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EXECUTIVE SUMMARY

Despite the agricultural predisposition of the land, the structure of the landscape has been changing and for the last decade the agricultural activities were lowering its rate and the popularity of self-production decreased in the Košice region. The environment today faces following challenges:

- abrupt decrease of percentage of Slovak food production sold in Slovakia within last 20 years, with only insignificant recovery in last years,
- most of the raw agricultural production is exported combined with low buying commodity prices – low level of agricultural products being processed,
- high dependence on national subsidies,
- decrease of people employed in agricultural sector – low motivation for employees,
- dominance of large farms and agricultural producers,
- lower production efficiency in comparison to neighbouring countries,
- and strict legislative and administrative conditions.

To cope with the current situation, the Innovation Network for the Support of Local Economy in Košice Region established within the URBAN INNO project, prepared the Action Plan covering the following domains:

- Higher competitiveness and sustainability of local agricultural production to be achieved by implementation of activities like improved production efficiency by implementation of innovative techniques and procedures; higher added value through servitization, movement towards special plant and animal production; and higher sustainability - shift towards bio-/eco-production, circular economy and community driven agriculture.
- Improved positioning of local agricultural products to be achieved by implementation of activities like launch of digital marketplace for local agricultural production; regional product brand and series of traditional market festivals; and feasibility study for the network of logistic and selling centres of agricultural production.
- Capacity-building and networking to be achieved by implementation of activities like training programmes for entrepreneurship and marketing skills; practical guidelines for legislative requirements for agricultural sector and business conducting; and tools supporting the creation of new value chains.

The Action plan foresees to help in improving the situation in the domain of agricultural production and agri-business sector with following impacts:

- Improved level of competitiveness of local farmers and production,
- Increased average added value generated in the agricultural sector,
- Environmental friendly agricultural production,
- Higher visibility of local products and increased percentage of local products consumed in the region,
- New value chains created within the agricultural sector and other linked sectors,
- Increased percentage of locally produced products, consumed in the region.

BACKGROUND – OVERVIEW OF THE URBAN ECOSYSTEM

1 Characteristics of the urban innovation ecosystems – regional background

1.1 Geographical aspects

Košice Region is located in the southeastern part of the Slovak Republic on the area of 6 755 km² that represents 14% of the total area of the whole Slovakia. The region is considered to be the second largest region in the Slovak republic, from the point of area, with around 796 650 inhabitants (end of 2015). The average density of the population is 115 people per km², while the rate is exceeding slightly the average density in Slovakia. The most densely populated districts are Košice I–IV, located directly in the city of Košice, which is the second largest city in Slovakia. 55.7% of overall population of Košice Region lives in the region’s capital. The region borders with 2 other Slovak regions – Prešov and Banská Bystrica. The other borders are created with neighbour states - internal Schengen border with Hungary in the south and external Schengen border with Ukraine in the east. Settlement structure of the region is composed by 440 municipalities, 17 of which have the status of a town. The city of Košice is consider as the region’s capital, an administrative, industrial, business, economic as well as educational and cultural-historical centre of Eastern Slovakia.



Respecting the development priorities of Košice Region¹, the support of the processing of local agricultural products and its distribution within urban food systems was selected as the domain for the URBAN INNO Urban Innovation Network and its Action plan. Therefore, the activities will be targeted primarily to various actors, relationships and tools in agricultural supply chains in Košice Region.

1.2 Infrastructure

1.2.1 Transport facilities

Road transportation

Košice Region is an important crossroads for two major international roads of European importance. The first one, road in the west-east direction is connecting the Czech Republic with Austria, Slovakia, Ukraine and the Russian Federation, and the second road in the north-south direction is running from Poland and Baltic states towards Hungary and further to the Balkans.

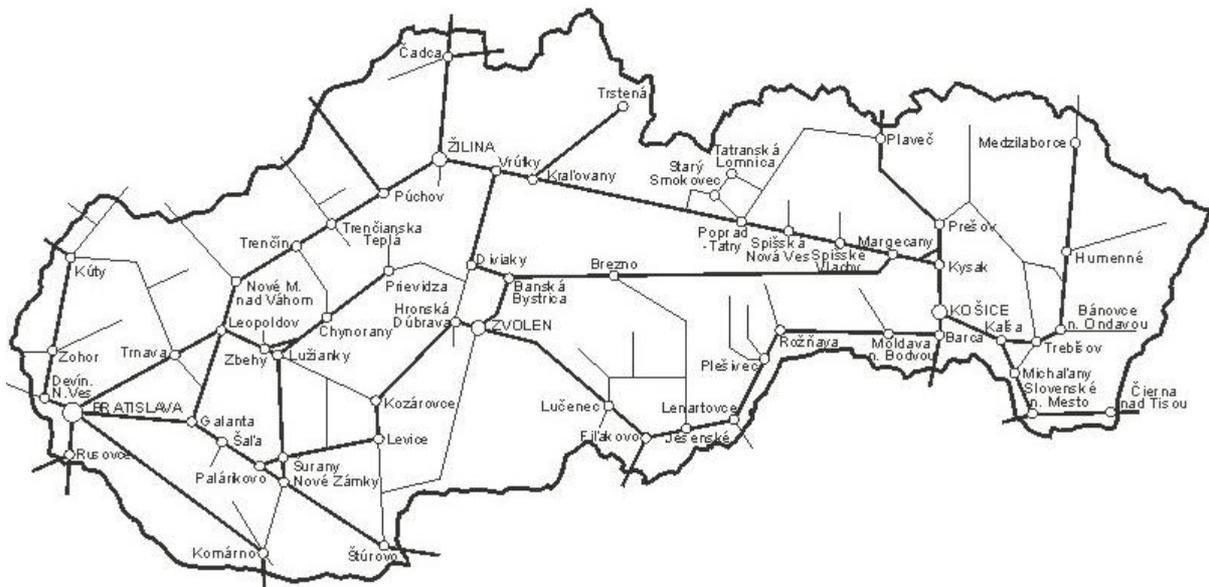
¹ Examples given: *The Economic and Social Development Programme for Košice Region for the Years 2016 to 2022* (2015) or *The Agricultural Commodity Logistic Centre building program in Košice Region* (2013).



Highways and speedways in Slovakia²

Railway transportation

International corridor no. Va, which is a part of the international corridor no. V, crosses the Košice region with the aim to provide connection through linking the Italy, Slovenia, Croatia, Hungary, Slovakia and Ukraine. Two intermodal transport terminals are situated in the region, both of strategic importance as they are located within the Pan – European transport corridors and intermodal transport corridors included in AGTC and their significant intersections.



Railways in Slovakia³

² Source: <http://www.vyvlastnenie.sk/>

³ Source: Railways of Slovak Republic



Air transportation

Near Košice, approx. 11 km from the city centre is situated also International Airport Košice, with the offer of scheduled and charter flights to destinations like e.g. Prague, Vienna and Bratislava. The airport catchment area geographically covers the entire eastern part of Slovakia, the northern part of Hungary, a part of Ukraine including the city of Uzghorod and a part of Poland including the city of Rzeszow, so the radius area is from 150 to 200 km.

1.2.2 Networks

Internet Connection

Rate of inhabitants' access to the internet network is very high– almost 92% of all areas are covered. And so, according to the latest global internet connection quality survey, Košice ranked on 13th in the world.

Electricity network

The main electricity supplier in the region of Košice is Východoslovenská energetika, a. s. Košice, which provides related services as well. The company distributed in average rate 3,755 GWh of electricity per year (2009).

Water mains and sewage network

Share of population of the region connected to the abovementioned services was in 2009:

- 80.8% of citizens connected to public water supply system;
- 60.1% of the population connected to public sewage system;
- 57.3% of the population connected to public sewage with wastewater treatment plants (WWTP).

