

# Ecosistemi dell'innovazione: dalla ricerca all'impresa nella discontinuità tecnologica

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 **TEHA Club**



- **The importance of innovation for the competitiveness of countries, regions and companies**
- The TEHA-Global Innosystem Index 2025
- The TEHA-Regional Innosystem Index 2025

Today more than ever, our mantra remains relevant: without science, research, and innovation, there is no future

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**NO RESEARCH** □ NO SCIENCE

NO SCIENCE □ NO VISION

NO VISION □ **NO FUTURE**



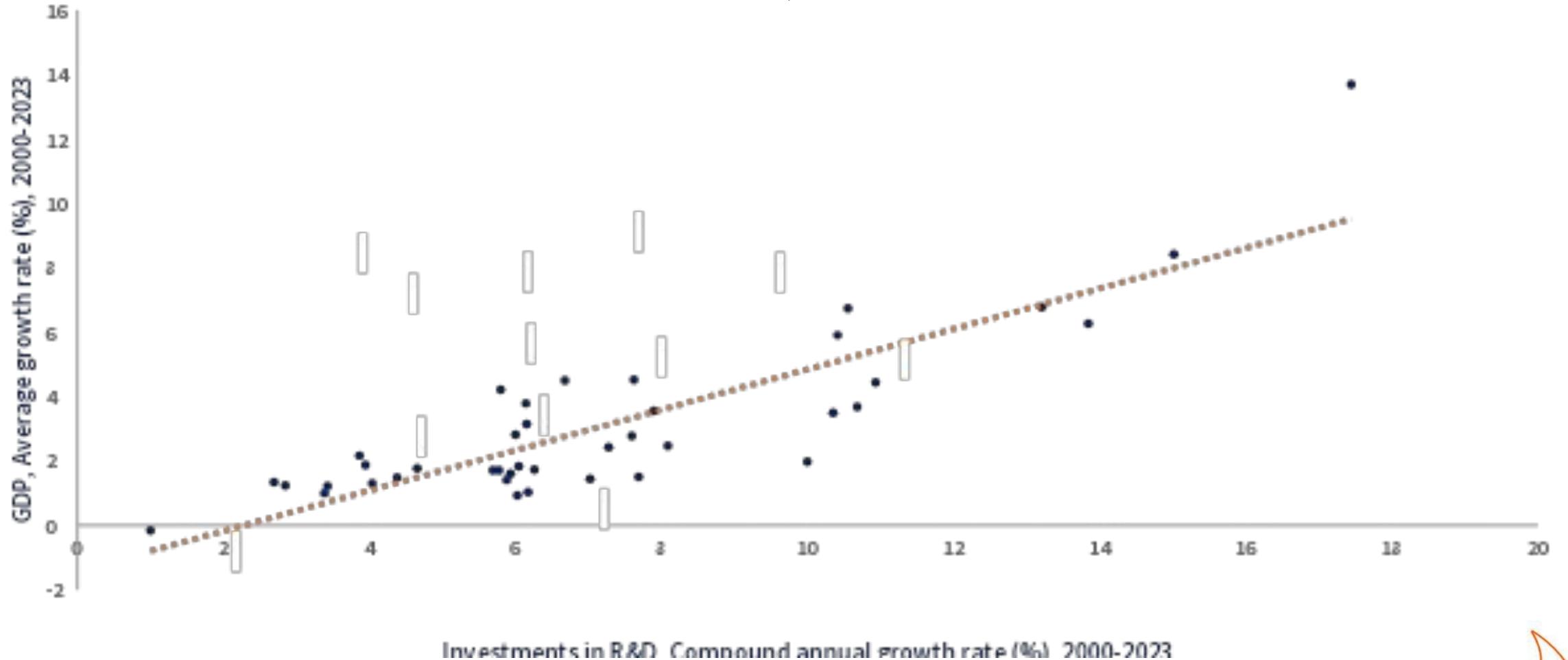
**NO INVESTMENTS** □ NO JOBS

NO JOBS □ NO GROWTH

NO GROWTH □ **NO FUTURE**

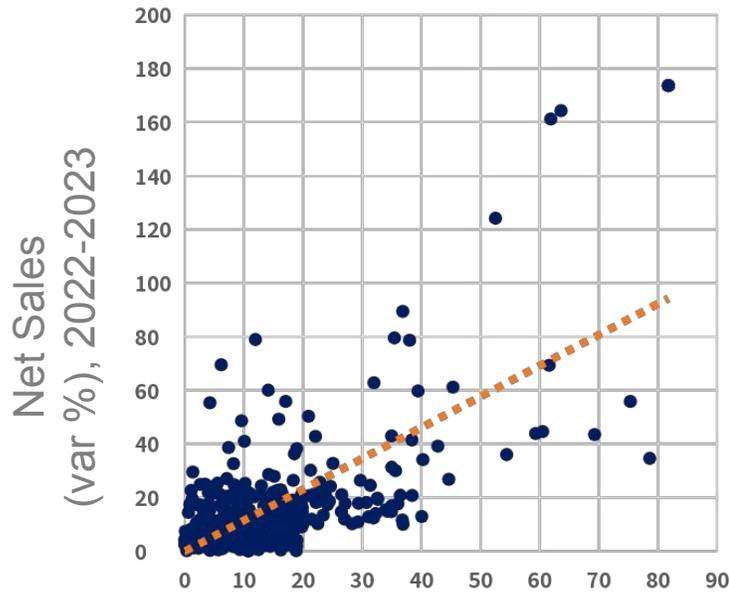
# Countries that invest more in R&D grow more than their peers and are more competitive...

