



**MULTI-YEAR
EXPERT MEETING**



Building an Innovation Society – Case of the Republic of Macedonia

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About Macedonia

- Independence – 1991
- Population ~ 2.000.000 km²
- Unemployment rate dropped from 38% (2006) to 28.8% (2014)
- GDP = EUR 7.5 billion (2011)
- Per-capita GDP = EUR 3,700 (2012)
- Fourth-best *reformatory* state among 178 countries in the *World Bank Report "Doing Business 2008"*



Where we were?

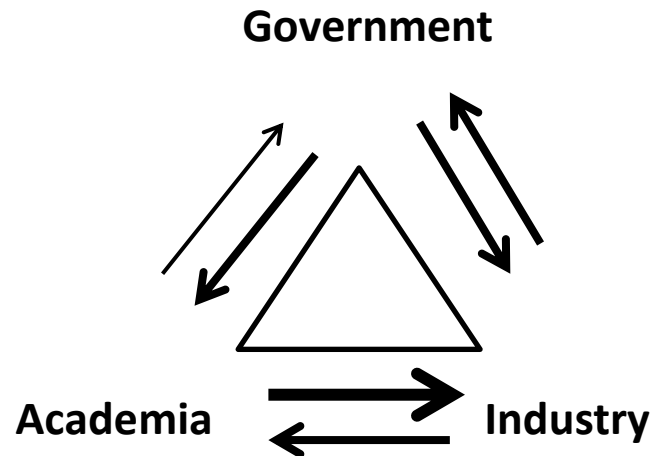
- **Macedonia before 1990:**
 - Part of Yugoslavia
 - Centrally planned economy based on big organizational systems (> 1000, 5000, ... employees)
 - 20.000.000 citizens – big domestic market and huge export
 - Public companies (very limited private sector)
 - Relatively strong economy
 - Decent standard of living
 - Poor system of free labor market, but low level of unemployment

Where we were?

- **Macedonian Universities before 1990:**
 - Only two state Universities – in Skopje and Bitola
 - University professor – one of the most prestigious professions
 - Significant applied activity
 - Strong government support (with financial funds) for scientific and research projects
 - Direct links between Faculties and industry. Professors were:
 - Members in Boards of Directors
 - Advisors (consultants) to enterprises
 - Directors of Research Centers in companies
 - Involved in preparation of new legislative

Where we were?

- **Macedonian Universities before 1990**
 - **Triple helix exists (but, without this name, and not well structured, not centralized)**

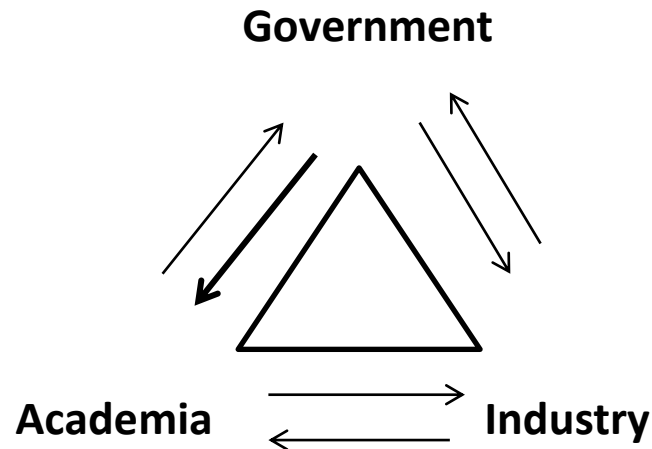


Where we were?

