

# Borongaj Scientific and Educational Campus: A University - Led Cross – Sector Innovation Platform

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# 2026 EUA Annual Conference

## University cooperation in changing contexts

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2025 Nobel Prize in Economics: Joel Mokyr (50%), Phillipe Aghion and Peter Howitt (50%)

### Mokyr – The Culture of Growth

- Why did modern economic growth based on technological progress emerge in the UK and Western Europe, despite earlier innovations elsewhere (China, Arab world)?
- Key factor: integration of scholars and entrepreneurs into dense informal communication networks (“Republic of Letters”)
- These networks enabled the application of knowledge to technology
  - Distinctive European advantage: Diversity and independence of knowledge actors & Integration of scientific progress with technical application
  - Contrast: Elsewhere, innovations remained isolated and constrained by rigid bureaucracies
  - Societal impact: Spread of new norms and policies (Hume, Smith, Voltaire, etc.)
  - Core insight: Sustained growth emerged where societal norms reduced barriers imposed by vested interests
  - Role of universities: Independent universities were central institutions supporting a culture of growth

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### AGHION | HOWITT – Creative Destruction

- Innovation is both creative and destructive
- New innovations replace old ones
- Old firms/products decline; new ones emerge
  - This dynamic drives long-term socio-economic growth
- Key insight: Innovation-driven growth is not inevitable; it results from deliberate choices
- Policy implication: Encouraging innovation is not sufficient. Sustaining:
  - Competitive pressure
  - Open markets
  - Strong institutions
  - Mechanisms for industrial renewalis essential for long-term growth

Fundamental question: Do we choose transformation or the status quo

# Europe Facing a New Wave of Global Competition

**Report: Mario Draghi – “A Competitiveness Strategy for Europe” (2024)**

**Key message: Europe must invest at an unprecedented scale and pace**

## Key Challenges:

- **Weak productivity and innovation growth – the EU invests €270 billion less than the United States**
- **Only 4 out of the world’s 50 largest technology companies are European**
- **Energy costs: electricity 2–3× higher, gas 4–5× higher than in the U.S.**
- **Fragmented markets and complex regulation constrain growth**
- **Demographic decline: –2 million workers annually by 2040**

## Investment requirements:

- **Increase investment by 5% of GDP annually (~€800 billion)**
- **Focus areas: digitalization, decarbonization, defense**
- **Target: +2% productivity growth over 10 years**

## **Path Towards a Competitive Europe and a Competitive Croatia**

### **Reform Priorities:**

- Accelerate innovation commercialization and knowledge transfer
- Reduce regulatory fragmentation and ease the burden on SMEs
- Establish an EU Sovereignty Fund and a common industrial policy
- Invest in STEM, lifelong learning, and workforce mobility
- Strengthen energy efficiency and security of supply

### **Implications for Croatia:**

- Potential access to €10–15 billion annually (1.5–2% of total EU investments)

