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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org

International Conference
Fostering inclusive and sustainable industrial development in middle income countries (MICs) in Europe and Central Asia through innovation and technological learning: Needs, potentials and best practices

Organized by

the United Nations Industrial Development Organization (UNIDO)
the Ministry of Foreign Affairs (MoFA) of the Republic of Belarus
and
the United Nations Development Programme (UNDP)

23-24 April 2015
Minsk, Belarus

Conference venue:
Ministry of Foreign Affairs
And
Belarus High Tech Park

CONFERENCE REPORT

Foreword

We all are aware that industry drives innovation and learning, and helps create new technological knowledge. This is vital for job creation, sustainable livelihoods, and equitable growth, and key to eradicating poverty. Modern industrialization is also about state-of-the-art innovative and environmentally sustainable technologies and practices that help reduce consumption of non-renewable resources, and minimize greenhouse gas emissions. Such green technologies stimulate innovation, technological change, and industrial diversification.

Middle income countries (MICs) face unique social, economic and environmental challenges, including rising inequality, energy, waste and efficiency issues, to name but a few, and in formulating and implementing strategies and instruments to address these challenges and boost economic competitiveness, modernization and diversification.

In the ongoing processes of rapid globalization and economic integration, MICs risk becoming trapped in a situation where they are unable to compete with either low-income, low-wage producers in labour intensive products or with high-skilled, fast-moving innovators in high value added products – the so-called middle income trap (or MIT). The threat of MICs becoming caught in this trap is also exacerbated by rising productive capabilities of other MICs, which have succeeded in catching up in terms of innovation and have become strong competitors in high-tech as well as low-tech goods. Middle income countries need to address market barrier imperfections and barriers, strengthen their productive and institutional capacities, modernize industry, support SME entrepreneurship and SME development, and invest in skills, technological learning, innovation and development.

Policies are needed for MICs in the region to integrate into the global economy, manage macro risks, improve economic institutions, and foster inclusive and sustainable industrial development so that they can fulfil their aspirations to become HICs.

Donors and international development organizations, such as UNIDO, need to rethink their engagement with MICs, shifting from an assistance paradigm to a greater focus on cooperation and partnerships with various stakeholders. The UN can broker and create knowledge sharing platforms to pool and share resources and accumulated knowledge of high income and middle income countries.

As a specialized agency of the United Nations system, UNIDO is dedicated to promoting inclusive and sustainable industrial development. Our approach is based on four major areas where inclusive and sustainable industrial development can play a key role: economic transformation, employment creation, greater social inclusion, and environmental sustainability, including climate change issues.

UNIDO's project portfolios directly target the challenges faced by middle income countries. The impact of UNIDO's activities can be seen in, among others, the creation of jobs through industrial diversification and upgrading, increased sustainable production and consumption using smart business models, and commitments to sustainable development through partnerships with the private sector.

We at UNIDO are constantly seeking to better understand the new realities of globalization, and how to work together with governments and other partners and identify opportunities for successful collaboration. Pursuing inclusive and sustainable industrialization requires cooperation between many stakeholders, each contributing in its own distinctive way. MICs in the Europe and Central Asia region need to mobilize resources from such stakeholders, at the national and local levels, to achieve

collective efficiency, attract investments, support SMEs, foster technological learning, upgrading and innovation, and stimulate job creation.

In recognition of this reality, UNIDO has made a partnership approach central to the operationalization of its mandate. Through this approach, we aim to mobilize multi-stakeholder partners and their resources to create greater impact on the ground. Currently, UNIDO is implementing this new multi-stakeholder partnership approach in Ethiopia and Senegal on a pilot basis. Similar programmes will be rolled out in other countries in other regions in the coming years.

With the support of member states, UNIDO has been working hard over the past few years to ensure that inclusive and sustainable industrialization is included in the Post-2015 development agenda and the new Sustainable Development Goals. It is therefore very rewarding for us to note that the Report of the Open Working Group of the General Assembly on Sustainable Development Goals (SDGs) recognizes the importance of industrial development in Goal 9 on "building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation".

As we move forward into the final stage of the intergovernmental negotiations on the Post-2015 development agenda, UNIDO welcomes and encourages your strong support and trust to ensure that the Organization's mandate of ISID is fully and visibly reflected in the new agenda, its SDG number 9, and its associated means of implementation, through participation, inclusion and strengthened capacities and partnerships.

In line with its increased emphasis on a partnership approach, UNIDO will continue its efforts to leverage resources from various stakeholders to support the implementation of the national industrialization strategies established by the governments of its Member States, with focused interventions in an action-oriented manner.

UNIDO is committed to providing its high quality services to Belarus as stated in the Framework Programme of Cooperation between UNIDO and the Government of Belarus for 2013-2016. Currently, UNIDO is working with Belarus in the areas of automotive clusters, the development of Grodno agro-industrial park, industrial energy efficiency, and resource and efficient cleaner production and capacity building of climate change experts. Through these projects, and others, UNIDO is supporting the objectives of the country in the area of inclusive and sustainable industrial development.

I am confident that this conference stimulated important dialogue on how to meet the challenges faced by MICs in Europe and Central Asia and also helped to further promote and advance cooperation between Belarus and the United Nations.

LI Yong
Director General, UNIDO

Acknowledgements

This report was prepared by Olga Memedovic and Thomas Jackson, with assistance from Daniel Laaber. It presents a summary of the discussions and proceedings from the International Conference on Fostering inclusive and sustainable industrial development in middle income countries (MICs) in Europe and Central Asia through innovation and technological learning: Needs, potentials and best practices, organized by the United Nations Industrial Development Organization (UNIDO) the Ministry of Foreign Affairs (MoFA) of the Republic of Belarus and the United Nations Development Programme (UNDP), and held on 23-24 April 2015 Ministry of Foreign Affairs of Belarus and Belarus High Tech Park, Minsk.

The successful organization of the Conference was the result of collaborative efforts of a team comprising: Olga Memedovic, Solomiya Omelyan, Emina Alic, Gabriele Boldt, Simone-Anne Carneiro, Gaby Czasch, Mikhail Evstafyev, Marco Gullo and Thomas Jackson, Juan Jung and Kazuki Kitaoka, from UNIDO; Jean Yves Bouchardy, Tanya Lyubimova, Ekaterina Paniklova and Yuliya Vaskova, from the UN Resident Coordinators Office in Belarus; Ermolovich Oleg Vjacheslavovich, Igor Mishkorudny, Aleg Yermalovich and Denis Zdorov from the Ministry of Foreign Affairs of Belarus; Ekaterina Ermilina from the Permanent Mission of the Republic of Belarus to the International Organizations in Vienna; and Valery Tsepkalo and the teams from Minsk High Tech Park the Fanipol Industrial Park.

Contents

1. Background

The Ministry of Foreign Affairs of the Republic of Belarus (MoFA) organised a conference on "Fostering inclusive and sustainable industrial development in middle-income countries (MICs) in Europe and Central Asia through innovation and technological learning: needs, potentials and best practices", in cooperation with the United Nations Industrial Development Organization (UNIDO), and the United Nations Development Programme (UNDP) in Belarus, at the Ministry of Foreign Affairs of Belarus, Minsk, on 23-24 April 2015.

Today, middle income countries (MICs), those with a GDI per capita between $1,026 and $12,475 (2011), are home to 960 million (around 73 per cent) of the world's poor. In contrast, during the 1990s, 90 per cent of the world's poor lived in Low Income Countries (LICs). MICs represent about one third of global GDP and are major engines of economic growth.[1] They are a highly diverse group of countries in terms of geography, demography and socio-economic characteristics. At the same time, many MICs have fallen behind in achieving the Millennium Development Goals and face common development challenges.

In the ongoing processes of rapid globalization and economic integration, MICs risk becoming trapped in a situation where they are unable to compete with either low-income, low-wage producers in labour intensive products or with high-skilled, fast-moving innovators in high value added products – the so-called middle income trap (MIT). The threat of MICs becoming trapped has risen according to recent analysis and the spectre of the MIT is also exacerbated by rising productive capabilities of other MICs, most notably China, which have succeeded in catching up fast in terms of innovation and have become strong competitors in high-tech as well as low-tech goods.

Most MICs exhibit MIT symptoms, such as stagnant growth, low levels of economic diversification, income inequality, youth unemployment, low absorptive capacity, as well as a numerous market, institutional, governance failures that inhibit the adoption of the latest technologies and processes. Many MICs are unable to address their structural and institutional weaknesses and to transition to a high income level, and thus risk increasing levels of poverty, joblessness and social exclusion, as well as falling behind in technological innovations.

In a global context of intensified innovation and learning, shorter product cycles, kaleidoscopic comparative advantage, and accelerated technological change, MICs need to learn fast how to build productive and innovative capabilities, diversify their economic base, and address the plethora of market barriers and imperfections and institutional weaknesses. They also have to foster inclusive and sustainable industrial development, energy and material efficiency and effectiveness, energy intensity and shift to low-carbon consumption and production patterns, as mandated by the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs).

A coherent development strategy focusing on favourable business environment conditions, human capital development, efficient economic institutions, social and productive capability building, and innovation and technological learning, together with effective and accountable government, offers the greatest promise for overcoming the wide range of structural weaknesses and hence the MIT. If MICs fail to advance their innovative and institutional capabilities, they will have to pursue the low road of competitiveness, based on declining wages and disregard for environmental concerns, with negative cross-border spill over effects on global warming, the environment, migration, infectious diseases, poverty, peace and stability. In this scenario, MICs are part of the solution to negative externalities. At the global level, MICs will be unable to contribute to the provision of public goods, such as clean energy, environmental protection, financial stability, free trade, expansion of markets, food and water safety, knowledge, and the fight against communicable diseases. Many countries in the ECA region are facing similar environmental threats such as

[1] http://www.worldbank.org/en/country/mic/overview,11/02/2015

pollution, land degredation and floods. One of the best ways to deal with negative externalities and support the provision of regional and global public goods is to ensure the continued prosperity and stability of MICs.

