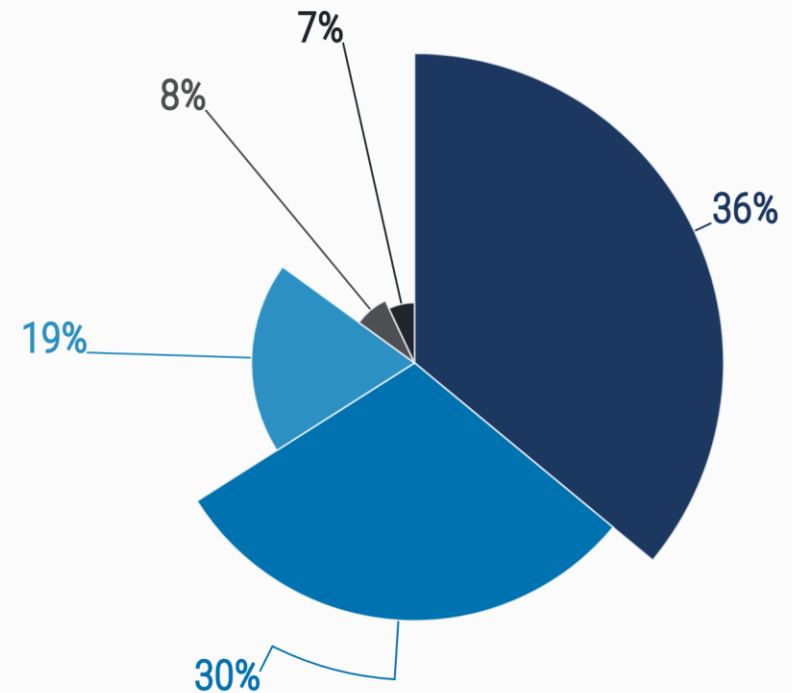
**36**  
Average age

### Countries of origin of the Scientific Staff



● Italians ● Italians from abroad ● Foreigners

### Scientific Staff



● PhD students ● PostDocs ● Technicians ● Researchers ● PIs/Facility Coordinators