**Priority sectors: Energy, Transport, Digital industry**

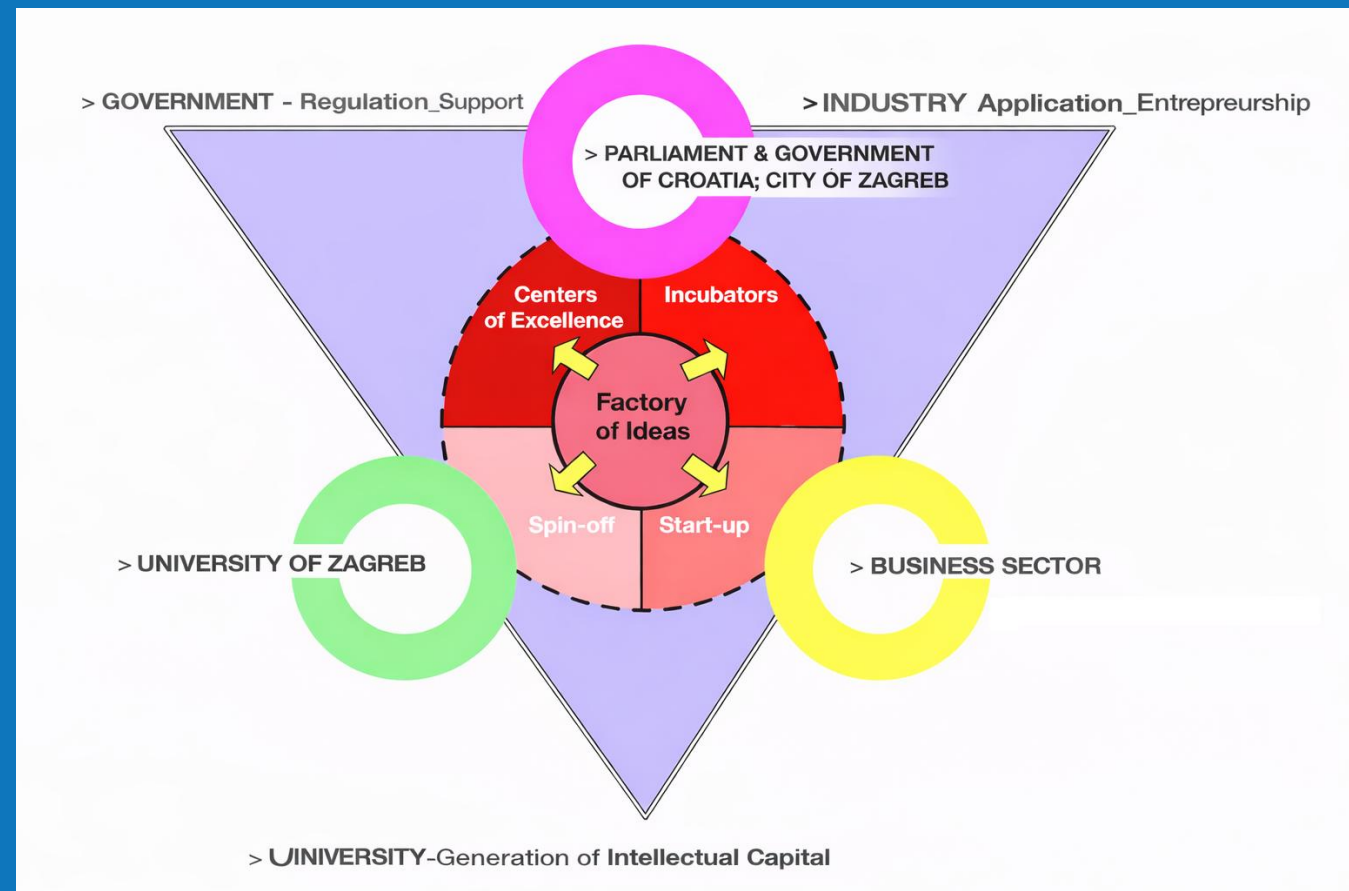
**Key actors: Universities and research center's – drivers of innovation value chains**

