

Innovation for Sustainable Development Review (I4SDR) of Moldova



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High-level launch of the Review and the follow-up
capacity-building programme
Thursday, 16 June, 14:00-16:00 (EET)
Online (Zoom)

**75 YEARS
OF ECONOMIC INTEGRATION
AND COOPERATION
IN THE REGION**

I4SDR – UNECE flagship publication

Context and methodology

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- Assesses innovation policy governance, processes, and mechanisms, and provides actionable policy recommendations for innovation policy reform;
- Initiated at the request of the Government of Moldova in 2020, the process started in 2021 with the engagement of international (authors of the chapters) and national experts to support the project;
- Three elective topics (on request of Govt): ISLs, innovation and technology transfer infrastructure, diaspora for innovation-driven sustainable development.
- Large number of innovation policy stakeholders involved, including public sector officials and policy makers, representatives of academia and private sector, as well as civil society;
- Due to the pandemic, fully virtual fact-finding mission with more than 50 online meetings with stakeholders from Moldova, and a focus group on innovation and technology transfer infrastructure;
- Peer review by national and international stakeholders (e.g., OECD, JRC, IOM, FAO), as well as internal UNECE review;
- Finalized (editing, design) and published in Jan 2022 in ENG, translation into RO available in May.



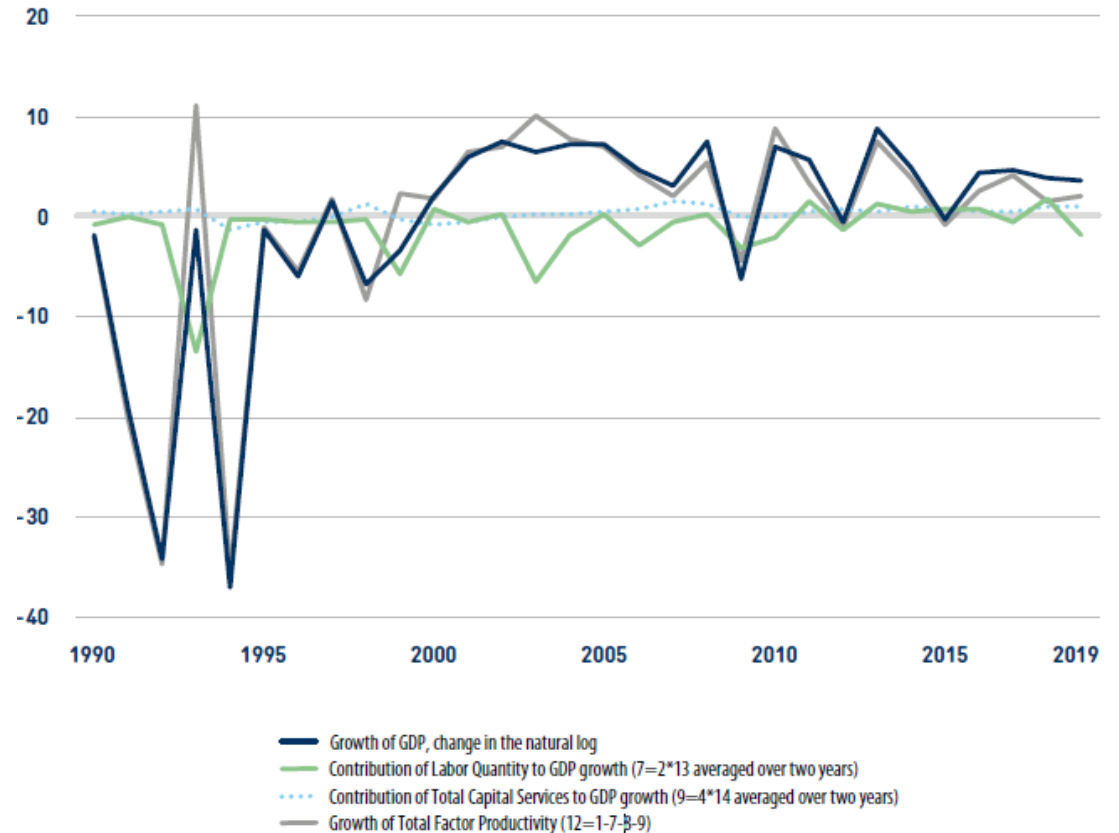
[ENG](#)

