

GI GROUP WORLD MANUFACTURING FORUM 2021

SKILLS EVOLUTION **FOR INDUSTRY** 4.0:
An integrated analysis to enhance
talents attraction and retention



Group
YOUR JOB, OUR WORK

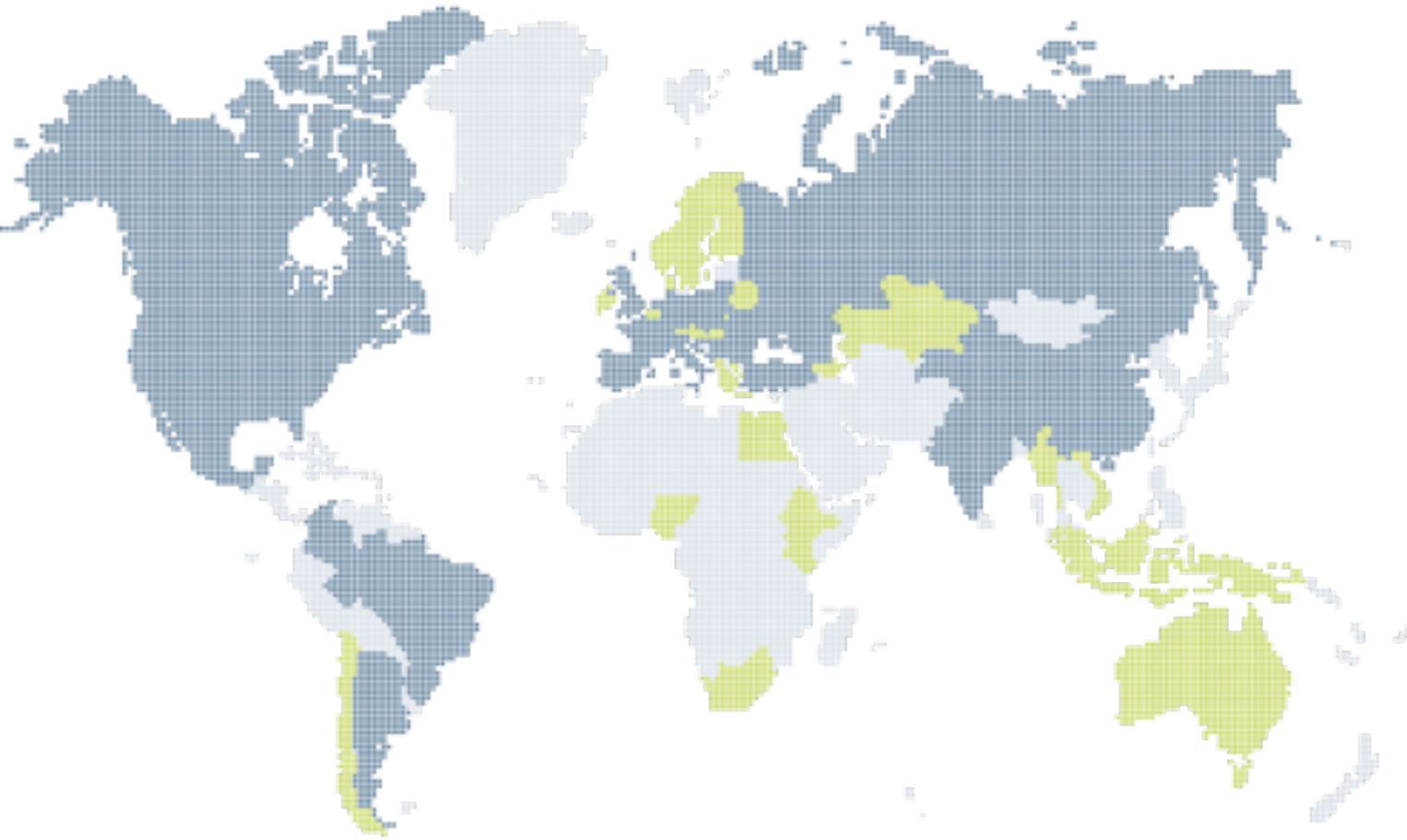


DOMIZIANO PONTONE

GLOBAL SALES
SENIOR DIRECTOR



ABOUT GI GROUP



GI GROUP IS
**ONE OF THE WORLD'S
LEADING COMPANIES**
PROVIDING SERVICES
FOR THE DEVELOPMENT
OF THE LABOUR MARKET.

58 COUNTRIES
31 direct presence

17TH
Worldwide

We have over
650 BRANCHES
AND SMS

6TH
European
wide

And more than
4,500 EMPLOYEES

WHAT WE DO FOR COMPANIES

WE HELP COMPANIES IN THE
CONSTRUCTION
OF FUTURE-ORIENTED HR
SYSTEMS CONSISTENT WITH
CONTINUOUSLY **EVOLVING**
CONTEXTS.

STAR MATRIX METHODOLOGY

AN OWNERSHIP MODEL
THAT IDENTIFIES THE
CHANGES IN IMPORTANCE OF
ROLES AND SKILLS
EXPECTED IN THE MEDIUM-
TERM PERIOD (3-5 YEARS),
IN LIGHT OF CONTEXTUAL
FACTORS

THROUGH **THE**
COMBINED ANALYSIS OF:

- 1.** Contextual Factors (internal/external)
- 2.** Expected relevance of the role
(stable, increasing or decreasing)
- 3.** Current contribution of the role to the
creation of added value
(extraordinary vs. ordinary)

STAR MATRIX METHODOLOGY

EXTRAORDINARY
CONTRIBUTION

"DECLINING"



"CORE"



"STRATEGIC"



CONTRIBUTION
OF THE ROLE
TODAY

DECREASING

STABLE

INCREASING

EXPECTED IMPORTANCE OF THE ROLE

"RETHINKING"



"SUPPORTING"



"EMERGING"



ORDINARY
CONTRIBUTION

*WHY IT IS USEFUL TO APPLY
THIS TO THE CONTEXT OF
MANUFACTURING:*

BECAUSE
INDUSTRY 4.0
IS THE INDUSTRIAL
REVOLUTION OF
**HUMAN
RESOURCES**

EVOLUTIONARY TRENDS OF MANUFACTURING 4.0

MARKET EVOLUTION

- Servitization;
- Customization and modularity;
- Quality is a must;
- Short lifecycles;
- Reduced time to market;
- No warehouse;
- Increase in competition;
- Market concentration;
- Costs

