

SKILLS FOR SMART SPECIALISATION – FORESIGHT ACTION IN KHARKIV REGION ON VALUE ADDED MANUFACTURING

WORKSHOP REPORT

KICK-OFF MEETING, 17 – 18 MARCH 2021 (ONLINE)

1. Background

Smart specialisation started in Kharkiv in 2016, when Kharkiv was selected as a pilot region for a project of the JRC's Smart Specialisation Platform. In 2019, a mapping of economic and innovation potential in Kharkiv was prepared under the expert group of the European Commission's DG JRC.

In the Kharkiv Region Development Strategy, 2021 – 2027, one of the preliminary priority domains is value added manufacturing, covering power engineering, production of armoured vehicles, aviation industry and development and creation of new materials.

The priority domain of value-added manufacturing brings together more than 300 enterprises, mostly of state or mixed ownership, and 180 individual entrepreneurs representing different areas of production. The core of the priority domain is formed by machine-building enterprises, in particular from defence sector and chemical industry. Despite the overall positive dynamics with respect to production and the number of enterprises, employment in the value-added manufacturing is steadily decreasing.

Currently there are 16 educational institutions in the region that provide training in eleven occupations relevant for enterprises of the priority area.

To fully link vocational education and training (VET) and skills to the broader drive for innovation, growth and competitiveness, the ETF has used its methodology for analysing

the skills implications of smart specialisation strategies in Kharkiv for the added value manufacturing industry.

The baseline for the ETF analysis is the mapping the economic, innovation and scientific potential in the Kharkiv Region, based on the Smart Specialisation approach, included in Kharkiv Regional Development Strategy.

Relating to the results of the ETF analysis a foresight action is being implemented in Kharkiv in Spring 2021.

The objectives of the foresight action are to support:

- Policymakers, VET schools and centres, and businesses to anticipate change, prepare responses, and create more robust strategies to address skills needs of a priority area for smart specialisation.
- Peer learning with EU regions with matching smart specialisation priorities.

In order to reach the two objectives, the foresight action brings into the discussion the broader regional development planning, business conditions and the external economic environment.

2. Kick off meeting in Kharkiv, 17 – 18 March 2021

Step 1 in the ETF foresight action is structured around a virtual meeting split into two half-day meetings with plenary sessions and group works aimed to exchange on drivers of change and scenario building on skills implications.

The key messages and key results of the group work exchanges are summarized in the subsections below.

2.1 Opening of foresight action in Kharkiv

The ETF foresight action in Kharkiv has high political attention both at the national and regional level and the kick-off meeting was opened by a panel consisting of:

- **Iryna Shumik, Director of VET Directorate, Ministry of Education and Science of Ukraine**
- **Volodymyr Ignatiev, Deputy Head of Department for Education and Science, Kharkiv Regional State Administration**
- **Volodymyr Rodchenko, Kharkiv Smart Specialisation Team, Agency of regional development, Kharkiv**
- **Xavier Matheu de Cortada, Head of Knowledge Hub Department, ETF**

Key messages:

- Government commitment and stakeholder engagement is a pre-requisite for regional economic development.

- Given the importance on economic growth and innovating the manufacturing industry in Kharkiv, the ETF Foresight action has full support from the Kharkiv Regional State Administration.
- The ETF foresight approach is an important element and comes timely for feeding into the Kharkiv smart specialization strategy.
- The education and training system has an important role in the regional eco-system for uptake of the principles of smart specialization in their own programmes and curriculum design.

2.2 ETF Skills Smart for Specialisation approach

Smart specialisation is at the intersection of economic, industrial, innovation – as well as labour market and education and training policies. Skills shortages and mismatches often emerge as a priority during the Entrepreneurial Discovery Phase (EDP) of smart specialisation approach when the “mapping” (i.e. analysis of economic potential and identification of preliminary priority areas) is shared with and dialogue opened with employers.

An overview of the ETF approach to Skills for Smart Specialisation was provided by:

Pirita Vuorinen, Senior Specialist, ETF

Key messages:

- Smart specialisation strategy (EU DG Joint Research Centre): Boost jobs and growth by enabling regions to develop competitive advantages based on local assets and resources.
- Skills for smart specialisation (ETF):
 - Anchor the strategy in a realistic supply of relevant skills at both medium- and high-level.
 - Focused VET excellence to flexibly supply relevant human capital and workforce retraining for the private sector at regional level - for higher productivity and potential for innovation.
- Skills relatedness drives diversification.
- Diversification is over 100 times more likely to occur into industries that have ties to a firm’s core activity in terms of skills than into industries that do not.
- Industries that enter a region are often related to the region’s current industries.

The ETF foresight action consists of five steps. Due to the COVID19 pandemic will be conducted through online meetings and surveys, (tentative dates in brackets).