# Competitive Projects

## Budget, Types of Projects, and European Research Council (ERC) Grants



**473.3 MEURO**  
Competitive Projects

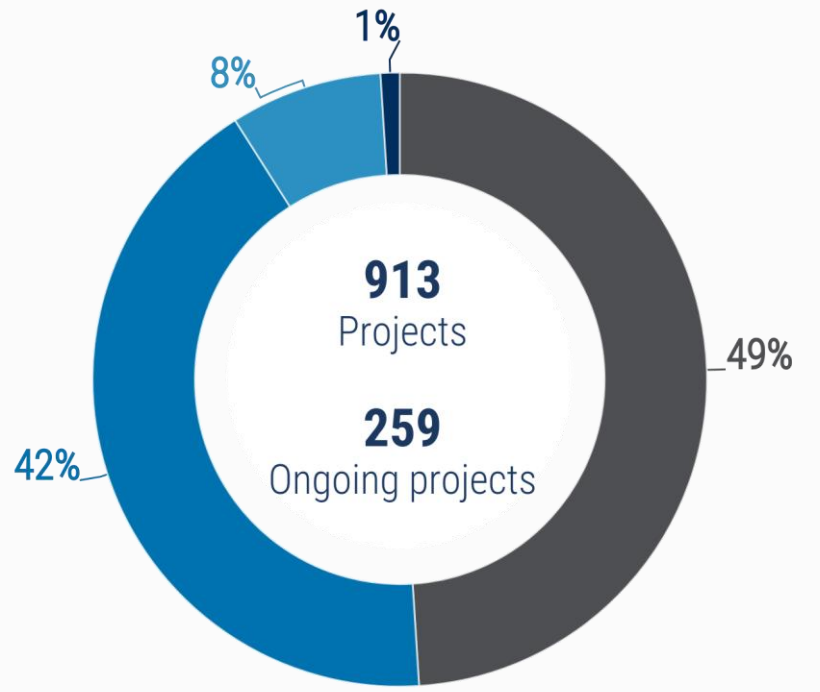


**4.1 MEURO**  
In-kind contribution



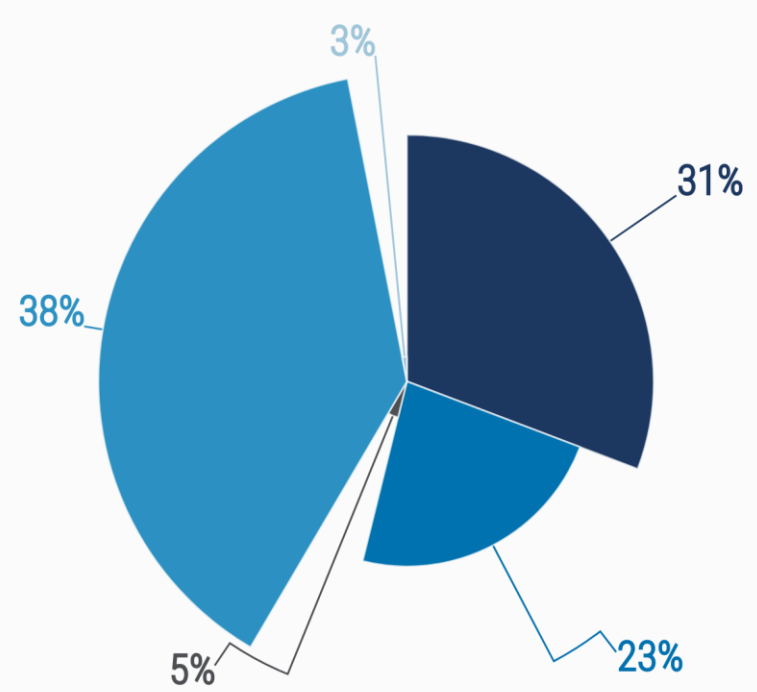
**69**  
ERC grants

Competitive Projects by Funding Source



- European
- National
- Foundation
- International

ERC grants by grant type



- Starting
- Consolidator
- Advanced
- Proof of Concept
- Synergy



# Publications

## Publications and Citations



**15977**

Journal papers