EVOLUTION OF THE BUSINESS MODEL

- Flat structures;
- Work for projects;
- Process optimization
and their continuous improvement;
- Open innovation to gather ideas

REGULATORY EVOLUTION

- Strong impact on environmental regulations;
- The Quota 100 and Dignity Decree impacts
on hiring

SOCIO-CULTURAL EVOLUTION

- Generations with different approaches to
work;
- Skills transfers;
- Digital mindset;
- Proactivity; Attention to the environment and
CSR;
- Unpredictable events (Epidemics)

TECHNOLOGICAL EVOLUTION

- The key to competitive success;
- Speed and change;
- It improves production processes but raises
the issue of safety

MARKET, SOCIO-CULTURAL AND TECHNOLOGICAL EVOLUTION PROFOUNDLY CHANGE WORK

METHOD

- HUMAN- MACHINE WORKING AND COLLABORATION
- COMPLEXITY & CONTINUOUS CHANGE

ROLES

- ROLES TO BE POLY-FUNCTIONAL AND HYBRID
- DEMAND FOR HIGHLY QUALIFIED PERSONNEL

SKILLS

- LIFE LONG LEARNING (up-skilling, re-skilling) **ESSENTIAL** at all levels

TIME, SPACES, PLACES

- Automated lines, IoT, ML, AR, Simulators, Augmented reality and work tools, cloud, allow for **GREATER FLEXIBILITY**



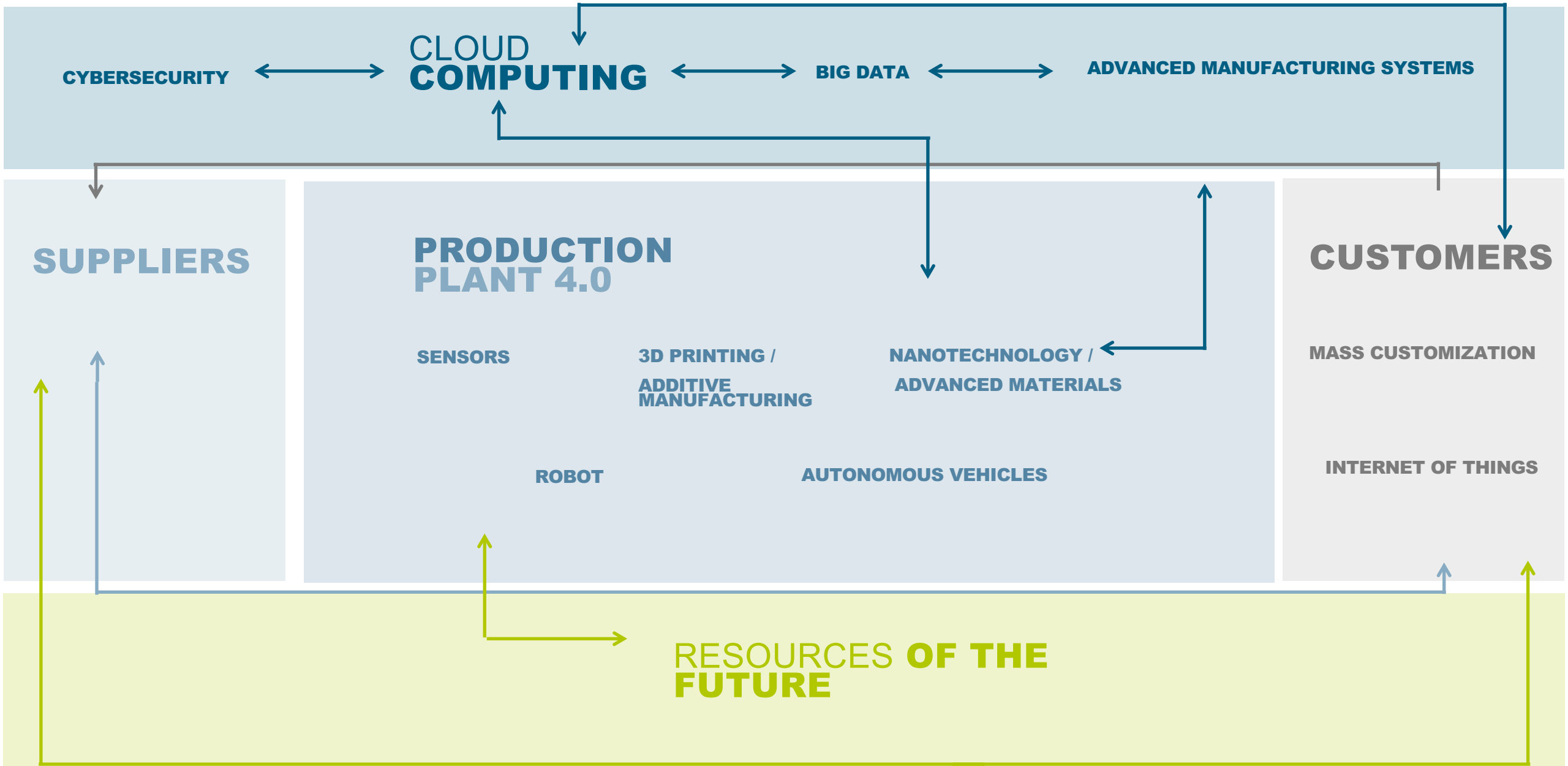
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YOUR JOB, OUR WORK



CRISTINA **REDUZZI**

INDUSTRIAL & MACHINERY
DIVISION MANAGER

SMART FACTORY



TECHNOLOGICAL INNOVATION AND HUMAN CAPITAL AS THE BEST INVESTMENTS FOR ORGANIZATIONS

FLEXIBILITY

Facilitates rapid management of production changes by teams

SPEED

Availability of real-time information and data analysis (Real-time decision-making capability); Reduces unscheduled downtime through preventive and predictive identification of faults and maintenance needs (Optimization of maintenance strategies)

PRODUCTIVITY

Increases overall equipment efficiency; Continuous optimization of processes and activities as well as material consumption (waste reduction), energy and environmental impact

QUALITY

Better product quality and less waste thanks to real-time production monitoring
Encourages product improvement through simulation (Virtualization)

COMPETITIVENESS AND PRODUCT

Increased product competitiveness through servitization and interoperability through the integrated IoT Supply Chain

LEADERSHIP AT THE TIME OF INDUSTRY 4.0

RESPONSIBILITY

"Inspire through empathy and vision" not only by using Industry 4.0 technologies (e.g AI, data, automation) in an ethical way that supports and enriches human work, but also by conveying a vision of the future.