MICs in Europe and Central Asia[2] are also highly diverse in terms of territory, population, income level, economic development, natural resource endowments, geopolitics and other social factors, but face similar transition economy challenges such as undiversified economic and industrial base, market imperfections, less conducive investment climate, lack of transport and energy infrastructure, weak economic institutions, widening income and wealth divides, deep regional disparities, youth unemployment, and skills gaps in the labour market. Frequently, these economies lack access to information, advanced technological know-how and financial resources. Like other MICs, many MICs in the region are falling behind in achieving the Millennium Development Goals (MDGs). For many MICs in the region, the share of competitive high value-added industrial sectors in manufacturing exports remains low, and those that are oriented towards low value-added agriculture and extractive industries, such as oil, gas and metals, are vulnerable to global price shocks and variable demand. Indeed, being highly vulnerable to external shocks, it is not surprising that the recent financial crisis set them back considerably.[3]

Resource-rich MICs will find it increasingly difficult to maintain the high growth rates of the last decades that drew on unemployed reserves of capital and labour rather than investment in innovation and technological development. Continuous low level of participation in the international division of labour means that economic diversification still remains an elusive development goal for many MICs in the region.[4] This challenge was highlighted during the International Industry Conference in Baku in 2014. Industry's contribution to economic diversification in countries rich in natural resources is particularly relevant to the Europe and Central Asia region since a vibrant industrial sector increases countries' resilience against global shocks and reduces the impact of fluctuating prices of raw materials. It also helps to overcome the stagnant growth associated with the middle-income trap.

MICs in Europe and Central Asia need policies to ensure that they do not exacerbate the *rapidly* increasing levels of inequality experienced in the past two decades. Poverty remains a serious issue and is expected to increase in those countries that are experiencing high or growing income inequalities.[5] While average incomes have increased since 1990, gaps between the wealthiest and the poorest have widened in many countries. Persistent inequalities are also experienced by marginalized groups, such as migrants, refugees and other forcibly displaced persons, ethnic minorities, people with disabilities, and residents of rural areas. These groups—as well as children, youth, women, and older persons—have also been hit hard by post-2008 income losses and face reduced access to basic social services. Women are discriminated against in terms of employment opportunities for higher paid jobs, political representation and decision making. One-third of people face social exclusion and many people are excluded from the formal economy. The situation of young people in the labour markets is particularly difficult with lingering high levels of youth unemployment, in addition to the high number of young workers in precarious jobs and many young people who are not in employment, education or training (NEET). The impact of the global economic crisis on youth employment has been severe in most countries in the region.

In response, MICs in Europe and Central Asia need to mobilize resources from various stakeholders, at the national and local levels, to achieve collective efficiency, attract investments, support SMEs, foster

2 UNIDO Europe and Central Asia Bureau countries of coverage by income level:
- High income countries (HICs): Russian Federation, Croatia, Cyprus, Czech Republic, Malta, Poland, Slovakia and Slovenia
- Upper Middle Income Countries: Albania, Azerbaijan, Belarus, Bosnia & Herzegovina, Bulgaria, Hungary, Kazakhstan, FYR Macedonia, Montenegro, Romania, Serbia, Turkey, Turkmenistan
- Lower Middle Income Countries: Armenia, Georgia, Kyrgyzstan, Moldova, Ukraine, Uzbekistan
- Low income countries (LICs): Tajikistan

Source: World Bank, http://data.worldbank.org/region/ECA [accessed on 19 February 2015]
3 Many countries are also vulnerable to seismic, climatic, and meteorological risks.
4 UNDP, 2015, Poverty, Inequality and vulnerability
http://www.eurasia.undp.org/content/dam/rbec/docs/Poverty%20Inequality%20and%20Vulnerability.pdf
5 Ibid.

technological learning, upgrading and innovation, and stimulate job creation. Policies are needed for MICs in the region to integrate into the global economy, manage macro risks, improve economic institutions, and foster inclusive and sustainable industrial development so they can fulfil their aspirations to become HICs.

There is increased interest among these countries in the exchange of experiences with countries that are facing similar or related challenges and especially with those countries that managed the transition to high income level successfully.

MICs and development cooperation

In the development cooperation arena, many MICs, including those from Europe and Central Asia, are emerging as donors and are formulating their own development cooperation frameworks and self-funding development modalities with international organizations, and promoting South-South, Triangular Cooperation and regional integration initiatives. The changing global context and the evolving characteristics of MICs have important implications for the international community. This means that donors and international development organizations, such as UNIDO, need to rethink engagement with MICs, shifting from an assistance paradigm to a greater focus on cooperation, and partnerships with various stakeholders to address specific challenges faced by MICs. Most importantly, the UN can broker and use MICs' accumulated knowledge, which can be useful for development assistance to LICs, and can help MICs serve as growth poles. In the Europe and Central Asia region, this is already happening, as new programmes and frameworks of cooperations are designed, such as the Programme of Cooperation in Albania, the Development Cooperation Strategy in Turkey, and partnership frameworks in Moldova, Serbia, Turkmenistan and Ukraine.

Future UN strategic frameworks in MICs, the largest UN constituency, need to be based on a solid analytical base, and targeted at the development challenges of diverse MIC subgroups and their potential to address public bads and contribute to the provision of global public goods. They should also be inclusive, reaching out to new partners, including governments, the private sector, academia, development financial institutions and civil society. Future programming frameworks, built on the MDGs, SDGs and 2030 Agenda for Sustainable Development, should be the basis for expanding those multi-stakeholders partnerships in support of the realisation of international and national development agendas.

The overall challenge for the international community is therefore to develop partnership strategies and policies and innovative financing models that address MICs' challenges and needs from these different perspectives. Without a vision, it is unlikely that these strategies and policies can be developed.

MICs and the 2030 Agenda for Sustainable Development

The question of whether MICs should be recognised as a differentiated group was a recurrent theme during the discussions on the Sustainable Development Goals (SDGs) and 2030 Agenda for Sustainable Development. During this process, the international development community, and even MICs themselves, struggled to effectively advocate a position and subsequently address MICs' specific issues and the potential impact on the international community and global development. The negotiations on the SDGs have resulted in a universal agenda and the 'Report of the Open Working Group of the General Assembly on Sustainable Development Goals' recognises that each country faces specific challenges to achieve sustainable development, and that least developed countries, landlocked developing countries, small island developing States, as well as middle-income countries face specific challenges.

The issue is complicated by the problem of how to classify MICs, given their heterogeneity in terms of geography, population, economic size, income levels and natural resources, as well as their disparate priorities, challenges and needs. The problems of income-based classifications are well-known. For instance, at the top end of the MICs group are OECD members Mexico and Turkey, and at the bottom end

Madagascar and Zambia. The LIC group is likewise highly diverse, comprised of conflict affected countries, small islands, and landlocked states with limited trade prospects.

An additional question that MICs will have to address in the 2030 Agenda is international development financing. Income-based country classifications often dictate eligibility for grants and concessional loans, and influence the allocation policies of many other agencies. Official Development Assistance and concessional finance remain important for many MICs, although access is reduced as countries' incomes grow and they may not be able to access sufficient affordable financing from other sources. The latest report (July 2015) from the UN Secretary General on development cooperation with MICs calls for more nuanced country classifications that go beyond the per capita income criteria. The report also discusses the possibility of establishing a high-level panel that could track progress in delivering assistance to MICs by the UN system and elaborate an international agenda to address their challenges. Following the third International Conference on Financing for Development in July 2015, the Addis Ababa Action Agenda urges MICs to "address ongoing challenges […] through the exchange of experiences, improved coordination, and better and focused support of the United Nations Development System, the international financial institutions, regional organizations and other stakeholders.'' The Agenda also called for strengthened efforts to address financing gaps and low levels of investment in MICs (as well as LLDCs and SIDSs) and for the use of innovative mechanisms and partnerships to encourage greater international private financial participation.

2. The conference objective

The objective of the conference was to contribute to a better understanding of how MICs in Europe and Central Asia can foster inclusive and sustainable development in an age of intensified globalization and interdependencies, rapid technical progress, climate and demographic changes, and which instruments can be most effective in addressing MICs' specific challenges in this context.

The conference served as a fruitful platform for discussions and exchange on best practices, success stories and experiences and tools on overcoming the MIT, promoting innovation and technological learning by using tools of business infrastructure for industrial agglomerations and diversification, such as science, industry and technology parks (SITPs), and how to benefit from international initiatives and multi-stakeholder partnership programmes for scaling up investment in inclusive and sustainable industrial development.

Special focus was given to countries with successful experiences of transition from a middle income to a high income country, such as the Republic of Korea (ROK). The conference also contributed to building networks and cooperation between MICs in the region and other countries on using various policy instruments and modern approaches to foster inclusive and sustainable industrialization. The conference is therefore open to representatives of MICs from other regions including Latin America, Africa and Asia.

The outcomes of the conference were the following:

- Awareness building on the challenges faced by MICs to pursue inclusive and sustainable industrial and economic development in the context of current globalization processes. These challenges are urgent and if they are not addressed in time, or sufficiently, the SDGs will not be achieved in the spirit of universality and inclusiveness that the UN is calling for.
- Discussion of leveraging multi-stakeholder resources through partnerships to address MICs' challenges.
- Pooling of MICs and HICs' resources in the region to address the provision of regional and international public goods.
- Facilitation of horizontal MIC-MIC knowledge and experience exchange and networks.

3. Topics and issues addressed

Following the keynote address on strategies and policies to promote inclusive and sustainable industrialization in MICs, the conference comprised five interactive panel discussions: 1) **Traditional industries and innovation**; 2) **Overcoming the middle income trap**: The role of hard and soft business infrastructure and technological innovation (with a focus on the experience of the Republic of Korea); 3) **The role of development financial institutions in building partnerships for promoting inclusive and sustainable industrial development in Europe and Central Asia**; 4) **The role of high technology parks**, and: 5) **Small and medium enterprises and innovation**.

During the conference, visits to an industrial centre and a high technology park were organised.

Session 1 addressed traditional industries and innovation. The discussions covered following issues:

- The role of technology, science and innovation in national development strategies.
- The role of business infrastructure, such as science, industrial and technology parks (SITPs).
- The role of Foreign Direct Investment (FDI) and support for international technology transfer in manufacturing
- The role of innovative partnerships models to scale up investment in inclusive and sustainable industrialization.
- The globalization of traditional industries and lessons learned: Best practice cases and lessons learned from the Belarusian automobile cluster.
- The role of public procurement.

Session 2 focused on the middle income trap (MIT) with a focus on the experience of the Republic of Korea (ROK). Some countries have succeeded to escape the MIT and achieve transition from middle income to high income status, in a relatively short amount of time, most notably the so-called Asian Tigers. Valuable lessons can be learned from ROK, which has put a high premium on drivers for sustainable economic development and growth, such as human capital development, R&D, technological progress and industrialization. The aim of government policy interventions was to assist companies to become productive and internationally competitive through mechanisms of implementation (introducing targets and performance standards). The ROK's industrialization policies, strong political will and governance ensured the right conditions to sustain economic growth.