**Relationship between investments in R&D and GDP growth in 40 countries, 2000-2023**

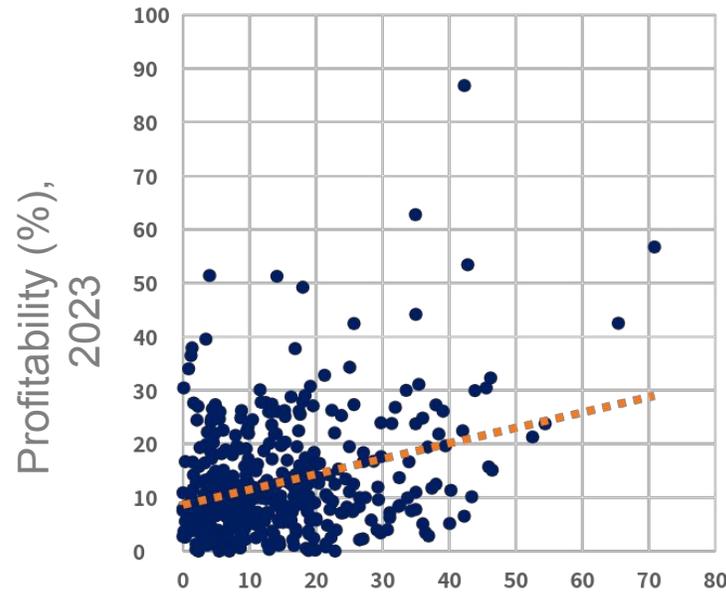


... and it is also strategic for businesses to invest in innovation

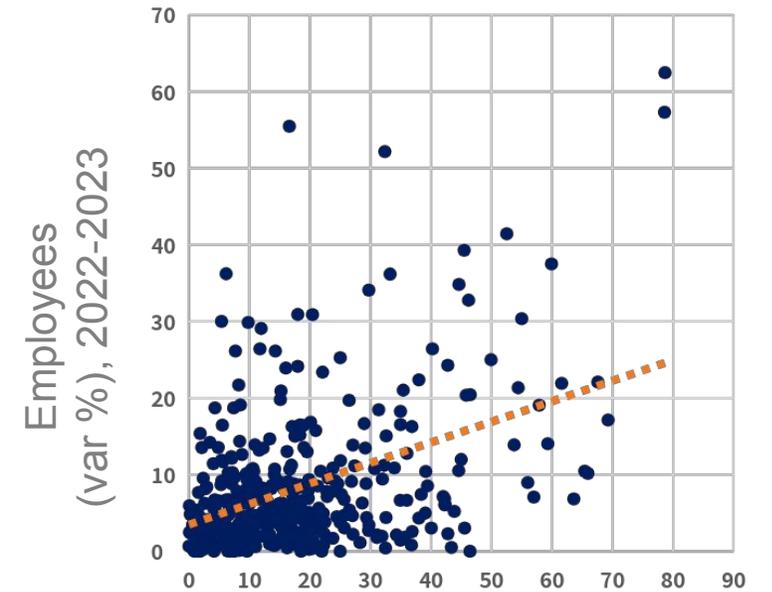
## Relationship between R&D investments and company performance in the manufacturing cluster of the 800 top R&D spenders in Europe