**4480**

Conference papers

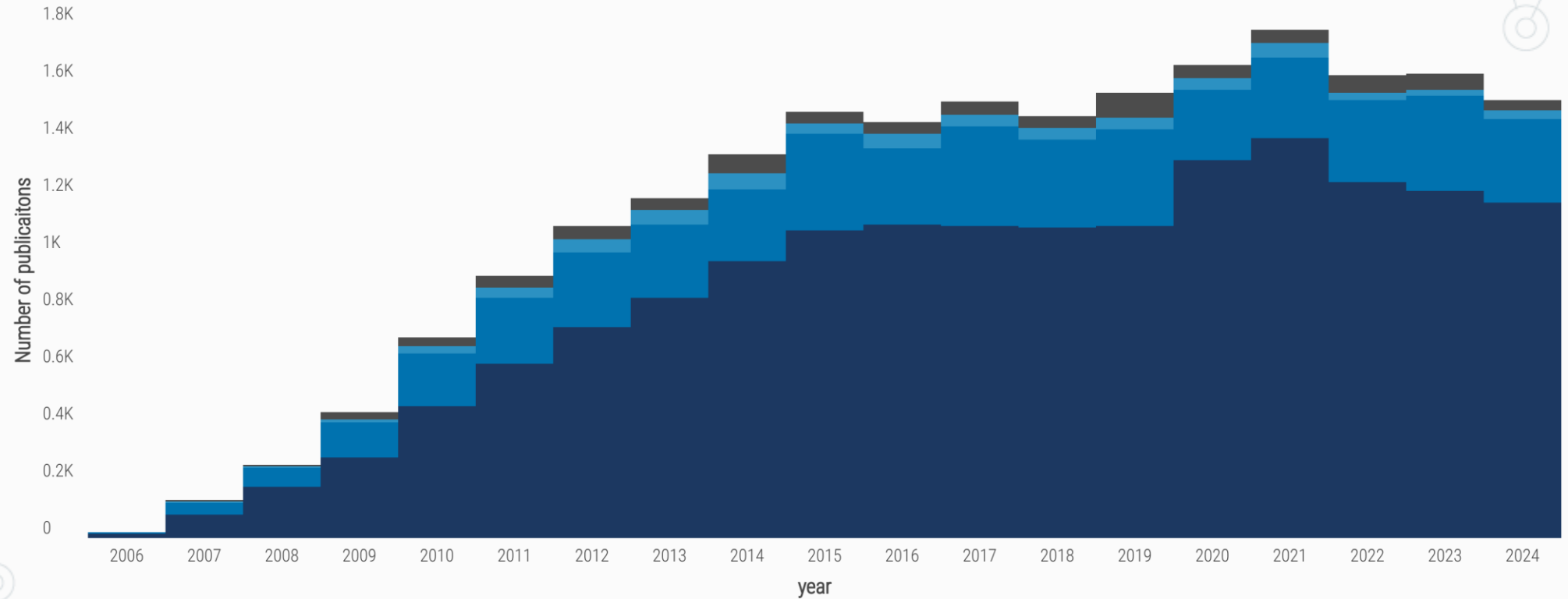


**1365**

Books/Book series

### Publications over the years

● Journal ● Conference ● Book ● Chapter



**718k+**  
Citations



# Publications

## Publications and Citations



**15977**

Journal papers



**4480**

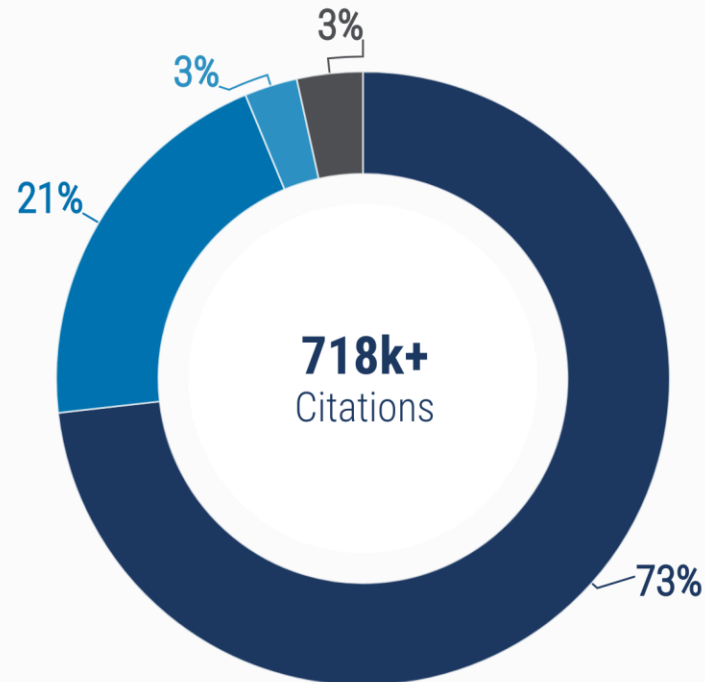
Conference papers



**1365**

Books/Book series

### Types of Publications



● Journal ● Conference ● Book ● Book series



**67%**

IIT as first, last, or corresponding author

“ ”