**Key needs: Strengthening capacities for EU funding absorption & Enhancing collaboration with industry**

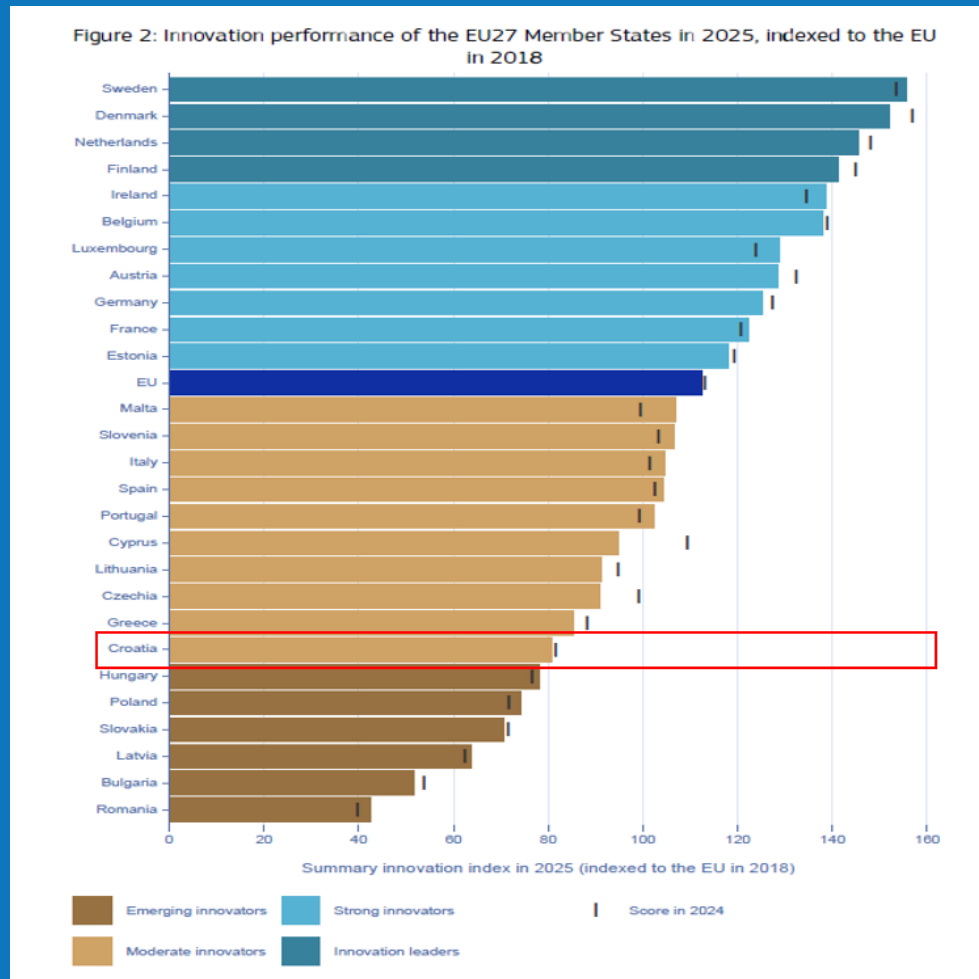
**Strategic position: Croatia can become a driver, not merely a beneficiary, of European investments**

## Structure of the Innovation Ecosystem

1. Actors / Stakeholders and their interrelations
2. Resources and infrastructure
3. Culture, processes, and governance
4. Policy, regulation, and institutional framework
5. Markets, demand, and value creation
6. Networks, relationships, and knowledge flows
7. Environment, context, and evolution
8. Metrics, feedback, and continuous improvement