Investments in R&D  
(var %), 2022-2023



Investments in R&D  
(var %), 2022-2023



Investments in R&D  
(var %), 2022-2023

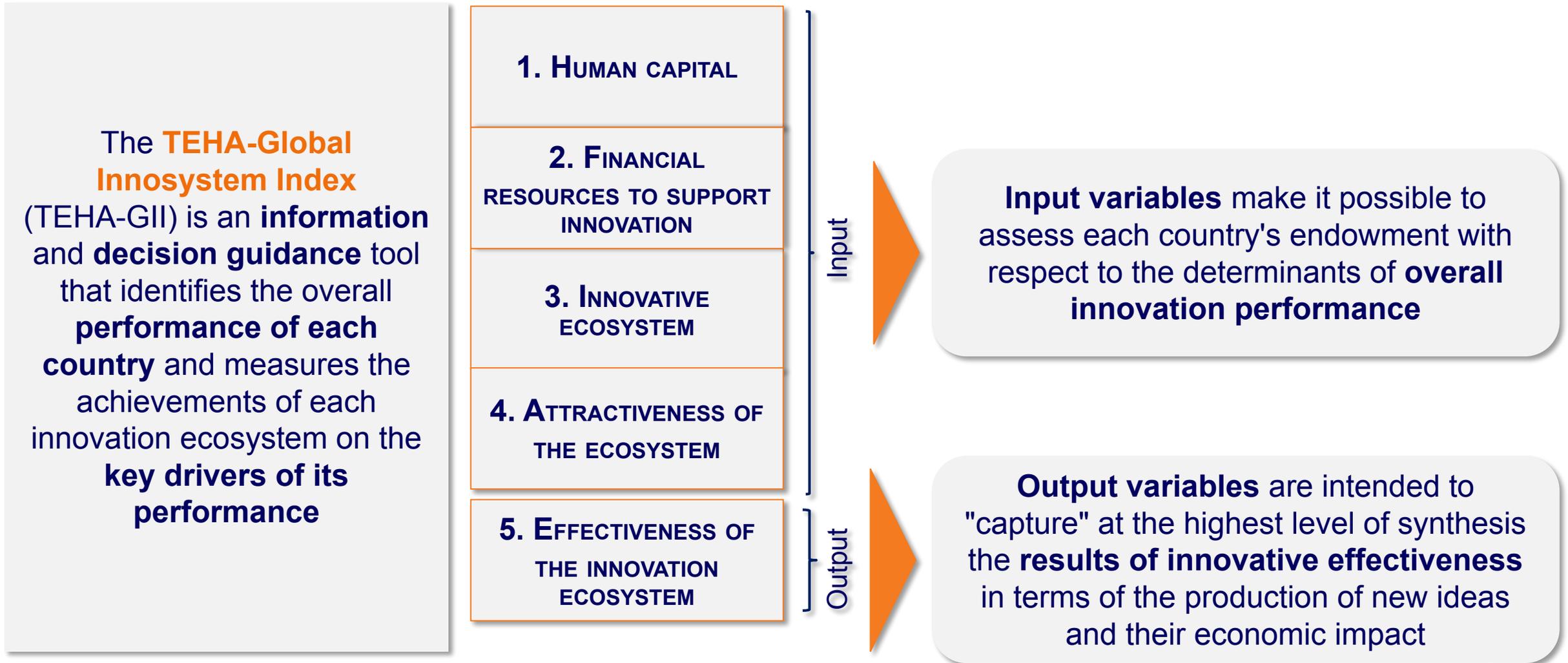
**There is a positive and significant relationship between R&D investments and company performance**

# Agenda

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- The importance of innovation for the competitiveness of countries, regions and companies
- **The TEHA-Global Innosystem Index 2025**
- The TEHA-Regional Innosystem Index 2025

# TEHA Group created a tool to assess the state of innovation ecosystems: the TEHA-Global Innosystem Index...



# ... an indicator consisting of 5 dimensions and 31 KPIs



## 1. HUMAN CAPITAL

1. Education expenditure / GDP
2. STEM graduates / Total graduates
3. Number of universities in top 200 global / Total universities ranked
4. PISA score
5. ICT access by individuals
6. R&D personnel / 1,000 employees
7. Population with tertiary education



## 2. FINANCIAL RESOURCES TO SUPPORT INNOVATION

8. Private investments in R&D / GDP (Business Expenditure in Research & Development - BERD)
9. Total investments in R&D / GDP (Gross domestic Expenditure in Research & Development - GERD)
10. R&D tax expenditure and direct government funding of BERD
11. VC investments / GDP



## 3. INNOVATIVE ECOSYSTEM

12. Software coders per capita
13. Supercomputer Cores (processing power) per capita
14. Quality of patent ecosystem
15. Government AI readiness
16. New businesses density per capita
17. Tech unicorns per 100k inhabitants
18. Unicorn valuation as % of GDP



## 4. ATTRACTIVENESS OF THE ECOSYSTEM

19. Higher education expenditure on R&D financed by the business sector
20. Public investment in R&D financed by the rest of the world / Public domestic expenditure on R&D
21. Inbound mobility of students
22. FDI inflows / GDP
23. Global Attractiveness Index



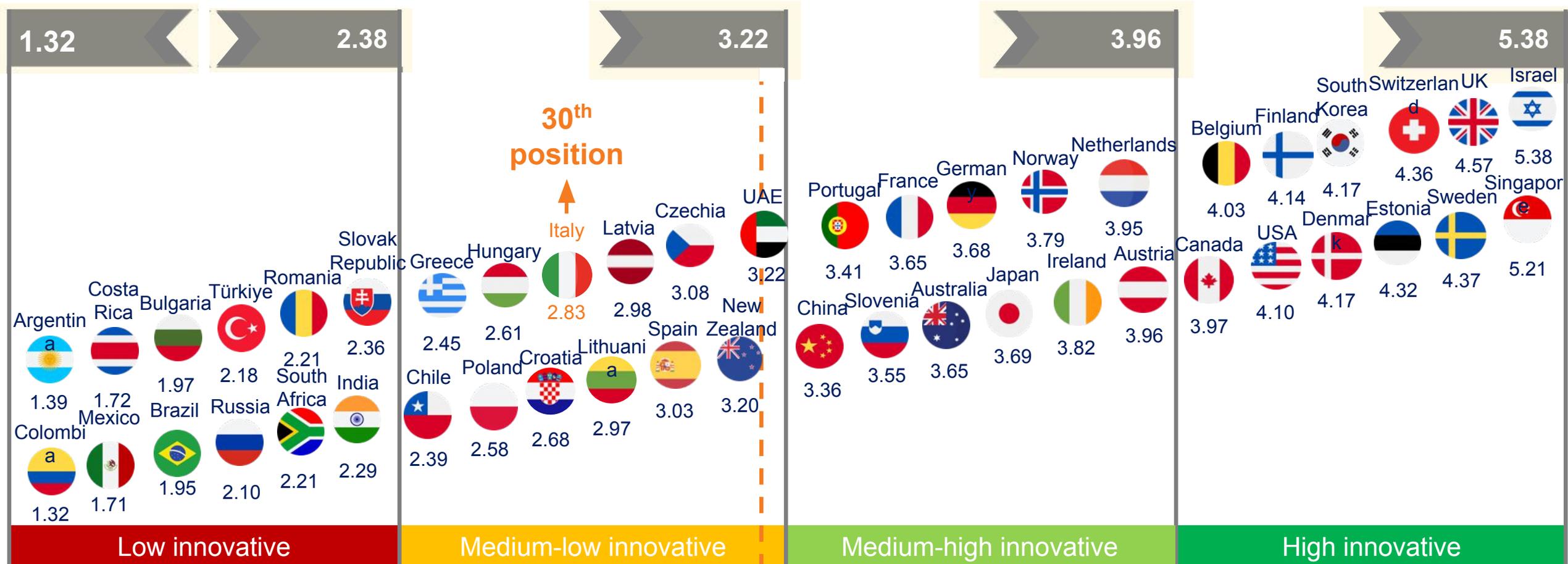
## 5. EFFECTIVENESS OF THE INNOVATION ECOSYSTEM