- **Macedonian Universities after 1990:**
- Now - 5 state Universities, 15 private Universities
- Students interest shift to social sciences (preliminary economy and law) until 2012
- Period 1990 – 2000: dramatically decreased applied activity
- Decreased government support for science and research projects
- Direct links between Faculties and industry almost lost:
 - New established companies were small or medium enterprises and they are not aware for need of expertise from faculty members
 - Foreign companies bought best Macedonian capacities; new owners are oriented to bring know how form abroad

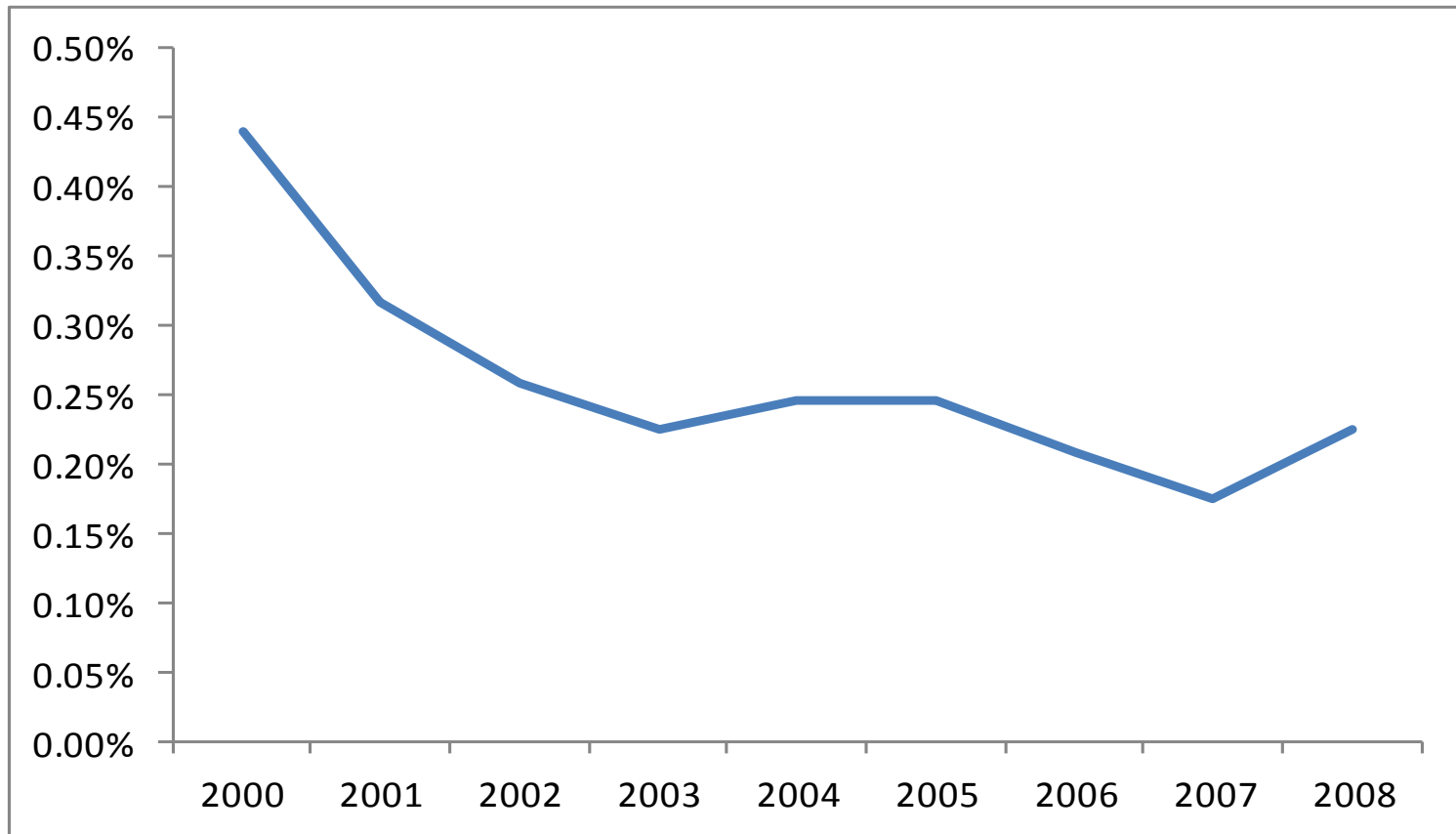
Where we were?

- **Macedonian Universities period 1990 - 2000**
 - Triple helix activities were on the lowest level (except MoES support for scientific projects)



Where we were?

