Capacity-building programme following up on the UNECE Innovation for Sustainable Development Review of Moldova (2022)

Trainings for policymakers to support the implementation of the Roadmap on Innovation and Technology Transfer

Workshop 2: Supporting Regional and Sectoral Innovation
26 January 2022, 9:30-13:00

Agenda and participants' workbook

Background to the workshops

Following the publication of the [Innovation for Sustainable Development Review of Moldova](#), the Ministry of Education and Research (MER) of Moldova requested support from UNECE to translate some of the recommendations from the Review into a Roadmap on Innovation and Technology Transfer. This Roadmap (available in [English](#) and [Romanian](#)) was finalized in October 2022 following several multistakeholder consultations with relevant local actors.

A series of trainings (the first of which took place on 13 December 2022: [webpage](#)) is being organised by UNECE and MER to support implementation of selected measures under the Roadmap. The targeted beneficiaries are the staff of MER and other relevant ministries, the National Agency for Research and Development of Moldova (NARD) and the State Agency on Intellectual Property (AGEPI), among others.

Workshop 2 will support the following Strategic Goals (SGs) of the Roadmap:
SG3: Innovation and technology transfer (TT) infrastructure is tied to priority areas identified under the Smart Specialization Strategy (S3) actions
SG6: A clear regional focus for innovation and TT infrastructure has been adopted.

Modalities:
Half day **online** training.
Duration: 4 hours
English trainer with simultaneous translation to Romanian.

Agenda

10 minutes	Welcome by Ms. Elif Kizildeli, Economic Affairs Officer, UNECE Introductory remarks by Ms. Aliona Onofrei, MER and Lisa Cowey, trainer Introduction to the training session and participants
60 minutes	**Session 1: Developing a functional national innovation system (NIS)** • Short history of the NIS • Group exercise: Mapping the Moldovan NIS • The emergence of the 'innovation ecosystem' • Feedback and discussion
15 minutes	Break
60 minutes	**Session 2: Supporting an NIS with innovation infrastructure** • Definitions of innovation infrastructure • Types and examples • Group exercise: Mapping II in Moldova • Discussion and questions
15 minutes	Break
60 minutes	**Session 3: Regional and sectoral innovation** • The ongoing evolution of the innovation system concept • Examples of established and well-functioning innovation systems • The role of clusters • Regional innovation systems: the design process • Group exercise: SWOT-ing a region • The importance of competitive advantage and benchmarking • CEE – a special case? • Summary and final comments
10 minutes	Summary and outline of plans for workshop 3

Session 1: Developing a functional innovation system (IS)

Useful definition of the NIS (national Innovation System)

- "... the network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies."

- "... the elements and relationships which interact in the production, diffusion and use of new, and economically useful, knowledge ... and are either located within or rooted inside the borders of a nation state."

- "... a set of institutions whose interactions determine the innovative performance ... of national firms."

- "... the national institutions, their incentive structures and their competencies, that determine the rate and direction of technological learning (or the volume and composition of change generating activities) in a country."

- "... that set of distinct institutions which jointly and individually contribute to the development and diffusion of new technologies and which provides the framework within which governments form and implement policies to influence the innovation process. As such it is a system of interconnected institutions to create, store and transfer the knowledge, skills and artefacts which define new technologies."

Further resources

OECD NIS Phase 1

https://www.oecd.org/sti/inno/nationalinnovationsystemsphaseicountryreports.htm

OECD NIS Phase 2

https://www.oecd.org/sti/inno/nationalinnovationsystemsphaseii.htm

Notes

Group exercise 1: Mapping the NIS in Moldova

In your group try to make a rapid 'mapping' of the 6 main components of the NIS in Moldova (see table below).

You have 30 minutes. Elect a spokesperson who will make the feedback for your group.