1.3 Agriculture and Agri-Business

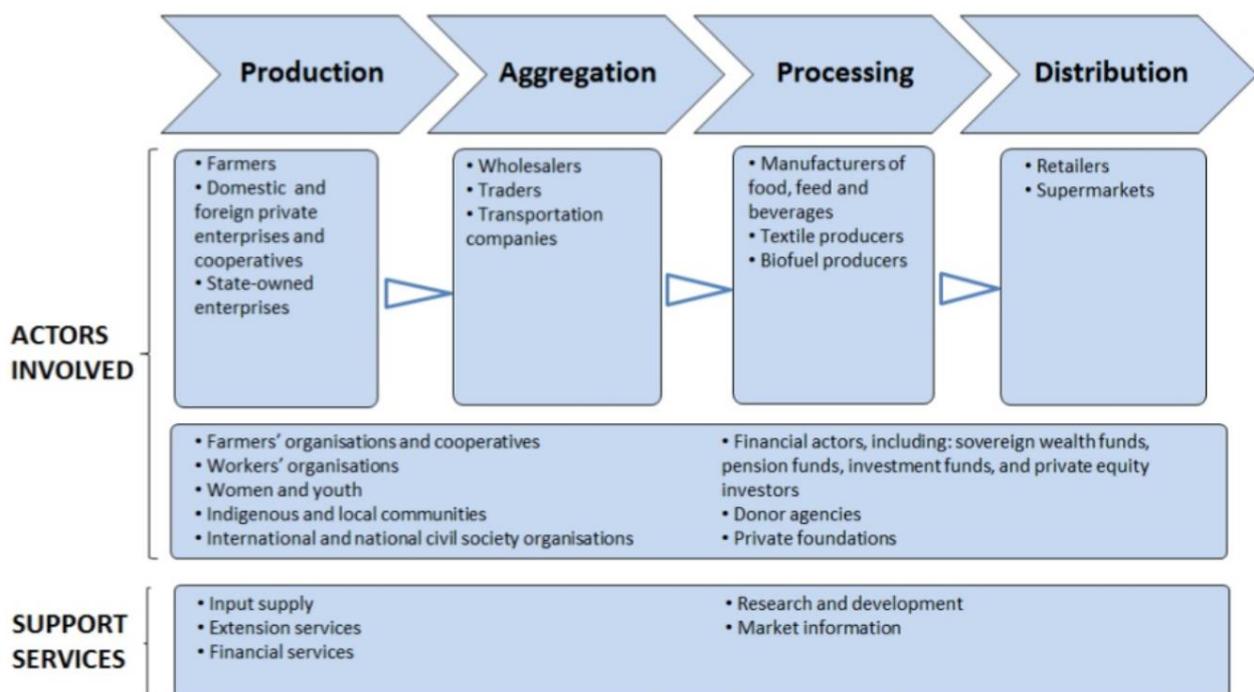
Within the history of Slovakia, we can find a strong relation of our society to the nature, in various forms. Based on the characteristic of the country, the agricultural production has a long-term tradition here. The vineyard area is also part of the agricultural landscape - the Eastern Slovak wine-growing region and the Tokaj wine-growing region and nearly 40% of the territory of the Košice Region covers forests. The total area of the region is 675,449 ha. The area of agricultural land in the Region is 334,998 (49.59%) ha, arable land 204,029 (30.20%) ha, permanent grassland 112,527 (16.65%) ha, gardens 13,499 (1.99%) ha, fruit orchards 2018 (0.29%) ha. The area of agricultural land is 60.90% of arable land, 33.59% of permanent grasslands, 4.02% of gardens and 0.60% of fruit orchards.



Despite of the agricultural predisposition of the land, the structure of the landscape has been changing and for the last decade the agricultural activities were lowering its rate and the popularity of self-production decreased. Today, the production and the delivery are limited by the strict legislative and administrative conditions which are difficult to be analysed and from their point of requirements, hard to be complied.

The recovery of the original function of the country represents more the interests of some enthusiastic inhabitants to change their way of life than the agricultural need and the feasibility. But, on the other hand, with the aim to support rural development and food sovereignty, the change is highly recommended and demanded⁴.

The agricultural supply chain typically consists of individuals and organizations, that can be categorized into 4 groups – Production, Aggregation, Processing and Distribution. Following picture brings more details on actors and support services relevant for these categories.



Supply Chain in Agricultural sector by Coralie (2015)⁵

⁴ Stated also in several strategic documents like *The Agricultural Commodity Logistic Centre building program in Košice Region, 2013* or *The Common Agricultural Policy or Rural Development Program of Slovak Republic, 2015*.

⁵ Coralie David (2015): Promoting responsible agricultural supply chains: A FAO-OECD guidance. OECD Directorate for Financial and Enterprise Affairs. Published on Jan 15, 2015. Retrieved from: <https://www.slideshare.net/OECD-DAF/responsible-agriculturalsupplychains>.



1.4 Challenges

Today, the situation in the farming industry in Košice Region, and Slovakia⁶ as well, can be generally described by following statements/challenges:

- abrupt decrease of percentage of Slovak food production sold in Slovakia within last 20 years, with only insignificant recovery in last years,
- most of the raw agricultural production is exported combined with low buying commodity prices – low level of agricultural products being processed in Slovakia,
- lower level of national subsidies in comparison to neighboring countries,
- high dependence on national subsidies,
- decrease of people employed in agricultural sector – low motivation for employees,
- dominance of large farms and agricultural producers,
- lower production efficiency in comparison to neighboring countries,
- and strict legislative and administrative conditions.

Going deeper, from the perspective of the Agri-Business supply chains, the **agricultural producers**, especially represented by mainly small and medium farms, face following problems:

- Weak marketing - very weak marketing policy and low skills of agricultural producers, mainly of companies of lower sizes and low level of investments realized in the activities related to sales activities and promotion. The outsourcing of marketing activities and channels is not affordable for farmers. Lack of knowledge about the opportunities connected to new forms of marketing channels (digital environment, social networks)
- Low added value - Agricultural producers concentrates to production and initial storage processes with very low interest to take part in processing, logistics, distribution and selling to final consumer. By doing so, they are losing the opportunity to increase the higher value added and increase the profit margin.
- Complicated legal framework - The current legislative requirements are difficult to comply with and that is the reason why the most of small farmers (citizens) are not registered and perform an unofficial selling of food. This situation is problematic due to avoiding safety and hygienic controls, what can possibly negatively affect the health of consumers; and avoiding the tax on income.

⁶ *The Economic and Social Development Programme for Košice Region for the Years 2016 to 2022 (2015) or The Agricultural Commodity Logistic Centre building program in Košice Region (2013); Report on Agricultural and Food Industry for 2016; Conception of Food Industry Development (2014); Conception of Small, Young and Family Farmers Development (2014)*



The **companies processing the agricultural production**, represented by companies who either process supplied food or sell own processed food products with higher added value, face following problems:

- Number of food processors rather small – either farmers or investors are risk averse to run new food processing activities due to insufficient skills/resources for marketing of such products.
- Low visibility of reliable suppliers / producers – The producers do not promote themselves to be willing to act as suppliers / partners for processing companies. The processing companies face the problem of finding partners with reliable supplies.
- Weak infrastructure for storing – processing companies face the problem of storing the processed food production while transporting and selling it to final consumer. The investments for own premises, respecting the legislation are too high for smaller organizations.
- Low awareness on techniques and business models to increase the value added.

The problems with lower visibility of reliable suppliers and the weak infrastructure for storing and logistics is also relevant for another part of the supply chain – the intermediaries and seller, represented by shops and wholesalers aggregating the production from producers and processing companies and delivering it to final consumers.

At the final stage the **consumers**, represented by two categories – citizens and companies in food industry (hotels, restaurants, cafés, canteens) that can buy products either directly from farmers or through intermediaries face following challenges:

- Low visibility of local agricultural supply - The producers and processors do not promote themselves and their products in sufficient way. In case of larger consumers, like restaurants, the problem of finding partners with reliable supplies is being faced.
- Low visual attractiveness of locally products – Due to low investment into marketing, the branding of products is often unattractive, being perceived as of lower quality.
- Distrust to unknown (not tried yet) products – The trust of consumers to unknown producers causes the low propensity to buy from newly established / emerged food producers.
- Positive side-effects of buying local production not fully perceived – the positive difference in local food quality and positive effect on environment (lower need of transport) not well perceived by consumers – price is mostly the criterion No.1 for selection.