The session addressed the following issues:

- The Republic of Korea's experience of industrial upgrading and moving up value chains.
- Shifting to a creative economy based on science, technology and IT industries.
- The role of the state and the market in MICs.
- Benefiting from national comparative advantages.

Session 3 looked at the role of development financial institutions in building partnerships for promoting inclusive and sustainable industrial development in Europe and Central Asia. The discussions addressed the following issues:

- Building partnerships to promote inclusive and sustainable industrial development in Europe and Central Asia.
- The involvement of various stakeholders in partnership programmes.
- Mechanisms to mobilize the resources of various stakeholders.
- The tools of development financial institutions to align the interests of different partners for the benefit of all.
- Role of different regional integration initiatives for pursuing integration in the global economy.

Session 4 on the role of high technology parks discussed the following issues:

- The role of IT in sustainable industrial development and lessons for MICs in transition to a new technological setup.
- MICs experiences in the establishment of high technology parks.
- Prospects to forge cooperation between high technology parks in MICs.

Session 5 focused on small and medium enterprises and innovation. The discussions covered the following issues:

- Challenges facing SMEs and innovative start-ups.
- Strategies and policies to support innovative SMEs.
- Improving access to finance for SMEs.
- The role of SITPs in supporting innovation and entrepreneurship.
- Regional knowledge platforms and technology banks for technology transfer.
- Innovative models for science, technology and innovation capacity building.

4. Recommendations

The following recommendations for policy-makers in MICs have been summarised from the conference presentations and discussions:

- Learn from countries that have avoided or escaped the middle income trap (MIT) and that have similar comparative advantages and endowment structures (natural resources, labour, capital, etc.) to your own. Observe the steps taken, processes and best practices that led allowed countries to reach high income country status.
- Ensure that policies and strategies reflect national realities. Large countries can become successful in different economic fields because they have large populations and large pools of human capital, but small countries might better focus on specific sectors and/or niches.
- Ensure industrial policies and strategies are aligned to the three dimensions of sustainability– economic, social and environmental. Address social inclusion of marginalized groups, including women, youth and ethnic minorities in all policy making.
- Innovation is a complex process that thrives when all stakeholders are committed and actively participating, from highly creative experts and educated managers and entrepreneurs to academics and researchers. Identify and remedy the most critical bottlenecks to innovation. Frequently cited obstacles inhibiting innovative behaviour are shortages of management skills, weak linkages between industry, universities and research institutes, and a lack of capabilities and finance to conduct research and development (R&D).
- Set up institutions to develop public-private partnerships and promote the interests of the business community through dialogue with the government. Specialised funds can also provide financial assistance to innovative projects and support small and medium-sized enterprises (SMEs) to establish and develop scientific and technical products, as well as manage technology parks and improve interactions between main scientific sectors in the field of science and technology and innovative activities.
- Implement measures to improve the business climate, such as reforms to simplify the registration (and liquidation) of entities, tax reforms and harmonization of national legislation and technical regulations. Tackle weaknesses in institutional capacity, increase operational efficiency, reduce bureaucracy and red-tape, ensure intellectual property rights, confront corruption and foster transparency in public procurement and decision making to ensure a more efficient resource allocation. Other initiatives could include 'single window' offices where entrepreneurs can obtain in one place official certificates, licences, accreditation and other services.
- Assist firms to build their capabilities to conduct R&D. Public-private R&D collaborations especially promote learning and the sharing of knowledge, risk and funds. Joint ventures between domestic and foreign firms, and collaborations between industry and research institutions, such as universities, are other channels of learning and access to knowledge, and can provide access to global knowledge sharing networks. Similarly, it is important to remember that innovation is not the only source of productivity in companies. For many firms, increased productivity comes from improved capability.
- Take advantage of indirect R&D or R&D embodied in imported technology and inputs. MICs that are behind the 'technology frontier' can increase competitiveness by assimilating and adopting technologies from abroad.
- The fragmentation of production processes across countries through global value chains (GVCs) allows firms in MICs to input to different sections of these processes depending on their comparative advantage. Firms can also move up into increasingly high value production sectors along chains as well develop their capacity and competences. Through integration into GVCs, firms enhance productive capacity and adopt new technologies and upgrade skills. At the same time, MICs should keep in mind that GVCs alone do not ensure technical

and productive upgrading since firms and countries can become locked in specific segments of GVCs. Internal firm level upgrading prospects can be more important.

- Consider technology specialisation in targeted sectors or in industries where new technologies become outdated relatively quickly. These sectors may be more advantageous for latecomer countries because they have lower entry barriers. They do not require sunk capital costs and there is little risk of being locked into old technologies. It might then be possible for a country to 'leapfrog' into emerging technologies.
- Support local-oriented business clusters. As dynamic engines of local and rural economic growth, local clusters can be more stable and resilient for communities than export-focused clusters. Only the most advanced SMEs are globalized; the majority of SMEs are local and are sensitive to industrial specializations, local innovation eco-systems and institutional frameworks. Further, regional economic systems could suffer if companies disconnect from local business clusters and engage with GVCs.
- SMEs contribute greatly to economic development, job creation and innovation but their growth is stymied by a number of constraints, particularly poor access to capital and/or unfavourable lending conditions. Local banking sectors in MICs often lack capacity to conduct lender assessments, SMEs the experience and knowledge to prepare loan applications and business plans and the necessary regulatory systems are not in place, resulting in an inadequate and poorly functioning SME lending market. MICs can work with development finance institutions (DFIs) to increase access to finance for SMEs and adopt their best practice in standards for corporate governance and compliance. DFIs can act as business partners—sharing risks, including political ones—and can function as a catalyst for access to additional equity, debt and trade finance. MICs could benefit from advisory centres for banks and SMEs to facilitate the lending process. DFIs and international organisations can provide assistance to set up such centres.
- MICs can scale up access to finance for SMEs through the traditional banks and/or financial sector. Fostering local capital markets will increase access to finance. Transparency in the financial in system will raise confidence in the stock market, as will the listing of major state-owned enterprises. Target access to finance rural areas and for women-owned and -run businesses.
- Enhance the general business climate and provide an environment for entrepreneurs and innovative industries to thrive. Establish business infrastructure and trade facilitation measures, like science, industrial and technology parks (SITPs) and special economic zones and cities. Seek out the expertise of DFIs and international organisations, such as UNIDO, which can share knowledge and ensure project quality to attract investment for industrial parks, and for park strategy development.
- Set up national systems of entrepreneurship and business education to facilitate start-up formation and innovative project development at universities, research institutions and civil society stakeholders. These actors can host business accelerators, working in cooperation with the wider business community to promote start-ups.
- Make SITPs an integral part of business infrastructure development, regional and local development planning, and wider social and economic development. Industrial parks stimulate industrial development by fostering innovative activities and the valorisation of research results. With limited capacity and resources to raise the quality and competitiveness of the business environment throughout the country, MICs can concentrate business services and infrastructure in one or several locations, and provide tenant companies with special tax incentives.
- Customize parks, zones and clusters to attract investment and target firms in specific sectors. Avoid over diversification of sectors operating in a park.

5. Summary of conference proceedings

1. Around 50 representatives from government, academia, development finance institutions (World Bank, EBRD, European Investment Bank, Eurasian Development Bank), international and regional organizations (the Eurasian Economic Union, UN-DESA, UNDP and UNIDO), chambers of commerce, the business community, as well as stakeholders from technology parks and industry in middle income countries (MICs) in Europe and Central Asia (ECA), convened in Minsk at the invitation of the Ministry of Foreign Affairs of Belarus, UNDP and UNIDO, for an International Conference on *Fostering inclusive and sustainable industrial development in middle income countries (MICs) in Europe and Central Asia through innovation and technological learning: Needs, potentials and best practices*. Drawing on international expertise and knowledge from experts, practitioners, policy makers and private sector managers from MICs as well as countries that have successfully transitioned from middle to high income state, the five conference panels focused on 1) Traditional industries and innovation; 2) Overcoming the middle income trap: The role of hard and soft business infrastructure and technological innovation (with a focus on the experience of the Republic of Korea); 3) The role of development financial institutions in building partnerships for promoting inclusive and sustainable industrial development in Europe and Central Asia; 4) The role of high technology parks, and: 5) Small and medium enterprises and innovation.

2. From Belarus, representatives participated from:

    i. The Ministry for Foreign Affairs, the State Committee on Science and Technologies, the Ministry of Industry, the Ministry of Economy, the National Academy of Sciences of Belarus and Belarus State University;

    ii. The Belarus Development Bank, Minsk Association of Entrepreneurs and Employers, Republican Union of Employers, Company on Development of the Industrial Park, the Belarus High-Tech Park, “Game Stream Ltd”, and other innovative companies.

3. From the ECA region, participants from MICs Belarus, Kazakhstan and Uzbekistan gave overviews of the economic and industrial transformations of their countries over the past 20 years, as well as describing the main directions of government policies and strategies to put their economies on the road to high income status.

4. Beyond ECA, the conference heard from countries that overcame or avoided the MIT. The participants were interested to understand how these countries fostered inclusive and sustainable industrial development (ISID) and the innovative policies and multi-stakeholder partnerships they pursued.

5. The conference’s focus is highly pertinent and timely since 2015 is an important year for international development cooperation: The Third International Conference on Financing for Development in Addis Ababa, Ethiopia, in July; the UN General Assembly in New York on the Sustainable Development Goals (SDGs) in September; and, in Paris, the United Nations Climate Change Conference in November.

6. Opening remarks were delivered by Mr Aleksandr Mikhnevich, First Deputy Minister of Foreign Affairs, Belarus, Mr LI Yong, Director General of UNIDO, Mr Jean Yves Bouchardy, UN Resident Coordinator ad interim and UNHCR Representative in the Republic of Belarus, and Mr Sergey Sidorskiy, Member of the Board (Minister) in Charge of Industry and Agriculture, Eurasian Economic Commission.

7. Keynote speeches were delivered by Mr Wu Hongbo, UN Under-Secretary-General for Economic and Social Affairs, Mr Alexander Shumilin, Chairman, State Committee on Science and Technology of Belarus, Mr Vladimir Maltsev, Director, Department of Industrial Policy, Eurasian Economic Commission, Mr Dmitry Krutoy, Deputy Minister of Economy of Belarus, Mr Keun Lee, Professor of Economics, Seoul National University and Mr Stephen Taylor, Director of Marketing, Communications and Business Development, AREA Science Park, Italy.

