Il Centro Nazionale di Ricerca in HPC, Big Data e Quantum Computing

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Finanziato
dall'Unione europea
NextGenerationEU

Ministero
dell'Università
e della Ricerca

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PIANO NAZIONALE
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INFN

ICSC

Centro Nazionale HPC,
Big Data
e Quantum Computing

Approved !!!

**Cloud national infrastructure for supercomputing.
Hub & Spoke organization:**
10 vertical spokes for technology developments and software applications

320 + 41 M€ Total Budget

139 M€ Cloud Infrastructure

32 M€ Open Call

32 M€ Innovation & TT

42% investment South Regions

34 MUR Universities and Research institutions
15 Private Companies
1575 Researchers and engineers
250 New Temporary positions
250 New PhD
40 % Female

WORK SHOP GARR 2022

NET MAKERS

The ICSC aim and objectives

Create the national digital infrastructure for research and innovation, starting from the existing HPC, HTC and Big Data infrastructures ...

... evolving towards a cloud datalake model accessible by the scientific and industrial communities through flexible and uniform cloud web interfaces, relying on a high-level support team ...
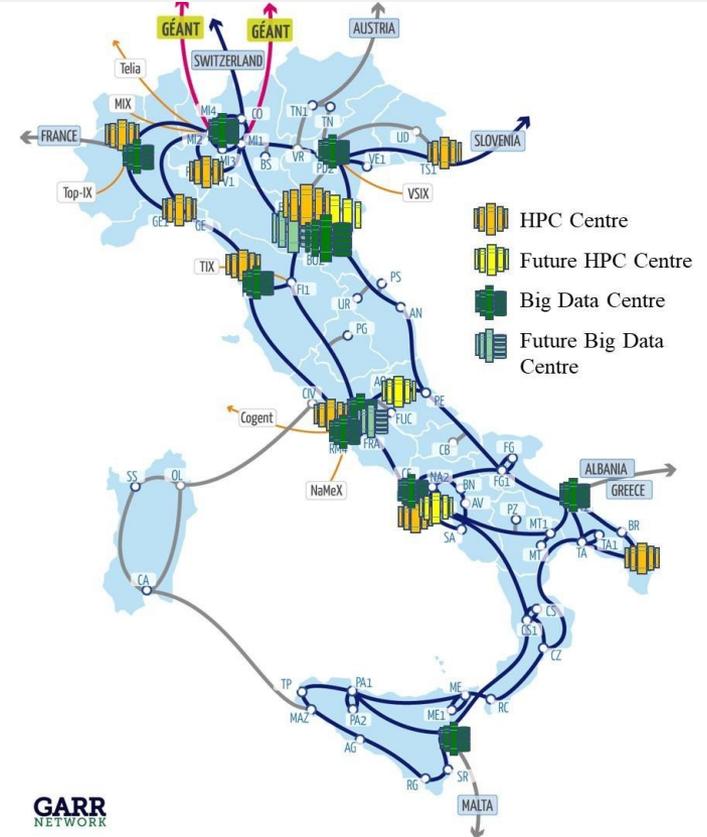
... form a globally attractive ecosystem based on strategic public-private partnerships to fully exploit top level digital infrastructure for scientific and technical computing and promote the development of new computing technologies

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EDUCATION & TRAINING, ENTREPRENEURSHIP, KNOWLEDGE TRANSFER, POLICY, OUTREACH

1 FUTURE HPC & BIG DATA

2 FUNDAMENTAL RESEARCH & SPACE ECONOMY

3 ASTROPHYSICS & COSMOS OBSERVATIONS

4 EARTH & CLIMATE

5 ENVIRONMENT & NATURAL DISASTERS

6 MULTISCALE MODELING & ENGINEERING APPLICATIONS

7 MATERIALS & MOLECULAR SCIENCES

8 IN-SILICO MEDICINE & OMICS DATA

9 DIGITAL SOCIETY & SMART CITIES

10 QUANTUM COMPUTING

0 SUPERCOMPUTING CLOUD INFRASTRUCTURE

equipped with high-level teams of experts integrating the Spokes working groups (mixed cross-sectional teams)

- HPC Centre
- Future HPC Centre
- Big Data Centre
- Future Big Data Centre

GARR NETWORK

WORK SHOP GARR 2022 NET MAKERS

Public Research Institutions Founding Members:
a pervasive initiative throughout Italy

Enti Nazionali

INFN · CINECA · ENEA
Consiglio Nazionale delle Ricerche · INAF Istituto Nazionale di Astrofisica · Istituto Nazionale di Geofisica e Vulcanologia · Consortium GARR