24. Patent applications / 1,000 inhabitants
25. Patents in force / 1,000 inhabitants
26. High tech exports / Manufacturing total exports
27. Trade balance on high tech products
28. Trade balance on R&D services
29. Number of citations / 1,000 researchers
30. Number of publications / 1,000 researchers
31. H-index / 1,000 researchers



# The results of the TEHA-GII 2025: Israel, Singapore, and UK are the leading Countries, while Italy ranks 30<sup>th</sup>...

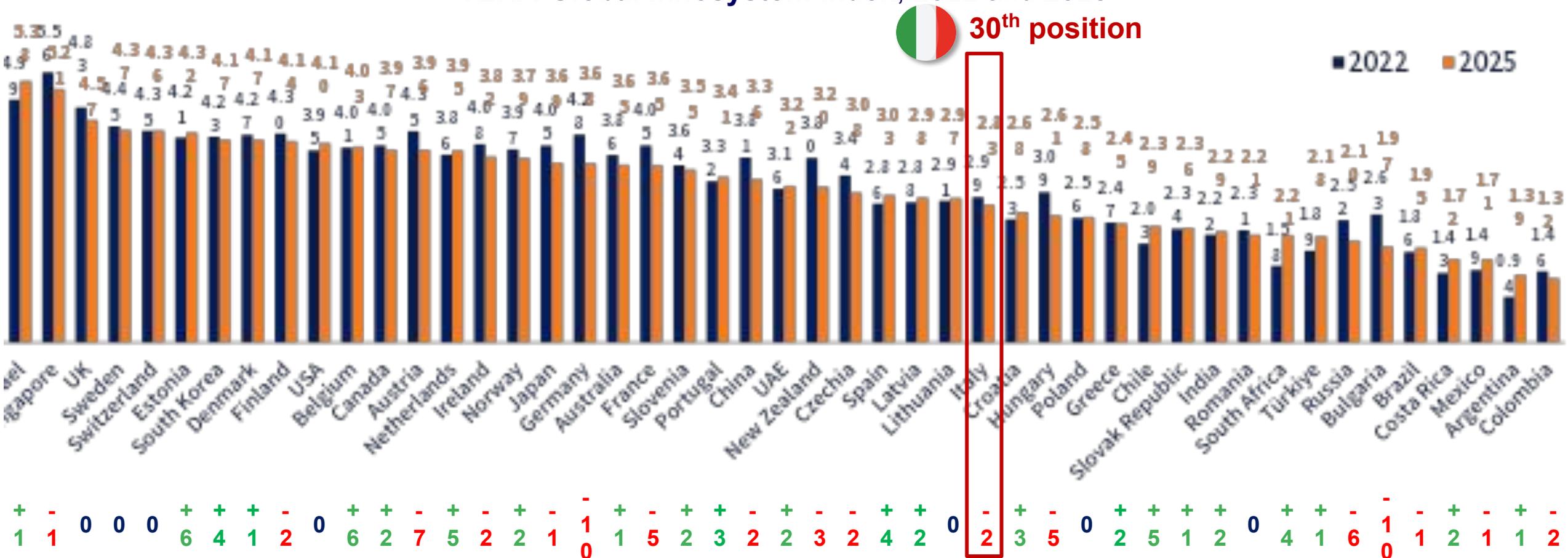
## TEHA-Global Innosystem Index 2025



AVERAGE OF ALL COUNTRIES: 3.21

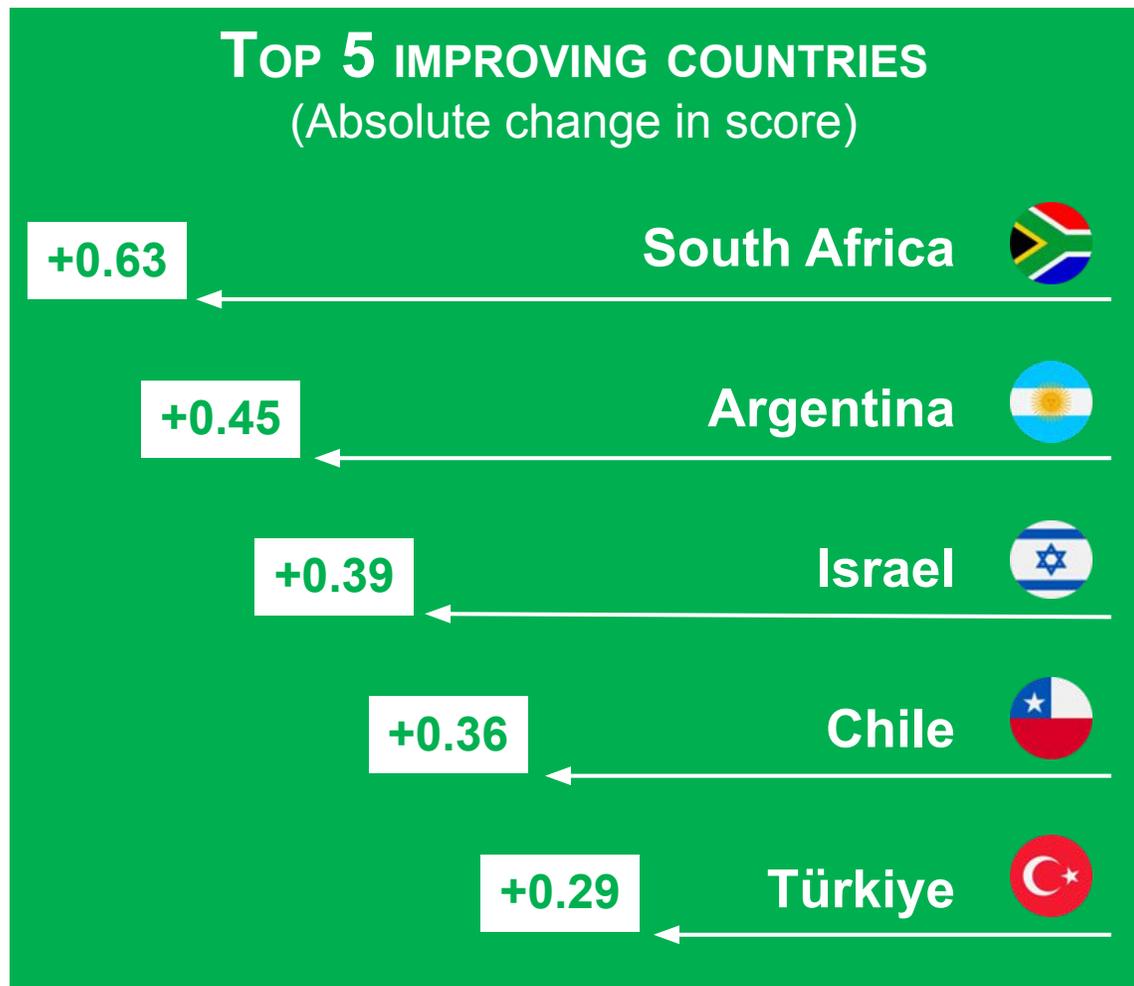
... losing 2 positions in comparison with the 2022 ranking

### TEHA-Global Innosystem Index, 2022 and 2025



Change in position in 2025 with respect to 2022

By looking at the absolute change in the TEHA-GII score between 2022 and 2025, TEHA identified the Top 5 improving and the Worst 5 declining Countries



# A view of the leading Countries in the 5 dimensions of the TEHA-Global Innosystem Index 2025

## The 5 dimensions of the TEHA-Global Innosystem Index 2025

1. HUMAN CAPITAL

2. FINANCIAL RESOURCES TO SUPPORT INNOVATION

3. INNOVATIVE ECOSYSTEM

4. ATTRACTIVENESS OF THE ECOSYSTEM

5. EFFECTIVENESS OF THE INNOVATION ECOSYSTEM

### Gold Medal

 **Sweden**  
7.82

 **Israel**  
7.50

 **Singapore**  
7.46

 **UAE**  
5.31

 **Switzerland**  
5.72

### Silver Medal

 **Denmark**  
7.22

 **South Korea**  
5.36

 **Estonia**  
6.85

 **China**  
4.85

 **Ireland**  
4.63

### Bronze Medal

 **South Korea**  
7.10

 **USA**  
5.16

 **Finland**  
5.37

 **Israel**  
4.66

 **Singapore**  
4.33



Ranking:  
Italy

**36°**  
position

3.30

**27°**  
position

1.67

**30°**  
position

1.96

**20°**  
position

3.26

**7°** position  
3.95

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- The importance of innovation for the competitiveness of countries, regions and companies
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- **The TEHA-Regional Innosystem Index 2025**

# The TEHA-RII 2025 aims to assess the innovation performance of the 242\* European regions across 11 KPIs

The KPIs have been grouped in **4 categories**:

## Economic Development



1. Gross expenditure in R&D as a percentage of GDP
2. GDP per capita
3. Change in the number of companies
4. Number of patents filed within a region

## Human Capital



5. Number of universities
6. Population with tertiary education
7. Population that participates in educational and training programs

## Talent for Innovation



8. Researchers as a % of total employment
9. Human resources in science and technology as a % of total employment
10. High-tech employment as a % of total employment