Try to put some information under each of the 6 headings. Don't just focus on one aspect and run out of time. (Allocate 5 minutes per aspect)

Aspect
1. National strategy frameworks   What are the main **strategies** in Moldova that support innovation? (Who is in charge of them? See Q 4 below)   Some suggestions to consider: ✓ Innovation Policy (including S3)   ✓ Education and training policy including higher education, vocational training and skills development in the private sector.   ✓ Industrial policy including policy on Foreign Direct Investment (FDI)   ✓ Enterprise development/ skills[1] Employment and Human capacity development[2]   ✓ Competitiveness and Innovation   ✓ Regional development
2. National legislative frameworks   What are the main legislative frameworks in Moldova that regulate innovation? (Who implements them? See Q 4 below)   Some suggestions to consider: ✓ Laws on Science: legislating regulating the activities of public R&D providers and eligibility of some classes of non PROs for public R&D funding.   ✓ Claim to ownership of inventions: this is often found in Employment law, Law on Innovation and Law on Patents and similar intellectual Property Rights.   ✓ Law on investments (including FDI)   ✓ Law on Employment   ✓ Law on clusters
3. Finance mechanisms   What are the main financial mechanisms for innovation in Moldova?   Some suggestions to consider:

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[1] Try SME Policy Index: Western Balkans and Turkey 2022 @ https://www.oecd-ilibrary.org/development/sme-policy-index-western-balkans-and-turkey-2022_df9c5e57-en

[2] For an overview of policies related to skills for employment see https://edmsp1.ilo.org/KSP/en/Countries/index.htm

- ✓ Provision of public finance for R&D&I e.g. Proof of Concept funding, Innovation Vouchers, SME Grants for R&D&I.
- ✓ Private capital e.g. angel investments, venture capital funds and new and emerging forms of financing for R&D&I e.g. crowdfunding platforms.
- ✓ FDI
- ✓ Grants/ Loans for technology adoption and modernisation

4. Main actors, networks and institutions

Who are the main actors, networks and institutes that support innovation in Moldova?

Some typical typologies to consider:
- ✓ R&D performing institutions
- ✓ Funding organisations
- ✓ Cluster organisations
- ✓ Development agencies including Regional Development Agencies (RDAs)
- ✓ Chambers of Commerce (CoCs)
- ✓ SME (Small and Medium Enterprise) Agencies
- ✓ Incubators and accelerators
- ✓ Other BISOs (Business Innovation Support Organisations) including EEN(Enterprise Europe Network)
- ✓ Large high-tech companies

5. Scientific / research capacity

Can you make some indication of what the current scientific research capacity is in Moldova? (Look at your Q4 actors and think about classical indicators. You can state this as 'High/medium/Low' but justify your answer).

Added question: If you were going to try and make this a quantitative assessment then what indicators might you use? (Consider the World Bank Global Competitiveness Index

6. Capacity to adopt new technology

Can you make some indication of what the current capacity is to adopt new technology? (Again, Look at your Q4 actors and try to suggest some indicators that could be used to capture this. Again, you can state this as 'High/medium/Low' but justify your answer).

Added question: If you were going to try and make this a quantitative assessment then what indicators might you use? (Consider the World Bank Global Innovation Index).

Notes for feedback

Session 2: Innovation Infrastructure

Useful definitions

Infrastructure forms the part of enabling conditions for technology transfer and commercialisation that provides the physical and virtual habitats of knowledge.

Infrastructure is essential for the creation of knowledge, its storage, evaluation, sharing and transformation'.

'taken together, the individual components of infrastructure form an ecosystem. To produce the desired results this requires efficient connectivity and low transaction costs to produce the results expected'.

Innovation Policy Platform

Physical

- R&D facilities, tools and scientific instrumentation
- Incubators hosting start-up/spin-off companies
- All other organizations involved in the start-up/ spinoff process.

Examples

- Technology transfer offices
- Industry liaison offices
- Proof of concept centers
- Prototype development
- Market and competitor intelligence surveillance
- Incubators
- Scale-up centers;
- Venture accelerators;
- Science and technology parks/ technoparks;
- Investment funds ;
- Intellectual property (IP) laws, regulations, and practices;
- Multifunctional Industrial Platforms;
- Organisations Funding TT and Innovation.

Virtual

- personal contacts, networks, and knowledge intermediaries and brokers

Examples

- Networks e.g. Clusters, knowledge intermediaries and technology brokers
- Virtual innovation labs

Group Exercise 2: Mapping II in Moldova

1. In your group, identify different forms of Physical and Virtual 'Innovation Infrastructure' in Moldova.

2. Make a note of any sector focus and where it is located (city).

3. Give some thought to if the present situation is adequate or if you see specific gaps and needs that should be met.

4. If you were going to develop II, where you would focus and why?

4 examples have been provided.

