



How does Lithuania see smart villages of the country?

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Lithuania, country with great agricultural and rural traditions, has recently spurred in providing for the comprehensive overview of smart villages development in the country, and for real funding opportunities from the national and EU budgets.

At the beginning of 2022, 2,81 million of people lived in Lithuania, 68,2 % in cities and even 31,8% - in villages. Its is small country with well-developed roads, public and private transport. Any conner from the center of the country to be reached in 2-3 hours.

In 2021, agricultural production at current prices totaled EUR 3.1 billion. The proportion of crop production in the total agricultural production made up 66.9%, of which cereals – 34.6, rape – 12.8, fodder crops – 7.3, vegetables – 3.7 %. The proportion of animal production made up 33.1 %, of which animal and poultry breeding – 15 %, milk yield – 13.1 %. The biggest proportion of gross agricultural production (71 %) was produced by farmers' and family farms.

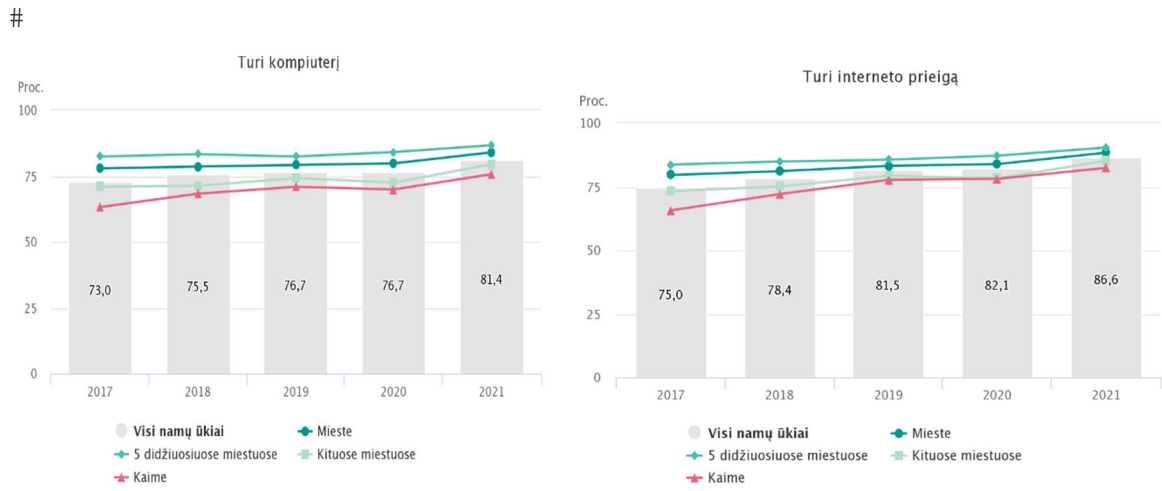
On 7 of July 2022, the Minister of Agriculture has issued the detailed guidelines for the applicants of the pilot projects to promote the smart villages development in Lithuania, to be financed from the LEADER pillar of the Rural Development Program in action (today its 2023-2027), which is financed by the European Fund for Rural Development.

Although, there are no exact data on which part of the rural communities in Lithuania can be regarded as smart, even without the concept of the smart villages in place, Lithuania has advanced during the independence time, especially since 2004 to transform the villages.

In 2021, 81% of households was in possession of the personal computer/laptop, while 87% of them have had access to the broadband internet, where cities and rural communities are not so far each from other. In cities these indicators were respectively 84% and 88%, while in villages - 76% and 82%. To compare the data with 5 years' time lag (penetration of the computers on the right, of the internet – on the left, villages is red line), the progress is incredible here, which allows to state that 100% indicators are within the reach (Figure 1)##

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Figure 1. Penetration of the digital technologies in Lithuania, 2017-2021



Source: State data agency (former – Lithuanian department of statistics), 2022

Almost all of those, having computer and internet use at least some of E-Government services and E-Banking, which are well developed in Lithuania.

All rural areas have established rural communities, providing for the advice and support. Many rural houses are equipped with solar panels, others are mostly heated with the renewables – the wood products, while applying energy saving plans.

There are small business enterprises, e-business shops to sell the processed food products, the farmers are connected to short supply chains, etc. For example, the Website “Village to yours home”, which functions all over Lithuania ([Lietuvos ūkininkų, pardavėjų ir pirkėjų portalas | www.kaimasinamus.lt](http://Lietuvos_ukininku_pardavēju_ir_pirkėjų_portalas_|_www.kaimasinamus.lt)), allows to every farmer to establish his profile to offer the products, while the logistics is offered by the portal. It has been initiated by Lithuanian ministry of agriculture, through public institution Litfood (Agency for development of rural business and markets).

In this respect, the smart villages concept is applied entirely in Lithuania, with over 50% of elements already in place. The elements to be developed are transportation on demand and medical services, available to all rural communities and remote houses, as well as higher local employment.

Moreover, to practical developments, Lithuanian researchers actively engage in smart villages related research. In November 2021, the Agricultural academy of Vytautas Great University did the wide study on the concept of smart villages in Lithuania.

The researchers done an extensive data research while using secondary and primarily data sources, which, inter alia, focused also on the concept of smart villages. The qualitative analysis with application of machine learning techniques to analyze more than 100 secondary data sources (EU and Lithuanian governmental documents, scientific articles), allowed to draw the word cloud of most used descriptors, depicting the smart villages, e.g. systems, people, ideas, management, opportunities, learning, break-through, fast, progress, timely, etc. (Figure 2).

Figure 2. The word cloud of most popular descriptors of the smart villages



Source: Agriculture Academy of Vytautas Great University, 2021

The question of most affected areas of development of the smart villages, gave the indications to economics, resources, public sphere, infrastructure, environment, health, digital, tourism, social services (Figure 3)

Figure 3. The areas of smart villages development



Source: Agriculture Academy of Vytautas Great University, 2021

During the primary research, the scientists have surveyed 174 experts from 58 counties of Lithuania, who have identified the aspects of smartness. More than 80% of experts have answered, that smartness means rapid reaction to changing environments; fast, effective, and smart actions; knowing on how to fill-in the gaps; generation and visualization of ideas; empowerment by progressive thinking; smart decisions; self-reliance and self-organization.

Furthermore, more than 90% of experts think, that the partnership principle of LEADER, is most important for successful implementation of the smart villages projects in Lithuania, e.g. partnership with local groups, NGOs, research institutions, etc. According to them, it's important for the initiatives, which follow bottom-up approach, e.g. from the ground.

According to experts, the most suitable applicants for the smart village's projects would be village communities and other NGOs, acting in the rural areas, also local action groups and rural municipalities.

In this respect, Lithuanians, while developing the smart villages concept, would pay attention not just to technologies, which are well penetrated, but mostly to cooperation and collaboration while developing local economy and skills, preserving the environment and public space.

Main literature:

1. Agriculture academy of Vytautas Great university (2021). The research on the development of the smart villages concept in Lithuania. The final report to Lithuanian ministry of agriculture, under leadership of Prof. V. Atkociuniene. Accessible: [Tyrimas dėl Sumaniųjų kaimų koncepcijos įgyvendinimo Lietuvoje \(vdu.lt\)](#)
2. State data agency (2022). Digital economy and society in Lithuania. Accessible: [Elektroninis leidinys „Skaitmeninė ekonomika ir visuomenė Lietuvoje“ | Informacinės visuomenės plėtros komitetas \(lr.lt\)](#)