



Digitising industry (digital transformation of SMEs in traditional sectors): policy recommendations – Belarus

Executive summary

Digital transformation is understood as “a fusion of advanced technologies and the integration of physical and digital systems, the predominance of innovative business models and new processes, and the creation of smart products and services” [EC]. Relevant EU industry-related policy is called ‘Digitising European Industry’; its objective is to ensure that businesses of all sizes, location and sectors in Europe can draw the full benefits from digital innovation.

Digital transformation is the systemic change required to master these new technological opportunities, including the change of business process, business model, and economic relations within and around the enterprise. Because of this, the funding to support SMEs in this complex endeavour should account for specifics of the expenditures and envisage inevitable knowledge transfer and trainings.

The EU best practice analysis shows that creating an environment for the digital transformation of small and medium-sized enterprises operating in traditional

sectors of the economy requires a systematic approach, including the formation of a palette of entities that provide advisory support and are centres of specialised competencies, as well as state trust to the private sector, providing it with self-regulatory functions and undertaking of joint projects as public-private partnerships. This all leads to the vision of a special organisational setting and toolkit of a policy on digital transformation, including collaborative mechanisms of public and private sector.

This document outlines the main features of policy recommendations, that are elaborated in detail in a separate document, based on status and gap analysis comparing to relevant EU best practices, and validated with the EU4Digital ICT innovation Expert Network in Belarus in May 2020.

The actors suggested by the EU4Digital Facility as potential actors in this document based on status analysis, have further considered their participation; the final list of potential stakeholders is indicated in the Action plan.

1. Policy and organisational setup for digital transformation in the country

1.1. A set of conceptual and implementation documents adopted at the national/regional level on the digitising of enterprises in traditional industries (strategy, action plan)

Gaps:

While separate elements related to digitising enterprises are presented in different strategies, these elements are not covering the full spectrum of activities needed to support digitising and are technocratic rather than economic.

Core recommendations:

- Develop a separate ‘Strategy of digitising SMEs in Belarus’, taking into account the Concept developed for EAEU and similar EU documents, reflecting its challenges and specific economic, resource, ownership structure, political goals, assets and limitations.
- Develop an action plan for Strategy implementation.
- Plan and facilitate the development of a wider range of targeted national strategies for digital transformation (including a list of issues important for further development).
- Develop a specific organisational and co-ordinational mechanism for digital transformation implementation.

The EU counterparts:

List of organisations from the EU countries with national strategies collected by EU4Digital Facility.

Actors in Belarus:

Ministry of Economy; Ministry of Communications and Informatisation; Ministry of Industry.

Why? Strategic and systemic vision is needed to build the toolbox of industrial and innovation policy in a pragmatic way – not only endorsing the digital opportunities, but also seeing the country-specific restrictions, goals, peculiarities of implementation mechanism.

1.2. A well-balanced and equipped set of policy bodies for digital transformation in the country

Gaps:

Existing mandates of regulatory authorities are primarily focused on transformation of public sector, rarely – on transforming traditional sectors; none of the bodies are responsible for digitising industry with a focus on digital transformation of SMEs in traditional sectors.

Core recommendations:

- Determine a central policy making body for digital transformation with a focus on digital innovations for transformation of SMEs in traditional sectors.
- Ensure that this body is well staffed with experts on digital transformation plus establishes balanced complementary mechanisms for elaboration and implementation of policy toolkit for digital transformation; has sufficient budget to implement the programme on digital transformation and collaborates with other policy bodies that can contribute to policy development and implementation.
- Ensure that other policy bodies have a clear understanding of their contribution domain and have human and financial resources to do so.

The EU counterparts:

List of national strategies from the EU countries collected by the EU4Digital Facility.

Actors in Belarus:

Ministry of Economy; Ministry of Communications and Informatisation; Ministry of Industry.

Why? While digital transformation concerns all industries and aspects of state regulation and governance, and hence all governance structures need to resolve the relevant issues in their competence area, determination of central policy body is needed to ensure the understanding by all the country stakeholders of the main gateway that accepts suggestions and coordinates the implementation of initiatives. For business, the distributed and unfocused nature of governance is hindering the initiatives as they “don’t understand with whom to talk”.

1.3. A platform and well-established organisational mechanisms and practices for discussions and joint work on digital transformation of industries of diverse stakeholders

Gaps:

- There is no website representing the Platform ‘Smart industry of Belarus’.
- The organisational mechanism of the operation of the ‘Smart industry of Belarus’ platform is still unclear.

Core recommendations:

- Establish a national organisational and technological platform ‘Smart industry of Belarus’ as an organisational mechanism for coordination of efforts of diverse stakeholders, equipped with economic and technological instruments, facilitating the digital transformation of industries.
- Consider establishment of a separate legal entity to maintain the online platform or delegating the mandate of the platform operator to an existing legal entity (list of functions is proposed by EU4D).
- Study the toolbox of existing platforms in Europe and in the world; select the tools relevant for Belarus and negotiate with platform owners about their transfer.
- Consider diverse mechanisms of consolidation of wider experts from various sectors of economy and composing the working groups.