**13%**

Top 10% of the most cited worldwide



**30%**

Top 10% of the highest-ranked journals

# Technology Transfer

## Industrial Projects, In-kind Contributions, and Patents



**124.7 MEURO**  
Industrial Projects

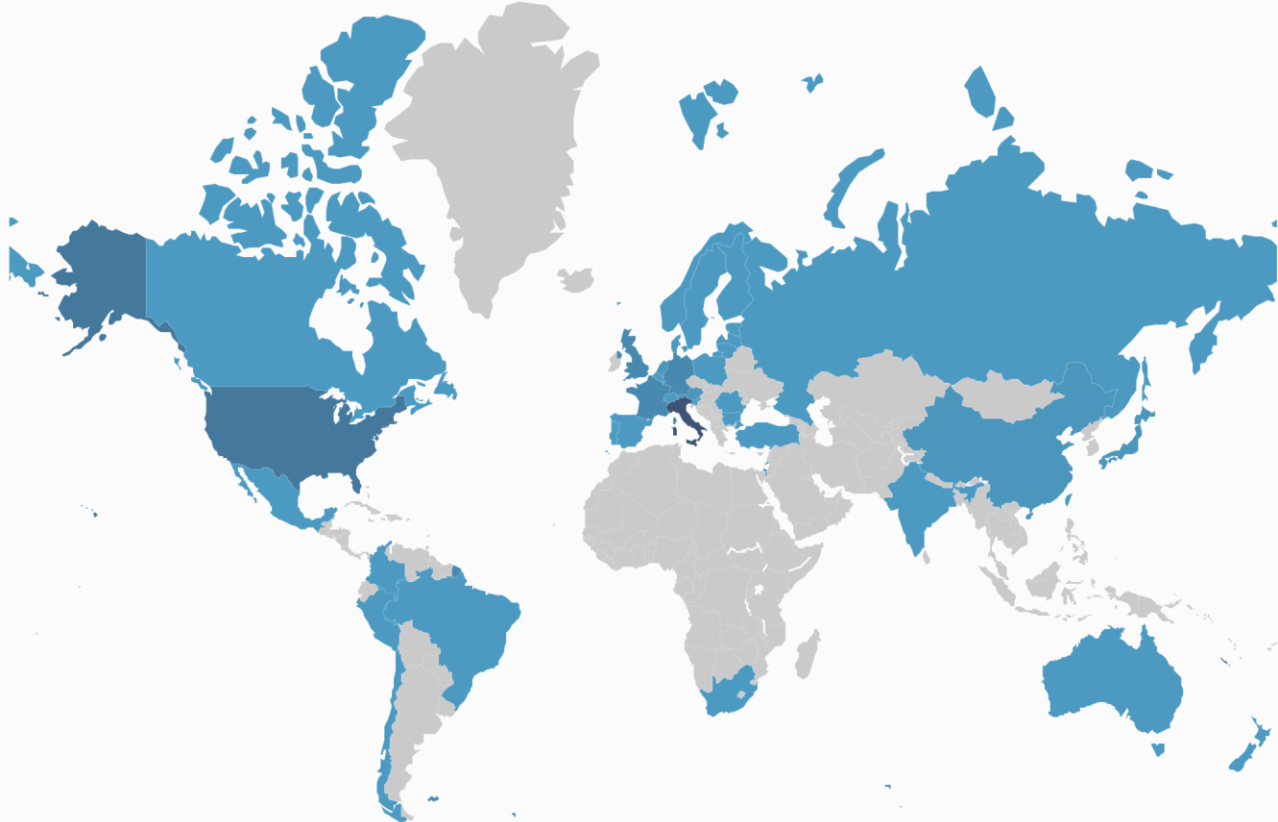


**28.9 MEURO**  
In-kind contribution



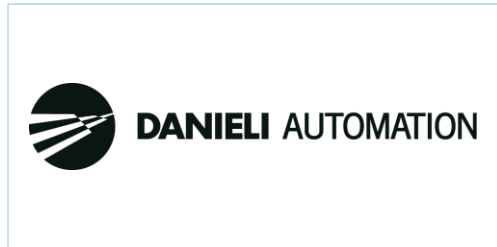
**1326**  
Patents

Patents Coverage Map



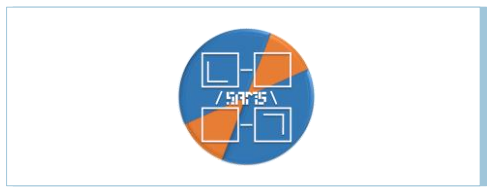


# IIT Joint Labs





# IIT Start Ups



(selection)



h<sup>4</sup>e

# H4E

IIT Hub for Entrepreneurship

The Technology Incubator that brings  
scientific discoveries to market

Modular  
spaces



Offices, auditorium,  
meeting rooms, and  
relax area

Cutting-edge  
laboratories



Robotics,  
Mechatronics,  
Electronics, etc.

Unique  
resources



Access to powerful  
computing system  
Franklin4e

A synergistic environment where entrepreneurs, researchers, and innovators can transform **visionary ideas** into **concrete solutions**





# Industrial Liaison Program

A focal point for companies and researchers

For large and medium-sized companies seeking to establish a lasting partnership with the Institute

Technologies



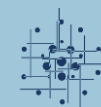
We help companies navigate through developing technologies

Skills



We act as a bridge between companies and researchers

Network



New connections companies-IIT, as well as between the participants

We foster collaboration and support the development of advanced technological innovation projects

# Industrial Liaison Program

## Membership Benefits

### Dedicated Liaison Officer

The Liaison Officer serves as IIT's primary contact for the company



### Plenary Events and Workshop

Participation in IIT-targeted events



### Horizontal Technology Scouting

Identification of broadly applicable technologies of interest



### In-depth Specific Scouting

Focus on identifying specific technologies of interest



### Access to IIT's Network

Guidance for companies in navigating the IIT ecosystem



### Synergies

Facilitating synergies among affiliated companies



## Optional Modules

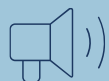
### Innovation Day@IIT

Organize a dedicated company event at IIT



### Talent connect Day

Showcase and promote career opportunities within the company



### Reverse Mentoring

The researcher acts as an informal mentor and guide for the company



### Secondment @IIT

A visiting period at IIT for company personnel



### Access to IIT scientific talks

Participation in scientific seminars organized by IIT



### Joint Paper

Co-create and publish a white paper in collaboration with IIT



### Supplier Day

Showcase and promote company products and services relevant to IIT







ISTITUTO ITALIANO  
DI TECNOLOGIA



IIT  
WHERE SCIENCE  
COMES TRUE