

# LITHUANIA

# PEER REVIEW REPORT



***Study Visit & Peer Review Workshop***

***20-21 March 2019***

**Author**

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## 1. EXECUTIVE SUMMARY

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The purpose of this report is to present results of the study visit that took place in Lithuania in the framework of the AgriRenaissance project. The study visit was carried out in 20–21 March 2019, where selected best practice examples in the agri-food sector in Lithuania were visited. The present report is second report of the five peer reviews that will take place along project, and will be taken as reference to define the work methodology of the next ones.

This peer review has allowed evaluating the R&I public policies in Lithuania by the rest of the project partners, obtaining their feedback with a defined methodology that can be extended to the other regions. The main objective of this study visit has been based on the following three areas:

1. R&I infrastructure & capacities.
2. R&I public-private collaboration.
3. Hybridization of the agri-food sector with other sectors within and across regions.

First day of the study visit was devoted to introduce experiences of scientific resources of Lithuania in agri-food area, also agencies that are responsible for implementation of the R&I policy in Lithuania (including agri-food sector) and results of private companies innovating in agri-food sector.

On the second day field trip was organized visiting 2 private companies important as developers of agri-food innovations in Lithuania (cooperative “Pienas LT” and JSC “Mėlynė”), following by the visit to the Lithuanian Research Centre for Agriculture and Forestry.

Peer review workshop was organized in the second day of field trip. Peer review workshop was focused to get the feedback of the participants/peers of the Peer review visit of Lithuania and to identify improvement areas in the R&I policies for the agri-food sector in Lithuania, the lessons learnt and what are the potential actions that participants/peers can implement in their policies. At the beginning of the meeting, the peer review methodology was explained and the peer review exercise was carried out by the consortium partners.

Important recommendations and suggestions were provided by the participants/peers of the study visit in Lithuania that will serve as an input for Action plan of agri-food sector for Lithuania.

## 2. PEER REVIEW METHODOLOGY & RESULTS

### 2.1. PHASE 1: PREPARATION - STUDY VISIT

Involvement of 3 different type of organizations applying triple helix approach were selected for study visit in Lithuania aiming to provide full picture of R&I policy in Lithuania in agri-food sector. 1<sup>st</sup> type of organizations was academia – universities and research centers. 2<sup>nd</sup> type of organizations was public institutions responsible for implementation of R&I policy in Lithuania. 3<sup>rd</sup> type of organizations was private companies innovating in R&I in agri-food sector. All selected organizations play a key role in R&I agri-food ecosystem in Lithuania depending on their type of organization. The main objective was to demonstrate current policies and practices, infrastructure, equipment, as well as research and innovation activities carried out in each of the organizations.

#### I. ACADEMIA: UNIVERSITIES AND RESEARCH CENTRES.

##### ✓ **VYTAUTAS MAGNUS UNIVERSITY AGRICULTURE ACADEMY**



VMU is one of the most liberal and modern universities in Lithuania and the first classical artes liberales university which combines profound traditions of the classical university with innovation, noble ideas and creativity. The main strength of research at VMU is the ability to respond to an increasingly globalised and competitive landscape prompting the dynamic formation of new research priorities and facilitating ongoing improvements in research performance at both national and international level.



The aim of Agricultural Academy of VMU is to create and disseminate scientific knowledge, sincerely striving for safe and healthy food and full-fledged living environment for every citizen of Lithuania. The following steps to this major aim include: training of leaders and development of their ability to create and share their knowledge, endeavour and desire for continuous improvement; creation and dissemination of biological, engineering and social technologies, advanced knowledge and experience in sustainable use and development of land, forest and water resources; fostering of achievements and long-standing traditions of University activity, building work on the most important professional and universal values (VMU AA, 2019).

On 1 January 2019 the reorganisation of the Aleksandras Stulginskis University (ASU) and the Lithuanian University of Educational Sciences (LEU) was completed by merging them under the umbrella of the Vytautas Magnus University (VMU). After the merger ASU became VMU Agriculture Academy, LEU – VMU Education Academy. The synergy of integrating different experiences, competencies and resources allows researchers to work following the best practices of Western universities in sectors, that at first glance are completely unrelated. In accordance with the objectives of the initiative "Smart Society 5.0", studies and research will be carried out in a complex manner, combining interdisciplinary potential in a number of topical topics, including agri-innovations, bioeconomy, biotechnology, artificial intelligence, circular economy, climate change, sustainable development, etc.



✓ LITHUANIAN INSTITUTE OF AGRARIAN ECONOMICS

The Lithuanian Institute of Agrarian Economics (LAEI) was founded in 1990 by way of restructuring the Lithuanian Scientific Research Institute of Agricultural Economics founded in 1959. The establisher of the institute is the Government of the Republic of Lithuania. The main functions of the establisher are carried out by the Ministry of Agriculture of the Republic of Lithuania. In 2010 Lithuanian Institute of Agrarian Economics was granted a status of state scientific research institute and began implementing long-term programs of institutional scientific research and experimental development (2012–2016; 2017–2021).



LAEI is the main player in the fields of rural and regional development (including tourism) and agricultural economics in Lithuania. The researchers at LAEI have participated in a number of projects which resulted in international publications, decision support models and establishment of platforms for research and business activities. The competences possessed by participants from LAEI include rural and regional development, business and quantitative modelling, market analysis, sustainability analysis, among others. The results of research are used widely in drafting rural development strategies and programs of Lithuania (LIAE, 2019).



✓ **LITHUANIAN RESEARCH CENTRE OF AGRICULTURE AND FORESTRY**

The Lithuanian Research Centre for Agriculture and Forestry (LAAMC) is a state research institute operating as a budgetary institution. The Centre's strategic objective is to conduct R&D in the fields of agronomy, forestry, as well as related fields of ecology and environmental sciences, biology, biophysics, botany and zoology.

Research, various scientific programs and projects are carried out at the Centre. Researchers are involved in national (funded by the Lithuanian Research Council, Ministry of Environment, Ministry of Agriculture, Ministry of Economy and other state authorities) and international projects (funded from HORIZON 2020, European Territorial Cooperation and other EU funds). There are conducted programmes of the selection of main garden, field crops, seed fruit, pit fruit and berry fruit. More than 470 varieties of outdoor, garden and vegetable plants have been developed since the beginning of plant breeding in Lithuania (1922). Most of them are successfully used in Lithuania, neighbouring and other countries (LAAMC, 2019).



✓ **LITHUANIAN AGRICULTURAL ADVISORY SERVICE**

Lithuanian Agricultural Advisory Service, founded 1993, has been developing a nationwide agricultural advisory system. The institution building process took place while one structure changed the other. During the agricultural reform, animal production and crop production decreased significantly. This was also influenced by the emergence of a large number of smaller producers of agricultural products instead of large farms, for which scientific and training institutions were unable to provide assistance.

Many citizens who did not have any agricultural education received land ownership and started farming, and a large part of the rural population lacked the knowledge to develop a modern farm profitably. In such a situation in agriculture, the need to consult and train farmers to improve their qualification had increased significantly (LAAS, 2019).

LAAS provide clients with complex accounting, business economy, crop production, animal husbandry, forestry, work safety and fire safety services, consult and train in the mentioned areas. By meeting the needs of its clients, learning from foreign partners and taking into account the innovation development goals of the European Union, the institution is boldly moving on the path of innovation. Farm management of all areas, farmer information, advising and training processes in electronic space is the today's focus of the Lithuanian Agricultural Advisory Service (LAAS, 2019).



#### ✓ **PARK OF AGRICULTURAL SCIENCE AND TECHNOLOGIES**



Aleksandras  
Stulginskis  
university

The purpose of Park of Agricultural Science and Technologies is to raise the overall level of rural culture promoting scientific innovation and introduction of new technologies to improve agriculture, water and forestry specialists and farmers in Lithuania.

Key activities: disseminating of innovative land, water and forest technologies; organize agricultural and forestry exhibitions; to organize scientific, industrial conferences, workshops and seminars; organize preparation of scientific and technical publications (methodologies, guidelines).

## II. **PUBLIC ORGANIZATIONS.**

#### ✓ **AGENCY FOR SCIENCE, INNOVATION AND TECHNOLOGY (MITA)**



Agency for Science, Innovation and Technology (MITA) is the main governmental institution, responsible for implementation of innovation policy in Lithuania. Briefly, it is a national innovation agency. MITA provides free of charge services for clients from business, science and public sectors, interested in possibilities to develop strong cooperation relations with international partners and get financial support for research and innovation projects.

The main activity is the coordination of national activities and international programmes (HORIZON2020, EUREKA, EUROSTARS) of research, technological development and innovation and other financial schemes (innovation vouchers, protection of industrial property rights). MITA provides national financial support for projects participants. MITA also promotes business and science cooperation, commercialization of research and protection of intellectual property rights. MITA cooperates with innovators, inventors, entrepreneurs, businessmen, intellectuals, researchers and other individuals, which have innovative ideas and are ready to implement it (MITA, 2019).