## Digital Infrastructures and Technologies



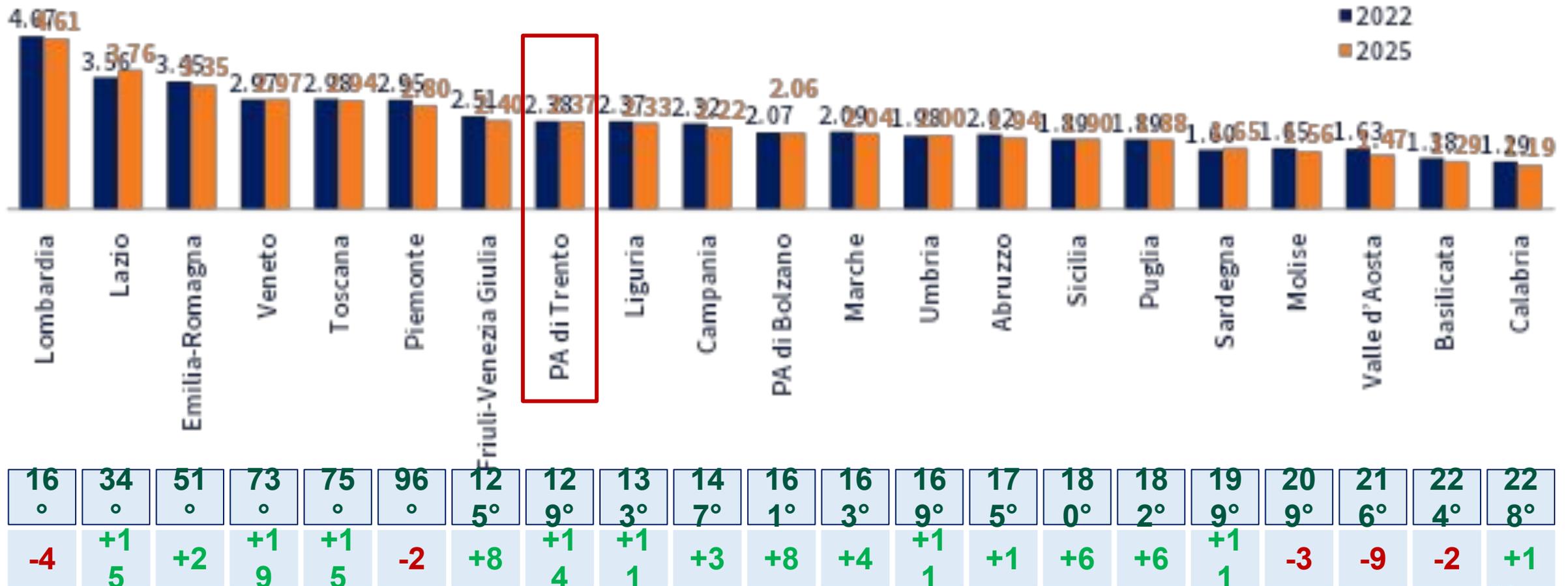
11. Households that have access to broadband connectivity