The state, regional and local **policy institutions**, represented by institutions responsible for the control of health, environment and business aspects of agricultural undertaking, and for the development of the territories in strategic perspective, face following problems:



- Lack of visibility for efficient Quality and Safety Controls – low visibility of products/services flow to perform the control, mainly the ones by unregistered food producers.
- Lack of data for proper territorial planning - Regional and urban development planning activities done with missing data about the current situation and trends.

By coping with the challenges mentioned, we believe we will not only help to improve the quality of consumed groceries but can provide also the way how the coming trend of unemployment can be solved. Agricultural production is today more often considered to be the field with the potential for creation new jobs as well as the demand for workers in the most traditional sectors of industry and services has gradually decreased.

2 Socio-economic and SWOT analysis of the urban innovation ecosystem

The SWOT analysis of the urban innovation ecosystem of Košice region took the following dimensions under consideration:

1. Economy
2. Innovation / R&D
3. User involvement
4. Education / human resources
5. Policy
6. Cluster organisation & governance

The analysis took into account the following statements and factors concerning the Košice Region and the City of Košice.

AREA	STRENGTH	WEAKNESS	THREAT	OPPORTUNITY
Economy	<ul style="list-style-type: none"> • Open market without barriers to enter • Great potential to be exploit as the demand after local production is high and not met • High spending power • Funds to be used to start or extend local production (especially agricultural production) • Supportive approach of policy levels for local initiatives focused on the traditional products/services that tend to be vanished 	<ul style="list-style-type: none"> • Constantly changing regulations and policies • The road infrastructure limiting the expansion of local suppliers • Weak usage of landscape potential • Producers' inability to produce the desired products 	<ul style="list-style-type: none"> • No financial support for new road infrastructure that will be limiting factor for local suppliers to expand • Stricter regulations for the local producers to product/sell their products (higher taxes, more difficult administrative, etc.) 	<ul style="list-style-type: none"> • Ongoing trend of increasing demand after local production • Capitalization of agricultural potential of the region • Improved eSkills of citizens leading to a higher usage of eSolutions



	<ul style="list-style-type: none"> • Support of regional bodies by creating the local economies 		<ul style="list-style-type: none"> • New barriers for local economies development • Decreasing ratio of the agriculture sector and sector of traditional services to the other sectors 	
Innovation / R&D	<ul style="list-style-type: none"> • Support from the policy level to innovate the processes • Funds to be used when implementing the innovation technologies and processes into the production and distribution • Research on universities, presence of research centres • Development of ICT business (incl. eMarkets) • Establishment of start-ups in the agricultural domain (focused for instance on Intelligent greenhouse) 	<ul style="list-style-type: none"> • Low level of implementation of innovative technologies into the local production • A small number of innovative networks 	<ul style="list-style-type: none"> • Low level of interest in buying the innovation technologies and their implementation by local entrepreneurs 	<ul style="list-style-type: none"> • Smart industry 4.0 that will create a new innovative approaches and technologies • Big data analytics • New methods for growing • Adoption of circular economy approaches • Development of new distribution and logistical systems
User involvement	<ul style="list-style-type: none"> • Transparent release of information for citizens (www.kosice.sk) • Publishing of planned activities to get feedback from citizens • Establishment of “working group” involving citizens into the planning process • Creation of “virtual spaces” to discuss topics with citizens (web.vucke.sk) 	<ul style="list-style-type: none"> • Low level of acceptance of citizens’ opinion • Short time left to citizens to express opinion • Release of information “ex post” instead of “ex ante” in many cases 	<ul style="list-style-type: none"> • Skepticism of citizens to give the feedback (as it is often not accepted) 	<ul style="list-style-type: none"> • Creation of more virtual spaces for discussion at different policy levels • Adoption of living lab and bottom up approaches into the decision making processes
Education / human resources	<ul style="list-style-type: none"> • Skilled farmers and producers/providers of traditional products/services that gained their skills from the older generation (family businesses) 	<ul style="list-style-type: none"> • Small percentage of entrepreneurs running the business in the field of agricultural production and traditional services 	<ul style="list-style-type: none"> • Ongoing weak interest in study of agriculture and traditional services • The lack of schools providing 	<ul style="list-style-type: none"> • Requalification courses for the citizens to be able to run local production or to get a job in local production business



	<ul style="list-style-type: none"> • Economic universities and schools that educate entrepreneurs • Available courses for improving the skills related to the sale of production and services • Enough “free” workforce to be qualified • Support from the policy level in the form of free requalification courses, financial support when establishing local business, etc. • Qualified IT experts to create ICT solutions • Improved eSkills 	<ul style="list-style-type: none"> • Small percentage of entrepreneurs focused on the distribution and sale of local production • Low level of qualification to expand small family business into the regional/national known company • Brain drain in rural areas 	<p>the courses in that field</p> <ul style="list-style-type: none"> • Ongoing brain drain resulting in the lower productivity and effectivity of region • Vicious circle of poverty in local regions 	<ul style="list-style-type: none"> • Courses focused on improving eSkills as the part of Informatization of society • Cooperation with educational organizations, NGO’s helping the local producers to increase awareness of local economies, possibilities of local production, etc.
Policy	<ul style="list-style-type: none"> • Establishment of NGO’s that help local producers • Access to funds from the European Union and national funds to accelerate the development of the city and the region 	<ul style="list-style-type: none"> • Changing regulations and policies • Difficult administrative duties for policy adopters 	<ul style="list-style-type: none"> • Constantly changing regulations and policies • Difficulter administrative duties for policy adopters 	<ul style="list-style-type: none"> • Adopting the best practices from the EU countries • Stabilisation of the policy environment • Setting the effective rules for the adoption of local economy approach
Cluster organisation and governance	<ul style="list-style-type: none"> • Support from regional and national policy-makers when establishing the new clusters • Institutionalized clusters 	<ul style="list-style-type: none"> • Low awareness of the concept of Clusters • Low number of clusters established in the field of local production • Existence of only national clusters • There is more initiatives however without common coordination and integration of their activities 	<ul style="list-style-type: none"> • Low interest for establishment of new clusters 	<ul style="list-style-type: none"> • Adopting the best practices from the EU countries • International cooperation by establishing the clusters



3 Summary of the current situation and major challenges

From the SWOT analysis we can see, that the Košice region has the predisposition to create a local economy by supporting the establishment of new businesses in the field of agriculture and traditional services. However nowadays, the agricultural landscape that creates almost 50% of the whole area of Košice Region is not very used as a consequence of decreasing interest for agriculture. This trend is not turning and slowing down even despite of demand after local products. As the demand after local productions is very high, and the supply on the other hand is not sufficient, there is a gap that need to be bridged.

When we look at all the strength of Košice Region, we can see that this region has strong policy support when it comes to the local initiatives focused on the development of local economies and supporting local producers. They are supported mainly through EU and national funds, action plans and projects within the region. Policy bodies are also open to the cooperation in the form of clusters and to involve citizens into the whole policy creation processes. Such an approach opens a wide range of opportunities that can be seized. However, as the weakness the low level of acceptance of citizens' opinion can be seen what can lead to decrease of interest for involvement into the decision making processes. To easy the whole process of involvement, many virtual discussion space are created and used but often happens that information are to citizens released "ex post". As the opportunity we see better adoption of bottom-up approach that is broadly used in the other EU countries. Besides the supportive policy bodies, there are many NGO's helping the local producers to run their business, get financed and to seize opportunities. However, initiatives run by policy bodies and NGO's are not coordinated and the level of cooperation is not very high. This often leads to a dissipation of activities and lower impact when comparing to the common activities coordinated in the same direction. Moreover, the law not only in Košice region but even in the whole Slovakia is constantly changing, what created an unstable environment where policy adopters need to adjust their businesses to the changing law very often. If this trend will continue, it might lead to worsen of business environment and decrease of entrepreneurs, mainly the small once. Even despite of many weaknesses and threats we can say that policy is supportive and the trend of openness, transparency of policy bodies and citizens' involvement into decision making processes goes the right direction.