[RO](#)

Economic Overview



- Since independence, growth has been significant, albeit volatile, with a recent negative trend and high vulnerability to the external shocks
- Overreliance on domestic consumption and remittances (16% of GDP in 2020) with a need to find sustainable sources of growth
- Exports largely concentrated in low value-added sectors (e.g., insulated wire and agricultural outputs) with much potential in trade remaining unexploited
- FDI is volatile, below potential and, in many cases, unlikely to create substantial innovation spill-over effects with some potential to better exploit free economic zones
- Improving productivity and competitiveness requires shifting factors of production from less productive to more productive activities, with a crucial role for innovation



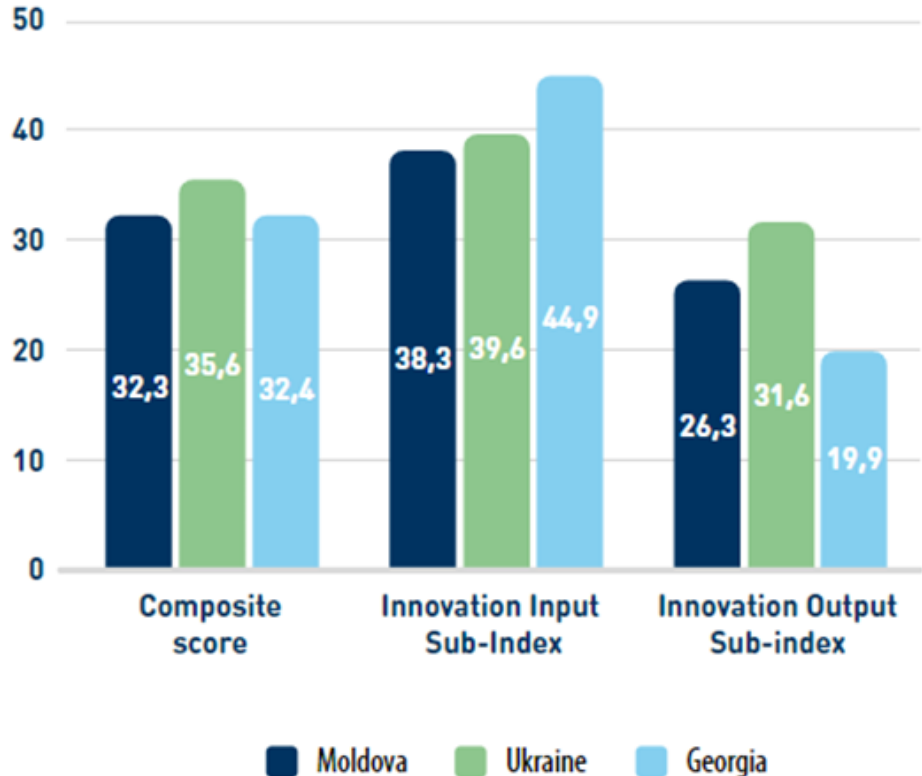
Productivity decomposition of economic growth, 1990-2019

Innovation Performance Overview

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GII indicators, 2021, scores

- Despite reforms to promote innovation and entrepreneurship, there is limited systematic innovation across the economy
- A leading constraint is the limited ability of the private sector to innovate due to lack of absorptive capacity (e.g., private-sector R&D expenditure at less than 0.01% of GDP) that also constrains positive spillovers from trade and investment flows
- R&D expenditure is very low, at 0.3% of GDP, with only 14.2% of expenditures targeting technology development and reported skills mismatch between the education system and market needs
- Forging and incentivizing business-science linkages is an important step to boost innovation

National Innovation System and Innovation Policy Governance

Background and challenges

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- Clear political commitment to supporting innovation, but the national innovation system remains nascent and in need of further nurturing, especially in the areas of financing and facilitating local innovation initiatives.
- Innovation governance is still evolving and needs streamlining with fragmented policy efforts across a number of ministries and agencies that lack systematic synergies.
- Innovation policy lacks a strategic cross-government coordination mechanism able to guide and align innovation policy efforts towards effective innovation promotion and support at both the national and sub-national levels.
- Public-private dialogue to help formulate inclusive and relevant policies is not yet systematic but could be readily strengthened by building on existing stakeholder engagement mechanisms.
- Innovation activity in the public sector has been limited to efforts on digitalization of government services and processes with scope for further improvement in the area of eGovernment and efforts to drive demand for innovation through public procurement (i.e. innovation-enhancing procurement).