Solo HUB

UNIMORE · UNIVERSITÀ DI PARMA · OGS

Private companies Founding members:
strategic players for digital transformation

LEONARDO Terna Driving Energy sogei

eni autostrade per l'italia ENGINEERING

FINCANTIERI HUMANITAS RESEARCH HOSPITAL FERROVIE DELLO STATO ITALIANE

ThalesAlenia Space INTESA SANPAOLO UnipolSai ASSICURAZIONI

Highly-qualified group of large leading companies covering most of the strategic industrial sectors involved by digital transformation in Italy
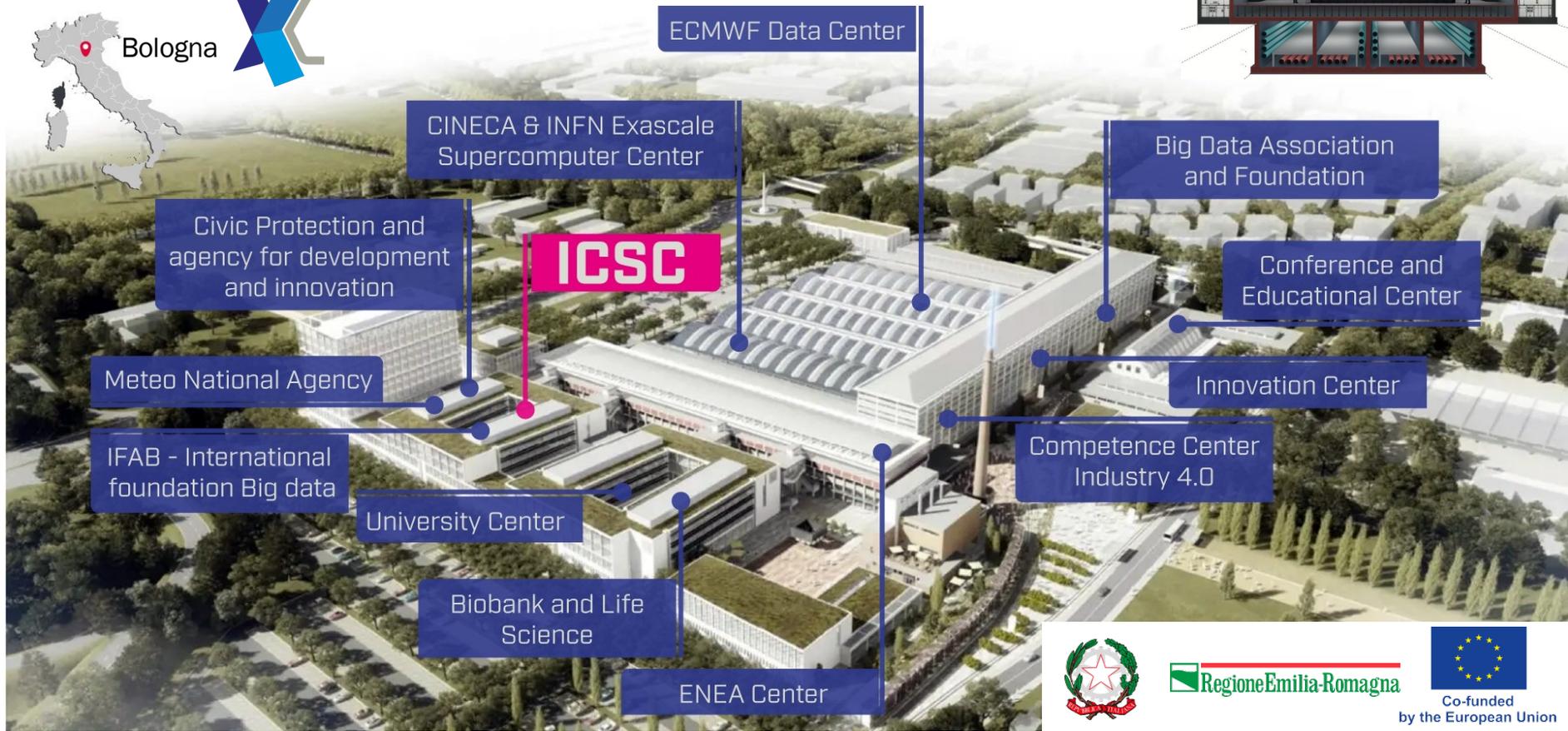
fondazione innovazione urbana

Strategic partner to implement and develop the digital twin pilot case of an urban complex system

iFAB INTERNATIONAL FOUNDATION BIG DATA & ARTIFICIAL INTELLIGENCE FOR HUMAN DEVELOPMENTE

Industry-driven not-for-profit international organization aimed at: (1) aggregating companies, including SMEs, to engage with ICSC through a structured partnership, (2) funding research and innovation projects, (3) promoting the Big Data Technopole

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The Big Data Technopole, Bologna

Bologna

ECMWF Data Center

CINECA & INFN Exascale Supercomputer Center

ICSC

Civic Protection and agency for development and innovation

Big Data Association and Foundation

Conference and Educational Center

Meteo National Agency

Innovation Center

IFAB - International foundation Big data

Competence Center Industry 4.0

University Center

Biobank and Life Science

ENEA Center

Access Policy to ISCS Infrastructure

MODES

A) Extreme scale access
B) Regular access
C) Benchmark access
D) Development access
E) Fast track access for Acedemia
F) Fast track access for Industry and Public Administration

Coming soon: *Supercomputing Access Committee*

The Committee has the task of evaluating the requests for access to the infrastructure connected to Open Calls and allocating the computing resources in accordance with the Access Policy of the CN, in analogy to the European model Prace and the Cineca ISCRA Panel