To create local economy systems, availability of human capital is the crucial key. Human resources and the skilled entrepreneurs are key to each economy growth. The lack of these people leads to an unfulfilled potential of any economy: national, regional and local as well. Despite that there are very good universities and high schools in Košice region, skilled graduated students do not tend to devote their skills to the agriculture or traditional services as there are better paid, more interesting and socially more appreciated jobs and sectors on the market (for example IT sector). On the other hand, we have good skilled farmers and workers, however mainly they are of higher age, as they started their jobs decades ago, when it was the time of agriculture and traditions. Hence, there is a problem with the lack of young workers because of low interest for the study of agriculture and traditional services as again, there are better paid and socially more appreciated



other jobs in Košice Region. Even if the state supports local producers financially, at the current situation we can see, that it is not enough. What need to be changed is the approach of citizens on how they think of the agriculture and traditional services. This can be done though social appreciation of the results of their job - here we come to the one of aims of our cluster that except the pairing the demand and supply it aims to strengthen the social relationship between citizens and local producers, to promote the meaning of the local producers and local economy and to bring the local producers to the market and digital market. By tackling this issue, we can be able to increase the interest of human capital to work in agriculture and traditional services sectors and to seize the potential of the Košice region landscape and human capital.

From the above mentioned strengths, weaknesses, opportunities and threats we will focus mainly on the following:

SPOT	PRESENT (Situation)	FUTURE (Vision)
	Which strengths do we plan to build on?	Which opportunities do we want to seize?
POSITIVE	1 <ul style="list-style-type: none"> Great potential to be exploit as the demand after local production is high and not met Support of regional bodies by creating the local economies 	<ul style="list-style-type: none"> Ongoing trend of increasing demand after local production Capitalization of agricultural potential of the region Improved eSkills of citizens leading to a usage of eSolutions
	2 <ul style="list-style-type: none"> Support from the policy level to innovate the processes Development of ICT business (incl. eMarkets) 	<ul style="list-style-type: none"> Adoption of circular economy approaches Development of new distribution and logistical systems
	3 <ul style="list-style-type: none"> Establishment of “working group” involving citizens into the planning process Creation of “virtual spaces” to discuss topics with citizens 	<ul style="list-style-type: none"> Creation of more virtual spaces for discussion at different policy levels Adoption of living lab and bottom up approaches into the decision making processes
	4 <ul style="list-style-type: none"> Qualified IT experts to create eSolutions for distribution of local production Skilled farmers and producers/providers of traditional products/services that gained their skills from the older generation (family businesses) Economic universities and schools that educate entrepreneurs 	<ul style="list-style-type: none"> Cooperation with educational organizations, NGO’s helping the local producers to increase awareness of local economies, possibilities of local production, etc.
	5 <ul style="list-style-type: none"> Establishment of NGO’s that help local producers 	<ul style="list-style-type: none"> Adopting the best practices from the EU countries
	6 <ul style="list-style-type: none"> Support from regional and national policy-makers when establishing the new clusters 	<ul style="list-style-type: none"> Adopting the best practices from the EU countries International cooperation by establishing the clusters



	Which problems do we want to solve?	Which threats do we need to avoid?
NEGATIVE	1 • Weak usage of landscape potential	• Decreasing ratio of the agriculture sector and sector of traditional services to the other sectors
	2 • A small number of innovative networks	• -
	3 • Low level of acceptance of citizens' opinion	•
	4 • Small percentage of entrepreneurs running the business in the field of agriculture and traditional services	• Ongoing weak interest in study of agriculture and traditional services
	5 • Setting the effective rules for the adoption of local economy approach	• Difficult administrative duties for policy adopters
	6 • Low number of clusters established in the field of local production • Existence of only national clusters	• Low interest for establishment of new clusters

We have described many strengths, weaknesses, opportunities and threats related to the agriculture and traditional services sector within the Košice region that need to be seized. There is a lack of clusters that would deal with this issues. Urban Innovation Cluster that we are creating will be concerned with the strengths, weaknesses, opportunities and threats that will enable to create effective local economies leading to exploitation of the landscape and human capital potential of Košice region.

When we look at the strength we would like to build on supportive policy environment opened to a new business, financial support and innovation implementation. We will seize their potential by involving them into the cluster and to set the common direction of policy actions (such as regional action plan, development strategies, etc.). Except the policy bodies, also NGO's and citizens will be involved into the whole process to enable adoption of bottom-up approach. Regarding the human capital, we will rely on the three types of skills: entrepreneurs that will be able to run businesses in the supported sectors; skilled farmers and service providers that will be able to produce the demanded production; IT experts that will create ICT solutions to pair the demand and supply. Required human capital is to be used in the Košice region and besides that there is available human capital ready for requalification.

Besides the mentioned strengths we will solve problems related to the current situation of usage of landscape potential as well as small percentage of entrepreneurs running business in the field of agriculture and traditional services. As mentioned in the SWOT analysis this will be done through strengthening the social relationship between citizens and local producers, promotion of the meaning of the local producers and local economy and bringing the local producers to the market and digital market. Except that we will try to set up the effective rules for the adoption of local economy systems and to increase the number of innovative networks and clusters in this field.



ACTION PLAN

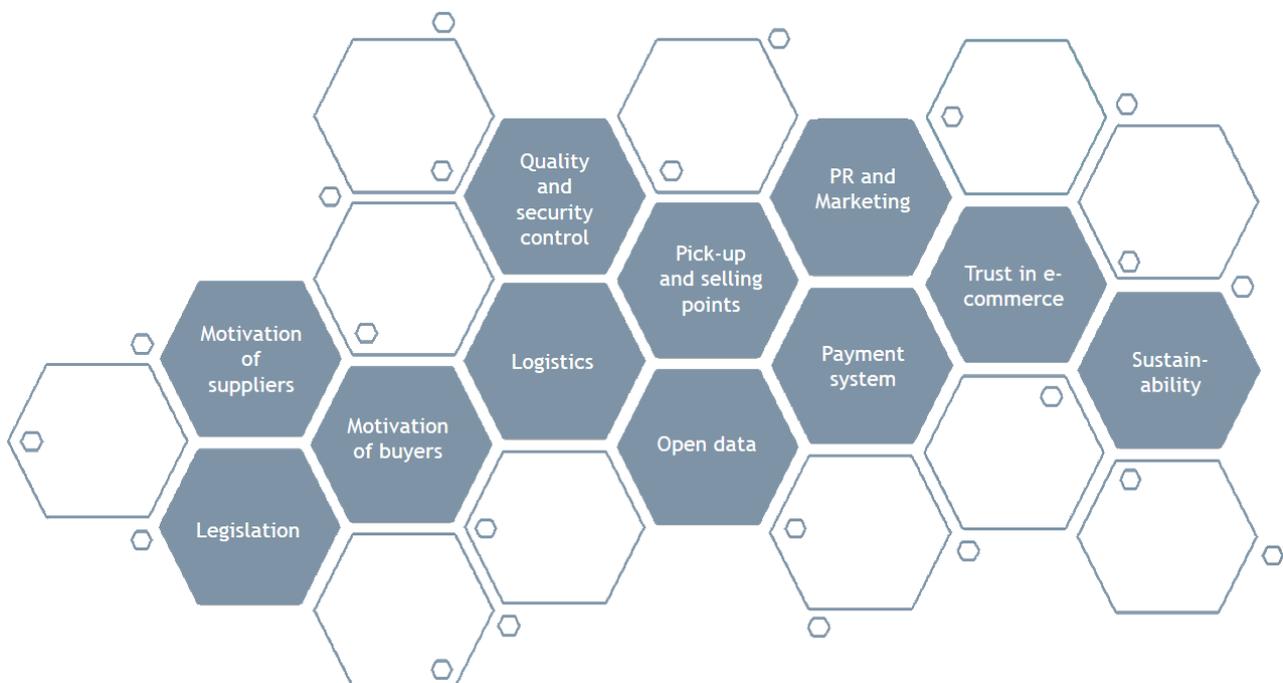
4 Thematic priorities – fields of action

When looking at the future, in order to seize the potential of the agricultural sector and other interlinked sectors, the action plan will focus on support of agricultural production and agri-business, and other interlinked sectors relevant for **proper functioning of the regional and urban food systems**. The efforts foreseen in the action plan aim to deliver solutions that,

1. cope with existing market failures
2. utilize the existing potential and good practices, accelerating / boosting them forward

To enable it, we will adopt the bottom-up approach into the most of processes as well as the best practices from the other EU countries and create international networks. Besides that, as the trend of digitalization is increasing, we will exploit the eSkills of citizens and entrepreneurs to enhance the local economy through ICT solutions. We will also try to implement new approaches related to the logistic systems as well as the circular economy principles to enable the sustainable production in the region. By doing so we will have to fight threats such as ongoing weak interest in study and work in agriculture and traditional services and consequently decreasing ratio of the agriculture sector and sector of traditional services to the other sectors.