✓ **LITHUANIAN INNOVATION CENTRE**

Lithuanian Innovation Centre (LIC) provides innovation support services to enterprises, research institutions, industry associations and business support organisations. LIC provides public (free of charge) innovation support services and promotes innovation culture in Lithuania. Lithuanian Innovation Centre activities are organised on the project basis. LIC takes part in various tenders, calls for proposals announced by the European Union, other international organisations and Lithuanian Government (LIC, 2019).

**III. PRIVATE COMPANIES.**

✓ **GEOMATRIX COMPANY**



UAB GEOMATRIX (GMX) is focusing on applied research, development of technological solutions and consultancy in geoinformatics. It is also developing and providing services in automated processing of large amounts of spatial data. Automated work-flows developed by the company include not only processing of satellite imagery and land cover mapping, but also aggregation and geo-processing of vector GIS datasets and relational databases, geostatistical modelling, operational site-based mapping, generation of metadata and publishing the results on the Internet or distributed databases. In 2016 GMX started development of new Sentinels-based automated production/service prototypes related to monitoring of water and food resources and aiming at both B2P and B2B sectoral markets. Those were services for automated production of HR Water and Wetness layers (following the EEA Land Monitoring Service specification), operational agriculture information service (SAGRIS) and CAP subsidies control service (CAPCON) requested by the NPA.



✓ **AUGA GROUP**



Almost 10 years of traditional farming experience gained from farming in 24 000 hectares land and by growing more than 3 000 cows, has supplemented the idea of an organic agriculture, which has been evolving in the mind of Kestutis Juscius, the owner of Baltic Champs, for three years. After the merger of two companies in 2014, a new common business vision and new goals emerged. In 2015 the group made the key decision to move to organic farming, thus started the process of certification. In 2016 company changed its' name to AUGA group and developed a new line of products called AUGA.

AUGA GROUP is Europe's largest organic food producer from field to shelf. The group of companies manages approx. 38,000 ha of organically certified arable land and develops sustainable farming model, based on new technologies, specializing in crops, dairy cows, chicken and mushroom growing. Using proprietary and contracted manufacturing, the company produces a wide range of organic food products for the end consumer as well as organic commodities purchasers.



✓ **PIENAS LT**

“Pienas LT” is the largest cooperative of dairy production and processing in Lithuania. It began pursuing its activities in 2008. Commercial dairy farms producing the highest quality raw milk form the basis of the Cooperative. The Cooperative implements dairy production that is consistent with the highest standards and is first and foremost orientated towards qualitative, safe and wholesome raw materials. In the Cooperative the number of members exceeds 200. After opening the dairy processing plant in 2015, cooperative established themselves as a reliable and important business partner in the Baltic and Eastern European market.



Cooperative pay important attention to R&I in agri-food sector. BaltMilk product line demonstrate this approach. BaltMilk product line includes the latest and most effective milk protein products manufactured in the European Union by applying the most innovative dairy processing solutions. BaltMilk high value added dairy products are produced exceptionally for the global market. BaltMilk product line and the dairy plant are fully owned by AC “Pienas LT”. BaltMilk ensures and conforms to the clients’ highest requirements for the manufacture of high value-added products intended for a healthy lifestyle, sports, baby foods, etc.



✓ **UAB MĖLYNĖ**



Company “Mėlynė” is a young, innovative research company founded in 2014 in cooperation with Institute of Horticulture of the Lithuanian Research Centre for Agriculture and Forestry. The company has participated in a competition for the commercialization of research and experimental development results initiated by the Agency for Science, Innovation and Technology (MITA) and became one of the 18 winners who received support for business start-ups.

Company is working with local raw materials of plants by searching of innovative technologies and their use in the production of food and other products aiming to enrich products with biologically valuable materials, maintain natural colors and be healthier. Company focus on distinguishing and concentrating coloring agents – anthocyanins, which can be used as natural colorants in the food industry – from different types of berries and, in particular, from their sub-products. Company lyophilizes fruits, vegetables, medicinal plants. Lyophilization is a perfect vacuum drying technique that removes only water from the product. All biologically active substances, vitamins, enzymes remain in the lyophilized product. Lyophilized products retain their shape, smell, taste and can be kept tightly sealed for unlimited time.



## 2.2. PHASE 2. WORKSHOP & DISCUSSION

Below is shown the methodology which was followed by participants of study trip to carried out the peer review exercise. The discussion logic applied in the Peer Review was the following:

- *The representatives of the hosting region delivered a presentation. This presentation focused mainly on the key questions that the peer review exercise should answer. Participants can ask as many questions as they consider necessary for a better understanding of the situation.*
- *All the peers were asked to join one of the discussion tables (one for each question). Ideally, each table should include at least a representative of the hosting region.*
- *Participants at each table were invited to introduce themselves to other people at their table.*
- *The moderator distributed randomly the key questions among the discussion tables.*
- *Participants at each table began the discussion. They have followed the following iteration: i) the question behind the question; ii) policy suggestions to the region under review; iii) lessons learned.*
- *Each group nominated a rapporteur that summarized the results of the discussion.*
- *The moderator have summarized the general results obtained in the discussion. Participants were asked to discuss the results obtained, adding additional details to the suggestions and lessons learned.*
- *All participants were asked to fill out the assessment questionnaires and the lessons learned form.*
- *The contact person compiled all this information in order to elaborate the Peer Review Report.*

- **Find the question behind the question (yellow).** Participants must discuss the question assigned in order to better understand the problem faced by the region. The aim is to build a “new question behind the originally posed question” that allows a better understanding of the problem to solve. They will write in down on a yellow post-it note.

- **Policy suggestions (green).** Participants must propose policy suggestions based on their own experience and knowledge. Participants are encouraged to share both positive and negative experiences. They can analyze if these experiences can be applied in the hosting region.

Participants must agree on a list of the 3 most important suggestions. They will write down them on a green post-it note.

- **Lessons learned (pink).** Each participant must reflect on what they have personally learned on the peer review exercise. They can share their lessons with the group. Each group must agree on 3 most relevant lessons learned.

They wrote down them on a pink post-it note.

All the groups share the results of this discussion attaching them to a whiteboard. The moderator will foster the debate among the participants in order to identify additional aspects that they want to mention. Finally, he/she will summarize the results of the discussion tables.



## **2.2.1 - WORKSHOP & DISCUSSION - QUESTIONS & ANSWERS ON SITE**

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- 1. *How the R&I infrastructures and capacities can be improved or coordinated to obtain better results in terms of innovation in agri-food sector in Lithuania?***



### **YELLOW: FIND THE QUESTION BEHIND THE QUESTION**

1. Lack of communication in coordination R&I infrastructure and capacities.
2. Gap of final products.

### **GREEN: POLICY SUGGESTIONS**

1. Foster activity of cluster to promote private sector.
2. Improve synergy of programmes (Horizon 2020, ERDF, other).
3. Value chain: improvement of connections.
4. Industrial PhD in agri-food sector in close relations of universities and private companies.



### **PINK: LESSONS LEARNED**

1. R&D platform: "Open R&D Lietuva".
2. ICT capacity and tools (JSC "Geomatrix").
3. Improvement of technologies for organic food.

**2. *What policies and tools can be suggested to increase the collaboration among public and private players for agri-food sector in Lithuania?***



**YELLOW: FIND THE QUESTION BEHIND THE QUESTION**

1. What type of financing to solve this problem?
2. No wish of private sector for innovations.
3. No coordinating institution for agri-food innovation.
4. One budget for all innovations.



**GREEN: POLICY SUGGESTIONS**

1. Network/platform for private and public research centres.
2. Promotion of cooperation.
3. Reduce administrative burden.
4. One coordinating institution for agri-food sector.
5. Separate budget for agri-food innovation sector.



**PINK: LESSONS LEARNED**

1. Dynamic system.
2. Infrastructure.
3. Universities are close to agri-food sector.
4. Human resources. Very good educated staff in each institution and enterprises (example, JSC "Geomatrix").
5. Good facilities.
6. Motivation.

***3. How can the hybridization of agri-food sector with other sectors (bio-technology, tourism, health sector) be fostered in Lithuania?***



**YELLOW: FIND THE QUESTION BEHIND THE QUESTION**

1. Narrow market.
2. The hybridization should be extended to other markets (example, energy).
3. Lack of knowledge of the market and solutions that could be shared among sectors.



**GREEN: POLICY SUGGESTIONS**

1. Participation in international exhibitions.
2. Collaboration with neighbour countries with the same limited market structure.
3. Understand the needs of different sectors, starting from small areas to national level.
4. Create a network of clusters to enhance the cooperation among sectors.
5. Public calls/funding to promote this activities, not only at cluster level but also for projects identified as a result of cooperation among sectors.