National Innovation System and Innovation Policy Governance

Main Policy Recommendations



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Reform and complement the institutional and legislative framework for innovation policy based on a broad definition of innovation and the imperative to build and nurture effective innovation systems



- ✓ Adopt a holistic approach to innovation policy governance
- ✓ Ensure that the legislative, institutional and public finance frameworks enable innovation policy initiatives at the sub-national level

Strengthen processes and institutional capacities throughout the policy cycle, in particular regarding stakeholder dialogue and effective policy monitoring and evaluation



- ✓ Strengthen public-private dialogue to ensure systematic and constructive engagement of non-government stakeholders affected by innovation policy
- ✓ Make better use of online platforms for public consultations to ensure more systematic engagement of stakeholders in formulating innovation policy

Enhance policy coordination and alignment across all levels of government to improve the targeting and effectiveness of policy actions



- ✓ Establish a National Innovation Council to coordinate and strategically guide innovation policy formulation and implementation
- ✓ Systematically engage sub-national authorities in innovation policy processes

Accelerate innovation processes in the public sector through further eGovernment reforms and strengthen the demand for innovation via the introduction of an innovation-enhancing procurement framework

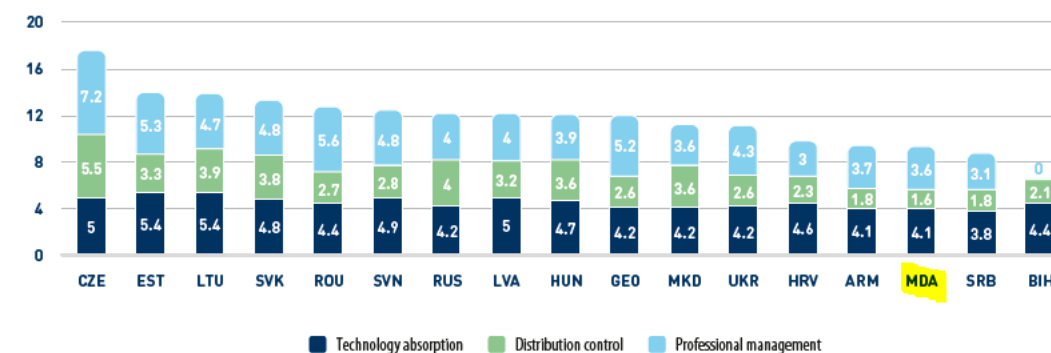
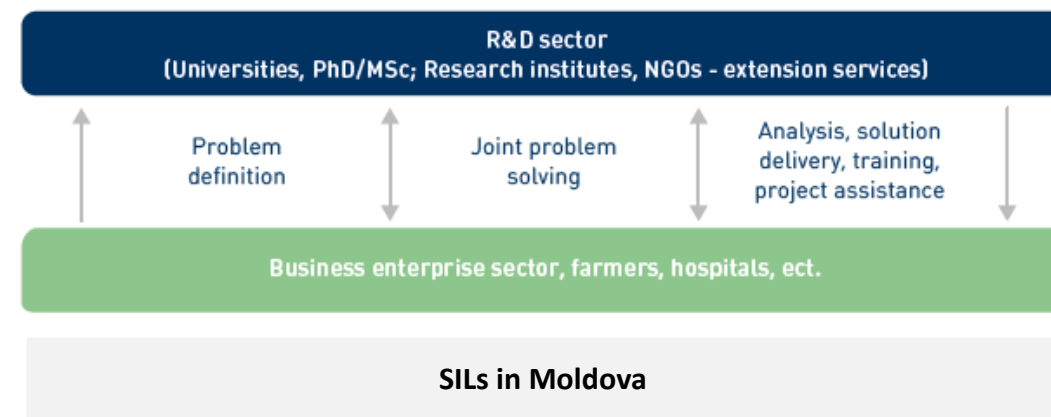
Science-Industry Linkages and Technology Commercialization

Background and challenges



The traditional SILs perspective of direct transfers of knowledge from research and development (R&D) organizations to businesses does not capture collaboration in Moldova.