To be successful, it is important to point out there is very high complexity of the problems / challenges that need to be addressed - touching different resources, skills, motivations and readiness of actors (described in following infographics).



Complexity related to Pilot Action implementation⁷

⁷ Source: own elaboration.



5 Vision statement and objectives

The **vision** of the urban **Innovation Network for Support of Local Economy in Košice Region**, founded on July 4th, 2018, is to support the local agricultural production and its marketing within regional and urban food systems in Košice Region through implementation of Action Plans of joint innovation and development projects.

The special focus will be done on:

- Establishing, developing and maintaining strong cooperative connections between public bodies, local entrepreneurs and companies, public benefit organizations and initiatives, educational institutions and research and development institutions to exploit the regional potential.
- Improvement of the social status of agricultural activities and activities related to the traditional services.
- Development and creation of new businesses by providing access to knowledge, funding and human sources, building an effective local economy.
- Undertaking actions and initiatives supporting the regional development and the local economy systems.
- Involving the target audience and end-users of innovation and development activities by participatory approach, exploiting the Toolbox of smart participatory methods (www.user-participation.eu) and similar tools for methodological support.

The **strategic objectives** of the urban Innovation Network for Support of Local Economy in Košice Region, set by the Memorandum of Understanding founding the Innovation Network, are following:

- To establish, develop and maintain strong cooperative network,
- To prepare and implement the action plans and joint innovation and development projects,
- To ensure the capacity building through knowledge and best-practices sharing in the area of latest innovations, project management and funding,
- To evaluate and monitor the implementation of action plans and joint projects,
- To communicate the results and outputs of cooperation.



6 Major initiatives and projects to be implemented

6.1 Strategic area 1 - Higher competitiveness and sustainability of local agricultural production

The strategic area 1 – “Higher competitiveness and sustainability of local agricultural production” will be achieved by implementation of following projects/initiatives:

- 1.1. Improved production efficiency by implementation of innovative techniques and procedures
- 1.2. Higher added value – Servitization, movement towards special plant and animal production
- 1.3. Higher sustainability - shift towards bio-/eco-production, circular economy and community driven agriculture

PROJECT / INITIATIVE 1.1		
Improved production efficiency by implementation of innovative techniques and procedures		
PARTNERSHIP		
Lead Partner	Technical University of Košice	
Further regional / national partners	Policy/administration	Košice Self-governing Region
	Industry	Local agricultural producers and processors
	Research & Higher Education	HEIs in the area of agriculture, automation, robotics
	Civil society / NGOs	NGOs in area of agriculture
	Others	
DESCRIPTION		
Objectives	The main aim of the project is to pilot-test the newest agricultural techniques and procedures in order to prove the concept and raise the awareness about possibilities to increase the competitiveness of production.	
Activities	Implementation of Pilot testing of various techniques and procedures, Analysis of results obtained, Formulation of set of recommendations for action to exploit the benefit in larger scale across region/nation	
Timeframe	2019 – 2023	
Estimated costs & sources of funding	200 000 – 500 000€ (depending on number of pilots and target groups involved) EU programmes, National and Regional programmes	



Internationalisation linkages	Based on / linked to good practices from EU.
Expected impact	Raised awareness about possibilities to increase the production efficiency and competitiveness of local agricultural production. Set of action defined for large scale adoption.

PROJECT / INITIATIVE 1.2		
Higher added value – Servitization, movement towards special plant and animal production		
PARTNERSHIP		
Lead Partner	Technical University of Košice	
Further regional / national partners	Policy/administration	Košice Self-governing Region
	Industry	Local agricultural producers and processors
	Research & Higher Education	HEIs in the field of agriculture, business, tourism
	Civil society / NGOs	NGOs in area of agriculture, business and tourism
	Others	Business support organizations
DESCRIPTION		
Objectives	The main aim of the project is to pilot-test the innovative approaches and specialization of the production in order to prove the concept and raise the awareness about possibilities to increase the value-added of the agricultural producers.	
Activities	Implementation of Pilot testing of various approaches improving the generated added value, Analysis of results obtained, Formulation of set of recommendations for action to exploit the benefit in larger scale across region/nation	
Timeframe	2019 – 2023	
Estimated costs & sources of funding	200 000 – 500 000€ (depending on number of pilots and target groups involved) EU programmes, National and Regional programmes	
Internationalisation linkages	Based on / linked to good practices from EU.	
Expected impact	Raised awareness about possibilities to increase the added value of local agricultural production. Set of action defined for large scale adoption.	



PROJECT / INITIATIVE 1.3.		
Higher sustainability - shift towards bio-/eco-production, circular economy and community driven agriculture		
PARTNERSHIP		
Lead Partner	Technical University of Košice	
Further regional / national partners	Policy/administration	Košice Self-governing Region
	Industry	Local agricultural producers and processors, Local markets operators, Community meeting points
	Research & Higher Education	HEIs in the field of agriculture, business, technical science and environment
	Civil society / NGOs	NGOs in area of agriculture, NGOs working for communities, Community centres
	Others	Business support organizations
DESCRIPTION		
Objectives	The main aim of the project is to pilot-test the innovative approaches related to bio-/eco-production, circular economy and community driven agriculture in order to prove the concept and raise the awareness about possibilities to increase the sustainability of production and relations of local producers and processors.	
Activities	Implementation of Pilot testing of various approaches improving the sustainability of production and relations, Analysis of results obtained, Formulation of set of recommendations for action to exploit the benefit in larger scale across region/nation	
Timeframe	2019 – 2023	
Estimated costs & sources of funding	200 000 – 500 000€ (depending on number of pilots and target groups involved) EU programmes, National and Regional programmes	
Internationalisation linkages	Based on / linked to good practices from EU.	
Expected impact	Raised awareness about possibilities to improve the sustainability of local agricultural production and relations in the environment. Set of action defined for large scale adoption.	



6.2 Strategic area 2 - Improved positioning of local agricultural products

The strategic area 2 – “Improved positioning of local agricultural products” will be achieved by implementation of following projects/initiatives:

- 2.1 Launch of Digital Marketplace for local agricultural production
- 2.2 Regional product brand and series of traditional market festivals
- 2.3 Feasibility study for the network of logistic and selling centres of agricultural production

PROJECT / INITIATIVE 2.1		
Launch of Digital Marketplace for local agricultural production		
PARTNERSHIP		
Lead Partner	Technical University of Košice	
Further regional / national partners	Policy/administration	Košice Self-governing Region
	Industry	
	Research & Higher Education	
	Civil society / NGOs	NGOs in agricultural sector and business support
	Others	Business support organization
DESCRIPTION		
Objectives	The aim of the project is to set up a pilot service of digital marketplace and achieve critical mass of buyers and sellers to ensure the viability of this public service.	
Activities	Development of existing prototype, Launch of communication activities and trainings, Technical launch of the platform and complementary services provided. Analysis of performance and acquisition.	
Timeframe	2019 - 2021	
Estimated costs & sources of funding	150 000 – 250 000€ National programmes, Smaller Funds managed by local public bodies, Private sponsorship	
Internationalisation linkages	Possibility of cross-border operations.	
Expected impact	Improved circulation of local agricultural products in the region. Recommendation for further operation of the marketplace after first pilot phase.	



PROJECT / INITIATIVE 2.2		
Regional product brand and series of traditional market festivals		
PARTNERSHIP		
Lead Partner	Košice Self-governing Region	
Further regional / national partners	Policy/administration	Cities and municipalities
	Industry	Local agricultural producers and processors, Local markets operators
	Research & Higher Education	
	Civil society / NGOs...	NGOs in the sector of agriculture and local business
	Others	Local Action Groups, Business Support Organizations
DESCRIPTION		
Objectives	The aim of the project is to set up a pilot service of Regional brand of quality/origin and the series of traditional markets to support the promotion of the local products.	
Activities	Development of the methodology and criteria for regional brand awarding, development of organizational rules and bodies to perform the service of regional branding and traditional markets, Launch of communication campaign.	
Timeframe	2020 - 2023	
Estimated costs & sources of funding	80 000 – 120 000€ National programmes, Smaller Funds managed by local public bodies,	
Internationalisation linkages	-	
Expected impact	Improved promotion of local agricultural products and recommendations for the operation of the service after the pilot phase end.	