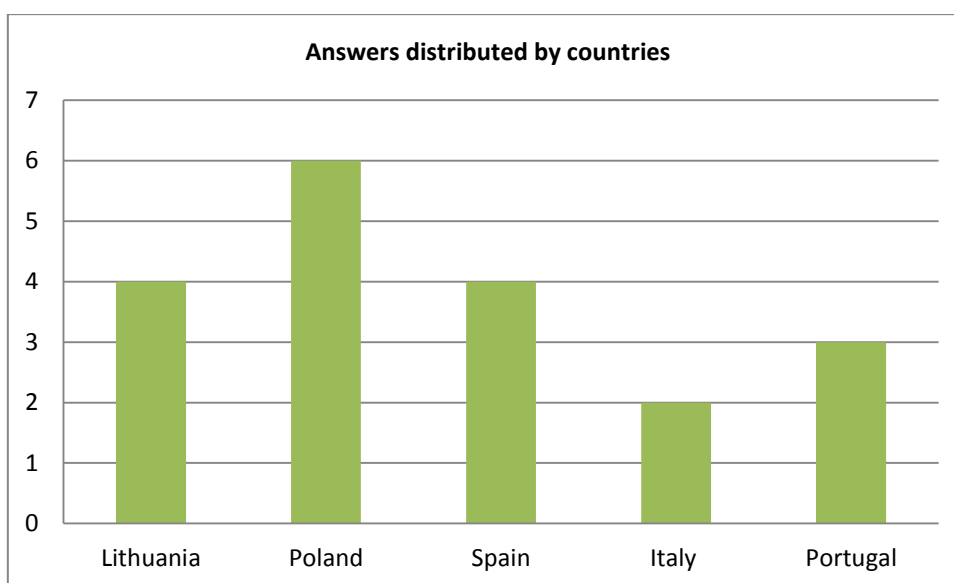


**PINK: LESSONS LEARNT**

1. Quick reaction to the Russian embargo. More value added to products. Flexibility to adapt to necessities.
2. Milk using in health sector as a product which has much protein.
3. Platform for communication of R&D sector could be applied for cooperation.
4. Lithuania has a great technological potential that could help to find solutions among sectors.

### 2.2.2 - WORKSHOP & DISCUSSION – ON LINE SURVEY & COMMENTS

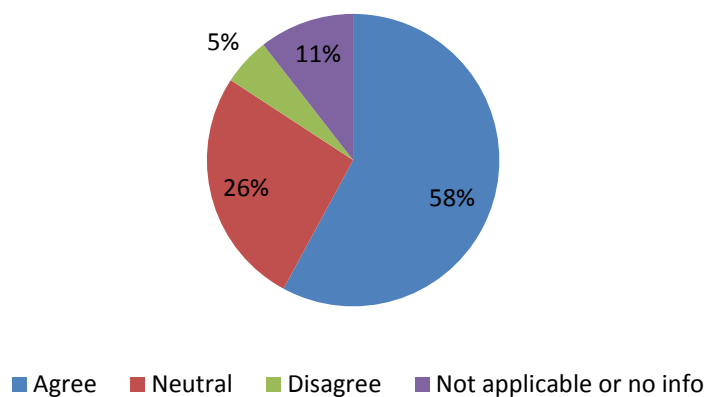
A survey was prepared for the project partners and stakeholders of the project aiming to receive a deeper review of R&I policies of agri-food sector in Lithuania. Participants of the study visit had to assess specific issues on three thematic areas: i) R&I infrastructure & capacities in agri-food sector in Lithuania, ii) R&I public-private collaboration in agri-food sector in Lithuania, iii) hybridization of the agri-food sector with other sectors in agri-food sector in Lithuania. Survey was sent on 21<sup>st</sup> March with 1 week to answer. The response rate was high (80 %), with 19 surrendered surveys, involving all the regions of the project. The option to provide observations or comments to each of the objectives of the project was also given.



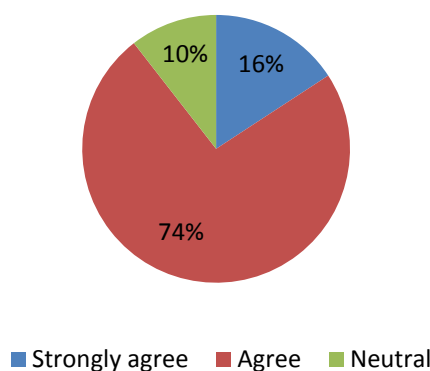
**Fig 1. Answers distributed by countries**

**Objective 1. R&I infrastructure and capacities in agri-food sector in Lithuania: questions & answers.**

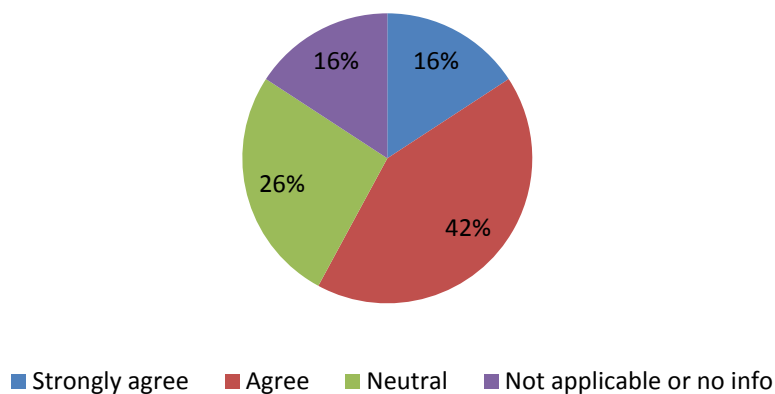
**1.1 The regional R&I infrastructures and capacities are efficiently managed, obtaining the maximum available performance**



**1.2 The technical and scientific resources available are enough according to the socioeconomic and scientific profile of the region**

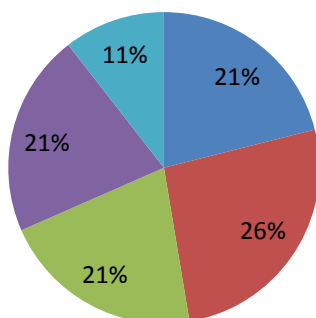


**1.3 The mechanisms to incorporate investigators in the R&D&I centres are adapted to the necessities of the region**



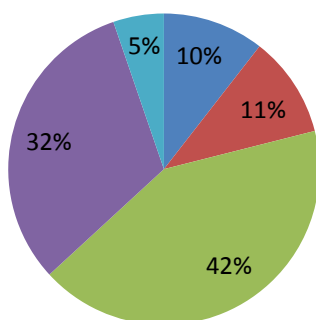


**1.4 A precise formation and a solid professional career plan are available for the investigators**



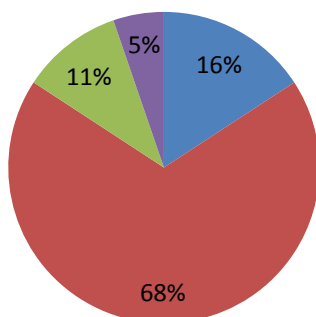
■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**1.5 The coordination among public and private agents to use the R&I infrastructures and capacities is optimal**



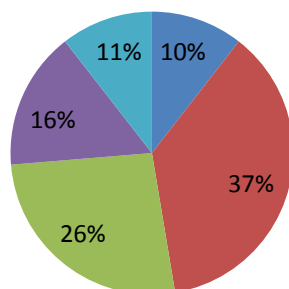
■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Strongly disagree

**1.6 The R&I public policy mix covers satisfactory the management and dynamization of the infrastructures and capacities**



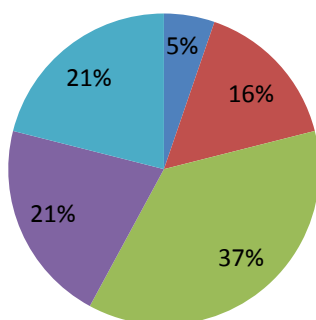
■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**1.7 The public funding available is effective and enough to cover the necessities of R&I infrastructures and capacities of agri-food sector**



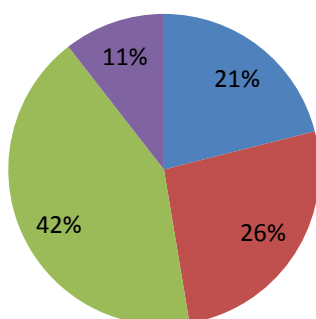
■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**1.8 Regulations for commercialization of innovations created by researchers are sufficient and effective.**



■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**1.9 Availability of research results/data for public use and further re-use in other business is sufficient**



■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

*R&I infrastructure and capacities.* 58 % of respondents agree that R&I infrastructure and capacities are efficiently managed and obtaining the maximum available performance.

*Availability of technical and scientific resources.* High number of study visit participants (90 % of respondents) highlighted that technical and scientific resources available are enough according to the socioeconomic and scientific profile of the region.

*Mechanisms to incorporate investigators in the R&D&I centres.* A high number of respondents strongly agree or agree (58 % in total) that mechanisms to incorporate investigators in the R&D&I centres are adapted to the necessities of the region.

*Precise formation and solid professional career plan for investigators.* 47 % of respondents strongly agree or agree that a precise formation and solid professional career plan are available for investigators.

*Coordination among public and private agents to use R&I infrastructure and capacities.* Participants of the study visit assessed mostly neutrally (42 % of respondents) or disagreed (32 % of respondents) that 'The coordination among public and private agents to use the R&I infrastructures and capacities is optimal'. This can be addressed as a challenge regarding coordination of R&I infrastructure and capacities among public and private agents in Lithuania.

*R&I public policy mix.* 68 percent of respondents highlighted a neutral position that 'The R&I public policy mix covers satisfactory the management and dynamization of the infrastructures and capacities'. This also a message that public policy mix should better reflect the needs of R&I infrastructure in Lithuania.

