

# **INNOVATION PERFORMANCE REVIEW OF ARMENIA**

## **Chapter 2: National Innovation System and Innovation Governance**

**Presentation by Rumen Dobrinsky**  
*European Alliance for Innovation*

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# Structure of the presentation

- 1. Methodological approach and the concept of National Innovation Systems**
- 2. The national innovation system of Armenia and innovation governance**
- 3. Conclusions and policy recommendations**

**Methodological approach  
and the concept of  
National Innovation  
Systems**

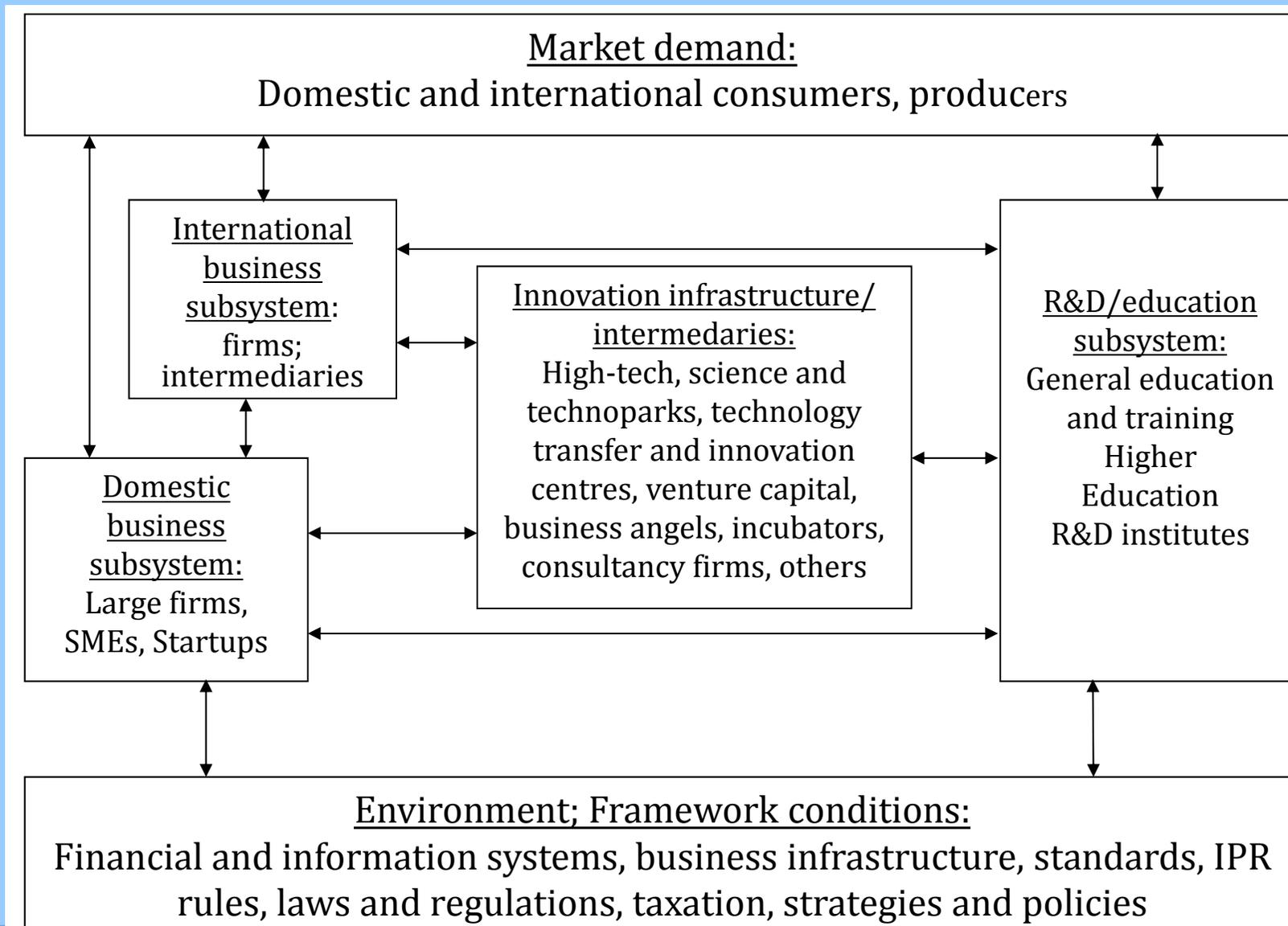
# Innovation in the modern economy

- Innovation is a broad concept and a highly complex phenomenon
- Requires a combination of different types of knowledge: pre-existing in companies; resulting from new R&D; generated through networking; supplied by markets or users; borrowed from competitors
- Involves the interactions of many “actors” (stakeholders): academic and R&D institutions, firms, public bodies, financiers, users, etc.
- Innovation is a process with highly uncertain outcomes: therefore there is a need to commit resources to reduce uncertainty