# Innovation System of the Republic of Croatia in the European Context



Source: European Innovation Scoreboard 2025

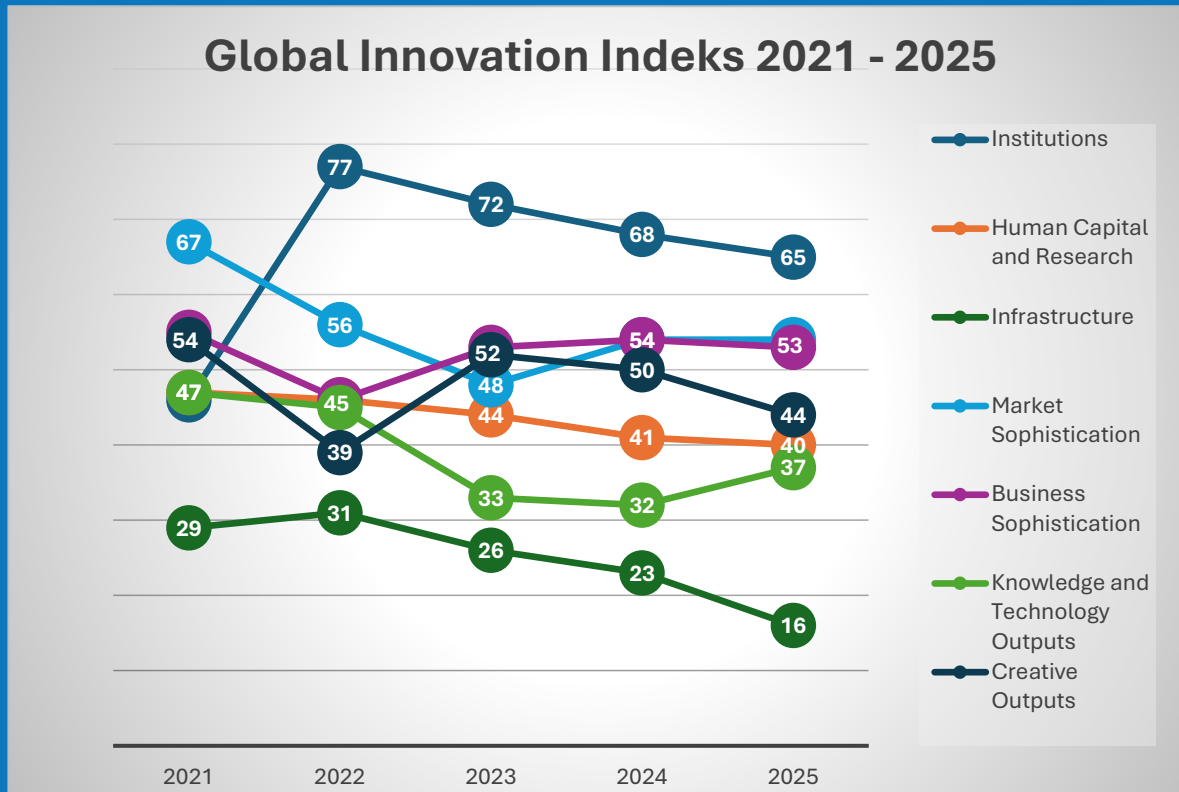
A country is classified as a Moderate Innovator if its performance is between 70% and 100% of the EU average.

Note: All results are benchmarked against the EU (2018 baseline), Coloured bars represent country performance in 2025 using the latest data for 32 indicators, Vertical bars indicate 2024 results based on the next most recent data

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### Innovation System of the Republic of Croatia in the Global Context



Global Innovation Index 2025 rankings

GIIRank	Economy	Score	Income group rank	Region rank
1	Switzerland	66.0	1	1
2	Sweden	62.6	2	2
3	United States	61.7	3	1
4	Republic of Korea	60.0	4	1
5	Singapore	59.9	5	2
6	United Kingdom	59.1	6	3
7	Finland	57.7	7	4
8	Netherlands (Kingdom of the)	57.0	8	5
9	Denmark	56.9	9	6
10	China	56.6	1	3
11	Germany	55.5	10	7
12	Japan	53.6	11	4
13	France	53.4	12	8
14	Israel	52.3	13	1
15	Hong Kong, China	51.5	14	5
16	Estonia	51.1	15	9
17	Canada	51.1	16	2
18	Ireland	50.4	17	10
19	Austria	50.1	18	11
20	Norway	49.2	19	12
21	Belgium	48.5	20	13
22	Australia	48.0	21	6
23	Luxembourg	47.3	22	14
24	Iceland	47.0	23	15
25	Cyprus	45.5	24	2
26	New Zealand	45.5	25	7
27	Malta	45.4	26	16
28	Italy	44.9	27	17
29	Spain	44.6	28	18
30	United Arab Emirates	44.2	29	3
31	Portugal	43.9	30	19
32	Czech Republic	42.0	31	20
33	Lithuania	40.8	32	21
34	Malaysia	40.6	2	8
35	Slovenia	40.1	33	22
36	Hungary	40.0	34	23
37	Bulgaria	39.1	35	24
38	India	38.2	1	1
39	Poland	37.7	36	25
40	Croatia	37.7	37	26
41	Latvia	37.5	38	27
42	Greece	37.4	39	28
43	Türkiye	37.2	3	4

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***In 2025:***

***Out of the seven pillars covered by the Global Innovation Index (GII), Croatia has made progress according to this year's assessment and achieved its strongest ranking in infrastructure (rising from 23rd to 16th place).***

***Improvements have also been recorded in: Human capital and research (41st → 40th); Creative outputs (50th → 44th); Business sophistication (54th → 53rd)***