PROJECT / INITIATIVE 2.3		
Feasibility study for the network of logistic and selling centres of agricultural production		
PARTNERSHIP		
Lead Partner	Košice Self-governing Region	
Further regional / national partners	Policy/administration	Cities and municipalities
	Industry	Logistic companies, Wholesale and markets
	Research & Higher Education	Technical University of Košice
	Civil society / NGOs	NGOs in the sector of agriculture, logistics
	Others	Business support organization
DESCRIPTION		
Objectives	The main aim is to prepare the feasibility study of the network of logistic and selling centres and marketplaces of local agricultural products within the Košice Region and prepare the investment plan of related physical investments.	
Activities	Analysis of actual logistic and selling infrastructure and in the of light of changing trends in customer behaviours and products offered, Preparation of the strategic documents designing the network of physical points and related services in the domains of logistics and selling of local agricultural production, Preparation of the action plan for future developments in this topic.	
Timeframe	2022 - 2023	
Estimated costs & sources of funding	15 000 – 25 000€ National programmes, Smaller Funds managed by local public bodies, Private sponsorship	
Internationalisation linkages	Based on / linked to best practices from EU.	
Expected impact	Readiness for the physical investments to be realized.	

6.3 Strategic area 3 - Capacity-building and Networking

The strategic area 3 – “Capacity-building and Networking” will be achieved by implementation of following projects/initiatives:

- 3.1 Training programmes for entrepreneurship and marketing skills
- 3.2 Practical guidelines for legislative requirements for agricultural sector and business conducting
- 3.3 Tools supporting the creation of new value chains

PROJECT / INITIATIVE 3.1		
Training programmes for entrepreneurship and marketing skills		
PARTNERSHIP		
Lead Partner	EGTC Via Carpatia	
Further regional / national partners	Policy/administration	Košice Self-governing Region, Cities and municipalities
	Industry	
	Research & Higher Education	Technical university of Košice
	Civil society / NGOs	NGOs in the domain of business support, and education
	Others	Business support organizations
DESCRIPTION		
Objectives	The main aim of the project is to improve the capacities of the local agricultural producers, processors and sellers in the domains of business legislation, managerial skills, decision making and marketing and promotion.	
Activities	Preparation and implementation of the training programmes.	
Timeframe	2019 – 2021	
Estimated costs & sources of funding	100 000 – 200 000€ National programmes, Smaller Funds managed by local public bodies, Private sponsorship	
Internationalisation linkages	-	
Expected impact	Improved skills and competencies of the local agricultural producers, processors in running a business and its marketing.	



PROJECT / INITIATIVE 3.2		
Practical guidelines for legislative requirements for agricultural sector and business conducting		
PARTNERSHIP		
Lead Partner	Agency for Support of Procurement Innovation, n.o.	
Further regional / national partners	Policy/administration	
	Industry	Agricultural producers and processors
	Research & Higher Education	HEIs in the topic of agriculture
	Civil society / NGOs	NGOs in the topic of agriculture
	Others	Local Action Groups
DESCRIPTION		
Objectives	The main aim is to increase the capacity of agribusiness producers, processors and sellers on running a business and legislative requirements related to safety and health, in order to ensure stable business environment.	
Activities	Analysis of current legislative framework, Preparation of training tools/documents for capacity building.	
Timeframe	2019 – 2021	
Estimated costs & sources of funding	120 000 - 150 000€, National funding schemes	
Internationalisation linkages	-	
Expected impact	Improved knowledge of agribusiness producers, processors and sellers on running a business and legislative requirements related to safety and health.	



PROJECT / INITIATIVE 3.3		
Tools supporting the creation of new value chains		
PARTNERSHIP		
Lead Partner	Technical University of Košice	
Further regional / national partners	Policy/administration	Košice Self-governing Region, Cities and municipalities
	Industry	Agricultural producers, processors and sellers
	Research & Higher Education	
	Civil society / NGOs	NGOs in the sector of agriculture, business
	Others	Business support organizations
DESCRIPTION		
Objectives	The main aim of the project is to pilot-test innovative approaches in strategic planning of the territories exploiting the data about actors and linkages among local agricultural producers, processors and sellers and innovation actors in order to enable the creation of new value chains within the agricultural sector.	
Activities	Implementation of Pilot testing of various techniques and procedures, Analysis of results obtained, Formulation of set of recommendations for action to exploit the benefit in larger scale across region/nation, Capacity building programmes for strategic planners.	
Timeframe	2020 – 2023	
Estimated costs & sources of funding	200 000 – 500 000€ (depending on number of pilots and target groups involved) EU programmes, National and Regional programmes	
Internationalisation linkages	Based on / linked to best practices from EU.	
Expected impact	Raised awareness and improved capacities of the regional strategic planners. Set of actions defined for adoption of knowledge gained to support the creation of new value chains in the sector of agriculture.	



IMPLEMENTATION – MONITORING AND EVALUATION

7 Management structure

The action plan is the key document to ensure the vision and the strategic goals of the Innovation network for support of local economy in Košice region. To meet the objectives of action plan in the most effective way we decided to involve all members into the process of decision making by using the approach of Collaborative governance model. Collaborative governance is a sum of expectations, interactions, and last but not least responsibilities which offer the only realistic option to address the multiple economic, social and environmental challenges society is experiencing today (Manescu, 2016). The main document underpinning the operations of the Innovation network is the Memorandum of Understanding founding the network itself - It contains official provisions which regulates the purpose, structure and functioning of an organization, etc.”

Most important provisions stated in the memorandum are following.

- Technical University of Košice is the leading partner of the Innovation network and coordinator of the Action plan - ensures co-operation and provides consultation with other partners to reach the objectives of Action Plan.
- The Innovation Network is opened to new partners, who will confirm their interest by signing the Declaration of a New Member of the Innovation Network for Support of Local Economy in Košice Region. The Lead Partner confirms his decision to accept the accession of a new member to the Innovation Network by signing the Confirmation of Accession of a New Member to the Innovation Network for Support of Local Economy in Košice Region.
- Each partner defines the contact person and its proxy to ensure smooth internal communication and delegation.
- The Lead Partner is responsible for maintaining the list of members and deciding on the accession of new members to the Innovation Network.
- The network members are committed to cooperate, deal with the task in co-ordinated way and purposefully deepen their mutual cooperation in meeting the goals of the Innovation Network.
- Respective partners are responsible for fulfilment of goals of particular projects they are responsible for, or involved in.
- Each partner (stakeholder) participates in Innovation Network activities freely, within his actual interest, available time and preferable activities.
- Funding of the projects foreseen from the combination of national and EU funds and other external sources with combination of co-finance of the UIN members (full financing of the implementation of the projects cannot be required from partners)



- No financial claims/obligations for the partners resulting from AP/UIN membership.
- Each partner may terminate membership of this partnership at any time by delivering a written notice to the Lead Partner.
- If one of the partners is acting in violation of the Memorandum or is harming the interests of the partnership, the Lead Partner may decide to terminate his membership in the partnership.

It is important to note that, in order to increase the quality of UIN management, the shift towards the cluster (legal entity) is planned through national funding scheme.

Involvement of different target groups, i.e. entrepreneurs, NGOs, local authorities, public bodies and citizens will allow in-depth studies of the current situation, requirement and needs and ensure receiving the complex feedback on the planned activities at each time. As the activities of network members will be synthesized and coordinated, the high effectivity by fulfilling the goals is expected. All the stakeholder will benefit from the results of cluster as they gain opportunity to form the objectives and steps of cluster, to receive information and seize the results of activities.

8 Communication

The communication of the Innovation network and Action Plan towards external audience will be done within several channels.