COLLABORATION AND SHARING

"Innovating through sharing a common purpose", no more hierarchies, but widespread collaboration, accepting experimentation with new solutions involving a multiplicity of stakeholders

TECHNOLOGICAL LEADERSHIP

"Using technology to promote humanity, transparency and trust" to promote the development of a digital mindset, accompanying all in change, unleashing potential by recognizing personal contributions and aspirations

ENTREPRENEURIAL LEADERSHIP

"Entrepreneurship, agility and growth" while ensuring short-term profitability, radically rethinking and reorganizing the business by supporting innovation and allowing all to actively contribute

ADAPTIVE LEADERSHIP

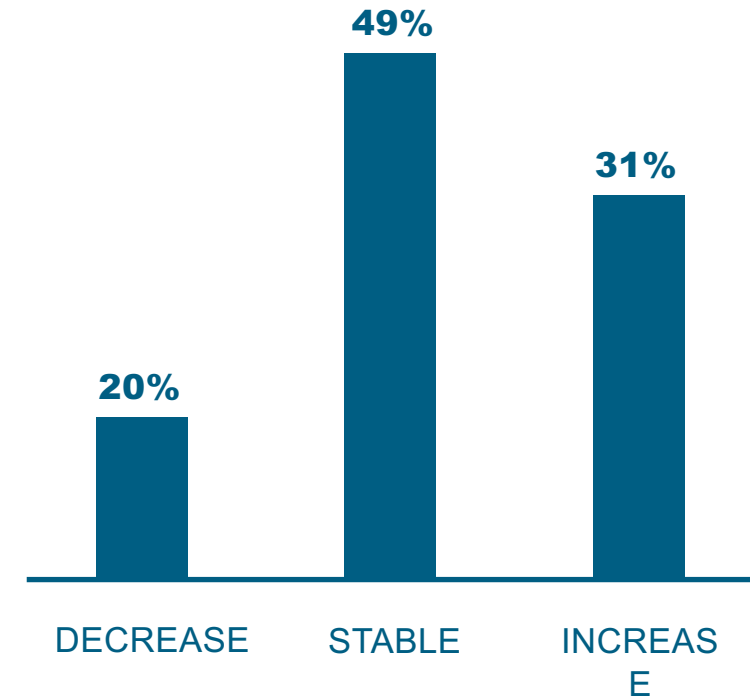
"To learn quickly and continuously by collaborating with one's own eco-system in order to grow" to confront and collaborate with other parties (Start-ups, Universities, Consultants, companies in the supply chain, Associations...) in order to keep up with the times, grow and innovate

CONTRIBUTE TO SOCIETY

"Producing sustainably" ensuring the company and its staff have a positive impact on people (families), the environment, society

EXPECTED DEVELOPMENT OF ROLES

FUTURE IMPORTANCE OF THE ROLE



121 (+11)

Out of the 121 normalised roles (this does not include the 11 "Other Function" roles that are by nature growing).

STAR MATRIX - ENGINEERING

Project manager: STRATEGIC when the company has highly **customized products**
Product engineer: CORE when **products are particularly complex** / **EMERGING** when the company makes **extensive use of advanced specific Digital technologies** (today by having 10 different people industrialize, I get the same results due to high standardization and process standards. Tomorrow with technology it will change)
Process Engineer: EMERGING when **productions are make-to-order and customized or in the event of creation of modular processes** / **STRATEGIC** when the acquisition of orders is based on cycle planning / **SUPPORTING** when company productions are make-to-stock

EXTRAORDINARY
CONTRIBUTION

"DECLINING"

"CORE"

- Industrial Development Manager
- Project Manager
- Lean Manager
- Product Engineer

"STRATEGIC"

- Engineering Manager
- Simulation Office Engineer
- Standards Office Engineer
- Solution Design Engineer
- IoT Systems Project Manager
- Process Innovator
- Process Engineer
- Project Manager

IMPORTANCE OF
THE ROLE TODAY

DECREASE

STABLE

INCREASE

FUTURE ROLE DEVELOPMENT

"DISSOLVING"

- Time and Methods Engineer
- Designer
- Thermal Analyst
- Mechanical Analyst

"SUPPORTING"

- Product Engineer
- Mechanical Engineer
- Lean Advisor
- Integration Verification & Validation Manager
- Process Engineer

"EMERGING"

- Expert Engineer for Continuous Product Improvement
- Process Engineer
- Layout Engineer
- Electronic Engineer
- Sensor Engineer
- MRP Engineer Materials Engineer
- Data Scientist
- Automation Engineer
- Product Engineer
- AI Engineer
- AR Engineer

