Ministry of Economy
of the Republic of Belarus

Draft Knowledge Sharing Program 2018/2019 "DIGITAL TRANSFORMATION OF NATIONAL ECONOMY OF THE REPUBLIC OF BELARUS"

Deputy Minister of Economy
of the Republic of Belarus
Dmitry Yaroshevich

Seoul, 2019

THE LOGIC BEHIND THE USE OF THE DIGITAL TRANSFORMATION OF THE WORLD ECONOMY

The formation and development of the IT industry

stages

I	II	III
1980 -1990	until 2010	after 2010
The information and communications infrastructure development	The digital transformation of the service sector	The digital transformation of fields in the real sector of the economy

TARGET AND STRATEGIC AREARS |OF ACTION OF PUBLIC POLICY OF THE REPUBLIC OF BELARUS TILL 2025

TARGET

overcoming systemic strategic concerns and ensuring the achievement of GDP in the amount equivalent to 100 billion US dollars

Strategic areas of action

- Digital Transformation of the National Economy
- New industrialization of the regions
- Business clustering

DIGITAL TRANSFORMATION OF THE ECONOMY OF BELARUS: BACKGROUND

the total number of employees in the scientific, technology and innovation (science + small innovative entrepreneurship + innovative infrastructure + IT sector)	Over 120 000 people
The subjects of innovation infrastructure	26 units 16 technoparks
Research and Development Organizations	454 units (in 2017)
High Tech Park Residents	505 companies

Isovac

The largest exporter of vacuum equipment in the CIS

Polymaster

One of the most promising companies in the world in the field of radiation control, with 57 dealers in 45 countries of the world. The only manufacturer of wrist-mounted dosimeters in the world

Technoton

Fuel consumption control and vehicle monitoring systems, that are delivered to the CIS countries, the European Union, Asia, Latin America and Africa (140 countries)

Regula

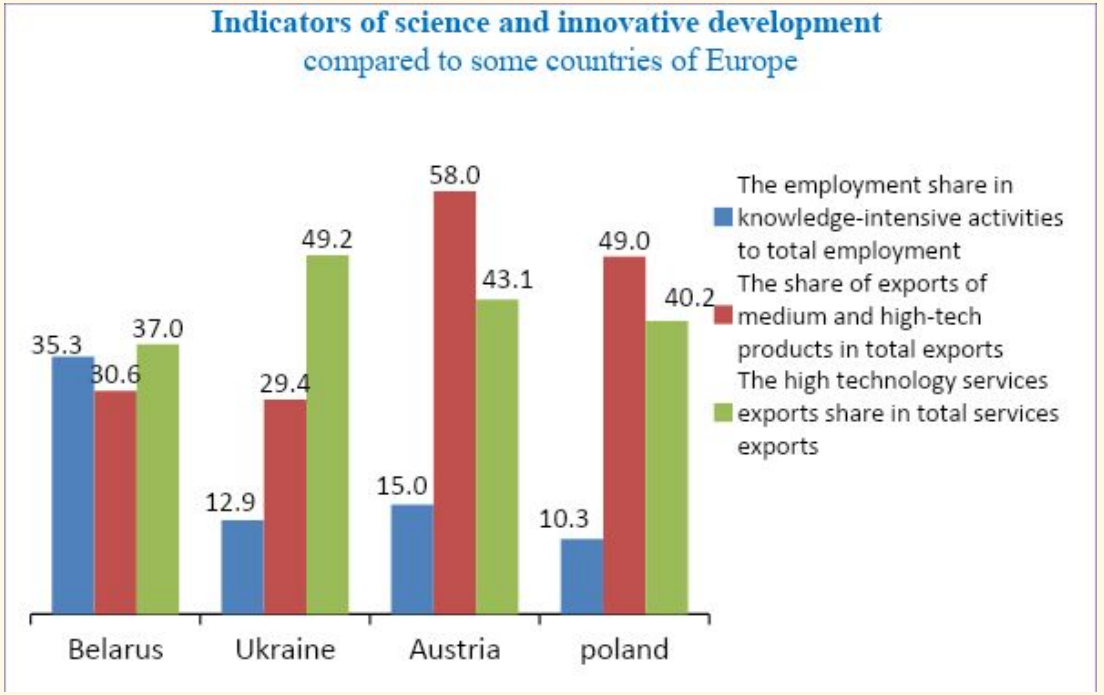
Expert products for authenticating documents, banknotes and securities. It has over 70 partners worldwide