*Availability of public funding for R&I infrastructure and capacities.* 47 % of respondents strongly agree or agree that public funding available is effective and enough to cover the necessities of R&I infrastructures and capacities of agri-food sector.

*Regulations for commercialization of innovations.* The biggest part of respondents (37 %) were neutral that 'Regulations for commercialization of innovations created by researchers are sufficient and effective'. 21 % disagreed with this statement. So the message is that regulations for commercialization of innovations need an improvement to make this process more effective.

*Availability of research results/data for public use.* Very large diversity among participants was on question 'Availability of research results/data for public use and further re-use in other business is sufficient'. Even 42 % of respondents disagree with this statement, 21 % agreed and 26 % were neutral. The message is that research results/data should be available for public use and further re-use in other business.

### ***Objective 1. R&I infrastructures and capacities: comments***

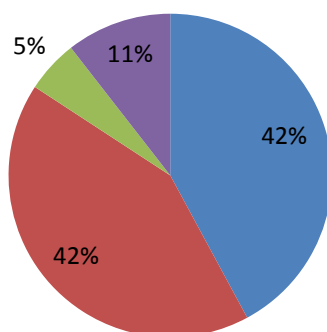
- Good motivation and education.
- I assess the infrastructures and possibilities for research and innovation in Lithuania very highly. The problem, similarly to Mazovia, is small use of this potential by the private sector.
- In general, the infrastructures and capacities are adequate to the country, although the dissemination of results and research could be improved.
- The institutions presented during the presentations were well presented but there was no representation of the links between them. A distinguishing feature was the Lithuanian Innovation

Center, especially in the scope of the platform (Open R&D Lithuania). The communication between the institutes should be improved.

- It would be interesting to develop more stable knowledge transfer and technology departments. Also to promote the development of the industrial sector, it would be a good idea to create food innovation departments aimed at the needs of the country's companies. An opportunity could be to incorporate the development of doctoral programs aimed at developing in collaboration with strategic companies (ICT, food industry, advanced services, etc.).
- R&I infrastructure is developed at a medium level allowing for the creation of innovations.
- Infrastructures and capacities in general are good. I have observed that the different centers and companies had equipment and infrastructures according to the current state of the art, nevertheless, it seemed to me that in these centers there was little research staff working (maybe a perception).
- In relation to skills, I believe that there are very valuable, entrepreneur's, with good ideas and desire to innovate both in public and at the private level. In relation to the university and research centers, I think teaching is very focused on agri-food sector, and plant genetics. That is, the teaching is addressed to future professional outings and to one of the main sectors such as the agri-food sector is in Lithuania. However in terms of infrastructure, I miss a greater development of the manufacturer industry in terms of end-products. That is, there is a lot of raw material and the primary sector (farmers and farmer's association's) is very extensive, but with high prices that do not allow competition with other countries. I think that aspect could be improved, and some efforts are already being made as the short supply chains.
- The R&I potential in public and also in the private sector are very high and it is very significant but it is not developed to full. For that purpose is very important to identify a principal institution and to create around this one a network of universities, institutes, innovation clusters and science, and technology parks.
- There is high-level R&I infrastructure, laboratories, equipment. Technical resources available are enough, but there is a lack of human resources, especially for the young.
- Good information about presentation of policies and regulations in the areas of infrastructure and innovation.
- Some companies in Lithuania are at the technological cutting edge, but the high-tech sector mainly consists of a limited number of top-tier private research teams, and knowledge-based (spin-off) companies mostly in industries such as bio-pharmaceuticals and ICT technologies. Lithuania's public R&D infrastructure is fragmented: The R&D infrastructure is scattered across different universities, institutes, innovation clusters and science and technology parks. It also lacks clear coordination and strategic planning as responsibility is divided between two ministries. Limited support for soft innovation capital comes from the country's tertiary education system. Funding from European structural and investment funds is one of the main financing sources for R&I projects, this is reason of limited finance sustainability.

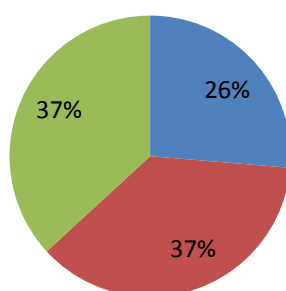
**Objective 2. R&I public-private collaboration: questions & answers**

**2.1 Legal framework to innovate is sufficient and effective**



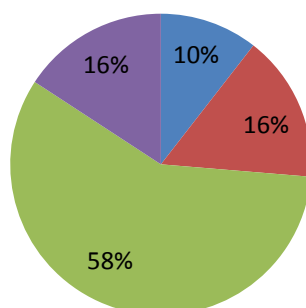
■ Agree ■ Neutral ■ Strongly disagree ■ Not applicable or no info

**2.2 The effectiveness of process of involving all relevant stakeholders for improvement of innovation policy is sufficient**



■ Agree ■ Neutral ■ Disagree

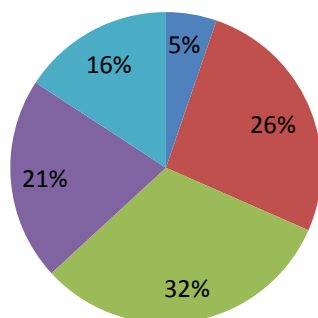
**2.3 The collaboration among public and private actors of agri-food sector is efficient**



■ Strongly agree ■ Agree ■ Neutral ■ Disagree

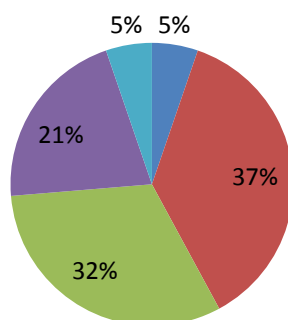


**2.4 Potential of agricultural clusters are high with role of the main protagonists in fostering the innovation in the enterprises**



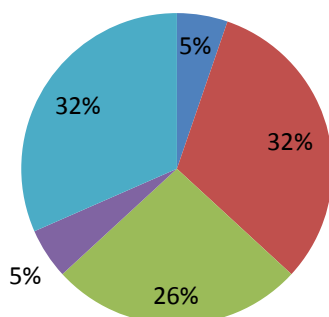
■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**2.5 There are enough tools and mechanisms to facilitate the collaboration among public administration, universities and private R&D centres**



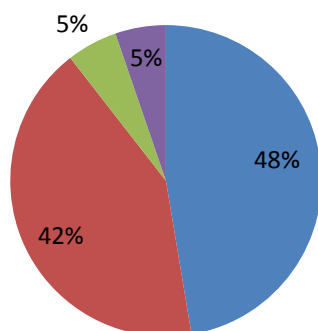
■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**2.6 The internationalisation policies planned and executed to foster the scientific collaboration are adequate**



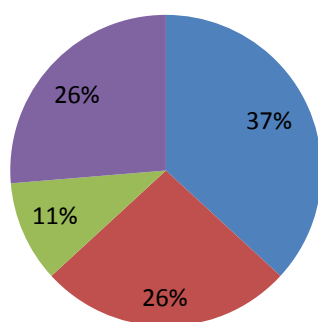
■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**2.7 The funding tools (policy instruments) are efficient in terms of fostering the collaboration between the public and private sector**



■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**2.8 The existing tools to promote the collaboration with players of other regions are adequate**



■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

*Legal framework to innovate.* 42 % of respondents agreed that legal framework to innovate is sufficient and effective. The same 42 % of respondents were neutral for this question.

*The effectiveness of process of involving all relevant stakeholders for improvement of innovation policy.* The major part of participants of the study visit disagreed (37 %) or were neutral (37 %) that the effectiveness of process of involving all relevant stakeholders for improvement of innovation policy is sufficient. Only ¼ of respondents (26 %) agreed effectiveness of process is sufficient. This is a message that process for improvement of innovation policy should better reflect of involvement of all relevant stakeholders presenting all types of quadruple helix.

*The collaboration among public and private actors of agri-food sector.* Significant part of respondents (58 %) was neutral that collaboration among public and private actors of agri-food sector is efficient. Only ¼ respondents strongly agreed (10 %) or agreed (16 %) that collaboration is efficient. New tools should be proposed aiming to increase collaboration between public and private actors and increasing efficiency of this collaboration.

*Potential of agricultural clusters.* Largest part of respondents (32 %) were neutral that potential of agricultural clusters are high with role of the main protagonists in fostering the innovation in the enterprises. 26 % agreed with this statement and 21 % disagreed. So until now there is sufficient evidence in Lithuania that potential of agricultural cluster are high in fostering innovations in enterprises.

*Tools and mechanisms to facilitate the collaboration among public administration, universities and private R&D centres.* 37 % of study visit participants agreed that in Lithuania there are enough tools and mechanisms to facilitate the collaboration among public administration, universities and private R&D centres. 32 % were neutral and 21 % disagreed with this statement.

*The internationalisation policies to foster scientific collaboration.* 37 % of respondents strongly agreed and agreed that the internationalisation policies planned and executed to foster the scientific collaboration are adequate. 26 % were neutral and very small number of respondents (5 %) disagreed. So the policies encouraging scientific collaboration with partners from abroad are in favor to foster this process.