8. The opening remarks and speeches restated the reasons for the conference's focus on MICs. At the latest count, more than half of UN members - 102 states - are MICs. They are home to two-thirds of the global population and the majority of the world's poor. Their share of global output has grown from 13 per cent in 1990 to 32 per cent in 2013 (over 50 per cent when measured according to purchasing power parity). Notwithstanding drastically improved economic performance, MICs face poverty, rising inequality in incomes and opportunities, environmental pollution, and the challenges associated with the middle income trap. In the Europe and Central Asia region, many MICs are struggling with structural transformation, low productivity, deindustrialization, vulnerability to external shocks, and geopolitical tensions and conflicts.

Panel I: Traditional industries and innovation

9. Belarus's economic transition in the last 20 years is markedly different to that of many countries in Europe and Central Asia (ECA). Unlike Poland, Slovakia, Latvia and Estonia, among others, the Belarusian government did not prescribe 'shock therapy' to the economy and so avoided the rapidly transferal of state assets to the private sector, withdrawal of price controls and state subsidies, and wide-scale privatization seen in those countries. Instead, Belarus has approached reform gradually through a programme of economic incentives, infrastructure development, and regulatory reform to prepare selected assets for potential sale. As a result, state-owned enterprises continue to dominate the Belarusian economy and the private sector remains comparatively small. The economy's performance during this period was impressive, particularly in the industrial sector, where growth reached an annual average of 10 per cent between 2006 and 2010. In recent years, the global economic downturn and sluggish performance in the country's principal export markets (the EU, Russia and Kazakhstan), has reduced average annual growth to around 3 per cent, at the same time highlighting persisent structural weaknesses in the state-centred model. To reinvigorate the economy, the government has stepped up efforts to foster innovation and boost economic industrial and technological activity.

10. The largest economic sectors in Belarus are chemicals, agri-business and machinery, representing 80 per cent of industrial production. Building on accumulated expertise in these sectors, specialised institutes are investing in innovative technologies and production techniques. For example, the Joint Institute for Mechanical Engineering of the National Academy of Sciences of Belarus, an inter-departmental engineering centre linking science, education and production, and R&D, testing and production, hosts a state-of-the-art machine testing facility for automotiviles that is unique to Belarus. Using such facilities combined with sectoral comparative advantages, Belarus encourages cooperation with international partners, including China and the UN. Belarus's strategic aim is to continue to support for these industries and foster innovation in other sectors such as bio- and nano-technologies, medicine, space technologies and IT, natural resource use, agribusiness, and environmental technologies.

11. According to some international measures, Belarus is making progress in fostering new innovative and high technology sectors. In 2014, the International Telecommunication Union identified Belarus as one of the 'most dynamic countries' – a designation given to countries that record above-average improvements in their information and communication technology (ICT) Development Index rank[6] during the previous 12 months. Belarus is also one of the ten most significantly improved countries according to the Knowledge Economy Index (KEI), the World Bank's composite indicator measuring countries' performance

[6] See: http://www.itu.int/net/pressoffice/press_releases/2014/68.aspx#.VZ4jCvmqpHw

according to four knowledge economy pillars: 1) economic incentive and institutional regime; 2) education; 3) innovation, and; 4) ICT.

12. Belarus cooperates closely with UN agencies and DFIs on programmes and projects to improve competitiveness and attract investment. An example is a UNIDO technical assistance project in the automotive industry to upgrade SMEs' organizational structures and human capital and facilitate access to global markets. Belarus has established bodies to oversee reforms to the institutional and regulatory setting for innovative entrepreneurship. The Republican Confederation of Entrepreneurship set up the National Business Platform to develop public-private partnerships and promote the interests of the business community through dialogue with the government. The Belarusian Innovations Fund (Belinfond) is another initiative that provides financial assistance to innovative projects and SMEs to develop scientific and technical products. Belinfond also participates in the management of technology parks and is charged with improving interactions between the main scientific sectors in the field of science and technology and innovative activities.

13. Measures to improve the business climate include procedural reforms in registering and liquidating entities, tax reductions and simplification of the tax system, and harmonization of national legislation and technical regulations with the EU. The authorities also promote business and innovation infrastructure. Belarus has 12 operational scientific and technological parks and three technology transfer centres, including in the Brest, Grodno, Minsk, Mogilev and Vitebsk regions. Companies resident in these parks enjoy benefits and incentives, such as a 10 per cent income tax rate and tax exemption for profits earned from the sale of innovative goods. Research and development and equipment, tools, materials and hardware to perform R&D work are also VAT-exempt.

14. The conference turned to the experiences of a fellow former Soviet Union republic and middle income country – Uzbekistan. Participants heard that the country's GDP has quadrupled since independence with average annual GDP growth rates in recent years of over 8 per cent. Boosted by the emergence of the automotive, electrical goods and petrochemical sectors, industrial production grew on average by 9.4 per cent a year during the last decade. Uzbekistan has been working to create an innovative environment by cutting business red tape and reforming the tax system. Other initiatives include a 'single window' office where entrepreneurs can obtain official certificates, licences, accreditation and other services in one place.

Panel II: Overcoming the middle income trap (MIT)

15. Several presentations dwelled on specific issues relating to economic growth in MICs and the phenomenon of the middle income trap (MIT). In this scenario, low income countries (LICs) that experience rapid growth and transition to MIC status find that above a certain income threshold they stagnate and are unable to sustain growth to become HICs. They cannot compete either with low-wage manufacturers in LICs or with high wage, high technology innovators in HICs. Innovation, research and development, human capital and technology, are low and MICs are unable to raise income levels and reduce poverty rates.

16. How MICs can avoid the MIT and catch up with developed countries has received substantial attention. There is a consensus that MICs need to improve innovation and education and carefully select economic sectors that can compete internationally. While judicious economic policies are crucial, the conference presenters also cited the determining role of governance, institutions, inclusiveness and education.

17. In HICs, innovation, the development of new technologies, continuous skills upgrading, modernisation of services and economic diversification are frequently cited as the dynamics

of wealth and job creation. All presenters recommended that MICs create enabling environments for business, entrepreneurship, innovation and investment, preceeded by structural change along technological, industrial and organizational dimensions.

18. The panel discussed common policies to foster growth, which vary according to country income level. LICs and lower-MICs use tariffs, currency devaluation, and barriers to entry, whereas upper-MICs and HICs lean towards technology-oriented policies, such as public-private R&D consortia and R&D subsidies. In terms of accessing external knowledge, LICs and lower-MICs learn through product assembly and licensing, while upper-MICs and HICs benefit from collaboration between research institutions and universities. The end goal for LICs and lower-MICs is competitive export-oriented industries, whereas upper-MICs and HICs it is indigenous knowledge creation and diffusion.

19. In the absence of a generic master plan on growth and economic 'catch up', countries should evaluate different approaches and policy recommendations and build a model that reflects their priorities and addresses the specific challenges they face. The R&D-based growth model, often pursued by HICs, draws a direct link between R&D, innovation and productivity. This sequence may not be appropriate for MICs since it neglects the distinction between production capability and technology capability and overlooks the former as the vital source of productivity improvements. Taking this into consideration, an alternative non-linear model of technology upgrading stresses two sequences; 1) *research-development-innovation* and 2) *production capability-engineering-development-innovation*. This two-way model acknowledges that an R&D focus is not sufficient by itself and firms need to build their capabilities to conduct R&D efforts. One way to do this effectively is through the use of public-private R&D collaborations to encourage learning and the sharing of knowledge, risk and funds. Other channels of learning and access to knowledge are joint ventures between domestic and foreign firms, collaborations between industry and research institutions such as universities.

20. Some countries have achieved high levels of productivity by assimilating and adopting foreign technology. MICs tend to be 'behind the technology frontier' and rely on indirect R&D or R&D embodied in imported technology and inputs. This is the case in Central and Eastern European countries, where significant interaction is observed between import propensities and the ability to benefit from foreign R&D (indirect R&D) or R&D embodied in imported equipment or inputs.

21. MICs were warned to avoid 'adding up problems', where too many countries produce similar goods, thereby flooding the market and causing a reduction in price and profits. To be competitive and profitable, MICs should differentiate their products. Instead of attempting to replicate industries in other countries, an alternative strategy is to observe countries that are slightly ahead in terms of development but which have similar comparative advantages. Catch up countries can then target mature industries in those countries.

22. Several presentations discussed the benefits of Global Value Chains (GVCs) in allowing countries to enhance productive capacity and encourage the adoption of technology and the upgrading of skills in the labour force.

23. On other hand, regional economic eco-systems could be adversely affected if, in the process of linking with GVCs, local companies disconnect from the national economy. Although they bring potentially huge benefits for MICs as levers of domestic technology upgrading, seeking to access GVCs alone is not a sufficient strategy for sustained growth. GVCs alone do not ensure upgrading, since firms and countries can become locked in specific segments

of GVCs. Internal firm level upgrading prospects may be much more important. Upgrading does not necessarily lead to increased profits and sustainable incomes.

24. Countries were urged to consider technology specialisation in targeted sectors or in 'short cycle technology-based' industries. where new technologies become outdated relatively quickly. These sectors may be more advantageous for latecomer countries because they have lower entry barriers. They do not require sunk capital costs and there is little risk of being locked into old technologies. Having successfully entered a sector, it might be possible for a country to 'leapfrog' into emerging technologies. Such a strategy is not without risks, however, and can fail, if the wrong technology is selected, or there is no market for these technologies.

25. The conference heard recommendations for MICs as they develop smart specialization strategies: 1) focus on the whole innovation chain including production capabilities, paying attention to global innovation networks; 2) explore how to use GVCs as linkages, leverage learning mechanisms technological learning and development, and integrate these into smart specialization activities, and 3) create an institutional context to effectively design and implement a smart specialization strategy.

Panel II: Case study - The Republic of Korea

26. Over several decades, the Republic of Korea (RoK) transformed itself from an underdeveloped, agrarian economy into an industrial powerhouse at the technology frontier with a highly skilled workforce. Several presenters attempted to distill the factors that contributed to the country's economic success.

27. The RoK has witnessed rapid income growth over the past 20 years. In 1995, per capita income was USD 10,000, in 2007 USD 20,000 and over USD 25,000 in 2013. An important lesson from RoK's example is that development should be a series of feasible steps. The country gradually moved up into higher value sections of production chains, graduating from light to heavy manufacturing, from steel production and to ships and cars. The automotive industry – now one of the country's largest – originated in car assembly and national production capabilities were upgraded in stages as foreign technology and know-how were absorbed. For example, imported machinery had to be serviced and the parts were replicated, which transferred machine building knowledge.