The Innovation Network for Support of Local Economy in Košice Region uses the **official website**, operated by Technical University of Košice, where following information is described (besides Slovak, the information is also available in English):

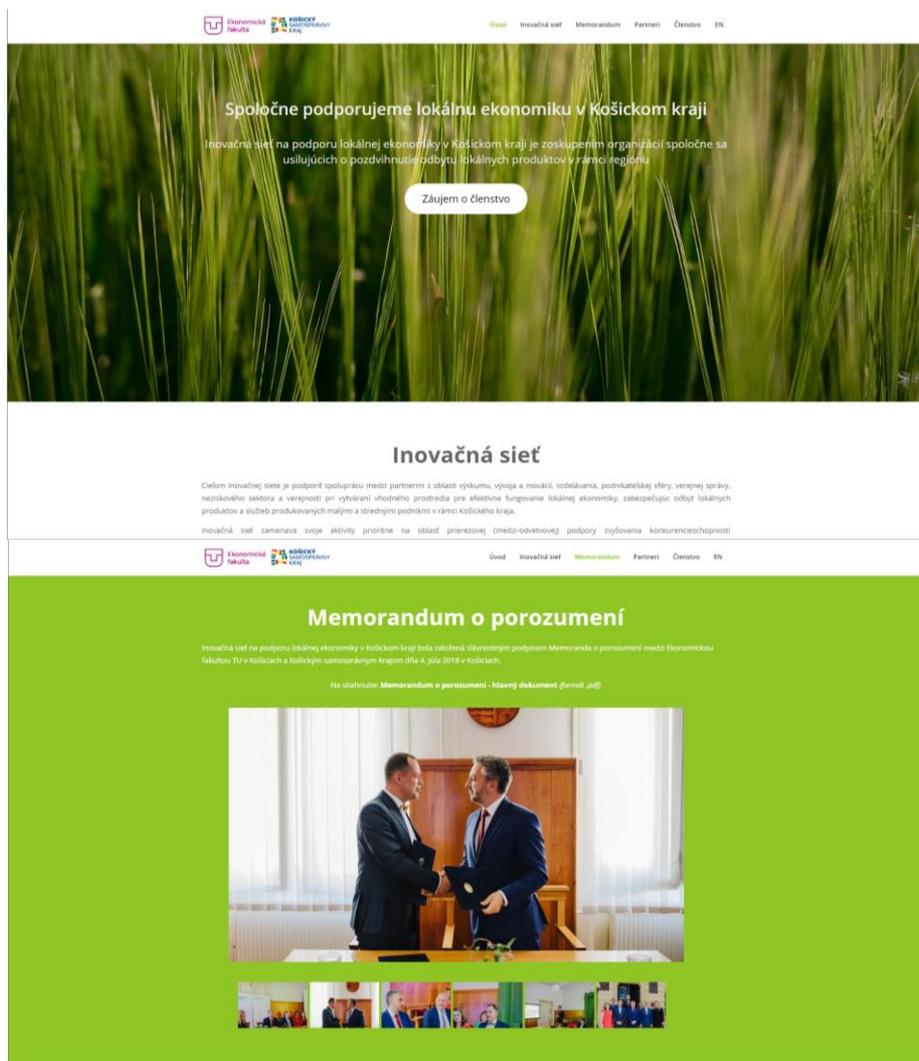
- Information about Innovation network and its purpose
- Memorandum of understanding
- List of partners
 - founding members
 - new members / partners
- List of partner projects and initiatives
- Details on the membership,
- Moreover, the website will be also rearranged in order to create the News section, to make the content more dynamic.

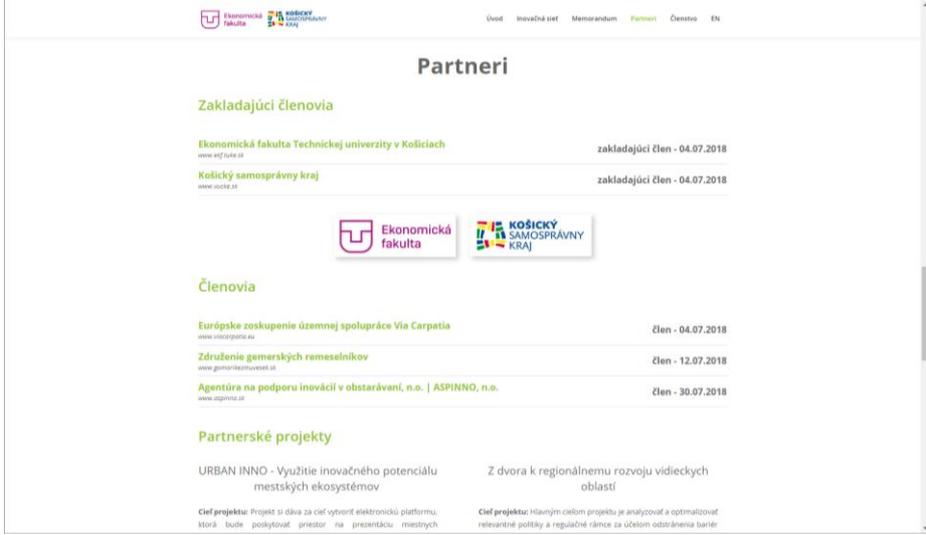
The content at the website are uploaded by the Technical University of Košice, other network members are asked to contact the lead partner in case new content should be uploaded.



The Innovation Network and the Action Plan will be also **promoted in connection to projects and initiatives** performed by Innovation network members. The network members are entitled to relate the performed activities with the Innovation network and the Action Plan. For this purpose, the common visual identity of the Innovation Network is to be prepared. However, the network members need to fully respect the communication guidelines of the programmes supporting the implementation of the projects, the promotion of the Innovation Network is complementary activity.

In the contact with **mass communication media**, The Lead partner is entitled to provide requested information.



The screenshot shows the 'Partneri' page of the website. It features a navigation menu at the top with links for 'Úvod', 'Inovačná sieť', 'Memorandum', 'Partneri', 'Členovia', and 'EN'. The main content is organized into sections: 'Zakladajúci členovia' (founding members) and 'Členovia' (members). Under 'Zakladajúci členovia', it lists 'Ekonomická fakulta Technickej univerzity v Košiciach' and 'Košický samosprávny kraj', both with founding dates of 04.07.2018. The 'Členovia' section lists 'Európske zoskupenie územnej spolupráce Via Carpatia', 'Združenie gemerských remeselníkov', and 'Agentúra na podporu inovácií v obstarávaní, n.o. | ASPINNO, n.o.', with joining dates of 04.07.2018, 12.07.2018, and 30.07.2018 respectively. There are also logos for 'Ekonomická fakulta' and 'KOŠICKÝ SAMOSPRÁVNÝ KRAJ'. The 'Partnerské projekty' section describes 'URBAN INNO' and 'Z dvora k regionálnemu rozvoju vidieckych oblastí'.

Official website of the Innovation Network for Support of Local Economy in Košice Region⁸

General principles that need to be adopted in communication activities, cover:

- Being open, honest and transparent,
- Being purposeful, timely and deliver relevant information to appropriate audiences,
- Beware of security and confidentiality of the information provided,
- Usage the most appropriate channel of communication,
- Recognising the diversity of our audiences.

⁸ Source: www.lokalnaekonomika.sk



9 Monitoring and evaluation

The monitoring of the implementation of the Action plan will be realized by the Leading partner of the Innovation network and by members responsible for specific projects and initiatives captured in the plan list. All the partners agree to implement sound monitoring and evaluation frameworks according to nature of the project/initiative.

The monitoring and evaluation covers following areas:

- Available funding schemes opportunities – the leading partner regularly scans the open calls for project funding published by the innovation and development programmes at all levels of governance – from international, transnational, cross-border, national, regional and local ones – covering both public and private schemes. Beside this, members are asked to inform all relevant network members in case of receiving information about such opportunities. The main aim of the monitoring is to ensure none of the relevant opportunities would be missed.
- For the activity of the innovation network, the number and relevancy of the submitted proposal to attract funding will be monitored. The innovation network partners are not obliged to deliver the innovation and development projects, however by accepting the rules of the Innovation network they agreed to actively seek for opportunities for funding such a projects. The Innovation network will therefore ensure the monitoring of the active approach towards funding programmes, irrespective of the public/private nature.
- The monitoring of the implementation of the particular project is fully the responsibility of the responsible partner project. All the project deliverables, outputs and impact indicators are monitored and evaluated according to implementation manuals of the funding programmes or according to contracts.
- In all activities, the satisfaction of stakeholders is very important indication of the quality of the results/outputs. Therefore, all the network members pay significant attention to feedback from involved parties.