The EU counterparts:

List of national platforms from the EU countries (EU best practice report).

Actors in Belarus:

Ministry of Economy; Ministry of Communications and Informatisation; Ministry of Industry; business associations.

Why? SMEs that make the supply chain of market leader international manufacturing companies, play a fundamental role in strengthening the competitiveness of the country. Ensuring their digitising in line with international standards and practices, increase of competences of related stakeholders, coordination of multiple stakeholders in the systemic challenge of digitising industry needs to be undertaken by an actor that is efficient in identification of experts, drivers of change, their consolidation and coordination.

2. Resource base for digital transformation

2.1. Funding for activities needed for digital transformation for state-owned and private SMEs

Gaps:

Existing financial support does not address the needs of SMEs on adopting digital technologies for their restructuring and modernisation.

Core recommendations:

- Map the sources of funding from state, international financial organisations, etc., available to SMEs, covering various types of digital transformation activities, and publish this map at the website of the Platform ‘Smart Industry of Belarus’.
- Identify the gaps not covered by existing funding sources for SMEs and fill the gaps by introducing of public support mechanisms (grants, innovation vouchers, state guarantees, tax incentives) and instruments of support from international organisations.
- Extend the usage of innovation vouchers to a much wider audience of SMEs than now (see the EU [innovation vouchers practice](#)).
- Consider using the approach used by COSME Loan Guarantee Facility (including classification of activities and rules of allocating loans) when revising the framework for digital transformation.
- Negotiate the instruments of support from the EU and international organisations regarding the development of competence centres for priority sectors and equipment of testing centres (digital demo factories) for pilot innovative projects of digitalisation of SMEs.
- Launch the special fund for piloting and deployment of innovative solutions for the wide market.

The EU counterparts:

- [COSME Loan Guarantee Facility](#) (LGF) within [COSME \(2014-2020\)](#);
- [EBRD](#);
- [EU4Business](#).

Actors in Belarus:

[Belarusian innovation fund](#); [State Committee on Science and Technologies](#); Bank of Development; [Belarusian fund of financial support of entrepreneurs](#).



Why? Digital transformation is differing from informatisation because it implies systemic changes, including the revision of the business model because this is enabled by new technologies. A systemic approach to digital transformation is much more cost-efficient than sporadic introduction of new technological tools. All the changes consume time, expertise and hence resources. For traditional industries that are far away from IT, this expertise is very rare. Thus, public and private financial support for digital transformation should be per se structured in the way helping the traditional enterprises to understand, that they need to take care not only about, for example, CRM introduction, but also about, for example, cybersecurity and supply chain management.

2.2. Diversified network of specialised competence centres enabling companies in digital transformation (deep tech knowledge, consulting services)

Gaps:	Core recommendations:	The EU counterparts:
<ul style="list-style-type: none"> The ecosystem of specialised competence centres enabling companies in digital transformation (deep tech knowledge, consulting services) is not very much developed in Belarus. It is not possible to find a list of relevant IT companies ready to service industry/manufacturing sector in the available two most widespread databases. 	<ul style="list-style-type: none"> Map and publish in form of database the existing specialised competence centres enabling companies in digital transformation (deep tech knowledge, consulting services), up to direct contacts to experts, allowing SMEs to find the competence centres relevant to their challenge with the minimal transaction costs and time waste. Allow usage of innovation vouchers for obtaining of consultations and attracting experts from the listed competence centres. Develop an international training programme with advanced international competence centres for competence areas that are not or poorly covered by the existing competence centres. Consider establishing a (network of) competence centres in support of digital transformation of SMEs (SMEs 4.0/Smart SMEs) or identify the existing competence centres to serve for overall consultation of SMEs about the strategic approach to digital transformation, following the example of Mittelstand 4.0 competence centres. Study the toolboxes of Mittelstand 4.0 competence centres (Germany) or similar centres in other EU countries and negotiate the transfer of them to Belarusian competence centres. Equip these competence centres for performing of demonstration functions and serving as testbeds for innovative solutions. Promote their services across SMEs. The tool 'Reference Architectural Model Industry 4.0' (RAMI 4.0) employed by German competence centres is especially recommended. Equip facilities to perform as demonstration fabric, with specialisation in certain technological areas or certain industries (addressing the specifics of their business processes). Negotiate with leading corporations about possible equipment of these fabrics. 	<ul style="list-style-type: none"> DIH catalogue; ECHORD++; ROBOTT-NET; Cluster Collaboration Platform; Demonstration facilities in Germany; Mittelstand 4.0 competence centres. <p>Actors in Belarus:</p> <ul style="list-style-type: none"> Technology centre 'Smart Industry'; Competence Centre of digital transformation of construction industry in Belarus; Bridgio; Encata; Certified Learning Centre Festo (FACT) Industry 4.0.