28. The RoK government encouraged household saving and pursued a protectionist policy and import substitution. Imports of consumption goods were suppressed. In the 1960s, RoK adopted an export promotion policy. In the mid-1980s, inflation stabilized, facilitating the transformation of the production structure. The industrial sector grew while the share of employment in agriculture fell dramatically (from 40 per cent in 1960 to 2.3 per cent today). Despite the fall in employment in agriculture, the sector has continued to grow, by expanding into higher value added production.

29. In the 1980s, a combination of factors led to soaring R&D levels. First, Korean firms established in-house R&D and emphasized indigenous technologies, in reaction to the impact of next-tier exporters and rising domestic wages, which were eroding price competitiveness. Second, the government exempted R&D activities from tax. Third, a series of private-public joint R&D ventures were initiated on high end product development such as memory chips, mobile phones and digital TVs.

30. Education has been crucial for economic growth and democracy. The RoK is regarded as a exemplary case of economic growth based on a highly skilled workforce.

31. Effective state capacities were an essential element of RoK's industrial upgrading and diversification. Throughout the country's economic development the government took a dominant role in steering the economic transformation. This remains the case today.

32. Despite economic success, the RoK faces some challenges. There is substantial a shortage of qualified labour in cutting-edge industries. The RoK also faces an ageing population and declining birth rate, which could lead to labour shortages.

Panel III: The role of development financial institutions (DFIs)

33. Belarus works closely with international organisations and DFIs. The Government has been cooperating for over 20 years with the EBRD, the Eurasian Development Bank (EDB), UN agencies and the World Bank, whose current project portfolios cover areas such as energy efficiency, infrastructure, industry, agriculture transport and energy capacity building for SMEs run to several billion US dollars.

34. In accordance with its strategic priorities for 2013-2017, the EDB finances projects on energy and resource efficiency, transport, fostering trade and international economic ties and municipal infrastructure projects in its member states. The bank aims at supporting the implementation of the proposed Sustainable Development Goals, namely to eradicate poverty by creating new jobs, to promote inclusive and sustainable economic growth, industrialization, agricultural development, and access to sustainable and reliable modern energy services and water supply.

35. Synergies exist between the activities of international organizations and DFIs working in Belarus and the wider region. The EDB called on UN agencies to keep the bank informed on ongoing and pipeline projects, which it could consider for investment, particularly those activities relating to production, transport infrastructure, agriculture, and energy and resource efficiency.

36. Most DFIs do not collaborate directly with SMEs, but instead provide loans to national banks, which in turn lend to SMEs. These banks, however, often lack capacity to conduct appropriate financial analysis. At the same time, SMEs lack experience and knowledge of preparing loan applications and business plans. The EDB suggested that the UN develop a technical assistance project that would create advisory centres for banks and SMEs to facilitate the lending process.

37. The EDB also called for partnerships with the UN to conduct analytical research, such as joint studies on vital issues of regional development. Partnerships would save resources, avoid duplication and increase impact.

38. In cooperation with the UN, Belarus has implemented socio-economic, regional development, energy efficiency, green economy and environmental projects, and public private partnerships. In cooperation with the UN Country Team Belarus is in the final stage of developing its UN Development Assistance Framework programme for the period until 2020. The UNDAF is a multi-vector development plan in line with the country's socio-economic priorities.

39. The DFI representatives focused their observations on the banking sector and the development of capital markets. World Bank research has shown that efficiency in the financial system is critical for economic growth. In Belarus, the financial system is dominated by banks, which account for 98 per cent of assets. Non-banking institutions are growing, but their share remains small. In the case of government-owned banks, the presenters called for policies to focus on making recapitalisation programmes more

efficient, bringing down the cost of borrowing, and fostering local capital markets to increase access to finance.

40. Economic growth depends on the efficiency of national financial systems. The government of Belarus is an active player in the banking sector, with direct ownership of 68 per cent of total banking system assets and targeted lending, which has risen from 4 per cent of GDP in 2005 to 11-12 per cent in 2013-2014. Belarus has a narrow investor base, which the banks, as the main holders of corporate bonds (90 per cent of securities), dominate. Non-bank financial institutions (leasing and insurance companies) and capital markets are growing, but their share remains small.

41. Established in 2011, the Development Bank of Belarus is majority owned by the government. The Bank works jointly with DFIs and the Ministry of Economy. In 2014, the Bank launched a programme to support SMEs by providing simplified access to funding.

42. The development of the stock market would improve access to finance and reduce the cost of borrowing. Capital markets have the potential to facilitate access of SMEs and larger non-bank financial institutions to finance. In Belarus, however, the market is still small, and liquidity in the secondary market is limited. The infrastructure is in place, but the institutional investor base is not developed. There are also shortcomings in supervision and regulation.

43. The adoption and application of relevant rules of disclosure of both financial and non-financial information increases both the transparency of listed companies and builds confidence in the stock market. The experience of several emerging markets (i.e. China, Malaysia, Singapore and Indonesia) shows that the listing of major state-owned enterprises provides an immediate boost to the growth of their stock markets.

44. Macroeconomic stability is a key condition for financial development, but major institutional reforms and policy measures are necessary to reduce inefficiencies in the state-controlled banking sector. Delayed reform only increases economic costs to the economy.

Panel IV: The role of high technology parks

45. Examples of up-and-running, as well as in-development, science, industrial and technology parks in Belarus, Ecuador, Germany, the Republic of Korea, the Russian Federation, Slovenia and Turkey provided an overview of their invaluable role in national and regional business infrastructure and the factors that create thriving environments for entrepreneurs and high technology firms.

46. Industrial parks stimulate industrial development by fostering innovative activities and the valorisation of research results. Commercialisation of knowledge requires interaction between relevant actors and parks encourage the flow of knowledge between academic, private, public and market sectors, and promote innovative enterprises and spin-offs. Parks integrate companies into their business support eco-system and act as interfaces, encouraging collaboration between industry and university and engagement with local and international markets.

47. Case studies of successful parks highlight the active role required of different stakeholders. The state builds the optimal conditions to stimulate entrepreneurship and innovation; society creates demand for innovation and technology; academia produces scientific research; and industry commercialises research results and incorporates technology to add value to its production processes.

48. Parks provide aggregate services and high quality physical and technological facilities. The conference heard about the range of services offered by a successful park in Ankara, Turkey. ODTU Teknokent was established by the Middle East Technical University (ODTU) - the highest rated research university in Turkey and among the 100 most successful universities in the world. Teknokent encourages 'technopreneurship', facilitates university-industry convergence, and supports business-to-business interactions. As part of its entrepreneurship support, the park offers business accelerator and incubation programmes, a technology fund, and a business angel network.

49. A leading park in Belarus is the Belarus High Tech Park (HTP) in Minsk. With over 130 companies and 21,000 employees, the park has become a major IT cluster in Central and Eastern Europe. HTP resident companies provide services for clients in over 50 countries, and work for established firms, including five of the ten largest companies in the world. The park started operation in 2006 at a time when Belarus's ICT and software sector was still in its infancy. Fast forward to 2012 and Belarus is one of the top 30 countries for offshore programming. Five companies resident at HTP can be found a list of the top 100 global outsourcing companies. Belarus has also entered into a joint venture with China to build the "Great Stone Industrial Park".

50. Belarus High Tech Park offers training on business administration. Throughout Belarus, there are 65 university labs where entrepreneurs can learn practical project management skills. In addition, the park trains technical writers, linguists and software business analysts, preparing people to analyse potential clients' business processes.

51. Parks play an important role in facilitating knowledge flows and encouraging interaction between innovation stakeholders. In Slovenia, Technology Park Ljubljana's mission is to raise the value of community R&D and maximise the flow of knowledge and venture capital. One of the park's important functions is to create a regional knowledge and innovation eco-system by linking companies to other innovative centres and parks, as well as international markets. Similarly, the Skolkovo Institute of Science and Technology in the Russian Federation helps companies to enter the market by fostering cooperation between relevant actors.

52. The Adlershof Science and Technology Park in Berlin, Germany, is a dynamic and profitable high tech park established 20 years ago as a collaborate initiative of the business and science communities, the government and the city council. Adlershof hosts over 1000 companies, mainly SMEs, and 15,500 scientists, engineers and skilled employees. The park generates revenues of EUR 1.8 billion, of which 83 per cent is business revenues and 17 per cent public subsidies. For high tech SMEs, the park provides unique and affordable equipment, subsidised laboratory workshops and office space, including the necessary technology related infrastructure, as well as know-how, specialist support, technology and business consulting.

53. The conference also learned about a successful automotive cluster in Slovenia, a sector that has become the country's largest source of exports. The country's Novo Mesto automotive plant (Revoz), which has been declared the most efficient in the world, cooperates with a cluster of more than 85 companies. Slovenia's automobile cluster uses its expertise to support similar initiatives in Serbia and in the Russian Federation's Samara Oblast. The cluster assists by analysing gaps in local supply chains, identifying shortages in trained personnel, forging strategic partnerships, and building capacity and competences.

54. In terms of finance for start-ups, some parks set up venture funds and provide seed capital to nurture SMEs at the early stage of their development, often supported by government

development funds. From another perspective, some park managers believe that they lack the capacity to make accurate assessments of start-ups' potential and therefore to make decisions on how to allocate finance. Further, some parks believe that tenants should be encouraged to develop a funding strategy from the outset and proactively search out potential investors. In the same vein, some park managers consider that tenant companies that pay rent are better organised and professional than those that do not.

55. A successful SME high technology park concept has six factors: 1) economic and financial resources; 2) engagement with broader industrial policy; 3) synergies between research institutes and high tech SMEs; 4) an active SME incubation strategy; 5) an attractive urban location; and 6) a business development and marketing management strategy.

Panel V: Innovation and small and medium enterprises (SMEs)

56. Statistics explain why SMEs attract so much attention from policymakers. Globally, more than 95 per cent of businesses are SMEs, and they generate 50 per cent of employment and over 40 per cent of GDP. In the Europe and Central Asia region, the share of employment in SMEs differs across countries. In the new member states of the EU (Czech Republic, Hungary, Latvia, Lithuania, Poland, etc.), 50 per cent of jobs are in SMEs whereas in many CIS countries the figure is 20 per cent. There is hence significant potential for growth in these countries. ECA countries can achieve this by taking advantage of their manufacturing traditions, and high levels of education and basic research. An effective means to catch-up with leading economies is through technology acquisition and participatory doing-using-interacting (DUI) practices, usually across supply chains or global value chains. The combination of DUI practices and science technology innovation (STI) practices based on R&D activities are particularly useful for technology innovation.