*The funding tools (policy instruments) are efficient in terms of fostering the collaboration between the public and private sector.* This aspect on funding tools received the highest support of positive assessment from respondents as 48 % agreed that funding tools (policy instruments) are efficient in terms of fostering the collaboration between the public and private sector. 42 % were neutral and only 5 % disagreed with this statement.

*The existing tools to promote the collaboration with players of other regions.* 37 % of respondents agreed that existing tools to promote the collaboration with players of other regions are adequate. Other opinions were having neutral position (26 %), disagreed (11 %), and no info (26 %).

## **Objective 2. R&I public-private collaboration: comments**

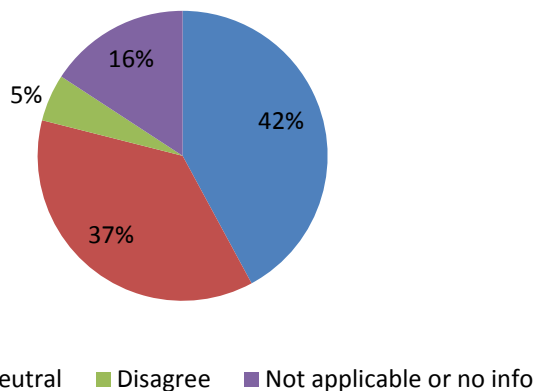
- In my opinion, activities promoting the benefits of R&I public-private collaboration should be strengthened. Perhaps there should also be a greater emphasis on educational activities among farmers in terms of benefits from the use of new technologies and the implementation of innovative solutions.
- More collaboration between the public and private sectors is recommended.
- Examples of public-private R&I co-operation have been presented, but it seems that in general it is only a small percentage of activity in the agri-food sector.
- It would be interesting to generate commissions or work groups where all the agents (ERDF and EAFRD managers, universities, R&D centers, businessmen, etc.) could share their ideas and seek synergies. They could have a directive commission with thematic working groups.
- Good collaboration between academia, public and primary sector. Not so good among different public institutions, neither public administration nor primary sector.
- The private and public sectors cooperate on the developed R&I model, but we do not know the level and efficiency.
- Lithuania is a relatively young country, with very well trained, serious and responsible people. In my opinion, has the advantage of having a decentralized administration, which reduces bureaucratic problems and can foster a greater approach and collaboration between the stakeholders (public and private) that can take measures in innovation, not only at the regional level, but at the national level.

However, it is possible that there is not a complete understanding between the different public policymakers and funding bodies in terms of support of the innovation in the agri-food sector. This fact can sometimes make more difficult the collaboration not only among the public sector but also among the private-public sector. I also believe that a figure that would bring together different centers and companies (both public and private) could be settled up. This institution or cluster would also encourage stakeholders' participation in different projects in collaboration with other countries in different calls. I have the impression that private companies, although they have innovative processes and good ideas, are SMEs and maybe they need more support to be able to establish international collaborations and receive funding from sources other than national.

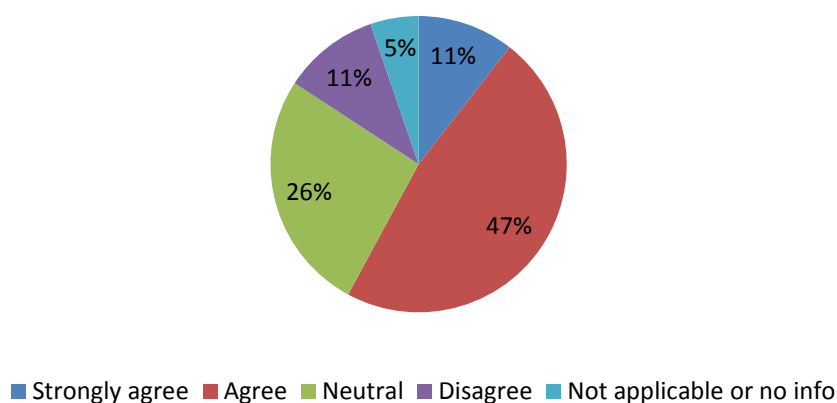
- R&I public-private collaboration is quite fragmented and small scale in nature. There are legal infrastructure, institution and tools but there is no connection between or it is low. So you need to encourage companies to invest in products with high added value in the market through granted funding. A suggestion in order to involve in the joint call the experts selected from the DB Horizon 2020. During the expert registration process, the expert agrees to who can find his expert profile in the database. The expert search application is currently intended for use by people from other EU institutions or Member States who have requested access to this feature. At the end of the Expert Registration process, the expert is asked to agree to having his data made available to one or more of the following entities: - Research funding bodies with a public service mission, in the Member States and countries associated with the Framework Programme; - Other structures implementing EU research activities, created in line with the provisions of the Treaty, such as JTI and entities set up involving the EU in joint research programmes with several Member States; - European Parliament; -The European Commission's Structural Reform Support Service. More details here:  
<https://ec.europa.eu/programmes/horizon2020/en/experts#Newsroom>.
- There is a general lack of cooperation, therefore is necessary to take measures to encourage cooperation and collaboration between the public and private sectors. Legislation and common policy must be motivating. Also there should be a centralized management of the R&I institutions.
- Platform is needed to coordinate public-private collaboration.
- The processes are available, the application processes accessible and clarifying for the public and private sectors.
- R&D innovation is mostly pursued by firms in those industries or market niches where technological opportunities are larger and the knowledge base is more closely linked to natural or engineering sciences. In Lithuania, this is only the case in a small number of niche industries (e.g. biopharmaceuticals, ICT, software). There is a strong emphasis on science-driven innovation and hard infrastructure, mostly targeting a limited number of current R&I performers.

**Objective 3. Hybridization of the agri-food sector with other sector within and across regions:  
questions & answers**

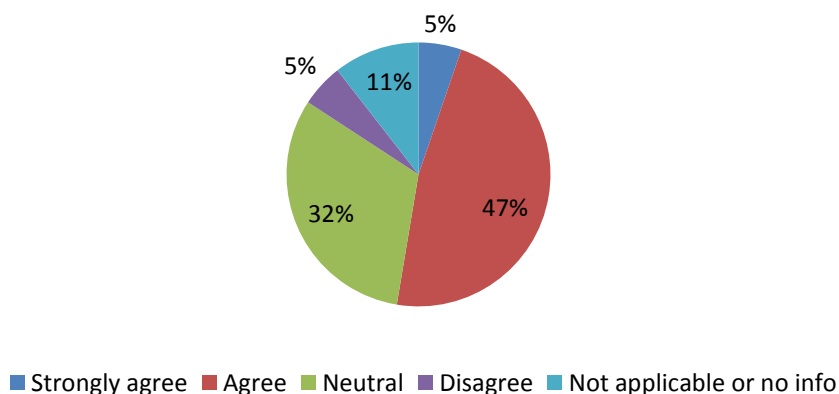
**3.1 Legal framework for hybridization of the agri-food sector with  
other sectors is sufficient and effective**



**3.2 The main players are being involved in the process of  
technology implementation**

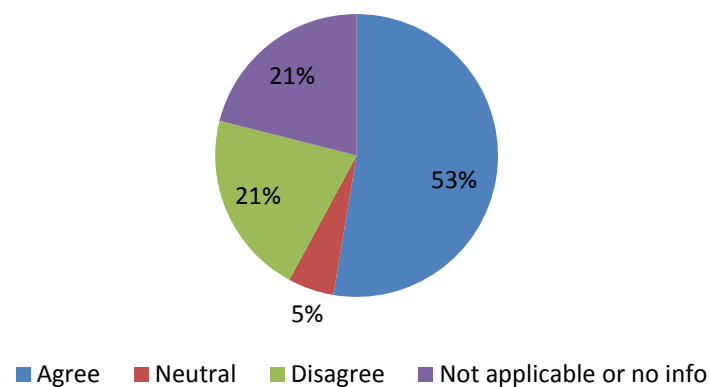


**3.3 The policy mix supports the identification of innovation  
opportunities at the interface between different disciplines,  
industries and sectors**