# The National Innovation System (NIS)

- **NIS:** the network of institutions in the public and private sectors whose activities and interactions initiate and diffuse new technologies and products
- **NIS agents:** knowledge institutions (universities, research institutes, technology-providing firms), firms and government bodies
- The **interactions and linkages** between the elements of the NIS are also part of the system
- The **flows of ideas and knowledge**, as well as **the ability to learn** are also part of the NIS

# The NIS of a small open economy

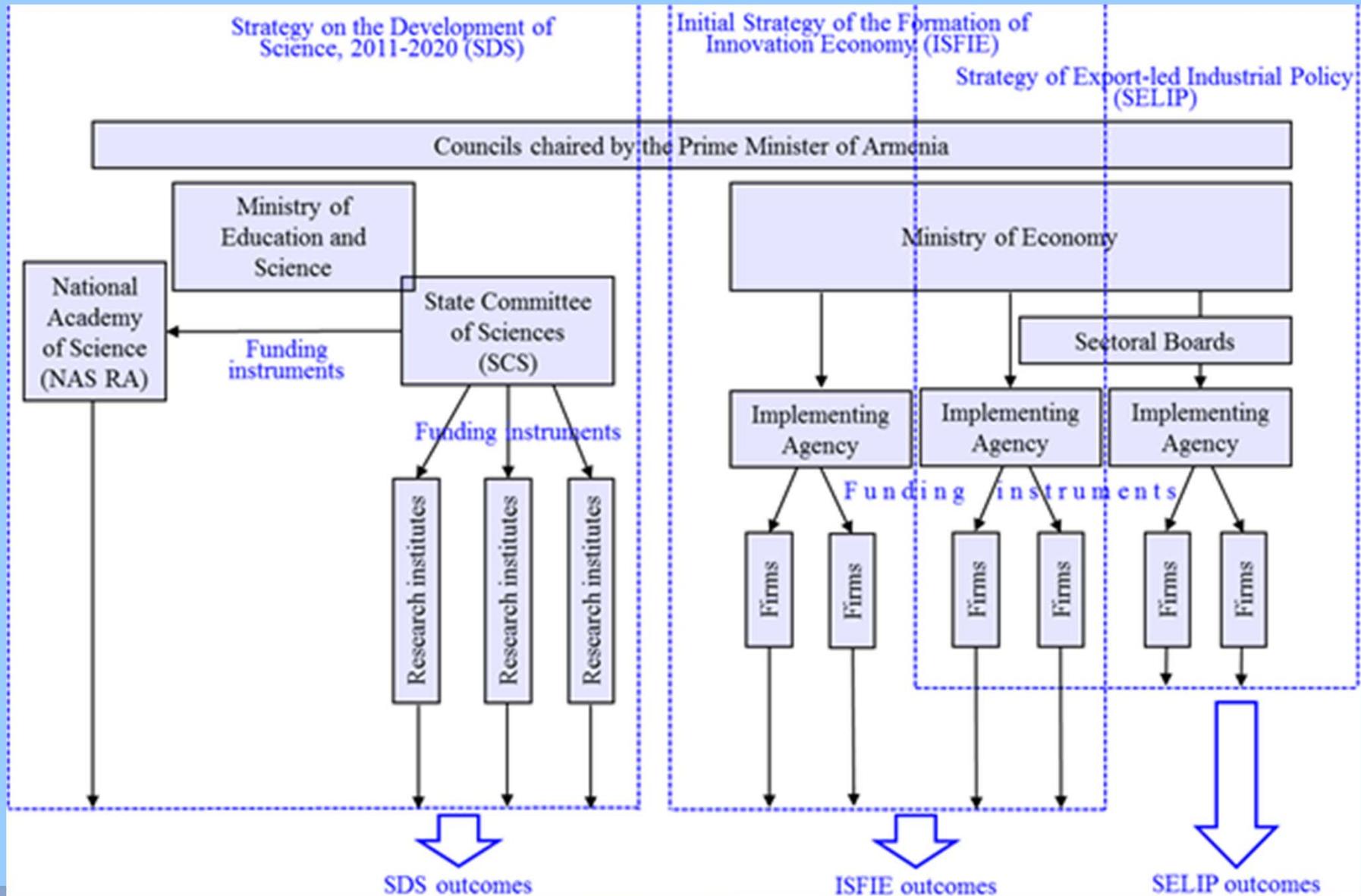


# **The national innovation system of Armenia and innovation governance**

# Key programmatic and legislative measures

<b>Laws, programmes, resolutions</b>	<b>Policy-making body</b>	<b>Implementing agency</b>
Government Decree N282 of 19 March 2002 on the establishment of "Small and Medium Entrepreneurship Development National Center of Armenia"	Ministry of Economy	SME DNC
Government Resolution of 2005 on the Concept on Innovation Policy and State Support Program of Innovation Activities for 2005-2010	Government RA	Ministry of Economy
Law on State Support to Innovation Activities, 2006	Ministry of Economy	Ministry of Economy
Government Resolution No. 1269, 18 October 2007, on the State Committee of Science	MES/SCS	SCS
Government Resolution of 2006 on optimization of the infrastructure of NAS RA	Government RA	NAS RA
Strategy on the Development of Science for 2011-2020 (May, 2010)	MES/SCS	SCS
Science and Technology Development Priorities for 2010-2014 (May, 2010)	MES/SCS	SCS
Action Plan on the Development of Science for 2011-2015 (June 2011)	MES/SCS	SCS
Law on the NAS RA (2011)	MES/SCS	NAS RA
Concept Paper on the Initial Strategy of the Formation of Innovation Economy, 2011	Ministry of Economy	EIF, National Center of Innovation and Entrepreneurship
Government Resolution of 15 December 2011 on "The Strategy of Export-Led Industrial Policy of the Republic of Armenia"	Ministry of Economy	ADA, SME DNC, Industry Development Foundation