57. Despite increasing global inter-connectedness and the growth in global value chains, only the most advanced SMEs are successfully taking part in these processes. Many other SMEs are sensitive to the regional landscape in terms of industrial specializations, local innovation systems and institutional frameworks. A regional development perspective needs to take such variations into account. In the same way, smart specialization strategies should reflect variations across regions and differences in value added and competences. Regional smart specialization strategies based on analysis of the local innovation eco-system, including the strength of interactions between actors, are also likely to be more successful. Within the European Union, the smart specialization approach is being applied to diversify and renew regional economies based on historical industry specializations.

58. In Poland, EU membership provided a fillip for industrial development, but innovation and financing for R&D continue to lag behind other countries. Low levels of cooperation between industry and academic institutions have also undermined the economy's innovation potential. Changes are being made. A national centre for R&D is supporting the commercialisation of research results, and whereas the majority of research funds were previously handed to universities to build research facilities and laboratories, now most financing is directed to businesses.

59. Industry's share of GDP in Slovakia is 24.3 per cent, one of the highest in the European Union. The automotive, metal production, electronics and electronics sectors have fared particularly well. Indeed, per capita car production is the highest in the EU In terms of innovation performance, however, Slovakia is behind other EU countries and is a 'moderate innovator' according to the European Commission's Innovation Union Scoreboard. To stimulate international cooperation in science and technology, the government is providing

'innovation vouchers' and supporting research and innovation capacities, the development of human resources, and cooperation between companies and the research sector.

60. Fostering innovation requires long-term industrial strategies that strike a balance between rapid economic growth and social and environmental sustainability. Targeted industrial policies increase skills, jobs and wages, reduce income inequalities and incentivise industry to promote environmental sustainability. A constraint to innovation-driven development in MICs is a shortage of competent management specialists and entrepreneurs to initiate and develop new technological projects. The commercialization of innovation is a highly complex process driven by highly creative experts, educated managers and entrepreneurs.

61. The challenge is to create an effective training system for a new generation of innovation and entrepreneurship educators. Such systems should be developed in cooperation between the education and the business communities. National systems of entrepreneurship and business education would facilitate start-up formation and project development. Universities and research institutions could host business accelerators, working in cooperation with the business community to promote university-based start-ups. Business can also develop curricula and teaching methods both for business and non-business disciplines to foster creativity, leadership and an entrepreneurial and innovative mindset. Some SITPs in Europe and Central Asia are already implementing such collaborative systems.

62. The conference closed with participants agreeing that the event had served as a highly valuable platform bringing together international experts from government, industry, international organisations and DFIs. There were calls to organise similar expert meetings in the future to sustain discourse on innovation and entrepreneurship in MICs, and to exchange information and best practice, from which all participants benefited. Throughout the discussions, a recurrent theme was the importance of cooperation between relevant stakeholders and a key recommendations is for MICs to exploit the wealth of expertise and leverage the potential of international organisations and development financial institutions.

6. Agenda

22 April 2015	
15.00	*Opening of the Telecommunications and IT Exhibition "TIBO-2015"* *Venue: Roofed Soccer Arena (pr. Pobeditelei, 20/2), Participation – optional*
23 April 2015	
09:00	**Registration of participants** *Venue: Ministry of Foreign Affairs (Lenina Street, 19)*
09:30	**Welcoming remarks and introductory speeches:** **Aleksandr Mikhnevich**, *First Deputy Minister of Foreign Affairs of Belarus* **LI Yong,** *Director General of UNIDO* **Jean Yves Bouchardy,** *UNHCR Representative in Belarus* **Sergey Sidorsky,** *Member of the Board (Minister) in Charge of Industry and Agriculture, Eurasian Economic Commission*
09:45	**Setting the agenda** **Keynotes:** **Wu Hongbo,** *UN Under-Secretary-General for Economic and Social Affairs* **Alexander G. Shumilin,** *Chairman, State Committee on Science and Technology of the Republic of Belarus* **Vladimir Maltsev,** *Director, Department of Industrial Policy, Eurasian Economic Commission* **Dmitry N. Krutoy,** *Deputy Minister of Economy of the Republic of Belarus* **Stephen Taylor,** *Director of Marketing, Communications and Business Development, AREA Science Park, Italy* **Keun Lee**, *Professor of Economics, Seoul National University* **Q&A** Issues: • Fostering inclusive and sustainable industrialization in the era of globalization and new technological change: Challenges and opportunities for MICs • What is new about new industrial policy? • How to mobilize resources for inclusive and sustainable industrialization in MICs? • The role of regional integration, innovation, technological learning, smart specialisation.

10:45	**Coffee Break**
11:00	**Panel Session 1***: Traditional industries and innovation* **Moderator**: **Stephen Taylor***, AREA Science Park, Italy* **Keynotes:** **Valery M. Fishman,** *Director General, Innovative and Investment Activities, Ministry of Industry of the Republic of Belarus* *Topic: The Innovative Development of the Machine-building Complex* **Stephen Taylor,** *AREA Science Park, Italy* *Topic: The role of business infrastructure, such as territorial clusters, science, industrial and technology parks for knowledge-based economy* **Slavo Radosevic**, *Professor of Industry and Innovation Studies, University College London* *Topic: Smart specialization* **Panel participants:** **Sergei Poddubko,** *Director General, Joint Institute for Mechanical Engineering of the National Academy of Sciences of Belarus* **Alexander Belevich,** *Coordinator of the UNIDO project on automotive industry "Scientific and Administrative Support of the Machine-Building Complex. Prospects of UNIDO Project on Institutional Support of Belarusian Auto-components Producers"* **Sergei Druchek,** *Deputy Minister of Industry and Transport, Government of Kaluga Region, Russian Federation* **Dusan Busen**, *Automotive Cluster of Slovenia* **Mieczysław Bąk,** *CEO - Institute for Private Enterprise and Democracy, Director of Advocacy Department of the Polish Chamber of Commerce* **K.Y. Koroteev,** *First Deputy Director-General Belarusian –Chinese JV "Great Stone"* **Gediminas Rainys,** *Vice President – Director General, Lithuanian Confederation of Industrialists, Lithuania, Vilnius Confederation of Industrialists* **Q&A** Issues: • The role of technology, science and innovation in national development strategies • The role of business infrastructure, such as science, industrial and technology parks • The role of Foreign Direct Investment (FDI) and support for international technology transfer in manufacturing industries • The role of innovative partnership models to scale up investment in inclusive and sustainable industrialization • Globalization of traditional industries and lessons learned: Best practices cases and lessons learned from the Belarusian automobile cluster • The role of public procurement

12:30	**Visit to Fanipol**, a new industrial centre (***Felice Massaro**, Director, JSC Stadler Minsk*) *Foreign participants are invited*
14:00	**Working lunch** *Venue: Fanipol, JSC Stadler Minsk*
15:30	**Panel Session 2: Overcoming the middle income trap: The role of hard and soft business infrastructure and technological innovation (with reference to the Republic of Korea's experience)** *Venue: Ministry of Foreign Affairs* **Moderator**: **Keun Lee**, *Professor of Economics, Seoul National University* **Keynotes:** **Vladimir Karyagin**, *Chairman, Republican Confederation of Entrepreneurship* *Topic: Institutions and other soft infrastructure Barriers to Development* **Keun Lee**, *Professor of Economics, Seoul National University* *Topic: Innovation and sustainable growth beyond the middle income trap.* **Young-Chul Kim,** *Country Manager for Belarus, the World Bank* *Topic: Overcoming the middle income trap - the Korean experience of development* **Panel participants:** **Ergali Bulegenov,** *Ambassador of the Republic of Kazakhstan in Belarus* **Vyacheslav Smirnov,** *Head, Academic and Teaching Department, Belarusian State University of Informatics and Radioelectronics* *Topic: The Practice-Oriented Training of the Scientific and Technical Personnel* **Ruslan Suleymanov,** *Head, Export promotion department Chamber of Commerce & Industry, Uzbekistan* **Albrecht Victor,** *President of the Association of Vendors of Software "Insoft", Director of High-Tech Park, Kyrgyz Republic* **Jimmyn Park**, *Visiting lecturer, Sciences-Po, Paris, France* **Patrik Líška,** *Industry and Trade Section, Ministry of Economy of the Slovak Republic* **Andrea Farkasova,** *Industry and Trade Section, Ministry of Economy of the Slovak Republic* **Q&A** Issues: • Republic of Korea's experience of industrial upgrading and value chains. • Shifting to a creative economy based on science, technology and IT industries. • The role of the state and the role of market in MICs. • Benefiting from national comparative advantages.

17:00	**Coffee break**
17:15	**Panel session 3: The role of development financial institutions in building partnerships for promoting inclusive and sustainable industrial development in Europe and Central Asia** *Venue: Ministry of Foreign Affairs of the Republic of Belarus (Lenina Street 19, Minsk)* **Moderator*:* Young-Chul Kim,** *Country Manager for Belarus, the World Bank* **Keynotes:** **Dmitriy N. Krutoy,** *Deputy Minister of Economy of the Republic of Belarus* **Kirill Haiduk,** *Economist, Europe and Central Asia Region, the World Bank* *Topic: Mobilizing domestic financing for development in MICs* **Panel participants:** **Francis Delaey**, *EBRD, Head of Office Minsk* *Topic: The tools of development financial institutions to align the interests of different partners for the benefit of all.* **Virgil Nae**, *Head of the EIB's Representative Office in the Russian Federation, European Investment Bank* *Topic: Building partnerships for promoting inclusive and sustainable industrial development in Europe and Central Asia* **Leonid Efimov,** *Deputy Head of International Relations Department, Eurasian Development Bank* *Topic: Investing in sustainable development. Partnerships between international organizations* **Vladimir A. Dragun,** *Deputy Chairman, JSC Development Bank of Belarus* **Q&A** Issues: • Building partnerships to promote inclusive and sustainable industrial development in Europe and Central Asia. • The involvement of various stakeholders in partnership programmes. • Mechanisms to mobilize the resources of various stakeholders. • The tools of development financial institutions to align the interests of different partners for the benefit of all. • Regional integration initiatives for pursuing integration in the global economy.
18:45	**Concluding remarks**
19:00	**Dinner** *Venue: Ministry of Foreign Affairs*