ORDINARY
CONTRIBUTION



Group
YOUR JOB, OUR WORK

DARYUSH ARABNIA

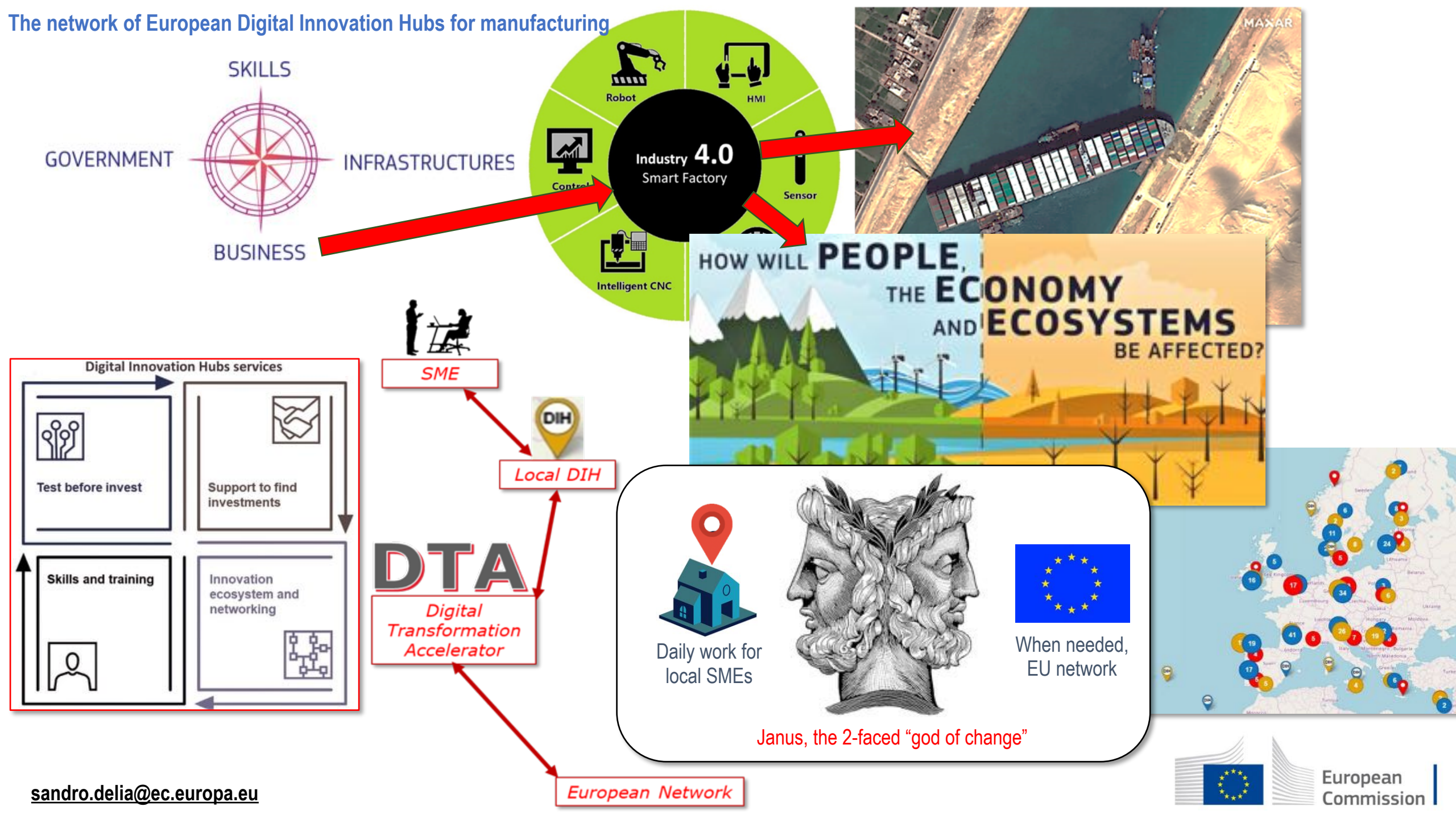
GROUP'S CHAIRMAN,
PRESIDENT & CEO
GEICO TAIKISHA





Group
YOUR JOB, OUR WORK

The network of European Digital Innovation Hubs for manufacturing



The Digital Innovation Hubs of Confindustria towards the EDIH network

Valentina Carlini

Industrial Policies and Sustainability Department

Confindustria

THE NETWORK FOR INNOVATION 4.0: DIGITAL INNOVATION HUBS AND COMPETENCE CENTRES

Digital Innovation Hubs

Features:

- Selected DIH located at *Confindustria's* and *R.E. TE. Imprese Italia's* branches

- Contact point between companies, research institutions and public/private investors

Mission:

- Create awareness on I4.0 opportunities
- Support in developing innovative investment plans
- Orientation to I4.0 Competence Centers
- Support in accessing to public and private financing solutions/investors

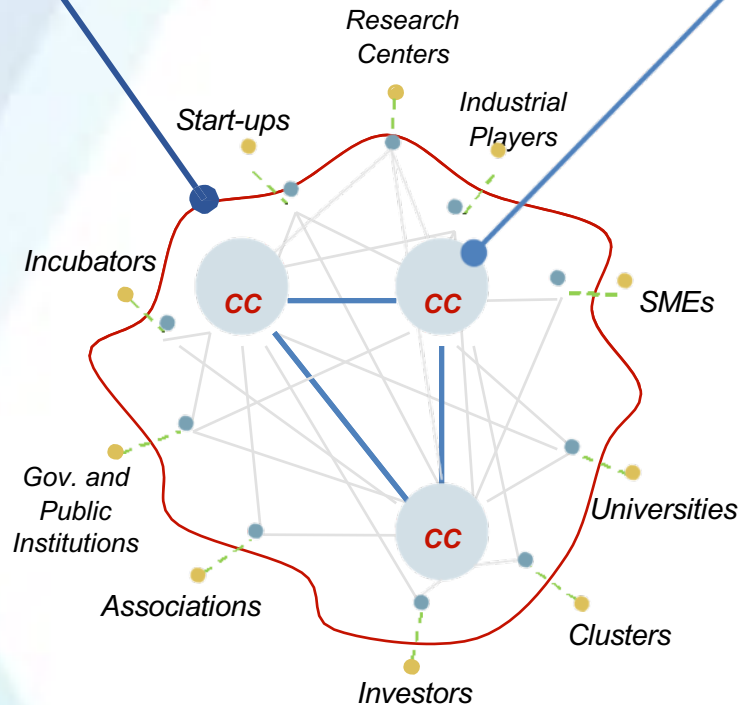
Competence Centres

Features:

- Few and selected national Competence Center
- Strong involvement of leading Italian universities and large private players
- Support to key stakeholders (e.g. research institutions, startups,...)
- Mission-oriented and focused on facilitating I4.0 transformational projects in all domains
- Appropriate legal and managerial skills
- No Profit PPP perfectly matching the requirements of a DIH in the Digital Europe Programme

Mission:

- I4.0 training and awareness
- Live demos on new technologies and access to I4.0 best practices
- Technical advisory on I4.0 for SMEs
- Launch and acceleration of technological development and innovative projects
- Trial support and "on-site" development of new I4.0 technologies
- Coordination with Italian CC and National and DIH European Network



CONFINDUSTRIA DIGITAL INNOVATION HUB NETWORK



WHAT THEY DO:

- ✓ Awareness (meeting, workshop, training...)
- ✓ Digital maturity assessment
- ✓ Orientation towards the innovation ecosystem