For a total of  
**31,944**  
observations



# PA Trento is ranked 8<sup>th</sup> in Italy and shows third-best increase for positions gained

Comparison of the performance of Italian Regions in 2022 and 2025

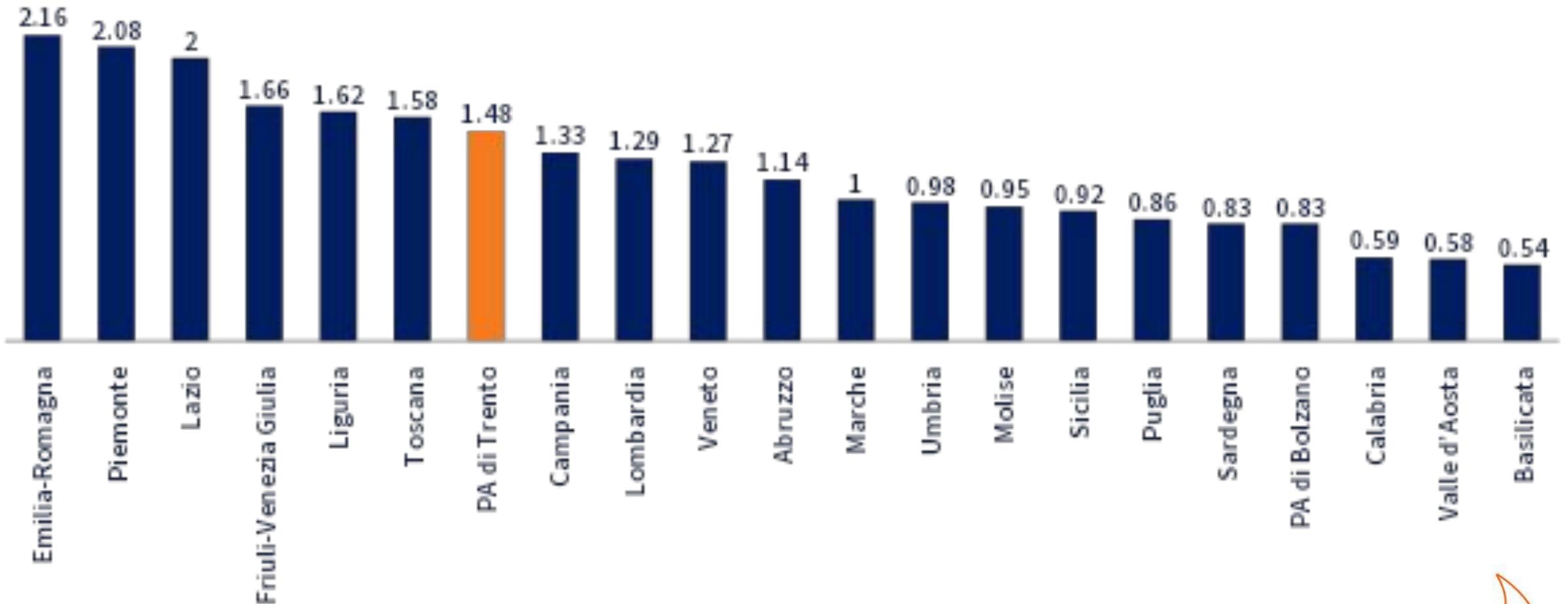


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# Autonomous Province of Trento results of the best regional ecosystem for R&D expenditure and human capital valorization

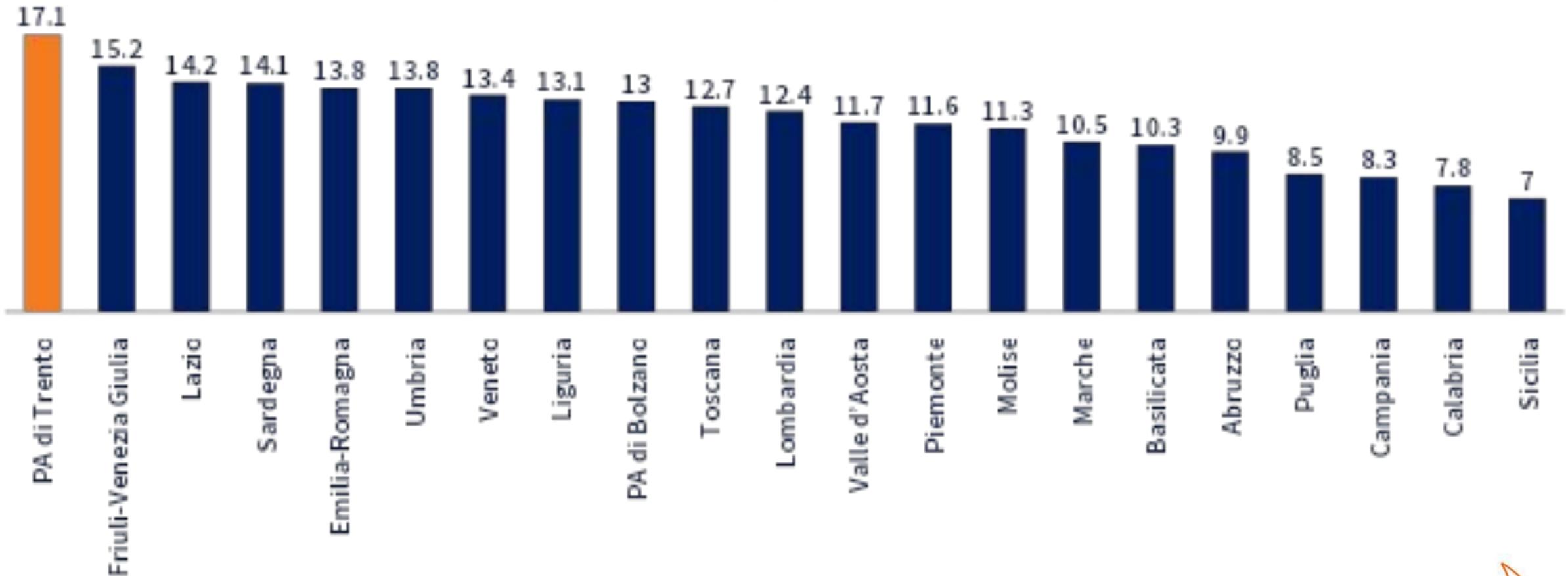
# Trento has medium-high level of spending in R&D...

Gross Expenditure in Research and Development of the Italian regions (as % of GDP), 2021