Adani

High-tech medical equipment

DIGITAL TRANSFORMATION OF THE ECONOMY OF BELARUS: BACKGROUND

- Human Development Index (HDI) - 53 (out of 189)
- Information and Communications Technology Development Index - 32 (out of 176)
- UN rating on the level of development of electronic government (UN e-government survey) - 49 out of 193
- Education Level Index - 30 out of 189
- Global sybersecurity index - 69 of 180
- The share of the manufacturing sector in GDP (2018) was 21.5%
- The share of manufacturing organizations in the total number of legal entities amounted to 11.05% (2018)
- The share of people employed in the manufacturing sector in the total number of employed people is 20% (864.9 thousand people)



Export of high-tech goods in 2018,
most significant product groups:

instruments and devices for measuring, testing and navigation - $112.3 million
pharmaceuticals - $214.1 million
electric motors, generators and transformers - $165.4 million

THE HALLMARK OF ACHIEVING PROGRESS OF THE PROJECT "DIGITAL TRANSFORMATION OF NATIONAL ECONOMY OF THE REPUBLIC OF BELARUS"

- **DECREE of the President of the Republic of Belarus No. 7 of 11November 2017 "On the development of entrepreneurship"**
- **DECREE of the President of the Republic of Belarus No. 8 of 21 December 2017 "On the development of the digital economy"**
- **The concept of creating conditions for the digital transformation of industrial cooperation within the framework of the Eurasian Economic Union and the digital transformation of industry of the Member States of the Union**
- **Project in the framework of the Knowledge Exchange Program with the Republic of Korea 2018/2019 "Digital Transformation of National Economy of the Republic of Belarus"**

Target and Project Objectives

Target of the project:

to develop recommendations on a strategy for digital transformation of the industrial sector of Belarus

Project Objectives:

- Analysis of the global experience in the development of the digital economy
- Assessment of Belarus' industry readiness for the transition to a digital economy
- Recommendations for the industrial sector for digital transformation
- Roadmap for digitalization of 3 leading industrial manufacturing industries (engineering, petrochemicals, pharmaceuticals)

THE DEVELOPMENT PERFORMANCE OF THE PROJECT "DIGITAL TRANSFORMATION OF NATIONAL ECONOMY OF THE REPUBLIC OF BELARUS"

1. Application filing - September 2017.

Project Initiator:
Ministry of Economy of the Republic of Belarus

2. IFRS Decision on Project Approval - January 2018

3. Visit of the representatives of the IEF and KDI to Minsk - July 2018

Project objectives identified
The departments participating in the project are identified:
Ministry of Industry
Ministry of Health care
Concern Belneftekhim

THE DEVELOPMENT PERFORMANCE OF THE PROJECT "DIGITAL TRANSFORMATION OF NATIONAL ECONOMY OF THE REPUBLIC OF BELARUS"

4. Inception Workshop - October 2018

- presentation of the Knowledge Sharing Program
- discussion of the vision of the goals and objectives of the project with interested
- visit of Korean experts to enterprises and organizations

5. Signing of the Memorandum of Understanding between the ME and the IEF - January 2019
Preparation by Belarusian experts of data for analyzing the readiness of the Belarusian industry for digital transformation

6. Intermediate workshop in Minsk - January 2019

- a wide range of participants
- preparing the Review of the experience in the development of the digital economy in the Republic of Korea by Korean specialists
- visit of Korean experts to enterprises and organizations

THE DEVELOPMENT PERFORMANCE OF THE PROJECT "DIGITAL TRANSFORMATION OF THE BELARUSIAN ECONOMY"

7. Visit of Belarusian representatives to Korea - February 2019

- *subtotal workshop*
- *visits to Korean enterprises and organizations (Hyundai, Hanmi, Committee 4 of the industrial revolution, Kennam Technopark)*