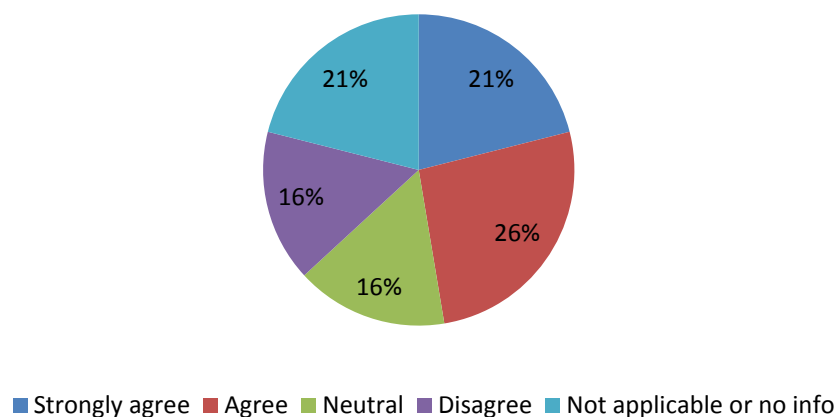




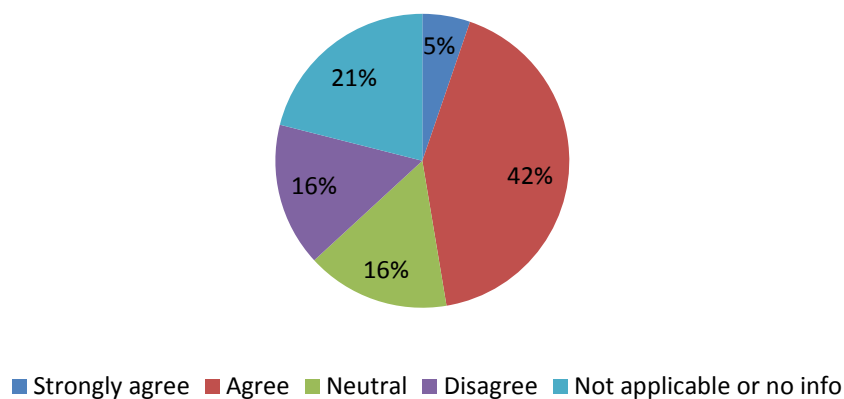
**3.4 Priorities identified in the S3 are adequate to foster the collaboration between the agri-food sector and other regional industries**



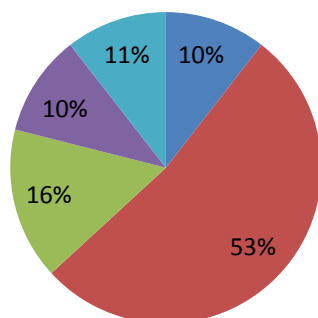
**3.5 The strategy to implement the ITC in the agri-food sector is clear and adequate**



**3.6 There is all needed ICT infrastructure for innovations development**

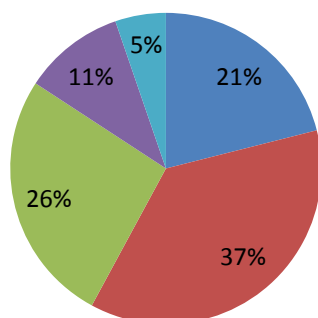


**3.7 The enterprises have public funding instruments that are adequate to promote the development of solid R&D projects**



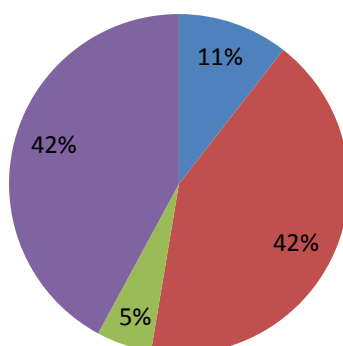
■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**3.8 The agri-food sector has enough and adequate human capital to lead the technology change**



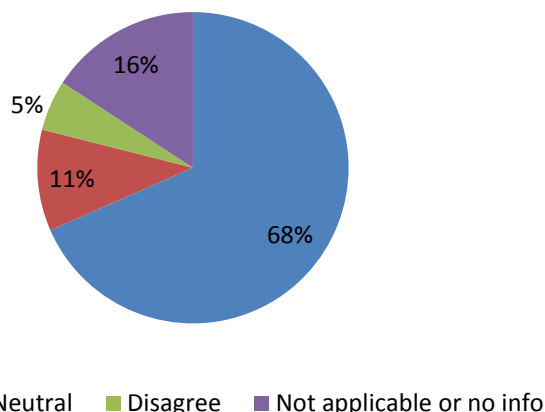
■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

**3.9 The policy mix supports adequately cross clustering**



■ Agree ■ Neutral ■ Disagree ■ Not applicable or no info

### 3.10 The policy mix and policy instruments foster the development of pilot and/or driving projects among different sectors



*Legal framework for hybridization of the agri-food sector with other sectors.* 42 % of respondents have agreed that legal framework for hybridization of the agri-food sector with other sectors in Lithuania is sufficient and effective. Large amount of respondents (37 %) also had a neutral position.

*Involvement of main players in the process of technology implementation.* Significant amount of respondents (47 %) agreed that the main players are being involved in the process of technology implementation in Lithuania. Another important part of respondents (26 %) were having neutral position to this question.

*The policy mix supports the identification of innovation opportunities at the interface between different disciplines, industries and sectors.* Similar results were gained regarding policy mix that supports the identification of innovation opportunities at the interface between different disciplines, industries and sectors: 47 % of respondents have agreed with this statement and 32 % had neutral position.

*Priorities identified in the S3 to foster the collaboration between the agri-food sector and other regional industries.* More than half of participants of the study visit (53 %) agreed that priorities identified in the S3 are adequate to foster the collaboration between the agri-food sector and other regional industries. Significantly smaller part of respondents had neutral position or disagreed with the statement (each with 21 %).

*The strategy to implement the ITC in the agri-food sector.* Majority of respondents (47 %) strongly agreed or agreed that the strategy to implement the ITC in the agri-food sector is clear and adequate. 16 % of respondents had neutral position or disagreed with this statement. The use of newest technologies of ITC in the agri-food sector was mentioned by participants of study visit as very important condition to innovate and lead in this sector and results of agri-food sector of Lithuania have good examples on this.

*ICT infrastructure for innovations development.* Very similar results were regarding all needed ICT infrastructure for innovations development. 47 % of participants strongly agreed or agreed that there is all needed infrastructure for innovations development. Other respondents had neutral position (16 %) or disagreed (16 %) with this statement.

*Public funding instruments are adequate to promote the development of solid R&D projects.* Extremely high number of respondents strongly agreed or agreed (63 %) that the enterprises have public funding instruments that are adequate to promote the development of solid R&D projects. So potential to develop solid R&D projects are very high as tools are here in place to be used for these initiatives.

*Human capital of the agri-food sector to lead the technology change.* Very large number of respondents (58 %) also supported the statement (as strongly agree or agree) that the agri-food sector has enough and adequate human capital to lead the technology change.

*The policy mix supports adequately cross clustering.* The largest part of participants of the study visit (42 %) was neutral regarding the policy mix supporting adequately cross clustering. Only 5 % agreed that policy mix is adequate to cross clustering.

*The policy mix and policy instruments foster the development of pilot and/or driving projects among different sectors.* 68 % of respondents have agreed that the policy mix and policy instruments foster the development of pilot and/or driving projects among different sectors in Lithuania.

### **Objective 3. Hybridization of the agri-food sector with other sector in Lithuania: comments**

- Strong motivation and education. Technology and ICT seems to be properly adapted to agri-food sector.
- Hybridization of the agri-food sector with the other sector within and across regions is the most difficult problem and the most complicated undertaking, therefore you should not expect too fast effects of this process.
- Cluster creation to promote the communication between sectors and increase the opportunity of hybridization.
- The agri-food sector does not exist without interaction with other sectors. As the example of AUGA GROUP shows, it can be interaction on a large scale by using packaging, logistics and management process. In turn, the example of Geomatrix shows hybridization at the level of advanced technologies, which is a good proof of the potential of the Lithuanian market, whose offer goes beyond the traditionally understood products of the agri-food sector.
- The cluster consolidation process is still incipient. It would be important to support direct measures (agreements, fiscal measures, public subsidies) to the country's clusters.
- The university as a center of knowledge must develop a leading role in the retention and attraction of talent in strategic technologies.
- The level of hybridization between the agri-food sector and other sectors is functioning but not yet developed at the appropriate level.
- We have not had the opportunity to visit or see the presentation of any applied research center related to health, but in terms of the use of new ICT technologies, applied to the sector, I think there are great advances and in general, its use is widespread in the agri-food sector. In addition, I consider the creation of the R&D platform very positive. I believe that it is a country with great capacity for growth, and opportunities, mainly in the field of ICTs and the potential application of the agri-food sector in it, but I have wrote before, more support could be needed for private companies to develop their products.

- Cooperation initiatives are requested and also leaders.
- Hybridization of the agri-food sector with other sector within in Lithuania is noticeable but not sufficient yet.
- Hybridization creates greater added value therefore it could be beneficial for all parties, so should be promoted widely.
- It's on a good level in Lithuania.
- Integration of knowledge. Find and better performance in the search and supply of products, services and new technologies.
- Reforms has facilitated the access to agri-food sector and increase the awareness of existing support schemes, Lithuania has good research infrastructure, promising PhD students and some pockets of excellence, its research system is plagued by fragmentation, overlap and duplication. New pathways will be opened up from professionally-oriented programmes towards traditional master's programmes. Organic agriculture can contribute to solving the food crisis and mitigating. Area of certified organic agricultural land in Europe increased by million, is the use of a more extensive method of farming within the organic sector.

### 2.2.3 - WORKSHOP & DISCUSSION - LESSONS LEARNED-ON LINE SURVEY & COMMENTS

A document was distributed between the beneficiaries after the meeting in Lithuania aiming to identify good practices, ideas and suggestions to elaborate the future action plan.

The questionnaire invites to reflection on the lessons learned during the visit to Lithuania and the possible application in the policy instruments of each of the participating regions. The responses of the different partners are shown below.