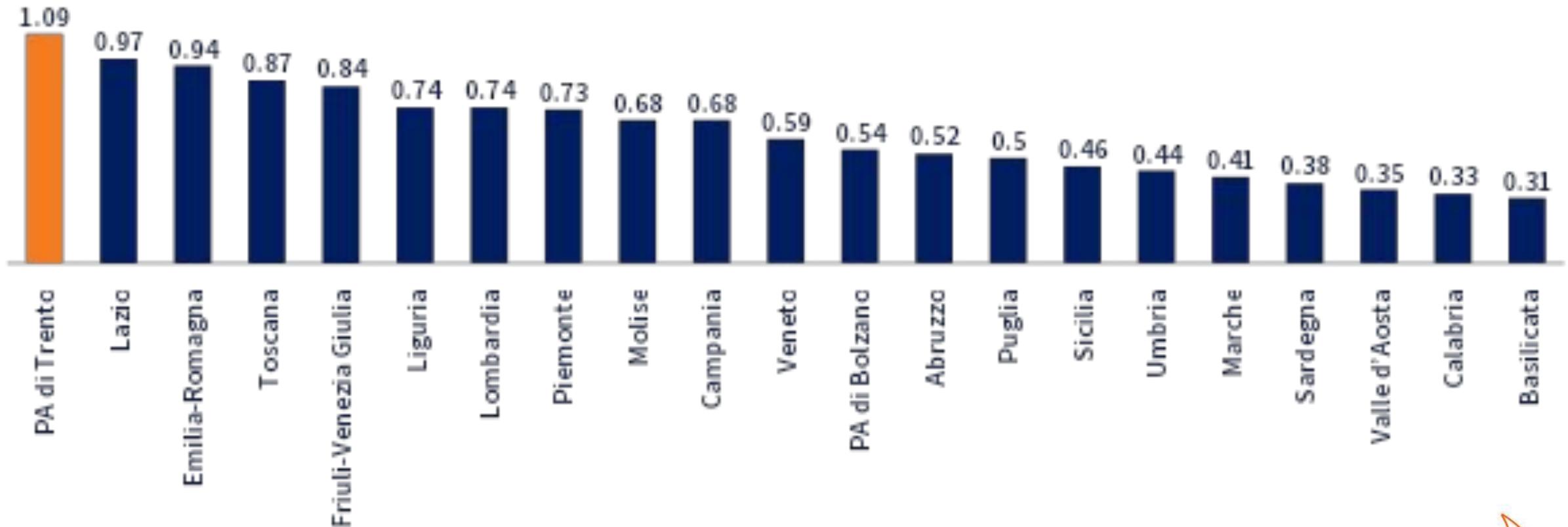
# ... and it's investing in human capital development

Number of workers who participated in training courses in Italian regions, (as % of population aged 25-64) 2023



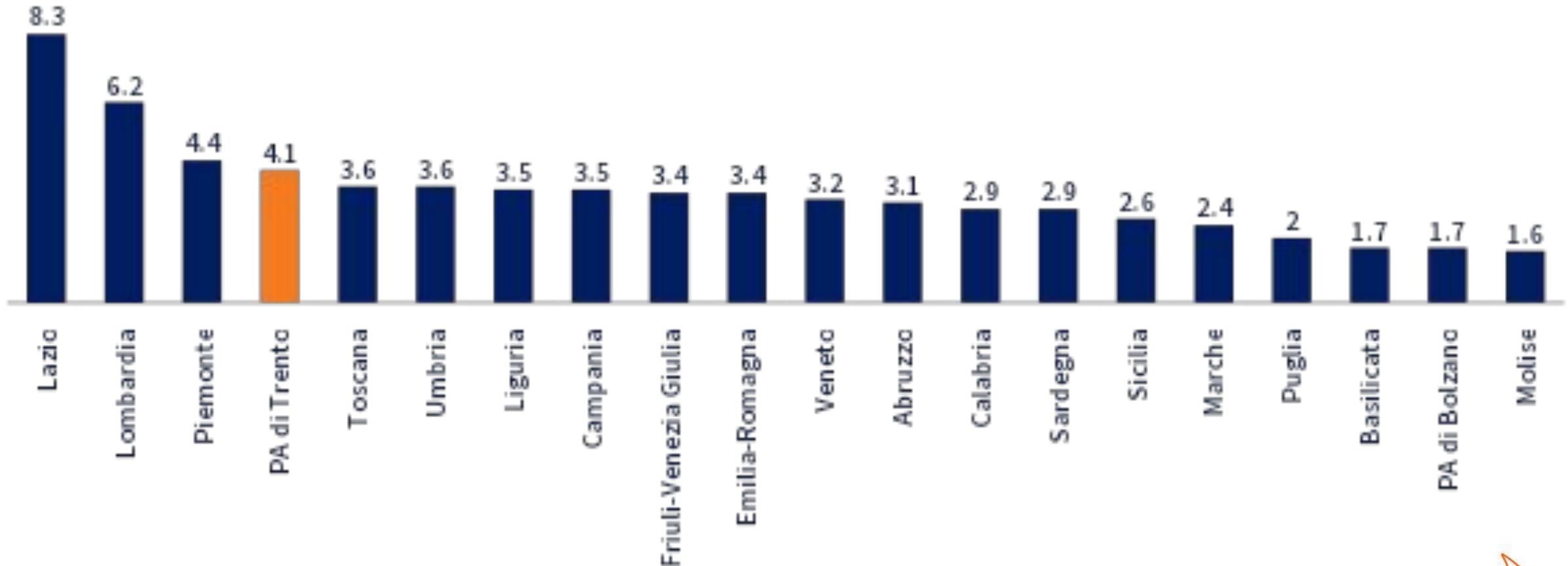
# PA Trento is the best ecosystem in Italy for share of R&D workers in total workforce...

Share of workers employed in R&D in Italian regions as a percentage of the total workforce (%), latest available data



# ... and forth for personnel employed in High-technology sectors

Personnel employed in High-technology sectors in Italian regions (as % of total employment) 2023





*Dal 2013 TEHA Group è stata nominata nella categoria "Best Private Think Tanks" - 1° Think Tank in Italia, 4° nell'Unione Europea e tra i più rispettati indipendenti al mondo su 11.175 a livello globale (fonte: "Global Go To Think Tanks Report" dell'Università della Pennsylvania). TEHA Group è stata riconosciuta da Top Employers Institute come una delle 144 realtà Top Employer 2026 in Italia*



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