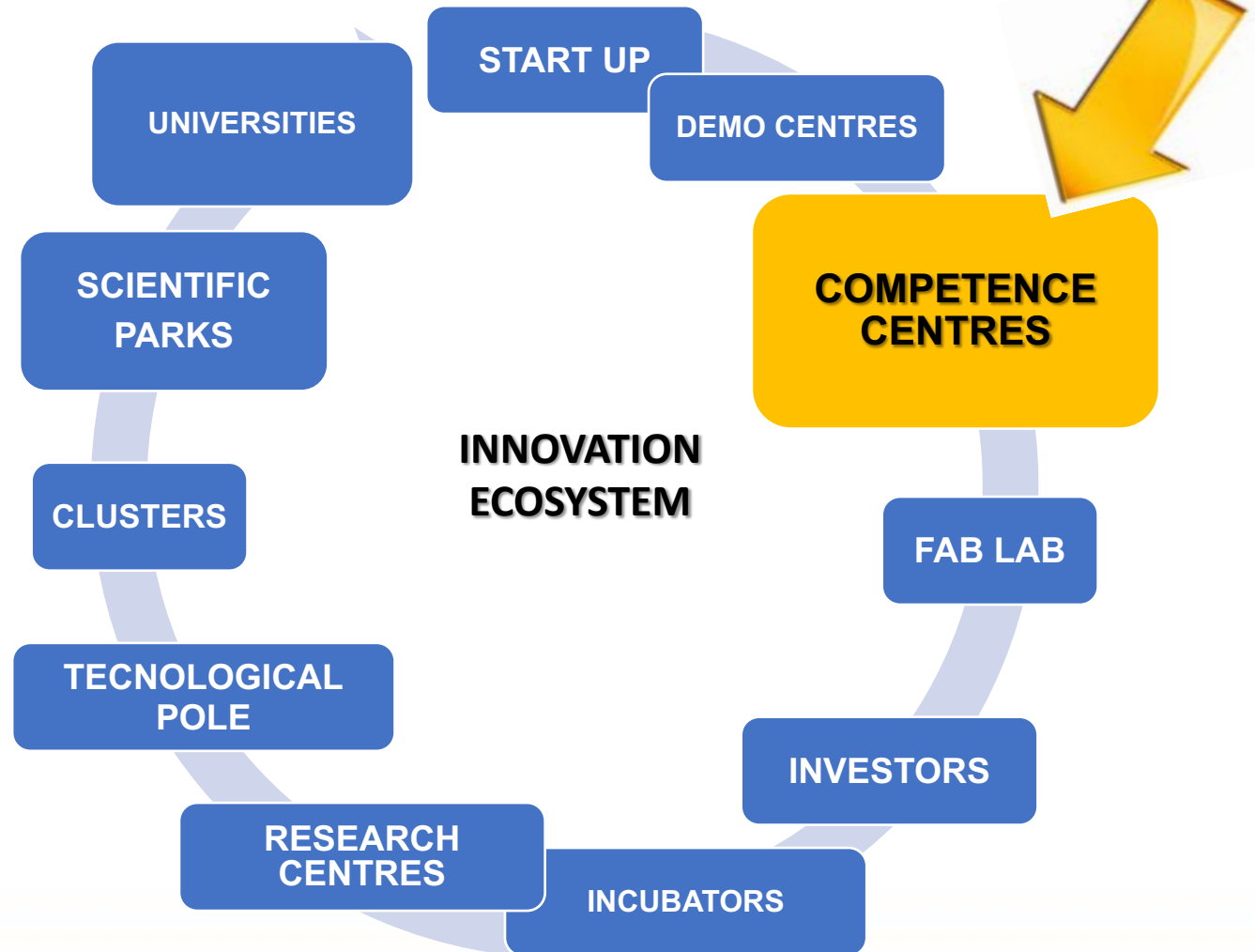
WHAT THEY HAVE DONE SO FAR:

- ✓ Get in touch with 25.000 companies
- ✓ More than 900 workshop, one to one meetings and study visits
- ✓ 1.600 assessment
- ✓ Supply chain projects with large companies (Ansaldo, Enel, ABB, Hithachi, Leonardo)

INNOVATION ECOSYSTEM AND DIGITAL INNOVATION HUBS



companies



COOPERATION AGREEMENT DIH-COMPETENCE CENTER

WHAT THEY DO...

DIHs can carry out for CC:

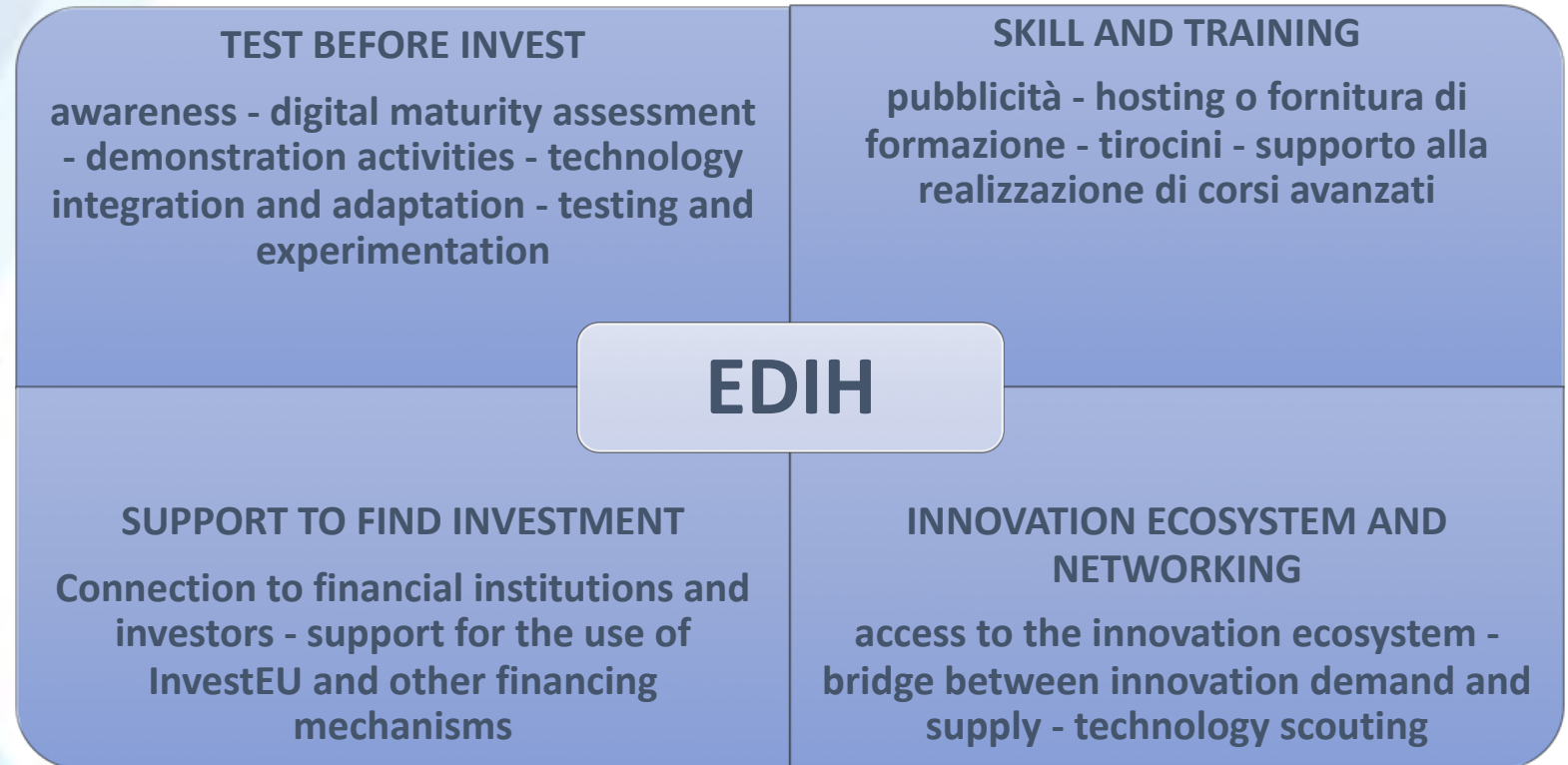
- ✓ Digital Maturity Assessment
- ✓ Road map of possible project areas
- ✓ Scouting and identification of companies interested in the Competence Center
- ✓ Accompanying companies to the Competence Center
- ✓ Orientation and awareness raising (workshops, conferences, etc.)
- ✓ Dissemination of CC calls for proposals