- **Gross expenditure on R&D - period 2000 - 2010**



Main structural deficiencies of Macedonian NIS (situation 2010)

- Not clear responsibility who will run NIS in Macedonia (there is already established dialog and base between MoE and MoES, but it must be officially structured)
- Lack of national innovation strategy
- Very small % of GDP devoted to R&D
- R&D is focused only within few Faculties
- Only isolated best practices (Institute for Chemistry, IZIIS, Faculty for Agriculture, Faculty for Mechanical Engineering, FEIT, FTM, YES Incubator, BSC Bitola, BSC Skopje, ...)
- Weak links with international R&D partners (small number of FP and other science related projects)
- Lack of innovation network
- Lack of innovation fund and venture capitalists
- Business Angel Network is missing

Main challenges for governance of innovation (situation 2010)

- To determine inter – ministerial group responsible for development of innovation policy
- To prepare solid innovation strategy
- To recognise and finance most proactive innovation drivers (both public and private)
- To strength capacity of public institutions that deals with STI related issues
- To reverse brain drain of high educated people (stronger relations with wide speeded Macedonian researchers)
- To develop tax incentives for R&D investments
- To be included in regional innovation policies / strategies
- To allow to more younger researchers to apply on EU mobility programs (better promotion of programs in Macedonia)
- To create regional innovation + patent fund
- To make wider promotion of innovation (schools, media, etc.)

Situation 2014

- To determine inter – ministerial group responsible for development of innovation policy
- ✓ National committee for innovation and entrepreneurship chaired by Prime-minister (on strategic level)
- ✓ Deputy Vice Premier for economic affairs (on operative level)
- Sector for innovation support at the MoES (will be established in the beginning of 2014)
- To prepare solid innovation strategy
- ✓ **National Innovation strategy 2013-2020** with action plan adopted and new supportive legislative developed

Situation 2014

- To recognise and finance most proactive innovation drivers (both public and private)
 - ✓ - National innovation fund is in the last phase of establishment (Board is elected, mechanisms for support of innovative projects are in the process of development and fund will become functional in first half of 2014)
 - ✓ Program “Top management” is running (> 200 managers are included in the training program and 4 weeks study international tour)
 - ✓ Additional source for funding became available (Business Angel network / Balkan Venture Forum / Accelerator program / Several International Donor grand schemes available, etc.)
- To strength capacity of public institutions that deals with STI related issues
 - ✓ Significant Governmental funding for equipping 80 laboratories in public institutions (Universities, Hospitals, state institutes...) in total ~ 60 m EUR

Situation 2014

- To reverse brain drain of high educated people (stronger relations with wide speeded Macedonian researchers)
- ✓ - Strategy for brain gain was adopted. Activities just started . . . We are waiting for the results.
- To develop tax incentives for R&D investments
- Not yet directly implemented (in relation to R&D), but there are other tax incentives for companies
- To be included in regional innovation policies / strategies
- To create regional innovation + patent fund
- ✓ Just recently (October 2013) with support of World Bank, Western Balkans Regional R&D strategy for Innovation was adopted and the fund should be part of the activities

Situation 2014

- To allow to more younger researchers to apply on EU mobility programs (better promotion of programs in Macedonia)
 - ✓ - This activity must be strengthened, however, from 2012 the government financially is covering all expenses for studying on the top 100 (200 for technical studies) Universities world-wide
- To make wider promotion of innovation (schools, media, etc.)
 - ✓ Strong PR program for support of entrepreneurship and innovation is in place from 2012 (TV, radio, newspapers...)
 - ✓ Course “Entrepreneurship and Innovation” became obligatory course in 1st, 2nd and 3rd year of secondary education from September 2012. In 4th year there is a course “Business and Entrepreneurship”. Intensive training of 1300 high school teachers was also conducted.
 - ✓ Specific content from “Entrepreneurship and Innovation” are implemented in 6 subjects in primary school (maths, art, biology, chemistry, physics and informatics). 2000 teachers passed 2-day training.