- STEP 1 is structured around a virtual meeting split into two half-day meetings with plenary sessions and group works aimed to exchange on drivers of change and scenario building on skills implications, 17 – 18 March
- STEP 2 consists of an online consultation (questionnaire) focused on skills implications, expressed e.g. as priority occupations, qualifications and transversal skills. (31 March – 14 April)

- Step 3 is a half-day technical meeting focused on priority needs for skills development to meet the emerging demand and policy implications. (22 April)
- Step 4 is an online consultation (questionnaire), focused on system's implications e.g. planning, delivery, assessment of skills development; partnerships; school to work transitions, employability aspects; interinstitutional cooperation; centres of excellence etc. (6 May – 20 May)
- STEP 5 is structured as final meeting to validate and share findings. (27 May)

2.3 Findings of the ETF analysis on skills implications of the 'Value added manufacturing' preliminary priority domain for smart specialisation, Kharkiv

In 2020, in close cooperation with the Ministry of Education, the Ministry of Economy and the Kharkiv authorities, the ETF implemented an analysis, Skills for Smart Specialisation, for the preliminary priority domain for smart specialisation value added manufacturing. The ETF analysis builds on the review of existing quantitative data on employment, skills and qualification as well as data related to education sector, qualitative interviews with relevant stakeholders and desk research.

The findings were presented by:

Rodion Kolyshko, National Expert, ETF

Mykola Sudakov, National Expert, ETF

Key messages:

- The cooperation between business and educational institutions, in particular vocational institutions, takes place in a traditional way and covers mainly enterprises whose technical equipment is comparable with the technical equipment of vocational education institutions.
- Enterprises in almost all sub-sectors of value-added manufacturing have been facing shortages of workers. Difficulties in filling vacancies are mainly due to the lack of candidates with appropriate qualifications and experience.
- The digital economy is changing production processes and transforming jobs in Kharkiv. Digitalisation will improve working conditions and can make the sector more attractive for young and female workers.
- Constant innovation (new products, new production processes, and new ways of marketing oriented towards changing consumer demands etc.) requires review of VET curricula, technical training and IT equipment - and teacher training.
- SME growth will require more flexibility from VET to support business renewal i.e. modular formal training, non-formal training, provision of short-term training programmes – and innovation support services e.g. innovation hubs.
- Education and business cooperation may be one of the strategies how to align the education and training offer with labour market needs.

2.4 Addressing current and future skills needs in the value added manufacturing sector

The session covered the regional practice perspective of Kharkiv Automatisatation and Engineering Cluster manufacturers and EU inspiring practices and experiences from Spain, Italy and Turkey.

Vitaliy Zaitsev, Kharkiv Innovation, Automatisatation and Engineering Cluster

The industrial cluster was established in 2020 and is created on the initiative of organisations and institutions in the Kharkiv region and in accordance with the Memorandum of Cooperation between the Industrial Automation Enterprises of Ukraine and the Kharkiv City Council.

Key messages:

- The purpose of the cluster is to connect and promote companies and training institutions specialising in industrial automation, to promote better educational standards and technical education and to ensure successful development of technical standards in the field.
- Networking and awareness raising promotes innovations and best practices in the field to the industry leaders and will facilitate the reindustrialisation towards the 4th industrial revolution of Kharkiv.
- On 23 – 26 March 'Kharkiv Industrial Days' will be implemented in order to demonstrate industrial achievement and attract foreign investment.

Inigo Araiztegui, Director of Internationalisation, Basque VET Applied Research Centre, the Basque Country, Spain

Tknika is a centre promoted by the Deputy Ministry of Vocational Education and Training of the Education Department of the Basque Government. Innovation and applied research are at the core of Tknika in its ongoing efforts to place Basque Vocational Training at the European forefront. Through networking and direct involvement by the Basque Vocational Training teaching staff, the Centre develops innovative projects in the areas of technology, education and management.

Key messages:

- Detailed mapping of common areas of the economic sector, the enterprises and VET providers in the region is a key fundament for linking education and training to labour market needs.
- 'Network Hubs' in different economic clusters support the cooperation between VET providers and enterprises, in particular small enterprises in which VET providers support innovation.
- 'Strategic settings' are arrangements supporting VET teachers and students in connecting to enterprises ensuring labour market relevance of curricula and training programmes.
- Transfer of knowledge is advisable and implemented by Tknika in order for VET Centres of learn and replicate from good practices.

Claudio Galli, Human Resources Manager, Lombardini, Reggio Emilia, Italy

The company was founded by the brothers Adelmo and Rainero Lombardini in 1933 and is part of the machinery manufacturing industry. Lombardini has more than 700 employees in the Reggio Emilia branch and there are more than 250 companies in the Lombardini corporate family. The company manufactures small diesel, gas, and petrol engines for the industrial, transportation, agriculture, marine and light construction industries.

Key messages:

- As a result of the technological development and digitalisation, 75% of the workforce will need reskilling and upskilling where technological knowhow will be key for future economic growth. The importance is how to link the knowhow to future new products.
- A key competence in HR management is to identify and to manage new talent. The COVID-19 crisis shows new trends in skills needs, where empathy, safety, inclusion sustainable mindsets will be even more important than before the crisis
- A so-called 're'-approach will be important in relation to future changes – where re-use, re-thinking, re-organisation, re-cycling will important elements fostering change and supporting sustainable economic growth.
- Diversity is enjoying different cultures and having resources and production available in all time zones.
- Innovation requires that we drive data and are driven by data, and employers and employees are open to get out of our comfort zones and willing to take risks and challenges.
- The key factors in change management is diversity, inclusion, agility and strong networks.