CCs will make available to businesses:

- ✓ Laboratories and demonstrators
- ✓ Proof of Concept (PoC) activities
- ✓ Technological scouting to support projects
- ✓ Implementation of R&I projects, Industrial Research, experimental development, prototyping and testing
- ✓ Training Consulting on projects and on technologies
- ✓ Support for the analysis of needs and technological options



DIH AND COMPETENCE CENTER TOGETHER FOR THE EUROPEAN DIH NETWORK



Thank you for your attention!
v.carlini@confindustria.it



Introduction to the EDIH Manufacturing Network

EDIH Manufacturing Network
21st October 2021 – WMF, Cernobbio

LEADING DIGITAL AND SUSTAINABLE INDUSTRY TRANSFORMATION IN EU MANUFACTURING REGIONS

19 EDIH | 19 Regions | 14 States

1. EDIH Lombardia
[Lombardia - IT]

2. DIGITALISATIE VAN DE INDUSTRIE EN
INDUSTRIE 4.0. (DII4.0.) - [BE]

3. EDIH SNL
[South Netherland - NL]

4. EDIH DIGIHALL
[Ile de France - FR]

5. POLITRONICS
[Auvergne Rhone - Alpes - FR]

6. DIH4CAT
[Catalunia - ES]

7. CIDIHUB - Innovalia
[Canary islands - ES]

8. Produtech DIH
[Norte - PT]

9. NEURAL
[Veneto - IT]

10. EXPAND
[Piedmont - IT]

11. MANUHUB - LMS
[Patras - GR]

12. Six Manufacturing EDIH
[Tampere - FI]

13. MADE
[DK]

14. SE - MACHINA
[South Sweden - SW]

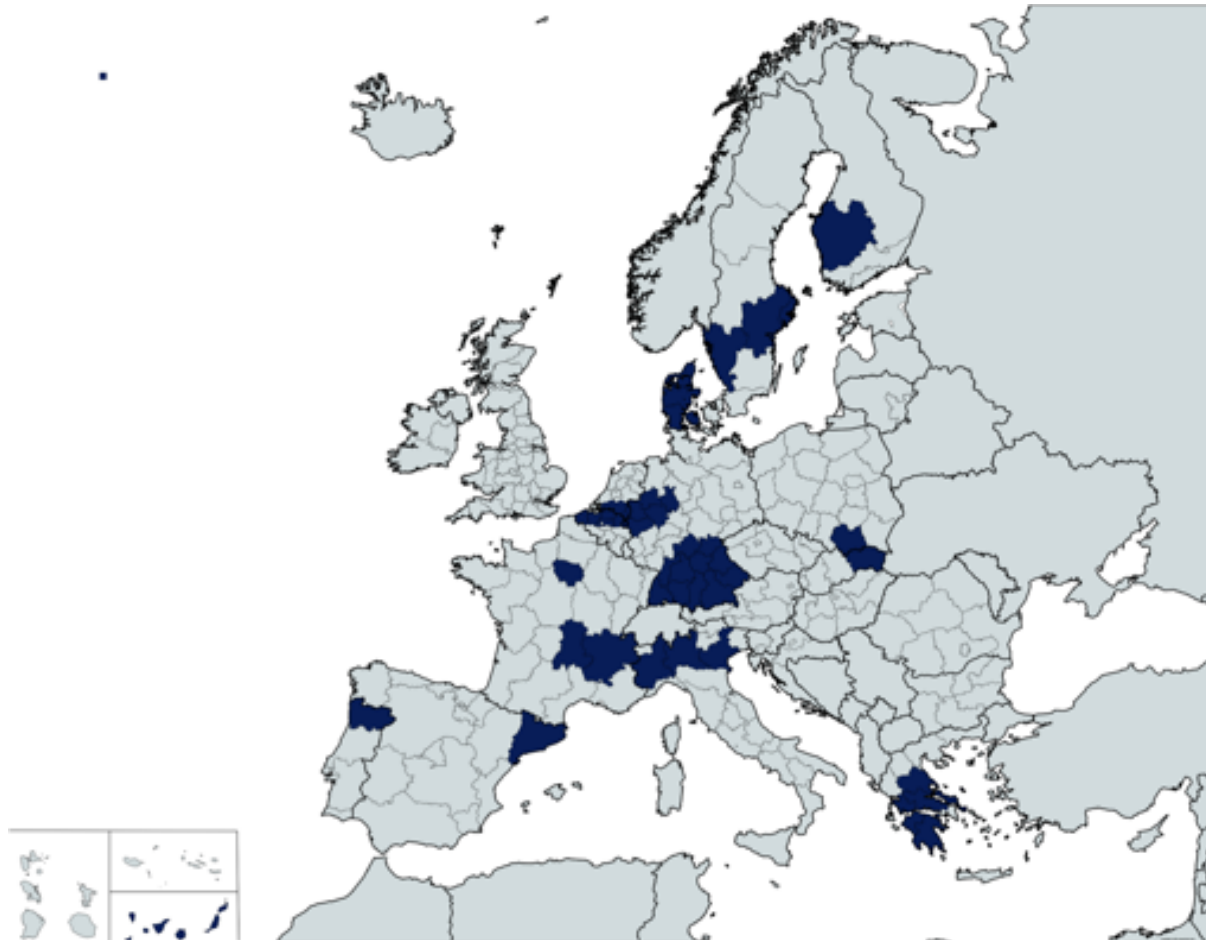
15. EDIH REIHNLAND
[Reihnland- DE]