Situation 2014

- Innovation union scoreboard (2013) – summary innovation index

Year	2008	2009	2010	2011	2012	Growth rate
Index	0.191	0.216	0.219	0.220	0.238	2.61%

- Unemployment rate dropped from 38% (2006) to 28.8% (2014)

Most recent developments

- **Innovation and technological development fund (ITDF)** - established in December 2013
- Instruments:
 - Co-financing grants for start-ups, spin-offs and innovation activities
 - Co-financing grants and conditional loans for innovation commercialization
 - Co-financing grants for technology transfer
 - Technical assistance through business-technology accelerators



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Innovation and technological development fund instruments (1)

- Co-financing grants for start-ups, spin-offs and innovation activities (up to 30.000 Euros and up to 85% of the project)
 - Target group: Start-ups and micro, small and medium size enterprises
 - Goals: support of innovativeness, implementation of innovative activities, as well as support of companies with potential for high growth or commercialization of research and establishing spin-offs
- Co-financing grants and conditional loans for innovation commercialization (up to 100.000 Euros and up to 70% of the project)
 - Goals: Implementation of innovative solutions, innovative processes and support of companies with high growth potential.
 - Conditional loans may be transferred into grants if the company achieve the projected set of goals. The loans are secured only with bill of exchange and are up to 30% of the enterprise's capital.

Innovation and technological development fund instruments (2)

- Co-financing grants for technology transfer (up to 200.000 Euros and up to 50% of the project)
 - Goals: Boosting new innovative technologies and technological processes.
 - Target group: Enterprises, chambers of commerce and NGOs
- Technical assistance through business-technology accelerators (accelerators: Up to 500.000 Euros and up to 75% of the project)
 - Goals: Creating business-technology accelerators for support of innovation activities and early stage entrepreneurial activities.
 - Target group:
 - Beneficiaries (accelerators): Institution that will provide infrastructural support, coaching, initial financing and mentoring for overcoming organizational and strategic challenges.
 - Final beneficiaries: Individuals and start-ups (< 2 years since establishment)

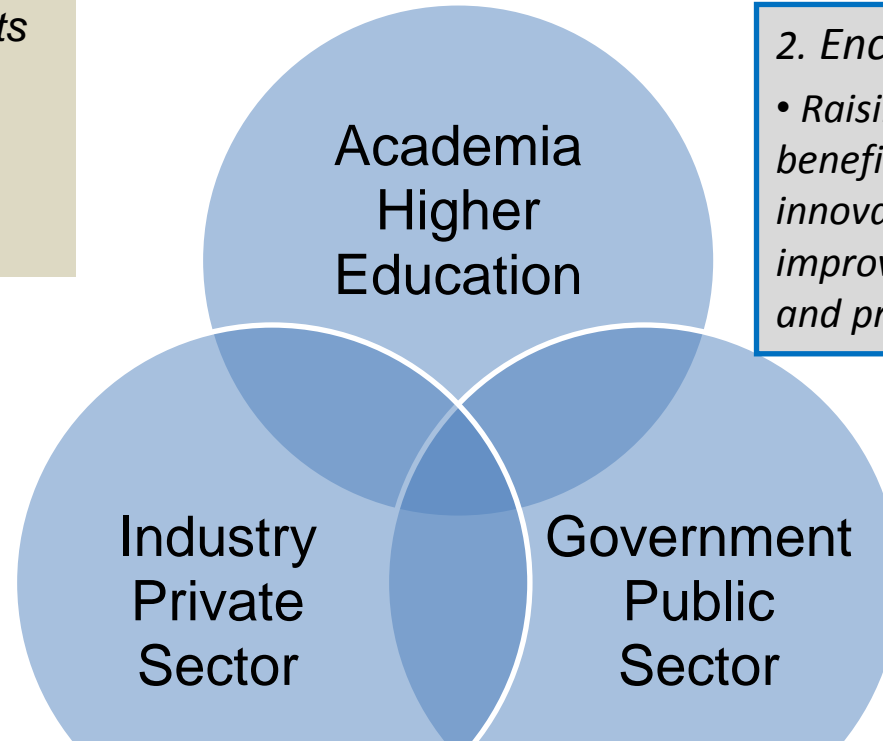
Situation 2014

1. Resource requirements

- Intellectual capital
- R&D infrastructure
- Access to finance

2. Encouraging creativity

- Raising awareness of the benefits of incremental innovations as tools for improving business' efficiency and productivity