Name	Physical or Virtual	Type	Location (or availability if virtual)	Sector focus(if specific)
EEN (Enterprise Europe Network)	Virtual	Network	Moldova+ International	N/A
Moldova IT Park	Virtual	Virtual park	Moldova	IT
Science Technology Park "Inagro"	Physical	STP	Cahul	Agriculture
Center for Innovation and Technology Transfer Balti	Physical	CITT	Balti	IT, creativity

15-20 minutes then feedback

Notes

Session 3: Regional (RIS) and Sectoral Innovation Systems

Useful definitions

Regional Innovation Systems: 'The regional innovation system can be thought of as the institutional infrastructure supporting innovation within the productive system of a region.' (Asheim & Gertler, 2005). While NIS focuses more on the institutional environment of innovation, RIS usually focuses more on soft factors, such as network characteristics, trust, identity, cosmopolitism, quality of life and culture. These factors are often the first things if we think about successful RIS such as Grenoble, Silicon Valley, Helsinki or Brainport.

Sectoral Innovation Systems: during the early zero's more attention has come to sectoral innovation systems. In contrary to NIS and RIS, SIS focus on globally active sectors that function independently of the institutional environment. For instance, the Dutch government now prolongs the Top Sector Policy, focusing on different global sectors. NIS and RIS are now mainly supportive to SIS in the Netherlands. The Top Sectors defined are Agri-Food, Chemicals, Creative Industry, Energy, High-Tech, Logistics, Life Sciences & Health, Agriculture and Water. Another institute, the EIT, is also focusing on these sectors (Climate, Digital, Health, Raw Materials and Energy).

Open innovation ecosystem

Open innovation ecosystems are hubs with networks or communities working around a common goal. The creation of innovation ecosystems makes sense where there is a common interest in co-creation and development of new technologies and solutions in the medium or long-term.

Notes

Group exercise 3 Carrying out a SWOT for a RIS in Moldova

Select a region. This can include the capital but should extend beyond the capital city.

Agree an objective for a RIS that will take the form of a sector based cluster and suggest one or more associated aims for the cluster.

Construct a SWOT and use this to access how feasibly your objective is. Use the template below.

15-20 minutes then feedback.

Regional SWOT

STRENGTHS	WEAKNESSES	Priority
		HIGH
		MEDIUM
		LOW

OPPORTUNITIES	THREATS	Priority
		HIGH
		MEDIUM
		LOW

Think about possible regional competitors? Do they have more favourable conditions?

(Do you/ they have the necessary 'agents and resources')
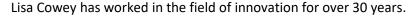
Then think about time scales.

Profile of your trainer

Lisa Cowey PhD MBA

Lisa Cowey has worked in the field of innovation for over 30 years.

Following a PhD in physics she spent a decade in the commercial sector with high-tech instrumentation companies in the UK, USA and Germany, an experience that encompassed start-up, equity fund raising and trade-sale exit.

Since 2006 she has worked in the Western Balkans region and in the newer EU MS to help design, implement and assess policy actions to increase competiveness and innovation through science, technology and innovation policy with a focus on bringing more R&D to market from public research organisations and SMEs. Most recently she has been working for the Joint Research centre of the European Commission to investigate the framework for technology transfer in the Eastern partnership countries including Moldova and Ukraine and for the Ministry of Education and Science of the Republic of Georgia to help them set up and adopt an innovation grant scheme for their universities.

Lisa regularly designs and delivers training courses for Ministries, Agencies, universities and the innovative SME sector on the topics of innovation and technology transfer. She has recently run a 3 day COVID-safe online training for the Institute of Education of the Republic of Azerbaijan (ARTI in Azerbaijan) and online interactive workshops to support 'Proof of Concept' actions in the Western Balkans.

Lisa has a PhD in Physics from the University of Oxford, an MBA from Oxford Brookes University Business School where she specialised in university-industry technology transfer. She also holds a Diploma in IP (Law and Practice) from Bournemouth University Business School IP Unit. She is based in Oxford in the United Kingdom.