



Developing a national digital innovation ecosystem

The case of Romania



Cluj-Napoca city | | Profile

- Home for 11 universities out of which 4 are ranked in Top 12 Romanian universities;
- Around 100.000 students/young people representing $\frac{1}{4}$ of our entire population.
- 15 research institutes;
- most active civic life in the country; multicultural community.
- Cluj-Napoca is the Romanian Capital of cluster organizations: IT, energy, agriculture, furniture, creative industries etc.
- 20,000 IT specialists representing 5% of the entire population (400,000), highest density in Europe (EUROSTAT)



The Romanian IT industry in key figures

- 200,000+ IT specialists (at 20,000,000 population)
- 13,000 registered IT companies
- US\$10B revenue
- 7% of the GDP of Romania
- 75% exported
- 12,800 IT specialized university graduates per year

Cluj IT Cluster & the speaker

- Cluj IT Cluster
- Association of 90+ companies, 14 universities and research centres, 10 catalyst organizations
- Started in the city of Cluj, extended at national level
- ~10,000 IT specialists
- The background of the speaker
- Cluj IT Cluster WG Internationalization coordinator
- TYPO3 Association Community Expansion Committee coordinator
- IT entrepreneur with global experience of 20+ years
- Consultant for UN / International Trade Centre in internationalization of IT industry from Africa & Middle East
- E-government policy expert for RO government
- Standardization expert in e-Public Procurement & e-Invoicing
- Advisor to EU Commission on e-Invoicing



Cluj IT Cluster|| The driving mission points

- Develop the competitiveness of the Romanian innovation ecosystem in the global market
- Support the cooperation between companies, academic sector and institutions
- Support the innovative initiatives of the members



The “Innovation Ecosystem” components

The “quadruple helix” approach

- The IT industry
- The Academia & Research
- The Government
- The Catalysts

The key elements for IT industry

- Development of capacity, in size, quality, competitiveness
- Access to markets
- Cooperation framework

Development of capacity

- Technical abilities
- Methodologies
- Product Management
- Commercialization
- Internationalization
- Innovation

Access to market

- Internal
 - Public procurement is a key
- External
 - Evaluation, qualification, prioritization of markets

Policies for a strong IT industry

- Incentivation through taxation
 - Rewarding technical excellence
 - Investment in research
- Economic clusterization, national and regional
- Smart Specialization and national focus
- Strategic prioritization of capacity development
- Global positioning and promotion strategy

Academia & research

- Constant development of capacity, from the private market
- Constant evolution of the curriculum
- International cooperation in education & research
- Technology transfer & applied research

Government

- Digital transformation of the public sector
- Digital education of the public servant and the citizens
- Strategy for IT industry growth and global promotion
- Adapted Public Procurement regulation and practice
 - Efficient procurement of digital systems and services – national guides and specialized training
 - Accessibility to startups
 - Innovative PP – phased approach with research component

Catalysts

- Central, regional and local public institutions
- Associations of startups
- Providers of informal tech education – conversion schools, tech centers
- Media
- Consultancy companies
- Chambers of commerce

Interaction framework:

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IT industry & academia


- Joint curriculum review and development
- Joint education process with teachers from the industry
- Joint applied research
- Joint pursue for public grants
- Specialized tech incubators (e-health, agritech, etc)

Interaction framework 2 Industry & government

- National framework of permanent dialogue with the IT association on policies, laws, strategies
- Established framework for support **to** the government (in RO “National Council for Digital Transformation” (900 specialists, 7 working groups, 12 coordinating board members)
- IT business clusterization policy and incentives

Takeaways

- Development of the national IT capacity and industry = top priority for every country
- Target for 2030-2035: 6% of all employed force working in IT development, maintenance, support, education
- National incentivisation policies for the IT sector
- Foster development of quadruple-helix associations
- Accessibility of public procurement to local IT industry, SMEs and startups
- Internationalization support through national strategy and operational framework = a must

The background is a complex digital graphic. It features a world map composed of blue dots, overlaid with a network of red lines and nodes. In the foreground, there are silhouettes of several people, some wearing hard hats, standing against a backdrop of a city skyline at night with glowing lights. The overall color scheme is dominated by blue, red, and white.

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