8. Final workshop in Minsk - May 2019

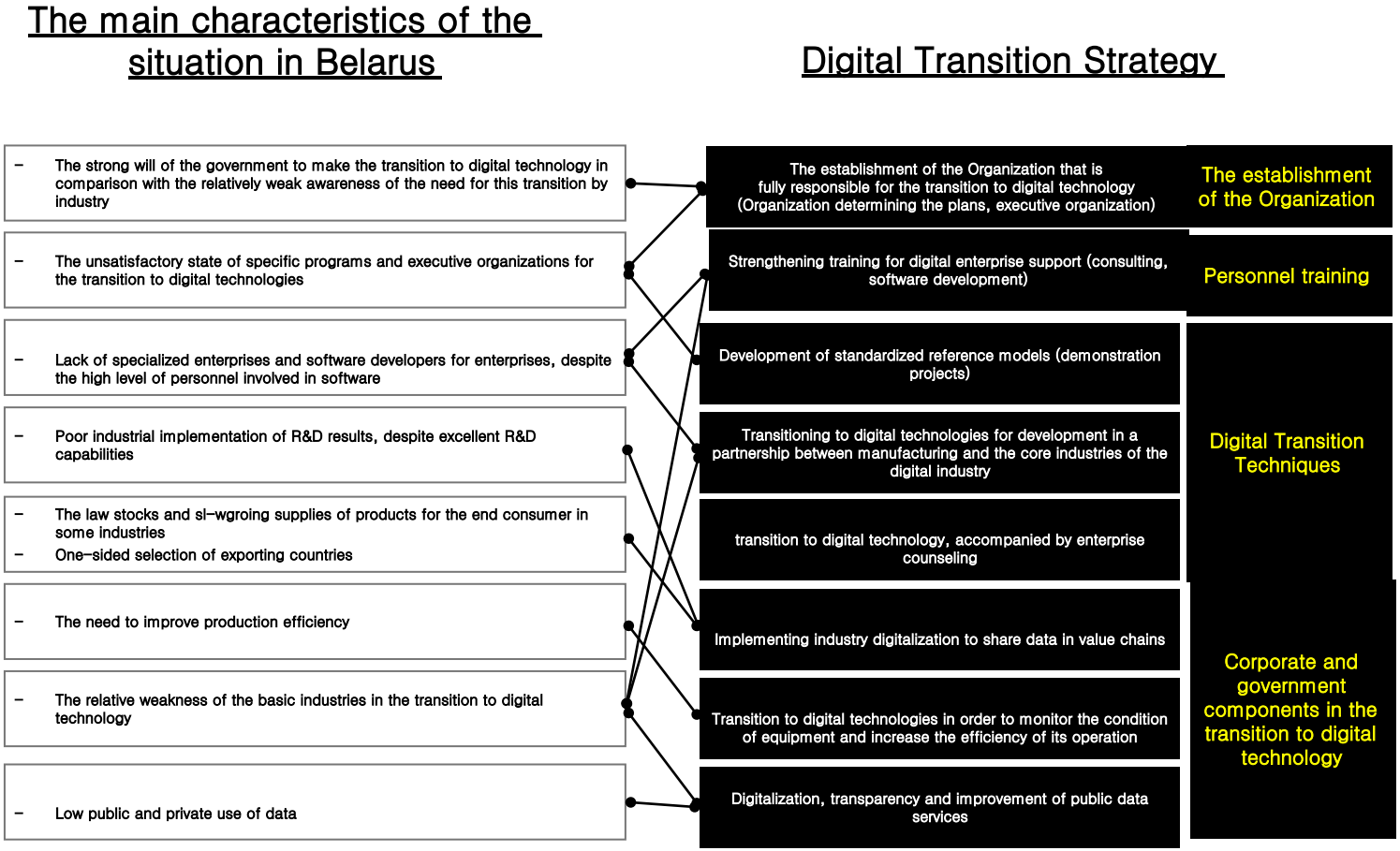
- *presentation of the results of work in accordance with the objectives of the project*
- *presentation of the Korean experience in the development of the digital economy of the Republic of Korea*
- *discussion of the output reports for their further development*