Why? Specific expertise is required for implementation of the digital transformation, linking the deep tech knowledge, the knowledge of specifics of production and business processes in different industries, and the knowledge of innovation management and business transformation. For a traditional enterprise, it is difficult to understand which technologies, information systems and solutions are relevant to their challenges, how to formulate the request for digital solutions (technical specification), how to modify the model of operation of the enterprise using the opportunities of digital technologies, and how to select the reliable suppliers. SMEs need a simple mechanism of finding the renowned expertise in the country and a single point where they can receive the overall advice on cost efficient approach to their digital transformation.

2.3. Specialised digital innovation and entrepreneurial education organisation in the country

Gaps:	Core recommendations:	The EU counterparts:
<p>The experts for actual analysis of business process and advising enterprises in the selection of a constellation of digital technologies have only recently started to be trained in Belarus.</p>	<ul style="list-style-type: none"> Train the group of consultants for the competence centres internationally. Retrain senior and engineering workers who already have professional experience and are employed in the relevant areas of production. Establish partnership among leading educational establishment in Belarus with foreign education and training organisations in the EU for joint master's programmes for the future preparation of students onsite. Link all educational and training processes related to digital transformation of industry with the practical training (agree with existing digitalised companies in traditional industries and digital solutions developers about internships or, better, dual education). Negotiate with corporations about equipping of demonstration facilities for VET. Consider using the existing digital competence frameworks for development of a consistent and common language for professions and competencies needed for implementation of digital transformation. 	<p>List collected in the EU best practice report and the list of online trainings elaborated by the EU4Digital Facility.</p> <p>Actors in Belarus:</p> <p>Belarusian State University; Belarusian State Economic University; Belarusian State University for Informatics and Radioelectronics; Belarusian National Technical University.</p>

Why? Without experts that can understand and combine three dimensions of digital transformation, there will be a risk of digitising for the sake of digitising with negative economic effects. The knowledge shared by leading vendors on Industry 4.0 needs to be mastered in order to be able to master their technologies and to understand their peculiarities and complementarity.

2.4. Digital platforms and digital industrial (sectoral) platforms facilitating digital transformation in the country

Gaps:	Core recommendations:	The EU counterparts:
<p>Supply chain management platform is announced only as a prototype. Software platforms (e.g. cloud-based CRM, ERP, MRP, PLM, etc.) and Sales platforms are rather limited. Several IoT platforms are available as prototypes and are only piloted internally and are not open for SMEs.</p>	<ul style="list-style-type: none"> Promote and allow a descriptive comparison of the platforms available to enterprises for digital transformation on the website of Platform 'Smart Industry'. Develop a national marketplace of technological solutions (applications) equipped with a similar search mechanism. Consider dynamic linking of the national marketplace with GetApp and possible national marketplaces for Industry 4.0 of other countries. Consider introduction of a voluntary certification of these solutions, including the issues of IT security and data protection. Check the experience of Trusted Cloud certification scheme in Germany for possible organisational mechanism. 	<ul style="list-style-type: none"> IOTA Industry Marketplace; GetApp marketplace; Vendor Map of leading Industry 4.0 companies; Industrial IoT Platforms Market from Gartner; Strategic partners of Ericsson in Industry 4.0. <p>Actors in Belarus:</p> <ul style="list-style-type: none"> Digital business confederation; Association of robotics and AI; High-Tech Park.

Why? Such marketplace linked to international marketplaces would not only allow SMEs to better familiarise themselves with the "available menu", but also allow to easily identify the gaps and foster the competition (incentivise the national providers of solutions to consistently take care of the quality improvement and functions development).

3. Mapping the outcomes of digital transformation

Gaps:	Core recommendations:	The EU counterparts:
<p>There are no examples of existing online platform mapping successful digitalised companies for promotion and experience sharing in Belarus.</p>	<ul style="list-style-type: none"> Perform the mapping of successful cases of digital transformation of enterprises in traditional industries by describing the positive stories at the website of Platform 'Smart Industry'. Elaborate the online calculator of potential effects and propose it at the website of organisational and technological platform 'Smart Industry of Belarus' or competence centres 'Smart SMEs', to tease the SMEs that think about digitising. Map and publish the number of consultations rendered by competence centres. 	<ul style="list-style-type: none"> Industrie 4.0 Landkarte - Plattform Industrie 4.0; Digital Transformation Monitor; Digital Transformation Scoreboard 2018.pdf; Digital Economy and Society Index (DESI); European stakeholder forum; EIT Digital; the DIHNET.EU Coordination and Support Action. <p>Actors in Belarus:</p> <p>Ministry of Economy; Ministry of Communications and Informatisation; Digital business confederation; Association of robotics and AI.</p>

Why? Mapping of successful cases of digital transformation of enterprises in traditional industries helps to ensure the demonstrative and persuading practical background for those enterprises that are risk averse. Essential stories also help to avoid mistakes by other enterprises.