EXPECTED IMPACT FOR THE TERRITORY

10 Expected impact

The implementation of the Action plan will directly improve the regional and urban circumstances, having the mid- and long-term spirit:

- Raised awareness about possibilities to increase the production efficiency and competitiveness of local agricultural production. Set of action defined for large scale adoption.
- Improved level of competitiveness of local farmers and its production by implementation of innovative approaches.
- Increased awareness on techniques and business models to increase the value added.
- Increased average added value generated in the agricultural sector – Beside the production and initial storage processes, the agricultural producers will move their operations towards the processing, logistics, distribution and selling to final consumer.
- Environmental friendly agricultural production – Agricultural producers and processors will implement their operations respecting the sustainable approaches, like bio production, environmentally friendly production, circular economy approach.
- Improved marketing of local production - improved marketing policy and increased level of skills of agricultural producers, improved knowledge about the opportunities connected to new forms of marketing channels (digital environment, social networks).
- Improved understanding of the legal framework to comply, resulting in the reduction of safety risks due to decreased volumes of unofficial sales realized by not registered farmers with positive effect on the health of consumers. Moreover, the positive effect will also be present at the state tax income due to lower tax avoidance.
- Increased visibility of reliable suppliers / producers for processing companies.
- New value chains created within the agricultural sector and other linked sectors
- Improved availability of data and tools for proper territorial planning - regional and urban development planning activities done with sufficient data about the current situation and trends.

Indirectly, in longer horizon, solving of above mentioned challenges should improve the situation in networking and new value chains to be formed, aiming to increased percentage of local products consumed in the region. By all the efforts, we believe we can help in rebirth of agricultural sector and other interlinked sectors having positive effect on local, and especially rural, employment and prosperity.



11 Outlook

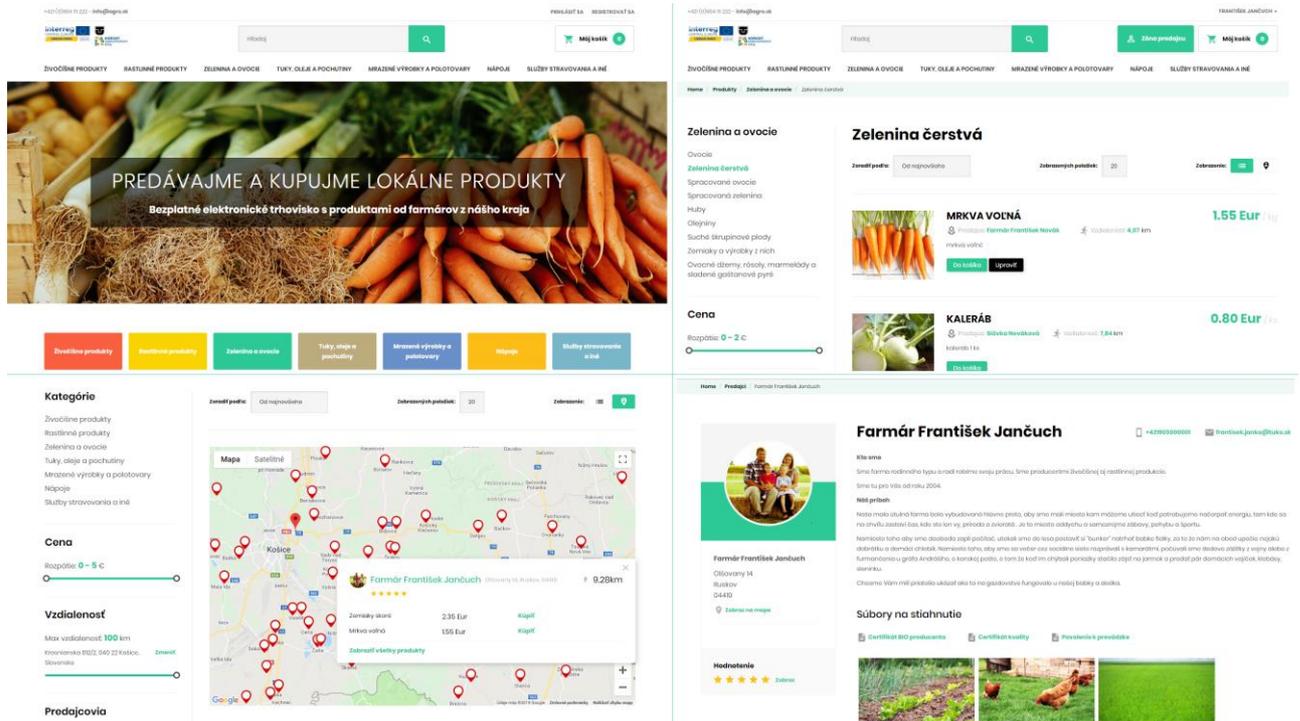
Action plan will boost the environment with missing skills, knowledge, tools and feasibility studies. The future developments, should move towards hard investments creating the infrastructure for storing, logistic and sales of the local agricultural production.

When implementing the Action Plan, the synergy with other relevant initiatives, projects and programmes should be exploited. There are two initiatives currently in the development phase to build on.

Firstly, the prototype of the digital marketplace for agricultural products was developed within the URBAN INNO pilot activities. The marketplace is the environment for presentation of local farmers as well as their production and the tool enabling citizens and other local consumers (like hotels, restaurants and school canteens) to buy processed or unprocessed agricultural products.

This ICT tool can be described by following features:

- Multi-media presentation of the local producers and their business stories,
- Intuitive management of product portfolio, delivery and payment conditions,
- Advanced searching tools – including the search according the category, seller / producer, or distance between user and the seller,
- Interactive map of the sellers/producers enabling filtering according to categories and other characteristics,
- Easy processing of the purchase by final customer,
- Tools for feedback – reviews, comments – with aim to enable fast identify products or farmers who do not comply with quality requirements,
- High-standards implemented for technical security/trust.



Selected features of the digital marketplace for agricultural production in Košice region

Secondly, the Action plan should be implemented in synergy with initiative AgroKruh (“AgroCircle” in English) - the system for the mechanical cultivation of agricultural soils that can work entirely without oil as an energy input. Soil cultivation is generally done using heavy machinery such as tractors. While these have greatly improved agricultural productivity, they have environmental drawbacks, such as compaction of the soil because of their weight, and air pollution from consumption of fossil fuels. Organic farmers in particular have sought more environmentally-friendly alternatives. One such is the use of gantries, or bridge-like frameworks from which tasks such as ploughing and tilling, planting of seeds, and weeding and maintenance, can be done with limited damage to the soil. This is an electronically-controlled gantry that rotates around a central point, and can be fitted with different implements to turn and cultivate the soil, and to water the crops. This technology cultivates the soil in a spiral pattern, though planting of crops still needs to be done by hand. Whatever implement is fitted to the gantry gradually moves inward as the gantry rotates. The result is a circular plot of cultivated soil. Because the gantry control system is very precise, high yields of about 30 tonnes of vegetables from 2 hectares can be achieved.



The inventor of AgroKruh (“AgroCircle”) Ján Šlinský presenting the system to President of Košice Self-governing Region Rastislav Trnka⁹

The model farm of this system will be built with cooperation of Košice Self-governing Region at the premises of Secondary Practice School in Pribenik (Eastern Slovakia), where students will practically gain experience with innovative ways of growing agricultural products.

These were only two most relevant initiatives to be incorporated to activities realized within the Action plan implementation, nevertheless, there several other public and private initiatives supporting the production and sales of local agricultural products. Also links to initiatives of other interlinked sectors, like tourism and culture will be established.

⁹ Source: Photo of Rasto Trnka at Facebook – official public profile, available at:
<https://www.facebook.com/RastoTrnka/photos/pcb.1389234511189546/1389234227856241/?type=3&theater>