The audience of the seminar is about 70 representatives of government bodies, enterprises, scientific organizations, professional associations

Preliminary results of the project “DIGITAL TRANSFORMATION OF NATIONAL ECONOMY OF THE REPUBLIC OF BELARUS” (based on materials presented by Korean experts at the final seminar)

A. The main characteristics of the situation and the strategy of transition to digital technologies in Belarus

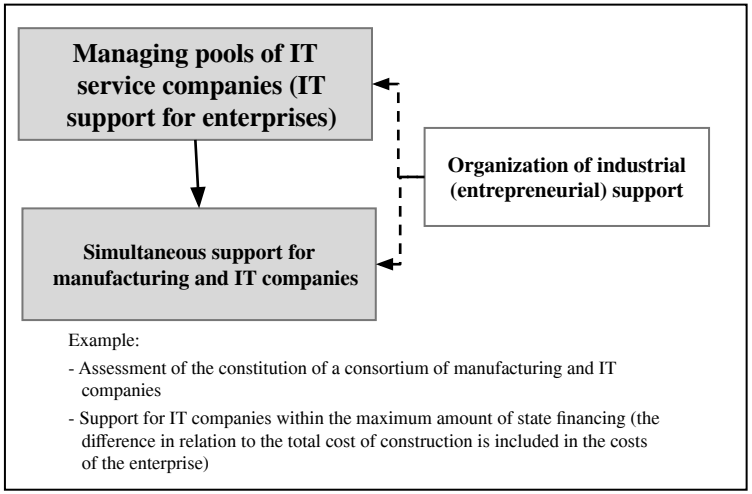
The issues of organization, training, ways of implementing the transition to digital technologies and components of the transition to digital technologies are identified on the basis of the main characteristics of the situation in Belarus, as well as examples of the transition to digital technologies in Korea and leading states



D. Digitalization Strategic Support

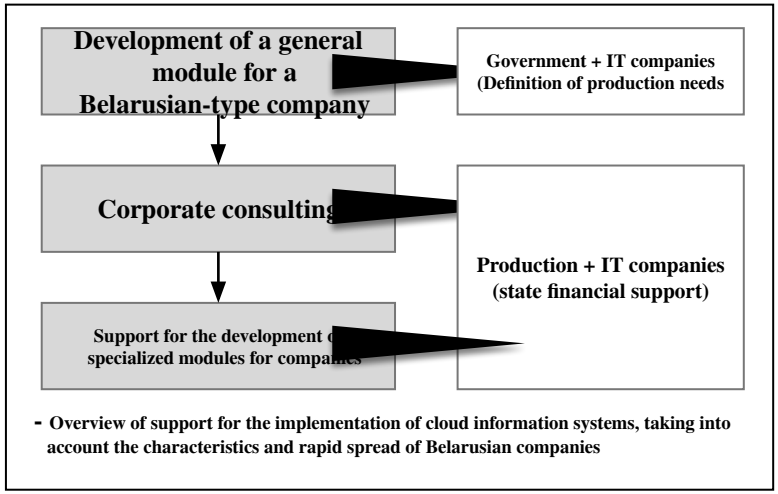
Through the simultaneous development of companies engaged in the production and provision of IT services, it is necessary to expand the market size and increase the competitiveness of IT companies, provide individual support through consulting, develop a system of national standards and conduct pilot projects, after which we will implement a large-scale expansion strategy aimed at all companies

Simultaneous Creation and Growth of manufacturing and IT companies

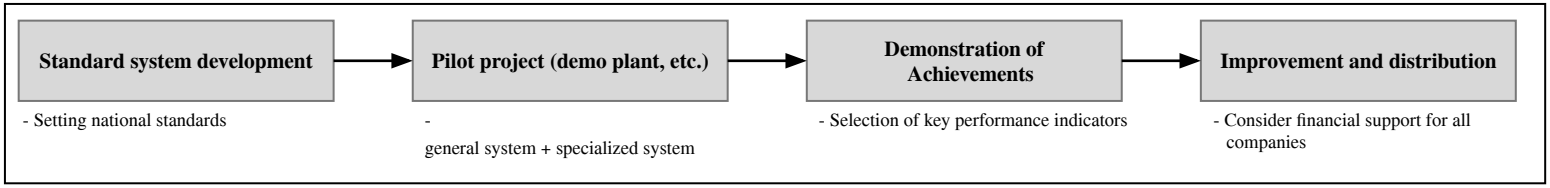


Example:
- Assessment of the constitution of a consortium of manufacturing and IT companies
- Support for IT companies within the maximum amount of state financing (the difference in relation to the total cost of construction is included in the costs of the enterprise)