Michele Picciarelli and Federica Gherardi, ITS Maker, Academy of Advanced mechanics, Bologna, Italy

The Academy is located in the Emilia-Romagna region with key companies involved in the design and manufacturing of automobiles and motorbikes. This includes among others, Automobili Lamborghini, Ducati Motor, Maserati and Alfa Romeo and Ferrari. The aim of the Academy is to educate electronic engineers with a solid knowledge of the methods and tools that make electronics the foundations of all the systems that collect, process, transmit, and store information, with a particular emphasis on the electronic subsystems that are embedded in the nowadays and future vehicles.

Key messages:

- The use of internships in which students are directly connected with enterprises is a key element in the Academy's programmes connecting students to the world of work.
- The Academy has a formalized cooperation with regional authorities on systematized labour market intelligence in order to ensure the training programmes are in line with current and future skills needs.
- Based on the robust labour market intelligence and forecasting, the Academy's training programmes are designed with a 5 year perspective to prepare for tomorrow's skills and jobs. The focus of the programmes is making students able to

understand, propose and adapt to information and communication technologies playing a fundamental role in the innovation of the automotive sector whose future evolution will increasingly depend on such technologies.

- The Academy has a high degree of autonomy, and programmes are reviewed and adjusted even on a monthly basis according to urgent and upcoming labour market needs.

Gürhan Höke, Lead Specialist, Training and Project Development, Türk Traktör, Turkey

TürkTraktör is one of the leading manufacturers in Turkey starting its production in 1954 and has become one of the most important enterprises in the country with experts to more than 130 countries. Agricultural machinery workplaces have been opened in 4 different provinces of Turkey to improve the work experience of the TVET students, who receive supervision of factory's trainers, teachers and technicians.

Key messages:

- Cooperation with the Ministry of National Education and the Turkish Employment Agency on VET and work-based learning ensures that students are equipped with the skills and competences required by businesses.
- Continuous support of work-based and dual learning models and flexible arrangements improve the quality of skills and support more equal access to education and employment for disadvantaged young people.

TürkTraktör places importance to social responsibility and sponsorship activities on various subjects to add value to the industry and the society.

'Virtual World of Technical Training' is implemented in cooperation with the Turkish Employment Agency, is based on the concept of digitalization in education and 4.0 industry transformation activities. The project offers a platform which provides the employees with effective learning opportunities through the use of new technologies and it also contributes to the professional and technical development of hearing-impaired employees.

'Giving A Voice to Deaf People in Metal Sector' is implemented in the period Sep 2019 – April 2023. The project aims to:

1. Provide Technical Sign Language to literature
2. Develop an e-book integrated with Augmented Reality (AR)
3. Develop Technical Skills of hearing-impaired employees
4. Ensure the Sustainability in hearing-impaired employees' Employment
5. Provide them Career Opportunities by developing their technical and behavioral skills
6. Extend activities to all Metal Industry both in Turkey and EU

⇒ Link to the dedicated work: [News | Giving a Voice to Deaf People in Metal Sector \(voc2deaf.com\)](https://news.voc2deaf.com/en/giving-a-voice-to-deaf-people-in-metal-sector)

⇒ Link to project output and project partners: <http://voc2deaf.com/en/project-outputs/>

2.5 External economic factors and regional drivers for change in Kharkiv region

As part of Step 1 of the ETF foresight action, participants exchanged their viewpoints on external economic factors and regional drivers for change in Kharkiv region. The results of the exchange between the participants are listed below.

Key external economic factors:

- Growing global demand for high-tech products / Deindustrialisation of Ukraine's economy.
- Innovative ecosystems trends (Industry 4.0).
- External military threat and state defense order.
- External S&T and military support from EU and NATO countries.
- Outflow of workforce to EU countries.
- Gradual integration of Ukrainian legislation and technical standards into European market.

Key regional drivers for change:

- Available industrial potential.
- Significant labour force potential of Kharkiv region.
- Regional policy to support the investment attractiveness of the region.
- Expansion of value chains and creation of opportunities for regional and international cooperation.
- Establishment of industrial parks (KhTZ).
- Establishment of an educational hub integrating the potential of TVET and HE.
- Process of clustering of sector enterprises in the region.
- Integration of education into industrial modernisation processes (primarily SMEs).

2.6 Scenario building and identification of skills implications

Within Step 1 of the ETF foresight action, participants identified scenarios for the Kharkiv value added manufacturing sector and discussed related skills implications.

Three scenarios were identified:

- **Low scenario – Kharkiv is a**
- **Medium scenario – Kharkiv is a**
- **High scenario - Kharkiv is a**

The results of the exchange between the participants are listed below

Low scenario

- A
- B
- C
- D

Medium scenario

- A
- B
- C
- D

High scenario

- A
- B
- C
- D