16. EDIH CASSOVIMUM
[East Slovak - SK]

17. DIGITIZATION.BEYOND.BW
[Baden Wuerttemberg - DE]

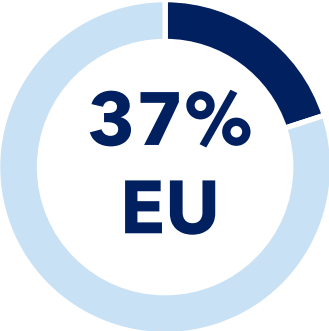
18. EDIH FRANKEN & SCHWABEN
[Bayern- DE] - New

19. Hubs4Industry
[Malopolska - PL]

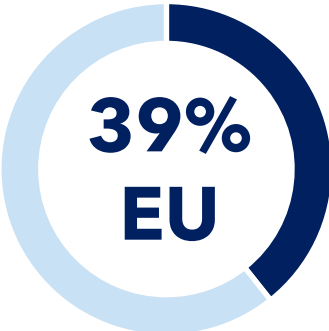


REPRESENTING THE ENGINE OF EU MANUFACTURING INDUSTRY

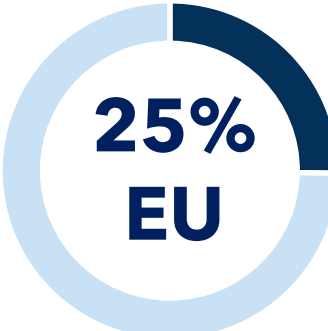
€ 4,472,692.71 mln
GDP



€ 805,432.87 mln
Manufacturing
Added Value



622,828
Manufacturing
companies



CONNECTING TERRITORIES, INDUSTRY, PEOPLE WITH INTERREGIONAL PROJECTS

CROSS SECTORAL VALUE CHAIN



Manufacturing



Aeronautics and
Space



Eco - Industry



Healthcare Industry



Sustainable mobility



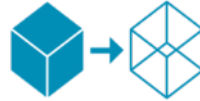
Agriculture and food
production



SHARING TECHNOLOGIES and INFRASTRUCTURE



Cyber physical
systems



Simulation,
digital twins



Big data, data
analytics



Virtual, augmented
and extended reality



Cloud
computing



Additive
manufacturing



IoT, Sensory
system



Robotics



Next generation
internet services

SHAPING EUROPE'S
DIGITAL FUTURE

O1. HIGH
PERFORMANCE
COMPUTING

O2. CYBERSECURITY
AND TRUST

O3. ARTIFICIAL
INTELLIGENCE

O4. ADVANCED
DIGITAL SKILLS

O5. DIGITAL
CAPACITY AND
INTEROPERABILITY

CROSS BORDER SERVICES PORTFOLIO



TEST BEFORE INVEST

Supporting the implementation and adoption of digital technologies

- Information and awareness raising
- Digital maturity assessment
- Access to technological infrastructure
- Idea generation and management
- R&I project development (PoC, TestBed, prototyping)
- Product demonstration and qualification



SKILLS AND TRAINING

Develop and train skills for Industry 4.0

- Training courses
- Teaching factory
- Train the trainer
- Mapping and assessment of skills gaps



ACCESS TO R&I FUNDS

Supporting companies in accessing European, cross regional funds for R&I and innovative finance

- Identification of funding opportunities (e.g. Horizon Europe, ERDF)
- Consortia creation



INNOVATION ECOSYSTEM AND NETWORKING

Develop and increase R&I Network (universities, companies, R&D) to promote technology transfer projects

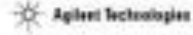
- Tech scouting, trend watching
- Technology matchmaking (e.g. company visit, B2B)
- R&I ecosystem management and engagement
- Manufacturing EDIH capacity building



Application of the Piedmont - Valle d'Aosta cluster to the national preselection for EIDH (European Digital Innovation Hubs) digital innovation hubs in the context of the Digital Europe Program

CIM4.0

Consortium



- + 2 universities
 - Politecnico di Torino
 - Università di Torino
- + 23 enterprises