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09:30	**Panel Session 4*: Role of high technology parks***

Venue: Park of High Technologies (Kuprevicha Street 1-1)

Moderator: Valeriy Tsepkalo, *Director, High Tech Park, Belarus*

Keynotes:
Valeriy Tsepkalo*, Director, High Tech Park, Belarus*
Byongjo Suh, *President, National Information Society Agency (NIA), Republic of Korea*
Jeongwon Yoon, *Executive Director, Global IT Cooperation, National Information Society Agency (NIA), Republic of Korea*
Topic: The experience of the Republic of Korea in the creation of high tech parks
Hector Rodriguez, *Director General, City of Knowledge Yachay, Ecuador*

Panel participants:
Alexander Okunev, *Head, Department on Cooperation with Development Institutes of CIS Member States, Fund "Skolkovo" (Russian Federation)*
Vladimir Maltsev, *Director, Department of Industrial Policy, Eurasian Economic Commission*
Iztok Lesjak, *Technology Park Ljubljana, Slovenia*
Tolga Ozbolat, *Director, Collaboration Operations on Technology Transfer, Technology Transfer Office, Ankara, Turkey*
Horst Roesler, *International Business Consultant*
Topic: "The case of Adlershof Berlin"
Lilian Boboc, *Director, Center of Technology Transfer, Moldova*

Q&A

Issues:

- The role of IT for sustainable industrial development and lessons for MICs in transition to the new technological setup
- MICs experiences in the establishment of high technology parks
- Prospects to forge cooperation between high technology parks in MICs

11:00	**Coffee break**

11:30	**Panel session 5: Small and medium enterprises and innovation** *Venue: High Tech Park, Belarus* **Moderator: Serguey Zharnikov**, *Director-General, Belarus Union of Employers* **Keynotes:** **Alexander G. Shumilin,** *Chairman of the Belarus State Committee for Science and Technologies* **Mario Davide Parrilli,** *Senior Research Fellow at Orkestra and Professor of Economics at the University of Deusto, San Sebastian and Bilbao, Spain* **Vladimir V. Apanasovich,** *Director, Professor, Institute of Business and Technological Management, Belarusian State University* **Panel participants:** **Pyotr Vityaz**, *Head of the Secretariat of the National Academy of Sciences* **Leonid V. Tanin**, *Chairman, Board of Directors, Group of companies "Holographic Industry"* **Igor Severine,** *Programme Analyst, United Nations Development Programme* **Alexander Okunev,** *Head, Department on Cooperation with Development Institutes of CIS Member States, Fund "Skolkovo" (Russian Federation)* **Yulia Kavetskaya,** *Chief Specialist*, *Financing SMEs, JSC Development Bank of Belarus* **Q&A** Issues: • Challenges facing SMEs and innovative start-ups. • Strategies and policies to support innovative SMEs. • Improving access to finance for SMEs. • The role of SITPs in supporting innovation and entrepreneurship • Regional knowledge platforms and technology banks for technology transfer. • Innovative models for science, technology and innovation capacity building.
13:15	**Closing remarks** MoFA and UNIDO
13:30	**Exhibitions by MICs' innovation companies**
14:00	**Lunch**
15:30	**Visits to "Adani" and "Wargaming"**
19:00	**Reception** *Venue: Hotel Beijing*

7. Speakers and panelists

Vladimir V. Apanasovich

Director, Professor, Institute of Business and Technological Management, Belarusian State University

Mr. Apanasovich initiated the creation of the BSU School of Business and Management of Technology and has been its director since its establishment in 1996. A Doctor of Science and full professor, Mr. Apanasovich has established broad international scientific and academic relations with foreign universities and organizations. He is Chairman of the Association of Business Education and head of the organizing committee of the annual international scientific-practical conferences "Actual problems of business education" and "Innovation processes and corporate management". Mr. Apanasovich has received multiple awards from the Republic of Belarus and certificates of honour from the Ministry of Education and the Belarusian State University.

Mieczyslaw Bak

CEO, Institute for Private Enterprise and Democracy and Director, Advocacy Department of the Polish Chamber of Commerce

Mr. Bak is an international expert in innovative economy and SME development strategies. He holds a Ph.D. in Science from the Polish Academy of Sciences. Mr. Bak is an advisor to the Ministry of Economy on SMEs Development Issues and actively participates in drafting national business development strategies. He is CEO of the Institute for Private Enterprise and Democracy (IPED) and Director of Advocacy Department of the Polish Chamber of Commerce. He has been involved as instructor in various trainings in central Asia and South East Europe on business association and NGOs.

Jean Yves Bouchardy

UNHCR Representative in Belarus and acting United Nations Resident Coordinator

Mr. Bouchardy has been UNHCR Representative in Belarus since 2012. In this role, he advises the Government of Belarus on refugee, asylum and other related issues. Prior to taking up this position in Minsk, Mr Bouchardy worked in a number of senior functions at UNHCR, including in Armenia, Iran, and the Russian Federation. Prior to joining the United Nations, he worked at the French Ministry of Education. Mr Bouchardy holds a Ph.D. in Sciences, Geography and Environment from the University of Grenoble and Pavis VI.

Francis Delaey

Head of Minsk Office, European Bank for Reconstruction and Development (EBRD)

Francis Delaey was a Senior Associate with Akin, Gump, Strauss, and Hauer & Feld between 1996 and 1999, and a Senior Counsel at the EBRD in London until 2004. He then took up the position of Head of Office for Moldova at the EBRD until 2008. Between 2008 and 2011, Mr. Delaey held the position of Country Manager and subsequently Non-Executive Director in Azerbaijan. Since 2011, Mr. Delaey is the Head of the EBRD office in Minsk.

Kirill Haiduk

Economist, Europe and Central Asia Region, the World Bank

Mr. Haiduk graduated from the Faculty of Economics of the Belarusian State University and holds a Master's degree from the University of Sussex and a Ph.D. from the University of Trento. From 2001 to 2004, Mr Haiduk worked as an economic expert for an International Labour Organization project in Belarus. From 2002 to 2005 Mr Haiduk lectured in economics at the European Humanities University and from 2002 to 2005 at the Belarusian State University. From 2001 to March 2013 he was an associate expert at the IPM Research Center and from 2011 a member of the Supervisory Board. From 2007 to 2008 he worked as a senior analyst at the Belarusian Institute for Strategic Studies (BISS). From 2012 to 2013, he was leading researcher at the Belarusian Economic Research and Outreach Center (BEROC). Since 2013 Mr Haiduk has been an economist of the World Bank in Belarus.

Wu Hongbo

UN Under-Secretary-General for Economic and Social Affairs

Among his various diplomatic assignments, Mr. Wu served as China's Ambassador to the Philippines and to the Federal Republic of Germany. Mr. Wu was extensively engaged previously in a broad range of social and economic issues relating to Hong Kong SAR and Macao SAR. Mr. Wu currently serves as United Nations Under-Secretary-General for Economic and Social Affairs. He brings to DESA his outstanding policy-making experience and problem-solving skills, as well as rich and extensive experience in multilateral organizations and international conferences. Mr. Wu graduated from Beijing Foreign Studies University and pursued his postgraduate studies at Victoria University of Wellington in New Zealand.

Vladimir Karyagin

Chairman, Republican Confederation of Entrepreneurship, Republic of Belarus

Mr. Karyagin is engaged in private sector development. Since 1988 he has headed public associations of entrepreneurs and employers at local, republican and international levels. Under his initiative unions of manufacturers were founded in Belarus and the USSR, as well as various associations including the Association of Entrepreneurs, the Belarusian Consumer Society, the Belarusian Confederation of Industrialists and Entrepreneurs. Mr. Karyagin has also headed a number of newspapers and magazines. Currently, Mr. Karyagin is Chairman of the Republican Confederation of Entrepreneurship and Chairman of the Minsk Capital Association of Entrepreneurs and Employers.

Young-Chul Kim

Country Manager for Belarus, the World Bank

Mr. Kim joined the World Bank in 1986 and has worked in various positions in the Economic Projections and International Economics Departments, Debt Relief Operations Unit, and in Africa. He was cluster leader for Poverty Reduction and Economic Management from 2005 to 2011, overseeing Development Policy Operations in Malawi, Mozambique and Uganda, and as a senior operations officer working on Angola and Mozambique. Mr. Kim studied International Law and International Economics at Yonsei University in the Republic of Korea and John Hopkins University in the United States. With over 27 years of work experience at the World Bank, Mr Kim brings a unique combination of strong analytical skills, keen understanding of development issues, and extensive operational expertise to this position.

Dmitry N. Krutoy

Deputy Minister, Ministry of Economy of the Republic of Belarus

Mr. Krutoy graduated from Belarusian State Technological University in 2003 and the Academy of Public Administration under the aegis of the President of the Republic of Belarus in 2010. He worked as Lead Economist, Chief Economist of the Directorate of Economy and Investment of the Ministry of Forestry between 2004 and 2006, and as Deputy Head of the Directorate of Agro-industrial and Forestry Complexes of the Ministry of Economy between 2006 and 2010. Mr. Krutoy was appointed Head of the Forestry Department of the Ministry of Economy and Deputy Head of the Forestry Department of the Directorate of Agro-industrial and Forestry Complexes of the Ministry of Economy in 2010. Since 2014, he has been Deputy Minister of Economy.

Keun Lee

Professor of Economics, Seoul National University

Mr. Lee is editor of Research Policy, Director of the Center for Economic Catch-up, and Professor of Economics at Seoul National University. He is a member of the UN Committee for Development Policy. He holds a Ph.D. degree from the University of California, Berkeley. Mr. Lee has been a consultant at the World Bank, lecturer at the University of Aberdeen, Scotland, and a research fellow at the East West Center, Hawaii. He specializes in economics of catch-up addressing such themes as firm growth, industrial policy, and innovation with focus on Korea and China.

Iztok Lesjak

Director, Technology Park Ljubljana

Mr. Lesjak is an international expert in innovative SME creation, incubation and regional policy development. Following the M.Sc. degree in Economics, he worked as a representative for the Jozef Stefan Institute and the National Institute of Chemistry. In 1993 he joined the Technology Park at Jozef Stefan Institute, the predecessor of the Technology Park Ljubljana, where he was appointed as General Manager in 1996. Mr. Lesjak has supported the design, development and implementation of the park infrastructure and value-added services. He is an international projects expert in the fields of national and regional innovation and technology transfer strategies and regional development.