#### POLICY 1

LESSON LEARNT	ACTION TO IMPLEMENT IN YOUR POLICY 1
<p>The connection with farmers is very close, allowing you to know your problems directly. The public research centers are working to innovate based on the agrarian reality of the country.</p> <p>A constant effort is being made from the National Payment Agency of Lithuania to know the situation of the agricultural and livestock sector. A good identified practice has been the close collaboration with the Lithuanian Institute of Agrarian Economics.</p>	<p>It is planned to work within this project to improve the coordination between the Rioja government and the agrarian sector in the development of innovation policies.</p> <p>Projects identified in the LAEI are taken as an example for future actions.</p>
<p>The Lithuanian Research Centre for Agriculture and Forestry.</p>	<p>Regional authorities should support and promote the activities of centers of this type in their regions. The Center's activity is a perfect place to acquire knowledge about innovations in the agri-food sector for scientists and future scientific staff: students and doctoral students. These types of centers should be the main driving force for spreading of knowledge about innovation in the region.</p>
<p>One of the most important issues is a common interest in development of innovations between private and public sectors. The best way to the spreading of innovations is equal involvement of private and public sectors and the researches. The private sector should be interested in partnership with the researchers.</p>	<p>In the policy there could be established some support measures, which would foster public and private cooperation. Such measures should be properly discussed with the main stakeholders in order to construct these measures in the best way. The stakeholders should be encouraged to use national and EU funds for public/private collaboration for R&amp;I policy implementation.</p>
<p>The coordination and good flow of information between institutions belonging to a given sector is essential. The lack of information exchange affects the even development within the sector and makes it possible that some of the participants may remain excluded from development activities.</p>	<p>Paying attention to the network of institutional links in order to capture existing areas in which information exchange between institutions is at stake.</p>

Great capacity to react to market problems (Russian blockade) by creating new processed products.	Creation of new products for new markets and not stay in the sale of raw materials.
<i>“Dynamic and flexible system”</i> - both about infrastructures and capacities, but in a special way about human resources of public institution and also in private sectors.	Simplified our system that is very complex. Encourage staff to be more motivate and dynamic, with particular reference to the English language improvement and communication capacities.
The Lithuanian centre for Agriculture and Forestry.	Regional authorities should support and promote the activities of centres of this type in their region, it's a good place to acquire knowledge about innovations in the agri-food sector for businessmen who could implement them in their factories.
Infrastructure must answer to real problems presented by the companies and innovation, namely the SMEs. Research should be applied in real situation and therefore, provide synergies in between research centres and private sector.	Direct contact between companies, universities and research centres. Visit exchange: R&D centres to companies; as well, the other way around: companies to R&D centres.
Good Infrastructures and facilities going from laboratories to equipments with capacity to answer different areas of research.	Better implementation of synergies between academia and the private sector, perhaps create a cluster that can make the connection.
<ul style="list-style-type: none"> <li>- Presentation of the development of agri-food policies.</li> <li>- Presentation of policies and regulations in the areas of infrastructure and innovation.</li> <li>- Knowledge sharing among different organizations (public, private, universities and innovation centers).</li> <li>- Evaluation of existing measures and support.</li> <li>- Methodologies on the use of infrastructures and innovation capacities.</li> <li>- Reflection of public measures in support of innovation.</li> <li>- Existence of various actors in the field of policy management and coordination.</li> </ul>	<ul style="list-style-type: none"> <li>- Knowledge of regional policies.</li> <li>- Strategic measures for improvement to R&amp;I infrastructures.</li> <li>- Knowledge about attitude of Lithuanian farmers towards innovations.</li> </ul>
<ul style="list-style-type: none"> <li>- Excellent experience and contacts for networking. Sharing of experiences with young research teams.</li> <li>- Excellent infrastructures and facilities going from laboratories to equipments with capacity to answer different areas of research, making easy joint research.</li> </ul>	<p>Most important will be networking, sharing of experiences and partnership for applied research and experimentation in topics related with the agro food system aiming a circular bio economy and involvement of all the production chain (from production to retail and consumers).</p> <p>Straight cooperation between academia/research with the private sector trying to answer to the demands of the sector, including training of human resources in specific topics.</p>

<ul style="list-style-type: none"> <li>- Increased number of competitive and innovative companies providing products with high added value in the market.</li> <li>- Eco-food (AUGA GROUP). The company in organic agriculture sector, which developed its own organic production line.</li> </ul>	<p>There is a growing interest in organic food in Poland.</p> <p>Each product of the Auga Group that they develop is prepared according to the values of: care for the earth, adaptation of new technologies.</p> <p>They are guided by the principle of a "closed circle" - their actions complement each other. Grains and organic plants are used as feed for livestock and straw for the production of compost. The farmyard manure is used for fertilizing crops and producing the same compost. And this later becomes also a fertilizer for cultivation.</p> <p>Organic food is produced in a sustainable way.</p>
<p>An online platform "Village to your home" associating local agri-food producers with clients in cities.</p>	<p>The on-line tool used to support sale of local products is a very good idea because it allows a wide range to reach customers. The platform is only a link between the producer (seller) and cooperatives in cities (clients). It enables the development of cooperation that works for the social benefit and promotes healthy food, which is often niche and can not compete with mass production.</p> <p>The portal has many additional features such as connecting to other foreign platforms, aligning the chance of all producers in the EU.</p>
<p>"Open R&amp;D Lithuania" platform</p>	<p>Instruments to foster the cooperation between the universities and enterprises in the region as well as the dissemination of research findings.</p>
<p>The strategic foresights of the development of the rural social infrastructure - developed by the Vytautas Magnus University Agriculture Academy.</p>	<p>Development of methodology and implementation research in Mazovia.</p>

## **POLICY 2**

LESSON LEARNT 2	ACTION TO IMPLEMENT IN YOUR POLICY 2
<p>There has been a high degree of development of ICT technologies applied to agriculture. It is necessary to highlight the Geomatrix company, leader in its sector in the European Union.</p> <p>Another very interesting example is the web platform <a href="https://www.kaimasinamus.lt/">https://www.kaimasinamus.lt/</a>.</p> <p>From the government of La Rioja is working on promoting short distribution chains in the agricultural sector. This platform has been a great example of how to do things efficiently and easily.</p>	<p>A line of action will be proposed for pilot projects in ITC applied to the agri-food value chain. These pilot projects will serve to improve the productivity of the sector and will be an example of how to implement ITCs in companies and farms.</p>



“Open R&D Lithuania” internet platform.	Facilitating access to information about the research and innovation system in the region and disseminating information on the benefits of innovation in the economy is a very important task for regional and national authorities. Simplifying and facilitating the flow of knowledge between actors of the regional innovation system will certainly contribute to raising the level of innovation in the region.
There are a lot of research centers and institutions in agri-food sector, but the communication, coordinating and sharing of the information is not sufficient.	Create one center coordinating all R&D&I institutions, research centers and funding for innovation in agri-food sector in order to coordinate all resources (financial, technical and human).
To be innovative, you cannot just talk about it, but you should also use the right tools for it. A good example of such institution is the Lithuanian Innovation Center, which through its online platform “Open R&D Lithuania” creates conditions that are to serve the development of innovative activities.	Verification and possible improvement of conditions for creating innovation development through institutions and regulations that cover areas related to innovation.
New technologies applied to the agri-food sector: direct sales networks between farmers and consumers without intermediaries.	Deeper application of new technologies into the agri-food sector with administration help.
Good facilities and research infrastructures.	A good teaching for us concerning the platform <b>OPENLITHUANIA.COM</b> , the network among 14 or more Lithuanian universities, 13 public research institutes as well as 8 science and technology parks and so forth.
“Open R&D Lithuania” Internet Platform.	Such a place support to exchange information about innovations and is the first “step” to implement them in business.
Required one entity to establish the bridge between public and private sector.	Find adequate structure to optimise the exchange of public-private sector: cluster. It is important to find one leader acknowledged and equidistant from both sides. Companies must/should identify and explain their needs, could be through a platform. B2B meetings.
Good use of the digital platform to disseminate the research done by academia.	However, how is this research driven. The research should be driven as provider of solutions to the private sector, such as SME. This way both entities will benefit from the cooperation.

<ul style="list-style-type: none"> <li>- Analysis of the legal framework to innovate is sufficient and effective.</li> <li>- There are enough tools and mechanisms to facilitate the collaboration among public administration and private.</li> <li>- Promote the collaboration are efficient.</li> <li>- The processes are available, the application processes accessible and clarifying for the public and private sectors.</li> <li>- The different agri-food sectors participate in the development of innovation policies.</li> </ul>	<ul style="list-style-type: none"> <li>- The best collaboration between public and private actors in the agri-food sector.</li> <li>- Finding new tools and sufficient mechanisms to facilitate collaboration between Public Administration, Universities and private R&amp;D Centers.</li> <li>- New approaches in fostering collaboration between the public and private sector. Promotion and appreciation of skills Agri-food.</li> <li>- Development of activities through innovation meetings and demonstration activities.</li> </ul>
Investment project "Pienas LT". Development of the agricultural cooperative. "Pienas LT" through the creation of a new modern milk processing factory. The company produces dry, high value added dairy products.	<p>The positive attitude of public authorities and support for project increases trust in the government, encourages farmers' initiatives and increases value.</p> <p>Using the latest milk processing technology, the company can produce and deliver four true high-value dairy products destined for a healthy lifestyle, sports and baby food.</p> <p>Poland has the potential and resources of this raw material to implement such solutions.</p>
Valley "Nemunas".	Developing a regional center combining the science and research competences with commercial potential as well as having an impact on the regional policies.
Lithuanian Innovation Center.	Creation an innovation center in the region.