- Such transfers are often driven by problem-solving needs rather than a desire to commercialize research results (e.g., pockets of excellence in different sectors).
- The capabilities of R&D organizations and the absorptive capacities of the private sector limit the potential to form new SILs and require policy intervention to restructure the R&D sector.
 - Restructuring would ideally seek to enhance quality of higher-education institutions (HEIs), promote internationalization and incentivize private-sector innovation.
- Joint efforts have created several 'pockets of excellence' in information technology (IT), Free Economic Zones (FEZs), certain knowledge-based and high-tech firms as well as in the agri-food supply chain.
 - These efforts should continue to enjoy Government support as they have significant potential to enhance SILs for both upscaling and knowledge transfers.



Assessment of the organizational capabilities of firms, 2019
(1-7 best), WB GCR

Science-Industry Linkages and Technology Commercialization

Main Policy Recommendations



Strengthen the demand side of SILs



- ✓ Include private sector into NARD Supervisory Board
- ✓ Increase private sector access to public R&D funding
- ✓ Introduce innovation vouchers
- ✓ Enlarge the supplier development programme

Strengthen the supply side of SILs



- ✓ Renew the young researcher support programme
- ✓ Gradually restructure public research organizations (PROs)
- ✓ Differentiate universities as either research-based or vocational-education based

Enhance linkages between PROs and the private sector, between IT sector and existing “pockets of excellence” and the higher educational institutions



- ✓ Extend NARD technology transfer projects to incentivize closer links between PROs and the private sector
- ✓ Build the capacity of the Invest Moldova Agency to more effectively attract FDI
- ✓ Enhance linkages between the FEZs and the rest of the Economy
- ✓ Introduce mechanisms to link the IT sector with higher education institutions

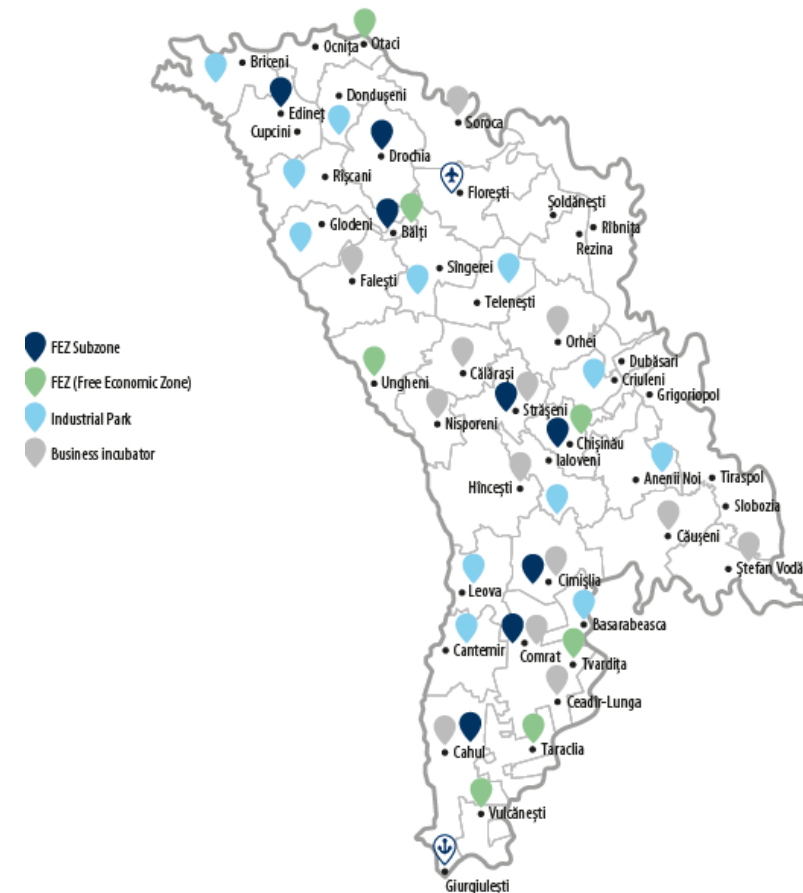
Innovation and Technology Transfer Infrastructure