Individual support through development of a common module and consultation



- **Overview of support for the implementation of cloud information systems, taking into account the characteristics and rapid spread of Belarusian companies**



Industry Digitalization Program: Innovative Vision of Intelligent Industries 2025

Vision		Increase productivity and ensure global competitiveness through industry digitalization	
purpose		1) By 2025, 1,400 intelligent manufacturing innovation companies (70% of manufacturing companies) 2) 25% performance improvement (performance, quality, cost, delivery) 3) Business Convergence Expansion 4) Contributing to the IT Services Industry	
Strategic direction		**Intelligent Manufacturing**	**Service**
Subprograms and projects	01. Popularization and Spread digitalization in demand areas	1. The introduction and distribution of smart factories 2. Informatization and intellectualization of management	3. Converged Business Model Development 4. - convergence of production + services 5. - convergence of production + ICT
	02. Strengthening of capacity digitalization supply industries	4. R&D innovations of technical factors of production areas 5. Strengthening enterprise digitalization capabilities (package development 6. Software for enterprises, SI, intelligent manufacturing technologies)	
	03. Building infrastructure digitalization	6. Training in Digital Innovation 7. Development of an intelligent manufacturing standard 8. Creation of a test bench for a smart factory and a leading model 9. Creating a digitalization promotion system	
	04. Conversion perceptions	10. Digital Awareness Survey and Promotion Policy	

APPROACHES TO DIGITAL TRANSFORMATION NATIONAL ECONOMY OF BELARUS ACCOUNTING THE RESULTS OF THE KSP PROJECT

1. ***Focusing on building core competencies:***
   Development of engineering and IT education;
   IT industry development;
   Manufacturing sector development
   (mechanical engineering, petrochemicals, pharmaceuticals)

2. ***System integration of science, education and the real sector of the economy based on a cluster development model, the formation and state support of innovative industrial clusters***

3. ***Orientation to the development, production, and promotion of software and technological equipment necessary for the digital transformation of the real sector within the framework of the Industry 4.0 concept***

4. ***Large-scale use in the national economy of Belarus of domestic software and technological equipment previously tested in other countries***

ALGORITHM FOR IMPLEMENTING DIGITAL TRANSFORMATION OF THE INDUSTRIAL SECTOR OF THE REPUBLIC OF BELARUS USING THE KSP PROJECT RESULTS

Creation of the organizational and technological platform “Smart Industry of Belarus” from among interested organizations in the real sector, the scientific and educational sector, business associations and unions

Formation of a list of industrial organizations on the basis of which pilot projects of digital transformation will be implemented, providing for the introduction of elements of the Industry 4.0 concept

Preparation and implementation of state programs for the medium term containing activities / projects in the field of digital transformation of industry

Initiating international cooperation projects for the digital transformation of the industrial sector

PROPOSALS OF THE MINISTRY OF ECONOMY OF THE REPUBLIC OF BELARUS TO CONTINUE WORK ON THE TOPICS OF DIGITAL TRANSFORMATION OF THE ECONOMY OF BELARUS WITHIN THE KNOWLEDGE EXCHANGE PROGRAM

Purpose:
on the basis of the results of the KSP 2018/19 project, develop practical recommendations on the implementation of digital transformation in the engineering sector
(implementation of the project to create a pilot smart production in mechanical engineering at the site of the organization from the OTP “Smart Industry of Belarus)

Tasks:
joint development of a smart production model for a selected industrial enterprise (using cyberphysical systems, industrial Internet, big data and artificial intelligence)
consultations on the implementation of a pilot project
presentations and seminars for practitioners

THANKS FOR ATTENTION !