***Notably, progress has also been achieved in the weakest-performing pillar, institutions (68th → 65th).***

***In market sophistication, Croatia ranks 54th.***

***Croatia also stands out in: Unicorn company value relative to GDP (14th); Exports of cultural and creative services as a share of total trade (16th); Use of information and communication technologies (ICT) (18th)***

***A decline has been observed in knowledge and technology outputs (32nd → 37th). Among the most significant weaknesses, according to individual innovation sub-indices, are: Demographic dividend (rank 128) Low level of university–industry research collaboration (101st) Limited effectiveness of business-friendly policies (“doing business”) (99th) Entrepreneurship policy and culture (86th).***

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### Key Strategic Elements in Upgrading Croatia's Innovation System (University of Zagreb)



1. Development of a comprehensive innovation capitalisation process within technology transfer
2. Establishment of research and innovation centres, supported by incubation centres, across 12 strategic domains critical for Croatia's socio-economic development
3. Positioning these centres within the ZTP / ZTC Borongaj innovation hub
4. Development supported by the academic community in collaboration with industry partners
5. Their operation simultaneously transforms the Croatian higher education system in alignment with labour market needs

# Economic Council of the University of Zagreb



The Council will be guided by the principle of applying proven best practices from the most developed countries, supporting the expansion and further development of existing projects and experiences. New projects will be developed in four key areas:

- Enhancement of study programs and processes – aligning knowledge with labor market needs
- Promotion of research, development, and the application of knowledge and innovation
- Development of supportive financial instruments – funds, foundations, and ad hoc agreements
- Removal of regulatory barriers and promotion

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**Development of a research, innovation and incubation ecosystem in cooperation with the economy sector using the example of the Borongaj Science and Education Campus**



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### Construction and spatial planning

Center for Research and Development of Safe and Sustainable Built Environment



Faculties from the Council for Technical Sciences, Council for Natural Sciences, Council for Social and Humanistic Sciences, and Council for Biotechnical Sciences.

#### RESEARCH

A positive impact on strengthening the research capacities of the Faculty of Civil Engineering for conducting top-tier scientific research.

#### INNOVATION

#### INCUBATION

Over 30 topics in earthquake engineering, BIM modeling, virtual (VR) and augmented (AR) reality in construction, passive houses and nearly zero-energy buildings, modern construction materials, contemporary transport infrastructure, and building resilience to climate change.

Collaboration with the public sector in infrastructure, earthquake- and energy-efficient building renovation; collaboration with companies in design, supervision, and construction; high-tech companies in ICT and construction innovation.

## Traffic and mobility



Incubatio

Innovation

Research

A positive impact on strengthening the research capacities of the Faculty of Transport and Traffic Engineering for conducting top-tier scientific research in transport technologies and transport safety.

Center of Excellence in Traffic Safety

Faculties from the Council of the Technical Area, the Council of the Social and Humanities Area, the Council of the Natural Sciences Area, including related institutes

More than 40 topics from the fields of transport, ITS, logistics and aeronautics

Industry – a whole range of companies related to the transport sector (Rimac, Končar, Ericsson, ALTPRO, etc.)

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Development of a research, innovation and incubation ecosystem in cooperation with the economy sector using the example of the Borongaj Science and Education Campus Phase 1






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### Key Strategic Elements in the Upgrading of the Innovation System of the Republic of Croatia by the University of Zagreb




**Conceive**

Defining customer needs; considering technology, enterprise strategy, and regulations; developing concepts, techniques and business plans.




**Design**

Creating the design; the plans, drawings, and algorithms that describe what will be implemented.



**Implement**

The transformation of the design into the product, including manufacturing, coding, testing and validation.



**Operate**

Using the implemented product to deliver the intended value, including maintaining, evolving and retiring the system.

#### Innovative Educational Framework:

- Developed with contributions from academia, industry, engineers, and students
- Designed as a flexible template adaptable across all engineering faculties of the University
- Available to all University constituents offering engineering programmes
- Increasingly adopted by engineering education institutions worldwide

At the 19th Worldwide CDIO Conference in Trondheim (26–29 June 2023), the University of Zagreb was formally admitted to this global initiative.

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**Thank You for Your Attention!**

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