Background and Challenges



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- Moldova's innovation and TT infrastructure, both physical and virtual, is relatively new but encouragingly diverse in function and form, including various types of support mechanisms from industrial parks to fabrication laboratories (Fablabs).
 - However, the linkages between these diverse infrastructure components need substantial improvement to ensure they work together efficiently.
- Traditional TT infrastructure is still under-developed and most technology transfer offices (TTOs) do not operate effectively to fulfill given roles.
 - This is largely attributable to both the lack of TT infrastructure and an overall lack of skilled personnel to effectively engage in knowledge transfer (KT) tasks.
- Effective technology transfers require enhancing the linkages between TT infrastructure components, addressing bottlenecks in TT legislation, facilitating the creation of viable innovation hubs at the sub-national level and establishing TTOs able to provide feasible pipelines for TT projects.
- Innovation activities are currently concentrated in and around the capital. This has created a need to develop adequate and locally relevant regional infrastructure to close the rural urban gap in innovation and address regional socio-economic challenges.



The map of Moldova's physical innovation and TT infrastructure

Innovation and Technology Transfer Infrastructure

Main Policy Recommendations



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Optimize the regulatory environment to address current shortcomings and barriers to developing innovation infrastructure and introducing new products, services and processes to the market



- ✓ Review the current law on scientific and technological parks and innovation incubators
- ✓ Remove product-certification barriers and improve the procurement and import of specialized equipment for testing

Develop sector-specific TT and innovation infrastructure, linking it to national development priorities and Smart Specialization efforts



- ✓ Link innovation and TT infrastructure more closely to priority sectors identified under Smart Specialization efforts.
- ✓ Develop sector-specific advisory services to encourage innovation in priority fields.

Support research commercialization through a national TTO and build knowledge transfer (KT) skills at each public research organization (PRO)



- ✓ Establish a national TTO
- ✓ Require PROs to establish a clear intellectual property (IP) policy and a Memorandum of Understanding (MoU) or similar with the national TTO.

Adopt a clear regional focus for innovation and TT infrastructure



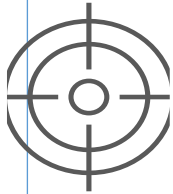
- ✓ Establish a mechanism to enable funding for local physical and virtual innovation infrastructure
- ✓ Pilot actions and refine programmes on TT to ensure they meet existing needs and yield the intended results.

Leveraging Diaspora for Innovation

Background and Challenges



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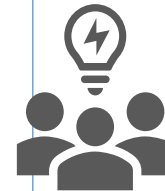
Strategic policy approach with backing from international donor organizations alongside private-sector and diaspora participation to ensure sustainability



Enhancing linkages with the diaspora to facilitate KT and building trust through systematic and meaningful engagement



Relatively successful and diverse policy approach towards diaspora engagement implemented but issues with the sustainability of programmes



Many skilled Moldovans permanently residing abroad, often employed in STEM as well as medicine, have desire to contribute to home country but have difficulties to do so



Lack of data to build a nuanced understanding of the location and composition of the diaspora

Leveraging Diaspora for Innovation

Main Policy Recommendations



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Build a nuanced understanding of the composition, location, professions, networks and skills of Moldovans abroad



- ✓ Establish a voluntary registry of Moldovans abroad
- ✓ Conduct regular diaspora census exercises and other surveys.

Consolidate, leverage and scale up existing capacities and mechanisms to reflect international best practices and draw upon Moldova's current and past experiences



- ✓ Integrate diaspora engagement across relevant policy areas
- ✓ Enlarge the scope for pilot diaspora engagement initiatives among potential sector or regional hubs.

Develop and maintain flexible engagement infrastructure to interact with the diaspora and foster synergies between diaspora development proposals and Moldova's needs



- ✓ Establish an online diaspora engagement portal
- ✓ Reinforce consular contacts to identify key competencies in the diaspora and establish new connections at home

Develop linkages between academia in Moldova and Moldovan researchers, scientists and affiliated organizations based abroad through the establishment of a Diaspora Science Group (DSG).



- ✓ Introduce mentorship and fellowship programmes under the guidance of, or run directly by, the DSG.
- ✓ Ensure the DSG actively participates in high school, university and vocational education processes in Moldova.

Elaborate policies to maintain contact and enhance trust between the diaspora and Moldova while strategically engaging with Moldovans living abroad to benefit the homeland



- ✓ Introduce and maintain alumni networks between the diaspora and Moldovan universities
- ✓ Enhance and maintain trust in diaspora policy development through systematic engagement with diaspora members



Thank you!

Innovative Policies Development Section
Economic Cooperation and Trade Division

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