# Innovation Governance System of Armenia



# The current state of the NIS

- A strong R&D and education sub-system
- Limited role of the domestic business subsystem (including finance)
- Weak/non-existing innovation intermediaries
- Important role of international linkages
- Many important NIS building blocks of mature market economies are either still weak or non-existent
- Disconnect in the governance of R&D and innovation activities in Armenia
- Fragmentation of governance

# Conclusions and policy recommendations

# Broader understanding of innovation needed

- **At present, a somewhat narrow interpretation of innovation prevails, focusing on frontier (cutting-edge) technological innovation**
- **This is reflected both in the innovation policy mix and in the efforts to support NIS formation and implementation**
- **As a result, a range of innovation-related activities are left out of the scope and coverage of the existing policy instruments**
- **This reduces the overall effectiveness of the policy efforts and does not support the establishment of a full-fledged and efficient NIS**

## Recommendation 2.1

- **Switch to broader understanding of innovation to include also non-technological aspects and technologies that may exist elsewhere but are new to the Armenian market as well as innovative processes and services.**
  - Undertake an awareness raising campaign both among policy makers and other innovation stakeholders to promote a broader understanding of innovation;
  - Review critically the innovation strategy with a view to identifying the main gaps in the current orientation that result from the prevailing narrow view of innovation;
  - Develop an implementation plan for introducing supplementary components in the national innovation strategy and the related areas of innovation policy.

# Further steps towards a well-functioning NIS

- A number of building blocks and linkages that are vital for a well-functioning NIS are still non-existent
- The most critical among these gaps are the poor linkages between education/science/R&D and industry
- Innovation intermediaries and support institutions in the country are rather weak
- Early-stage financing is practically absent
- Further steps are needed to make the local environment conducive to innovative entrepreneurship

## Recommendation 2.2

- **Undertake a policy effort to develop the building blocks and linkages that are currently missing in the NIS and are not targeted in the current strategic orientation.**
  - Critical analysis of key missing components of the NIS and prioritize them in terms the efficient functioning of the NIS;
  - Devise a supplementary medium-term action plan for further institutional development of the NIS;
  - Design policy instruments targeting, specifically, the establishment and strengthening of now missing or weak linkages in the NIS;
  - Incorporate an international dimension when addressing existing weaknesses, in particular with regard to industry-science linkages, innovation intermediaries and early-stage financing while also promoting the integration of Armenian R&D institutes and businesses into global value and supply chains

# Systemic aspects of industry-science linkages

- **Poor industry-science linkages constitute one of the weakest structural components of the Armenian NIS**
- **The governance structure (a rift between SCS and ME) reinforces the disconnect between the two sub-sectors**
- **This prevents Armenia to fully employ the potential of its strong science base in some areas**

## Recommendation 2.3

- **Undertake targeted policies to strengthen the industry-science linkages within the NIS both internally and across borders.**
  - Design specialized policy instruments to support innovation projects covering the full innovation cycle from research to the market and which are conditional on collaboration between Armenian R&D institutes (including those within NAS RA) and local businesses;
  - Introduce initiatives that encourage collaborative R&D and innovation projects involving Armenian R&D institutes (including those within the NAS RA) and businesses from other countries. Discuss joint schemes for promoting innovation with potential foreign partners;
  - Design and put in place policy programmes jointly run by the SCS and the Ministry of the Economy to implement these instruments

# Fragmentation of the Armenian NIS

- **There are too many bodies tasked with the implementation of different innovation support programmes, which often are very small**
- **The current role of the NAS in the national innovation governance system is somewhat ambiguous (reality does not match declared ambitions)**
- **Fragmentation is an impediment for conducting a coherent national innovation policy and for coordinating between the different governance bodies**

## Recommendation 2.4

- **Consider possible measures to streamline innovation governance structures.**
  - Develop options for the gradual merger of those implementation bodies currently under the functional responsibilities of the Ministry of the Economy;
  - Organise a public debate on the rationale of establishing a new public body governing both R&D and innovation which would take over the respective functions now undertaken by the SCS and the Ministry of the Economy
  - Review the functional role of the NAS in the NIS in order to improve its integration within the governance of innovation activities and its participation the commercialization of research results

**THANK YOU!**

**Thank you!**

**Rumen Dobrinsky**

**E-mail: [rumen.dobrinsky@eai.eu](mailto:rumen.dobrinsky@eai.eu)**

**[rumen.dobrinsky@gmail.com](mailto:rumen.dobrinsky@gmail.com)**