LI Yong

Director General, United Nations Industrial Development Organization (UNIDO)

Mr. LI has had an extensive career as a senior economic and financial policy-maker. As Vice Minister of Finance of the People's Republic of China and member of the Monetary Policy Committee of the Central Bank for a decade, Mr. LI was involved in setting and harmonizing fiscal, monetary and industrial policies, and in supporting sound economic growth in China. He pushed forward financial sector reform, and prompted major financial Institutions to establish corporate governance, deal with toxic assets and strengthen risk management. Mr. LI gave great importance to fiscal and financial measures in favor of agricultural development and SMEs, the cornerstones for creating economic opportunities, reducing poverty and promoting gender equality. He played a key role in China's cooperation with multilateral development organizations, such as the World Bank Group and the Asian Development Bank.

Olga Memedovic

Chief, Europe and Central Asia Bureau, United Nations Industrial Development Organization

Before joining UNIDO, Ms Memedovic served as a project leader at the Netherlands Economic Institute and as a research fellow at the Tinbergen Institute of Erasmus University Rotterdam, Free University Amsterdam and University of Amsterdam. Ms Memedovic has led various research projects, among them are the EU–LDC Trade and Capital Relations; Global Value Chains and Innovation Networks: Prospects for Industrial Upgrading in Developing Countries; Public Goods for Economic Development; and Pursuing Resource Efficiency in Europe and Central Asia. She is the author and main editor of several books, reports and studies on the issues of globalisation of labour markets, multilateralism and regionalism, technical barriers to trade, theory and measurement of comparative advantages, global value chains and production networks, industrial energy efficiency, resource efficiency, SME clusters, industrial parks and innovation systems, collective actions and industrial policy, eco-industrial policy, and others

Aleksandr Mikhnevich

First Deputy Minister of Foreign Affairs of the Republic of Belarus

Mr. Mikhnevich is a graduate of Moscow Engineering Physics Institute and the All-Union Academy of Foreign Trade. He has served in the Ministry of Light Industry of the Belarusian Soviet Socialist Republic. Between 1992–2000, Mr. Mikhnevich worked in the Belarusian Light Industry Concern "Bellegprom" (Head of Division, Head of Foreign Economic Relations Department and then as Vice-President). In 2000, he joined Ministry of Foreign Affairs as Deputy Minister and served as Ambassador to the UK and the Republic of Ireland between 2006–2012. Since September 2012 he has been First Deputy Minister of Foreign Affairs of the Republic of Belarus.

Virgil Nae

Head of the EIB's Representative Office in the Russian Federation, European Investment Bank

With more than 18 years of work experience in various areas of finance and banking in Central and Eastern Europe, Mr. Nae is an expert in financial management, lending and treasury activities, project credit risk assessment and management of financial risk. Prior to taking up his current role as head of EIB's Office in the Russian Federation, Mr. Nae held the position of Head of Liquidity Planning in the Finance Directorate of the EIB. He also worked in the Coordination and Financial Policies

Division of the same Directorate. Before joining the EIB in 2007, Mr. Nae worked for 5 years at the Black Sea Trade and Development Bank in Thessaloniki, Greece.

Tolga Ozbolat

Director, Collaboration Operations on Technology Transfer, Technology Transfer Office, Ankara, Turkey

Mr. Tolga Ozbolat is currently Director of the Collaboration Operations on Technology Directorate and the Technology Transfer Office at the Middle East Technical University (ODTU) Teknokent Yönetim A.Ş. Upon starting with ODTU Teknokent Yönetim A.Ş. in 2009, Mr. Ozbolat acquired and managed FP7 projects. Later he was also assigned Director of the University Industry Collaboration Department. Mr. Ozbolat is responsible for supervising tax incentives, management of office allocations and facilitating domestic and national company-company and university-industry collaboration. Furthermore, Mr. Ozbolat manages ICT and defence clusters, as well as several related projects.

Mario Davide Parrilli

Senior Researcher Fellow at Orkestra and Professor of Economics at the University of Deusto, San Sebastian and Bilbao, Spain

Mr. Parrilli is Senior Research Fellow at Orkestra and Associate Professor of Economics at the University of Deusto, San Sebastian and Bilbao, Spain. He is Director of the Ph.D. programme in economics and business studies of the Deusto Business School in cooperation with Orkestra. He is an expert in topics related to regional and industrial development. His main research areas are SMEs, industrial districts and clusters, innovation systems and business innovation modes, global value chains and global production and innovation networks, and social capital. Over the past years, Mr. Parrilli has been a lecturer at the University of Birmingham and University of Ferrara. He has led research and learning activities on Latin America and SMEs and acted as Research Director of the Institute Nitlapan.

Jimmyn Parc

Visiting lecturer, Sciences-Po, Paris

Jimmyn Parc is a visiting lecturer at SciencesPo in Paris and an associated researcher at the EU Center, Graduate School of International Studies at Seoul National University. He has published several academic articles and conducted a number of research projects related to competitiveness of organizations, industries, and countries. His main research topics are on strategies of different business systems and cultures with historical approaches.

Slavo Radosevic

Professor of Industry and Innovation Studies Department, University College London

Mr. Radosevic has extensive experience in innovation systems with special emphasis on Central and East Europe countries. He holds an M.Phil. and an Ph.D. in Philosophy from the University of Zagreb. With over 20 years of experience, Mr. Radosevic has participated in various conferences on entrepreneurship, international business and innovation policy. Currently he is Professor of Industry and Innovation Studies at the Slavonic and East European Studies, University College London.

Horst Rosler

International Business Consultant

Mr. Rosler has ten years of work experience in international consulting, capacity building, policy dialogue, and project management for associations in business development and international trade and investment promotion for renewable energies, 15 years as an international SME IT Value Added Partner Reseller (VAR) business for international companies, and 15 years international trade and business partner development in South Asia and the Middle East and North Africa. His most recent activities include Project Manager at Adlershof, Berlin, GIZ/CIM Consultant to the Board of the Pakistan-German Business Forum (PGBF) and since 2013 General Partner of the private consultancy office TCBA Technologie Commerz & Co. Mr. Rosler holds an MBA from the University of Applied Science in Berlin.

Sergey Sidorsky

Member of the Board (Minister) in Charge of Industry and Agriculture, Eurasian Economic Commission

Mr. Sidorsky is a graduate of the electrical and technical department of the Belarus Institute of Railway Transport Engineers. He progressed from assembly unit senior operator to the managing head of a major radio and machinery manufacturing enterprise. He worked in various positions within the Government of Belarus including the Deputy Prime Minister, First Deputy Prime Minister, and Prime Minister between 2003 and 2010. Since 2012, Mr. Sidorsky has been in charge of Industrial and Agricultural Policy Supervision in the Eurasian Economic Union, as Member of the Board – Minister in Charge of Industry and Agro-industrial Complex. Mr. Sidorsky has a doctorate in Technical Sciences, and is an academic of the International Academy of Engineering, Professor Emeritus of the Belarus State University of Transport, and Honoured Worker of Industry of Belarus. He is an author of more than 40 scientific papers.

Alexander G. Shumilin

Chairman, State Committee on Science and Technology of the Republic of Belarus

Mr. Shumilin is a graduate from the Belarusian National Technical University. He has worked in various positions in academia including assistant, senior teacher, associate professor, and head of Department at the Belarusian National Technical University. Since 2008 Mr. Shumilin worked in the Apparatus of the Council of Ministers and under the Aegis of the President of the Republic of Belarus. He served as Director of the Belarusian Innovative Foundation in 2012-2013. Mr. Shumilin was appointed as Chairman of the State Committee on Science and Technology of the Republic of Belarus (SCST) in 2013.

Stephen Taylor

Director Technology Transfer Department, AREA Science Park, Italy

Mr. Taylor has 20 years of experience in helping major firms and government agencies in Europe and North America access the latest knowledge and expertise for analysis and planning for new business, market research, new product development and technology commercialization. He has helped companies in assimilating new technology developments and translating them into business opportunities, and worked with key players in the sectors of aerospace and defence, information technology, telecommunications, energy, automobiles, electronics, engineering, chemicals and pharmaceuticals. Mr. Taylor is also active in joint-venture negotiations, industry and competition monitoring and analysis, business and new-product-opportunity evaluation, forecasting, technology and economic analysis.

Valery Tsepkalo

Director, High-Tech Park (HTP), Republic of Belarus

Mr. Tsepkalo is a graduate of the Belarusian Technological Institute and Moscow State Institute of International Relations. He has extensive experience with the Government of Belarus, including as First Deputy Foreign Minister, Ambassador to the USA and Mexico, and Assistant to the President of Belarus in the sphere of science and technology. Since 2005, Mr. Tsepkalo has been Director of the Belarus High-Tech Park. He is Member of the Strategic Council of the United Nations Global Alliance for ICT and Development and Governmental expert to the UN Secretary General in the field of information and communication technologies. He holds a Ph.D. in International Law and is an author of 80 articles on information technologies and global economics and author of 20 publications on e-government, hi-tech development and intellectual property rights.

Pyotr A. Vityaz

Head of the Secretariat of the National Academy of Sciences of the Republic of Belarus

Mr. Vityaz is a Doctor of Technical Sciences. His research area include powder metallurgy and composite materials, ceramics, coatings and synthetic diamonds. Mr. Vityaz is Member of the International Society ASM for Thermal Spraying and Materials, Council for Coordination of Fundamental Investigations of the National Academy of Sciences of Belarus, Presidium of Belarusian High Degree Committee, and Chairman of the Society for Finland-Belarus Friendship and Academician of the International Eurasian Academy of Sciences. He is an author of various publications, such as Porous powder materials and products, fibre high-temperature ceramic materials, and synthesis and application of super-firm materials.

Jeongwon Yoon

Executive Director, Global IT Cooperation Division, National Information Society Agency (NIA), Republic of Korea

Mr. Yoon has extensive experience in assisting developing countries in the area of e-Government and national ICT development. As Executive Director of the National Information Society Agency, he is involved in a variety of projects with several international organizations, such as the UN, International Telecommunication Union and multi-lateral development banks. Prior to his appointment as Executive Director, he was responsible for reviewing the Korean National Finance System and planning the National Backup Center and Digital Certification Authority. He obtained his B.S. and M.S. degrees in computer engineering from California State University and has a Ph.D. in information management from Seoul University.

Fostering inclusive and sustainable industrialization

in the middle-income countries of Europe and Central Asia through innovation and technological learning: needs, potentials and best practices