EXPAND Consortium

CONSORTIUM

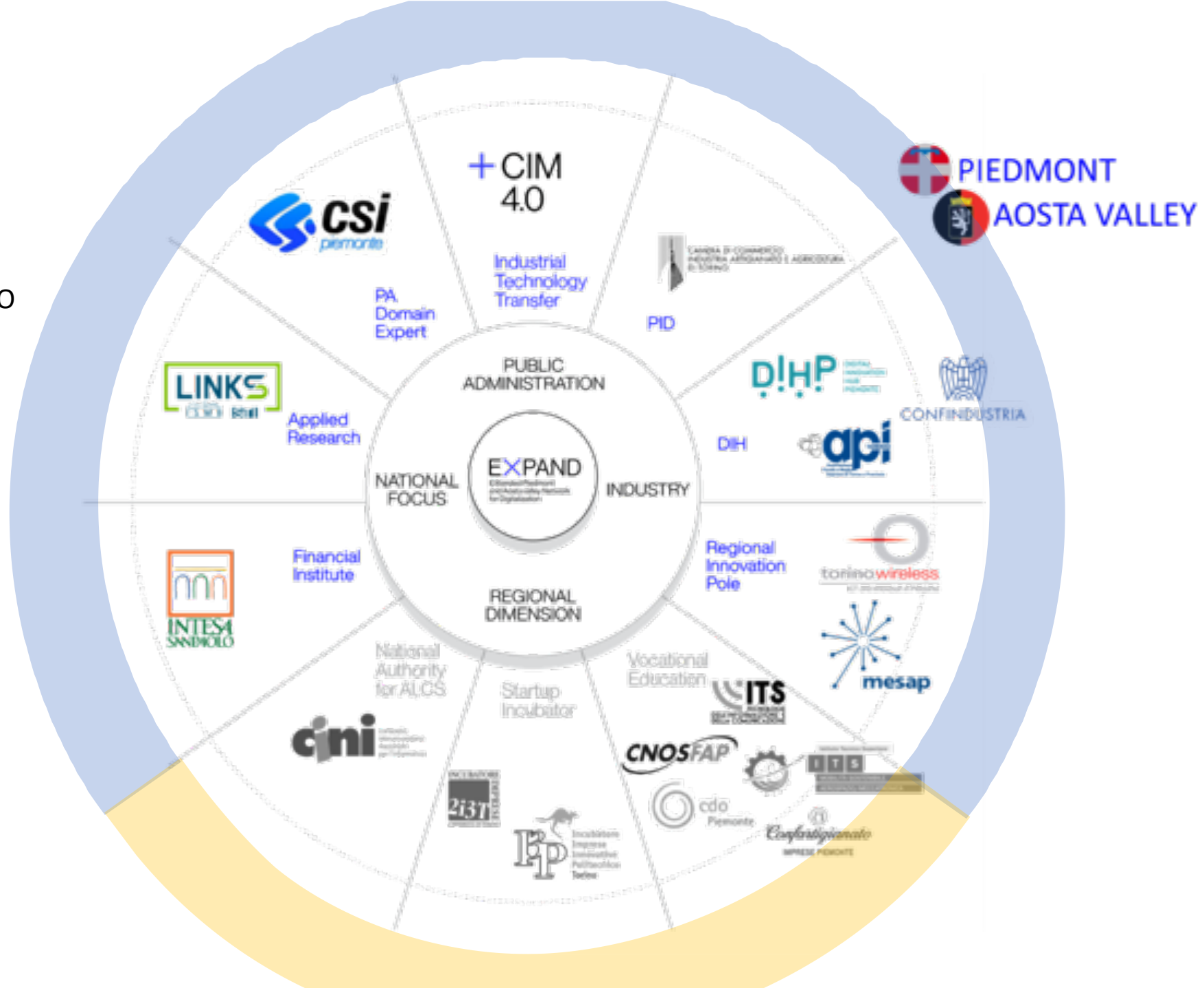
- × **CIM4.0 (COORDINATOR)**
- × CSI-PIEMONTE
- × CAMERA DI COMMERCIO DI TORINO
- × DIH-PIEMONTE
- × API TORINO
- × TORINO WIRELESS
- × POLO INNOVAZIONE MESAP
- × INTESA SAN PAOLO
- × LINKS FOUNDATION

SUB-CONTRACTOR

- × CS LAB CINI
- × INCUBATORI
- × ITS
- × CNOSFAP
- × CDO-PIEMONTE

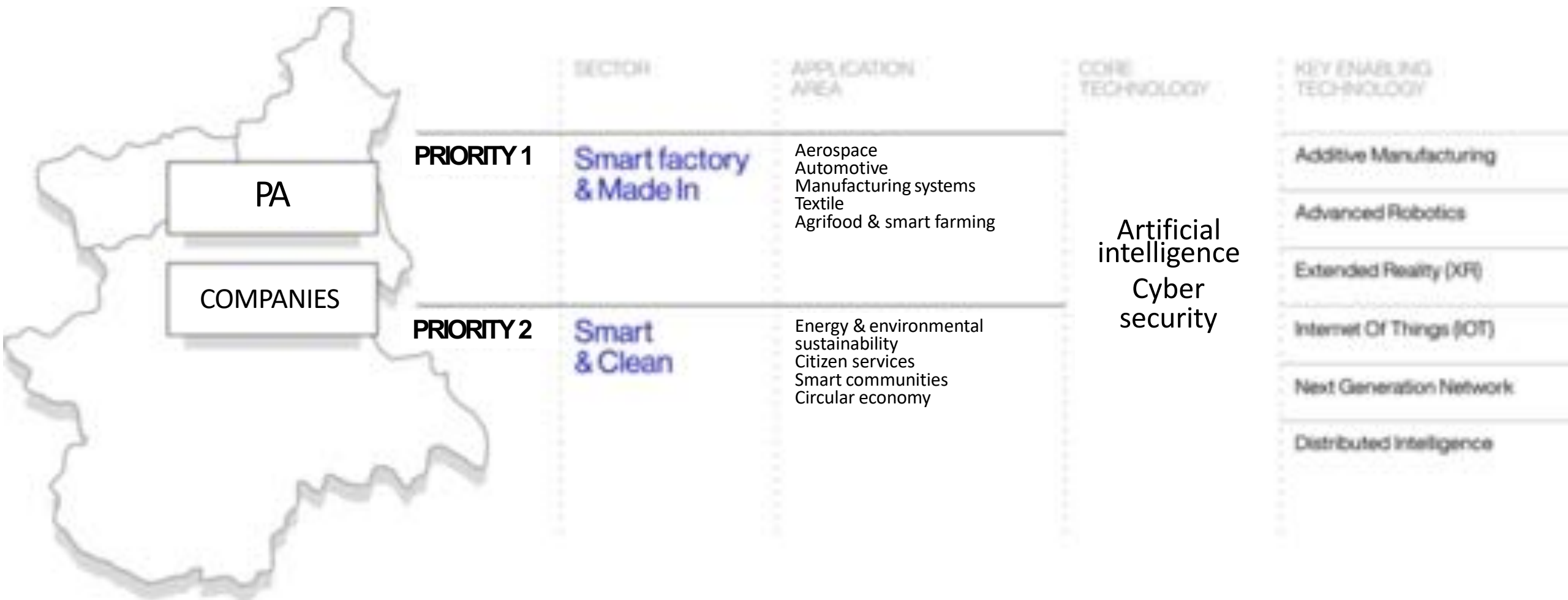
LOCAL AUTHORITIES' COMMITMENT

- × PIEMONTE REGION
- × VALLE D'AOSTA REGION



EXPAND

Focus



EXPAND

Governance