3. The development of innovation policy requires cooperation between all involved stakeholders, its implementation requires strong, sustainable relations between the actors of the Triple Helix Model

Lessons learned

- International (donor) support was **necessary** to create innovation policy.
- Hard working and committed Government is **STRONG** precondition for development and growth of the economy.
- It is **wrong** just to make “Copy-Paste” from best practices world wide.
- Best practices should be **adapted** and **adopted** for local circumstances.

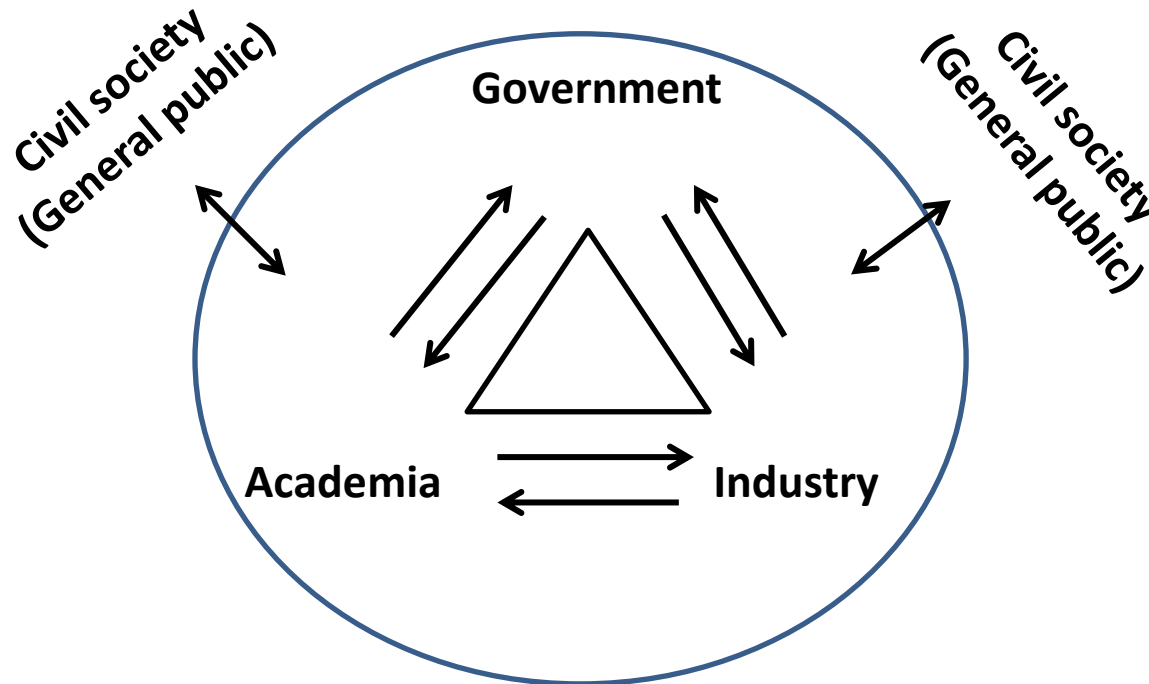
Lessons learned

- Triple helix exists in Macedonia, but it is based more on the individual level (person or single institution)
- Continuous support from the top management (Rector, Dean or Head of the institute) is **MUST** prerequisite for sustainability of the good practices
- Find domestic **champions** in different areas and **support** them
- There is huge expectations from the Innovation fund (both from academia and from industry)

Next . . .

- **Macedonia towards 2020**

- Triple helix activities should be strengthened with links from/to Civil society (Quadruple helix)
- Developed Entrepreneurial learning strategy 2014-2020





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Thank you very much for your attention

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