### POLICY 3

LESSON LEARNT 3	ACTION TO IMPLEMENT IN YOUR POLICY 3
<p>Attractive university education system and open to outside knowledge. The training offer is adapted to the agri-food reality of the country. It also includes a dynamic knowledge and technology transfer unit with projects of international scope.</p> <p>One good practice identified is the effort that Lithuania is making to train its students to face a new international production model based on digital transformation and the knowledge society.</p>	<p>The government of La Rioja, in collaboration with its stakeholders, will review the systems of continuing education related to KET'S technologies, so that our researchers have a greater capacity.</p>
<p>It is very important that business and researchers could find each other in the easiest and shortest way. Also it is important that business would be informed about the possibilities of researches. For a better cooperation, it would be useful to create a common R&amp;I demand and supply</p>	<p>Improvement of communication between researchers and business could be done through the creation of a common R&amp;I demand and supply platform.</p>

platform.	
Long term institutional research programs for basic fundamental research (5 years).	Implement new basic research funding programs since currently all rural development and agriculture programs are focused on research with a high degree of development or are aimed exclusively at universities and public research centers.
Good example in the market in Lithuania on hybridisation of developers of local food with tourism sector.	Starting initiatives focus on hybridisation experience that involve tourism sector.
Identify actors with technological supply capacity. Identify competencies of each stakeholder and find ways to disseminate them: stakeholders and their skills; could be done with an online platform.	Recommended methodology: initiate hybridization from a geographic proximity or direct knowledge relationship and gradually extend it: progressively larger circles.
Analysis of the legal framework to innovate is sufficient and effective. The tools and mechanisms available are sufficient to facilitate the collaboration among public administration and private.	New approaches in fostering collaboration between the public and private sector, should be enhanced.
<ul style="list-style-type: none"> <li>- Value in promoting innovations and developing new scientific knowledge.</li> <li>- Information about hybridization of the agri-food sector with other sectors.</li> <li>- The policy mix supports the identification of innovates opportunities.</li> </ul>	Efficiently integrate new scientific knowledge. Integration of knowledge and better performance in the search and supply of products, services and new technologies.

### 3. CONCLUSIONS

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➤ Regarding the **R&I infrastructure and capacities** in agri-food sector in Lithuania:

Results of the survey demonstrate that ***the strengths on R&I infrastructure and capacities*** of agri-food sector in Lithuania are the following:

- Management of R&I infrastructure and capacities and obtaining the maximum available performance of it.
- Availability of technical and scientific resources according to the socioeconomic and scientific profile of the region.
- Mechanisms used to incorporate investigators in the R&D&I centres.
- Precise formation and solid professional career plan for investigators.
- Effective availability of public funding for R&I infrastructure and capacities.

Results of the survey demonstrate that ***the most challenging aspects on R&I infrastructure and capacities*** of agri-food sector in Lithuania are the following:

- Coordination among public and private agents to use R&I infrastructure and capacities.
- The R&I public policy mix covering management and dynamization of the infrastructures and capacities.
- Regulations for commercialization of innovations.
- Availability of research results/data for public use and further re-use in other business.

➤ Regarding **R&I public-private collaboration** in agri-food sector in Lithuania:

Results of the survey demonstrate that ***the strengths on public and private collaboration*** for R&I of agri-food sector in Lithuania are the following:

- Legal framework to innovate in terms of sufficiency and effectiveness.
- Sufficient amount of tools and mechanisms to facilitate the collaboration among public administration, universities and private R&D centres.
- Adequate internationalisation policies to foster the scientific collaboration.
- Efficient funding tools (policy instruments) in terms of fostering the collaboration between the public and private sector.
- Adequate existing tools to promote the collaboration with players of other regions.

Results of the survey demonstrate that ***the most challenging aspects on public and private collaboration*** for R&I of agri-food sector in Lithuania are the following:

- The effectiveness of process of involving all relevant stakeholders for improvement of innovation policy.
- The collaboration among public and private actors of agri-food sector in terms of efficiency.
- Potential of agricultural clusters with role of the main protagonists in fostering the innovation in the enterprises.

➤ Regarding **hybridization of the agri-food sector with other sectors** in Lithuania:

Results of the survey demonstrate that a ***large number of strengths on hybridization of the agri-food sector with other sectors*** in Lithuania were identified. The strengths are the following:

- Legal framework for hybridization of the agri-food sector with other sectors.
- Involvement of main players in the process of technology implementation.
- The policy mix supports the identification of innovation opportunities at the interface between different disciplines, industries and sectors.
- Priorities identified in the S3 are adequate to foster the collaboration between the agri-food sector and other regional industries.
- The strategy to implement the ITC in the agri-food sector is clear and adequate.
- There is all needed ICT infrastructure for innovations development.
- The enterprises have public funding instruments that are adequate to promote the development of solid R&D projects.
- The agri-food sector has enough and adequate human capital to lead the technology change.
- Policy mix and policy instruments foster the development of pilot and/or driving projects among different sectors in Lithuania.

Results of the survey demonstrate that ***the most challenging aspect on hybridization of the agri-food sector with other sectors*** in Lithuania is *policy mix which is not adequate to cross clustering*.

- As **final conclusion**, it should be noted that there are a large number of opportunities identified by the partners and future recommendations for implementation in R&I policies in Lithuania.

All suggestions and comments from participants of the study trip will be taken into account when prioritizing areas of action and they will be also put into value in the different meetings with the local stakeholders, together with the rest of the results obtained from regional diagnosis of Lithuania.

## References:

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## ANNEX I: PHOTOS

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**1<sup>st</sup> day of Study Visit (20<sup>th</sup> March 2019): learning seminar on experiences of R&I actors of agri-food sector in Lithuania.**





**2<sup>nd</sup> day of Study Visit (21<sup>st</sup> March 2019): study trip to selected private companies and research center innovating in agri-food sector.**

**1. VISIT TO PIENAS LT**





## 2. VISIT TO UAB "MĖLYNĖ"



### 3. VISIT TO LITHUANIAN RESEARCH CENTRE FOR AGRICULTURE AND FORESTRY

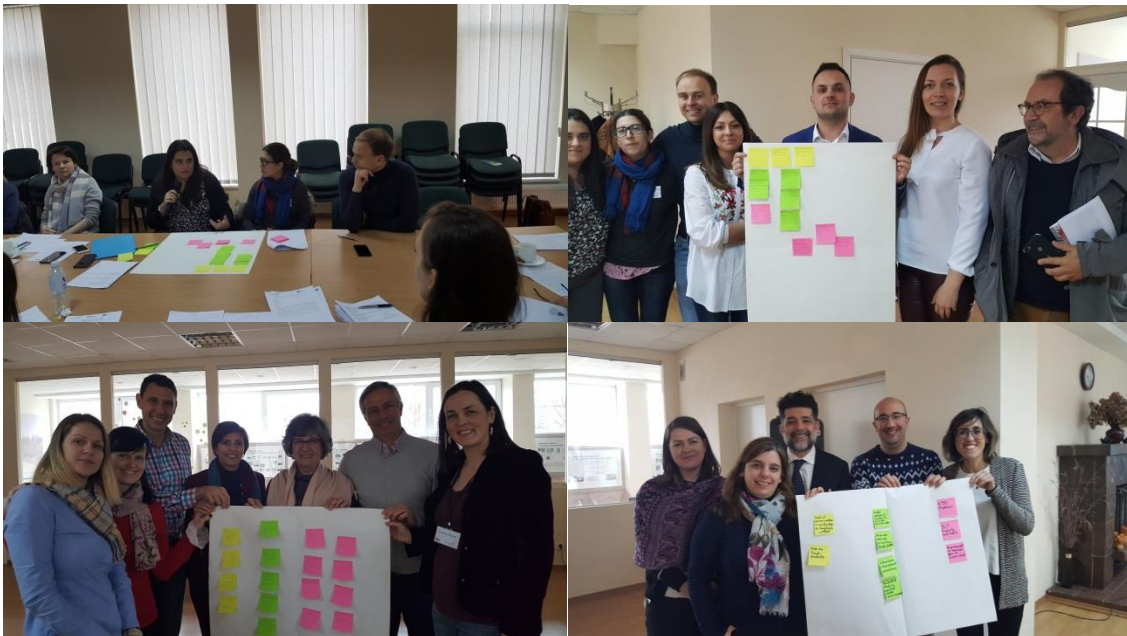




**Peer review workshop & discussion (21<sup>st</sup> March 2019) at the Horticulture institute.**



**Peer review workshop results of 3 working groups:**



Participants of the Study visit and Peer review workshop in Lithuania on the 20&21 March 2019:

