GOVERNMENT OF THE REPUBLIC OF LITHUANIA

RESOLUTION

ON THE APPROVAL OF THE DEVELOPMENT PROGRAMME FOR THE INTEGRATED SCIENCE, STUDIES AND BUSINESS CENTRE (VALLEY) NEMUNAS

No 1130, 1 October 2008
Vilnius

Implementing Point 14 of the Table of Objective 1 of Point 92 of the National Lisbon Strategy Implementation Programme approved by Resolution No 1270 of Government of the Republic of Lithuania of 22 November 2005 (*Valstybės žinios* (Official Gazette) No 139-5019, 2005), pursuant to paragraph 21 of the Concept of the Establishment and Development of Integrated Centres (Valleys) of Science, Studies and Business, approved by Resolution No 321 of the Government of the Republic of Lithuania of 21 March 2007 (*Valstybės žinios* (Official Gazette) No 40-1489, 2007), with regard to the decisions adopted during the 17 July 2008 sitting of the Commission on the Development of Science, Technologies and Innovation formed by Resolution No 366 of the Government of the Republic of Lithuania of 4 April 2005 (*Valstybės žinios* (Official Gazette) No 45-1449, 2005; No 114-4644, 2007) and with regard to Minutes No TE-31 of the 22 September 2008 sitting of the Commission on the Development of Integrated Centres (Valleys) of Science, Studies and Business, formed by Order No ISAK-1118/4-231 of the Minister of Education and Science and the Minister of Economy of 5 June 2007 (*Valstybės žinios* (Official Gazette), No 64-2465, 2007), the Government of the Republic of Lithuania has resolved:

1. To approve the Development Programme for the Integrated Science, Studies and Business Centre (Valley) NEMUNAS (as appended).

2. To instruct the Ministry of Education and Science to adopt the following by 1 November 2008:

2.1. the inventory of the laboratory equipment of the Integrated Science, Studies and Business Centre (Valley) NEMUNAS;

2.2. the plan of the measures for the consolidation of the scientific potential of the Integrated Science, Studies and Business Centre (Valley) NEMUNAS.

3. To instruct the Ministry of Education and Science, Ministry of Economy, Ministry of Agriculture and Kaunas County Governor's Administration to take part in the implementation of the Development Programme for the Integrated Science, Studies and Business Centre (Valley) NEMUNAS (hereinafter referred to as "the Programme").

4. To recommend Vilnius City Municipality, Kaunas District Municipality, Public Institution Central Project Management Agency, Public Limited Company AB Turto Bankas, and the Association Slėnis Nemunas to participate in the implementation of the Programme.

Prime Minister Gediminas Kirkilas

Minister of Education and Science Algirdas Monkevičius

APPROVED BY
Resolution No 1130 of the Government of the
Republic of Lithuania of 1 October 2008

DEVELOPMENT PROGRAMME FOR THE INTEGRATED SCIENCE, STUDIES AND BUSINESS CENTRE (VALLEY) NEMUNAS

I. GENERAL PROVISIONS

1. The purpose of the Integrated Science, Studies and Business Centre (Valley) NEMUNAS is to concentrate the potential of agricultural, forestry and food industry research, studies and knowledge-intensive businesses (the aggregate of entities) that has shared and net infrastructure of research and development (R&D) and that purposefully contributes to the agricultural, forestry and food industry development, building of knowledge economy and stronger competitiveness of the Lithuanian economy. The Integrated Science, Studies and Business Centre (Valley) NEMUNAS (hereinafter – "the Valley") shall be established for the development of the agricultural, forestry and food industry sector of Lithuania. The Programme is aimed at the development of modern R&D and related infrastructure for the general needs of research, studies and technological development of the Lithuanian agricultural, forestry and food industry sectors as well as for the commercialisation of scientific results, transfer of technologies and establishment of the new knowledge-intensive entities, at facilitation of the cooperation of the knowledge-intensive agricultural, forestry and food industry businesses with science and studies institutions and researchers' groups and facilitation of improvement of the competitiveness of the Lithuanian agricultural, forestry and food industry science and technologies in the international market.

2. The agricultural, forestry and food industry sector referred to in the Programme shall cover the agricultural (including crop production, livestock farming, and water management), hunting, forestry, wood and biomass production, food and beverage production activities and the related services. Considering specificity of agricultural, forestry and food industry activities, the Valley has shared and net infrastructure of R&D.

3. Programme coordinators shall be Association Slėnis Nemunas, the Ministry of Education and Science and Ministry of Economy.

4. The Programme was developed pursuant to the Concept of the Establishment and Development of Integrated Centres (Valleys) of Science, Studies and Business, approved by Resolution No 321 of the Government of the Republic of Lithuania of 21 March 2007 (*Valstybės žinios* (Official Gazette) No 40-1489, 2007) and the High Technology Development Programme 2007-2013, approved by Resolution No 1048 06 of the Government of the Republic of Lithuania of 24 October 20 (*Valstybės žinios* (Official Gazette) No 114-4356, 2006), and implementing Order No ISAK-207/4-33 of the Minister of Education and Science and the Minister of Economy on the Invitation to Prepare Projects for the Development of Integrated Centres of Science, Studies and Business of 29 January 2008

(*Valstybės žinios* (Official Gazette) No 22-828, 2008), also the General National Complex Programme, approved by Order ISAK-2336 of the Minister of Education and Science of 3 December 2007 (*Valstybės žinios* (Official Gazette) No 7-262, 2008).

5. The Programme will help to achieve the objectives set out in the Lithuanian Strategy for the Use of European Union Structural Assistance 2007-2013, approved by Decision K(2007)1808 of the European Commission of 26 April 2007 and in the programmes implementing it: the Operational Programme for Economic Growth, approved by Decision K(2007)3740) of the European Commission of 30 July 2007, priority 1 "Research and technological development for competitiveness and growth of the economy", priority 2 "Increasing business productivity and improving business environment"; the Operational Programme for Human Resource Development 2007-2013, approved by Decision K(2007)4475 of the European Commission of 24 September 2007, priority 1 "Life-long learning" and priority 3 "Strengthening the capacities of researchers".

6. The Programme will also help to achieve the objectives set out in the Long-term Development Strategy of the State, approved by Resolution No IX-1187 of the Seimas of the Republic of Lithuania of 12 November 2002 (*Valstybės žinios* (Official Gazette) No 113-5029, 2002), the Long-term Economic Development Strategy of Lithuania until 2015 approved by Resolution No 853 of the Government of the Republic of Lithuania of 12 June 2002 (Valstybės žinios (Official Gazette) No 60-2424, 2002), the National Strategy for Sustainable Development, approved by Resolution No 1160 of the Government of the Republic of Lithuania of 11 September 2003 (Valstybės žinios (Official Gazette) No 89-4029, 2003), the High Technology Development Programme for 2007-2013 approved by Resolution No 1048 of the Government of the Republic of Lithuania of 24 October 2006 (Valstybės žinios (Official Gazette) No 114-4356, 2006), the Lithuanian Higher Education System Development Plan for 2006-2010, approved by Resolution No 335 of the Government of the Republic of Lithuania of 5 April 2006 (Valstybės žinios (Official Gazette) No 39-1394, 2006), the Programme for the Development of Industrial Biotechnologies in Lithuania in 2007-2010, approved by Resolution No 1050 of the Government of the Republic of Lithuania of 24 October 2006 (Valstybės žinios (Official Gazette) No 114-4359, 2006), the Reorganization Plan for the Network of State Research Institutions Related to the Development of Centres (Valleys) of Science, Studies and Business, approved by Resolution No 989 of the Government of the Republic of Lithuania of 1 October 2008 (Valstybės žinios (Official Gazette) No 117-4453), other strategic documents of the Republic of Lithuania and the European Union (hereinafter referred to as 'EU') and other legislative acts.

7. The individual implementing projects for measures under the Programme must comply with the Project Administration and Financing Rules, approved by Resolution No 1443 of the Government of the Republic of Lithuania of 19 December 2007 (*Valstybės žinios* (Official Gazette) No 4-132, 2008), with the Rules of Compliance with the Expenditure and Funding Requirements for Projects Implemented under the Lithuanian Strategy for the Use of European Union Structural Assistance 2007-2013 and the Operational Programmes

Implementing It, approved by Resolution No 1179 of the Government of the Republic of Lithuania of 31 October 2007 (*Valstybės žinios* No 117-4789, 2007), also with the requirements of the Procedure of State Project Planning, approved by Order No ISAK-977 of the Minister of Education and Science of 8 April 2008 (*Valstybės žinios* (Official Gazette) No 44-1665, 2008) and other legislative acts.

8. In accordance with the provisions of the Programme, the economic benefits created by the Valley will also be available to businesses that will use the Valley infrastructure and research results as far as such use does not violate the EU and Lithuanian legislation concerning state aid.

9. The rules for the establishment and management of open access centres shall be approved by the Minister of Education and Science.

II. ANALYSIS OF THE ENVIRONMENT

10. The National Lisbon Strategy Implementation Programme approved by Resolution No 1270 of the Government of the Republic of Lithuania of 22 November 2005 (*Valstybės žinios* (Official Gazette) No 139-5019) says that "it is acknowledged that insufficient activities of the companies, when investing into scientific research, experimental development and innovation, may have an adverse outcome for long-term development of the national economy and economic growth". More active development of R&D activities, promoting concentration of the available scientific and production potential and cooperation on a Valley scale, would facilitate creation and implementation of new products with higher added value in the traditional sectors of the Lithuanian economy. That would motivate enterprises to invest more actively into R&D and would create preconditions for strengthening long-term competitiveness of the Lithuanian economy.

11. Agricultural, forestry and food industry is one of the traditional and basic fields of the Lithuanian economy generating almost 9.2% of the total added value of Lithuania and employing a great number of different qualification employees.

12. Lithuania's natural conditions, infrastructure, intellectual potential and gained experience allow to develop crop production, livestock farming and animal breeding, horticulture, fish farming, cultivation of technical, bioenergetic plants as well as to develop ecological farming. However, further competitiveness of agricultural, forestry and food industry should be grounded on the ability to implement the latest technologies and develop innovative activities for the creation of competitive processes and products.

13. Agriculture is the major land user and the key factor that predetermines the landscape and environment qualities. The European agricultural model reflects a multi-functional importance of farming with regard to the value and diversity of the landscape, food products, and cultural and natural inheritance. Good economic results must be proportionate to the sparing use of natural resources and waste level, i.e. it is necessary to maintain bio-diversity, preserve eco-systems and avoid desertification.

14. Further development of the agricultural, forestry and food industry should contribute to sustainable development, more attention should be paid to healthy and high quality products and to production methods that are environmentally sustainable, including renewable energy resources and protection of bio-diversity. The reformed agriculture and forestry and the rural development may notably contribute to competitiveness and sustainable development.

15. Council Decision 2006/144/EC on Community strategic guidelines for rural development of 20 February 2006 (programming period 2007 to 2013) (OJ 2006 L 55, p. 20) provides that a more strategic approach to competitiveness, job creation and innovation in rural areas and improved governance in the delivery of programmes is required. There must be an increased focus on forward-looking investments in people, know-how and capital in the farm and forestry sectors, on new ways of delivering win-win environmental services and on creating more and better jobs through diversification. The above-mentioned decision provides the following hey actions for the implementation of priorities: restructuring and modernisation of the agricultural sector, improving integration in the agrifood chain, facilitating innovation and access to research and development, etc.

16. On 18 December 2006 the European Parliament and the European Council adopted by consensus the Seventh Framework Programme (7FP) with one theme covering food, agriculture and biotechnology. The key strategic objective of the above mentioned programme is building a European knowledge-based bio-economy by bringing together science, industry and other stakeholders. The term “knowledge-based bio-economy” means the economy grounded on the state-of-the-art knowledge and innovations related to sustainable management, production and use of bio-resources that allow production of safe, ecologic and competitive products of agricultural, forestry, fisheries, food, feed, health and other industries.

17. The total added value created in the Lithuanian agriculture and the sectors that serve it, together with food and beverage industry in 2007 amounted to 9.2% of the total added value created in Lithuania. Agricultural products and foodstuffs accounted for 12.8% of the total export, foreign trade balance was positive and amounted to more than LTL0.5 billion; however, labour productivity was very low, i.e. several times lower than the average of the EU Member States.

18. Forestry sector creates about 4% of the Lithuanian gross domestic product, while wood industry creates about 10% of the added value of Lithuania’s industry. Forestry sector covers about 220 thousands of private forest owners and 52 thousand people working in the wood industry and forestry. It is one of the most rapidly growing branches of Lithuania’s industry with the positive export and import balance.

19. One of the most promising fields is biomass energy. Lithuania has undertaken by 2010 to replace 12% of gross energy and 7% of electricity power by renewable energy resources of which 80-90% would be accounted by biomass. Lithuania, implementing provisions of Directive 2003/30/EC of the European Parliament and of the Council of 8 May

2003 on the promotion of the use of biofuels or other renewable fuels for transport (OJ 2004, Special edition, Chapter 13 Volume 31, p. 188), in 2004 drafted a new version of the Law of the Republic of Lithuania on Biofuel, Biofuels for Transport and Bio-Oils (Valstybės žinios (Official Gazette) No 64-1940, 2000; No 28-870, 2004) and the Programme for the Promotion of the Production and Use of Biofuel in 2004-2010 , approved by Resolution No 1056 of the Government of the Republic of Lithuania of 26 August 2004 (*Valstybės žinios* (Official Gazette) No 133-4786, 2004), that regulates the implementation of the above mentioned law and provides that by 2010 5.7% of all fuel for transport purposes shall be replaced by biofuel. By the end of 2008 production of biofuels (bioethanol and biodiesel) with the capacity of 400 thou. tons/year will be implemented, and by 2020 production of biofuels of up to 750-760 thou. t/year will be possible.

20. Currently, food industry that is closely related to agriculture has a modern production infrastructure and introduces innovative production technologies. To guarantee safety and good quality of foodstuffs it is necessary to provide production enterprises with proper raw materials which to a large extent depends on the application of technologies in the primary link, i.e. farmers' farms and agricultural enterprises. Value added of the Lithuanian food industry should be increased by promoting creation of new products and further development of production processes.

21. Currently, R&D work in the field of the agricultural, forestry and food industry is carried out by 3 studies and science institutions with about 1.5 thou. graduates annually, namely: Lithuanian University of Agriculture, Lithuanian Veterinary Academy and Kaunas University of Technology (food industry technology). There are also 8 state and university-owned research institutes where different topic researches are carried out by scientists and researchers. These bodies also carry out unique R&D work on a national and international level aimed at development and introduction of new technologies in the agricultural, forestry and food industry. The developed technologies are unique by being adapted to natural and climate conditions of Lithuania and to specific regional needs.

22. As scientists of science and studies institutions in the field of the agricultural, forestry and food industry implement the project INCO-CT-2004-003356 "Lithuanian network on food quality and safety" under the Sixth Framework Programme, the virtual Lithuanian network on food quality and safety (LIT-FQSN) has been built up. A further goal is to achieve LIT-FQSN guest membership of large and well-established centres in Italy and Sweden, creating conditions for the promotion and expansion of the link between LIT-FQSN and selected centres and sharing information and research results. Besides, it is intended to implement the project "BaltFood – Creation of the Baltic Sear Region Food Cluster Network", and the main goal of the project is to integrate all food technology laboratories with low capacity technological equipment in order to efficiently employ the equipment for the development of new technologies in individual EU Member States. Currently close cooperation is pursued with foreign universities and other research institutions. It is planned to further take an active part in the activities of the international research programmes (e.g.

renewable energy resources, climate change and other topics) and to continue the undertaken R&D projects under the international programmes.

23. The importance of innovations in the European farming, agricultural and food and forest industry has been growing. Lithuania has a well-developed network of agricultural, forestry and food industry research and high quality specialists in different areas, thus innovations relevant to the Lithuanian entities could noticeably improve the performance of processing enterprises and sectors. New cooperation forms could create conditions for making use of research and development and innovations; innovative product sales markets would be developed and development of the production and use of renewable energy resources would be supported.

III. PROGRAMME OBJECTIVE AND TASKS

24. The objective of the Programme is, developing the available facilities, to create a specialised branch integrated science, studies and business centre (valley) NEMUMAS that has its infrastructure for public and private research and studies in the agricultural, forestry and food industry sectors as well as conditions for the establishment of knowledge-intensive businesses.

25. The following shall be the main tasks of the Programme:

25.1. To develop modern R&D infrastructure for the needs of the research development in the agricultural, forestry and food industry.

25.2. To concentrate high qualification Lithuanian and foreign scientists and researchers for joint activities.

25.3. To renew and upgrade the relevant studies infrastructure and to strengthen science, studies and business interaction.

25.4. To create conditions for the cooperation between businesses and science and studies institutions, so that commercialisation of scientific research results serves as the basis for the formation of the elements of knowledge-intensive businesses.

25.5. To expand the scope of R&D work within the agricultural, forestry and food industry on the national and international level.

IV. DEVELOPMENT OF THE VALLEY

26. The investment into the R&D infrastructure of the Valley will create favourable conditions for the development of relevant research within the agricultural, forestry and food industry on national and international levels as well as for pursuing development and more active introduction of scientific inventions and technology creation. Innovations and their introduction will increase competitiveness of Lithuanian businesses related to the agricultural, forestry and food industry sectors and ensure sustainable and long-term development of Lithuanian economy.

27. The centres established and the projects implemented in the Valley will be directly related to the areas of the Valley development and will concentrate the scattered scientific potential and allow more efficient use of modern research facilities. Implementing the

Restructuring Plan for the Network of State Research Institutions Related to the Development of Integrated Centres (Valleys) of Science, Studies and Business, approved by Resolution No 989 of the Government of the Republic of Lithuania of 1 October 2008 (*Valstybės žinios* (Official Gazette) No 117-4453, 2008), the state research institute Agrarian and Forest Science Centre will be established by integrating the Lithuanian Institute of Agriculture, Lithuanian Institute of Horticulture and Lithuanian Forest Research Institute; the Lithuanian University of Agriculture will integrate the Water Farm Institute of the Lithuanian University of Agriculture and the Agrarian Farm Engineering Institute of the Lithuanian University of Agriculture; the Lithuanian Veterinary Academy will integrate the Veterinary Institute of the Lithuanian Veterinary Academy and the Institute of Animal Science of the Lithuanian Veterinary Academy; and the Kaunas University of Technology will integrate the Food Institute of the Kaunas University of Technology.

28. The main development areas of the Valley:

28.1. agrobiotechnology, bioenergy and forestry;

28.2. food technology, safety and health.

29. According to the areas of the Valley development and R&D, appropriate R&D centres will be established:

29.1. within the territory of the Lithuanian University of Agriculture the Joint Agriculture and Forestry Research Centre of open access on a national level that will concentrate the potential of the segment of the future Agrarian and Forest Science Centre and the branches of the Lithuanian University of Agriculture related to the activities of the future centre will be established and centre will research into sustainable use of biological resources of agriculture and forests, namely: regularities of plant evolution and productivity formation, soil ecology, formation of plant adaptivity and productivity with the help of biotechnological methods, application of nanotechnology achievements, impact of climate change on forest ecosystems, development of new quality trees, etc. This centre will concentrate the scientific potential of not only institutions taking part in the activities of the Valley: the centre will attempt to involve scientists and researchers of other science and studies institutions and to create favourable conditions for them to use high level R&D equipment under an individual agreement.

29.2. The R&D work related to the search for innovative, multi-purpose and stable forest resources, forest information systems, game and fauna, quality, use and processing of wood, recreational designing of urbanised and natural territories, plantation forestry technology will be carried out by the Forest Sector Research, Studies and Development Centre of the Valley and its activities will involve scientists and researchers of the Lithuanian University of Agriculture and Lithuanian Forest Research Institute.

29.3. The activities of the Centre of Food Science and Technology will be oriented towards the creation of food technologies that are environment-friendly, healthier, safer and contains higher added value. The Centre of Food Science and Technology will consolidate scientists and researchers who at present work at the Food Institute of the Kaunas University

of Technology, departments of the Kaunas University of Technology that specialise in the field of foodstuff technology and the Lithuanian Institute of Horticulture. Growth of potential will be ensured through doctoral studies at the Lithuanian University of Agriculture and the Lithuanian Veterinary Academy, cooperation with industry and business enterprises, concentration of scientists working for these enterprises as well as through the use of the intellectual potential of researchers of these enterprises.

29.4. The activities of the Centre of Animal Wellness and Animal Raw Material Quality will be focused on the R&D in the field of contagious animal disease epidemiology, ethiopathogenesis, treatment and prophylaxis; efforts will be laid to create high quality, safer and healthier animal food raw materials. It is planned that the scientific potential in this centre will be concentrated by the Lithuanian Veterinary Academy and the Veterinary Institute of the Lithuanian Veterinary Academy.

29.5. Developing competitive livestock farming that provides consumers with safety and good quality animal foodstuffs, animal nutrition and biotechnology researches will be carried out by the Animal Nutrition and Biotechnology Centre which will consolidate scientists and researchers of the Institute of Animal Science of the Lithuanian Veterinary Academy.

29.6. The Plant Genetics and Biotechnology Centre will carry out fundamental and applied research in the field of plant genetics and biotechnology relevant to agriculture and industry; namely, it will research genetic potential of horticultural plants and arable crops, conduct biotechnological research on plant adaptivity, productivity and metabolism that will allow to increase the efficiency of agricultural production, improve the quality of agricultural production and industrial raw materials, and apply new technologies for use of vegetable raw material in industry. Scientists and researchers of the Lithuanian Institute of Horticulture, the Lithuanian University of Agriculture and the Lithuanian Institute of Agriculture intend to take part in the R&D activities of this centre.

29.7. The objective of the Centre of Agroecology and Plant Biopotential Science and Studies is to create safe, environment-friendly and resource-sustainable agrotechnologies for the production of competitive and safe food and raw materials for the innovative industrial products. Conditions will be created for graduate and doctoral students to conduct researches. Scientists and researchers of the Lithuanian University of Agriculture, Lithuanian Institute of Agriculture and Lithuanian Institute of Horticulture intend to take part in the R&D activities of this centre.

29.8. The objective of the Centre of Biosystem Engineering, Biomass Energy and Water Engineering is to ensure integrity of the research system in the agricultural, forest, water and food sectors as well as to ensure engineering solutions of scientific achievements and their introduction into production creating safe, environment-friendly and resource-sustainable technologies and producing competitive products, and to implement R&D in the fields of biosystem engineering and bioenergy. Scientists and researchers of the Faculty of the Agricultural Engineering of the Lithuanian University of Agriculture, Institute of Agrarian

Farm Engineering of the Lithuanian University of Agriculture, Faculty of Water and Land Management of Lithuanian University of Agriculture, GIS Education and Research Centre of Lithuanian University of Agriculture and Institute of Environment of Lithuanian University of Agriculture Horticulture plan to take part in the R&D activities of this centre.

30. The Valley and its R&D centres will consolidate scientists and researchers who work for the Lithuanian University of Agriculture, Lithuanian Veterinary Academy, Department of Food Technology of the Kaunas University of Technology, Institute of Agrarian Farm Engineering of the Lithuanian University of Agriculture, Institute of Water Farm of the Lithuanian University of Agriculture, Veterinary Institute of the Lithuanian Veterinary University, Institute of Veterinary Science of the Lithuanian Veterinary Academy, Lithuanian Institute of Agriculture, Lithuanian Institute of Horticulture, Lithuanian Forest Research Institute and Food Institute of the Kaunas University of Technology. Moreover, it is planned to invite scientists and researchers working for business enterprises and to stimulate researchers' mobility. Growth of scientific potential will also be ensured by the integration of Lithuanian scientists who work abroad, pulling in foreign scientists and preparation of doctoral students. Consolidation of scientists and researchers will be effected pursuant to the plan of the measures for the consolidation of the scientific potential of the Valley.

31. Creation of the R&D infrastructure of the Valley will ensure continuity of the research topics and will allow more active participation in international research programmes and cooperation with foreign partners.

32. Activities of the Valley will be focused not only on R&D: much attention will be paid to the improvement of the studies process. It should be noted that the number of students who study at the institutions related to the activities of the Valley amounts to approximately 9.5 thousand students (about 8% of all students of Lithuania). Interdisciplinary and interbranch graduate and doctoral studies will be conducted; besides, new studies programmes will be arranged and the existing ones will be improved so that qualifications of the future specialists satisfy the needs of the labour market.

33. Close cooperation between science and studies institutions, on one side, and agricultural, forestry and food industry enterprises, on the other side, will ensure high qualification of specialists being trained which will enable them to quicker enter scientific or production activities and will allow to have a more precise perception of the need for specialists and to better satisfy it. Cooperation with businesses in the implementation of R&D projects will enable students and teachers to gain a better understanding of the needs of the market. This in turn will improve the qualification of trained specialists and increase the efficacy of the use of the research facilities as well as the diversity of the research topics. It is in the interest of UAB Achemos grupė, UAB ARVI ir Ko and UAB Vakarų medienos grupė, AB Kauno grūdai and AB Utenos mėsa, Lithuanian Biofuel Producers and Suppliers Association LITBIOMA, Association of Lithuanian Land Reclamation Enterprises, Baltic Agribusiness Institute and other economic entities to establish the Valley.

34. For the Valley founders and partners, scientists, researchers, students and businessmen to cooperate productively, it is necessary to ensure synergy of scientific potential utilization, to create a permanent innovation support system designed for the development of science and business cooperation networks and innovative activities as well as a mechanism for the transfer of technologies to innovative businesses, besides, it is intended that the Communication and Technology Transfer Centre is established within the Valley.

35. The activities of the Communication and Technology Transfer Centre of the Valley (hereinafter – the Communication and Technology Transfer Centre) will integrate the Science and Technology Park of the Lithuanian University of Agriculture (at present it is an economic subdivision of the Lithuanian University of Agriculture), and functions and activities of the Communication and Technology Transfer Centre will be expanded. When the necessary infrastructure is developed, the Science and Technology Park of the Lithuanian University of Agriculture and the Communication and Technology Transfer Centre will form a single complex formation that serves the Valley participants and partners, students and external users, and that ensures continuous transfer of technologies and functioning of the innovation support system.

36. Operational tasks of the Communication and Technology Transfer Centre are the following:

36.1. To coordinate the scientific potential of the Valley founders by focusing it on the creation and development of new technologies.

36.2. To promote cooperation of the Valley founders and innovative enterprises so that scientists' knowledge is applied for the creation of products with real benefit.

36.3. To stimulate and support the start of innovations and the incubation of knowledge-intensive businesses.

36.4. To carry out market research and applied marketing research: to conduct an economic assessment of agro-innovations, a research related to specialised software that determines progress in the field of receipt, collection, transfer, storage, restoration, management and visualisation of information that might be relevant to the fields of agricultural business, science and studies.

36.5. To provide services of risk management in agriculture, support in making solutions, consulting and other innovative information services.

36.6. To provide services of creation of virtual products (information systems) to satisfy the needs of agriculture business, science, studies and consulting.

36.7. To ensure high quality public access to scientific information databases.

36.8. To perform functions of publicity of the activities of the Valley participants and partners, to disseminate science and technology achievements to the representatives of the sector and to the public at large.

37. The main forms of cooperation between science and business and the foreseen measures (shared R&D infrastructure, joint R&D projects, annual work programmes, participation in the training of high quality specialists as well as in the establishment of

research subdivisions of enterprises, development of business support infrastructure (experimental facilities), provision of services to incubated enterprises, support to newly established enterprises, implementation of entrepreneurship education and other curricular, etc.) will be applied in the Valley seeking to:

37.1. attract researchers to business, increase industry absorption potential and competences related to the introduction of innovations;

37.2. introduce technology transfer mechanisms and commercialise research results;

37.3. develop entrepreneurship culture;

37.4. establish R&D laboratories at enterprises and enterprise research subdivisions covered by the Valley.

V. THE CRITERIA FOR PROGRAMME ASSESSMENT

38. The following are the Programme assessment criteria:

38.1. the number of implemented projects for R&D facilities development;

38.2. the number of open access centres on national level;

38.3. the number of established and operating research centres;

38.4. the number of established new scientific laboratories;

38.5. the number of upgraded scientific laboratories;

38.6. the number of national R&D projects being implemented;

38.7. the number of international R&D projects being implemented;

38.8. the number of R&D projects ordered by economic entities;

38.9. value of the attracted private investment (M LTL);

38.10. the number of implemented studies infrastructure projects;

38.11. the number of established or renovated training laboratories;

38.12. the number of infrastructure development projects of the centres that carry out the functions of technology transfer and communication;

38.13. the number of signed R&D cooperation contracts between research institutions and enterprises;

38.14. a share of R&D activities (%) implemented in the developed and introduced technologies;

38.15. the number of organised international events, fairs or other information dissemination measures that present the activities of the Valley;

38.16. the number of established and operating centres that carry out the functions of technology transfer;

38.17. the number of small and medium business entities established within the Communication and Technology Transfer Centre and the Business Incubator (3 years after the implementation of the Programme);

38.18. the number of knowledge-intensive enterprises established on the basis of the Valley (3 years after the implementation of the Programme);

38.19. the number of joint projects annually implemented together with science and research institutions;

38.20. the number of projects of introduction of demonstrative experiments in the agricultural and forestry industry ;

38.21. the number of the implemented projects aimed at the improvement of the R&D and innovation environment;

38.22. the number of enterprises that made use of the innovation support services;

38.23. the number of developed and renewed curricula;

38.24. the number of students who studied under the programmes of formal education;

38.25. a share (%) of students who were awarded a qualification accepted by the state;

38.26. the number of developed qualification improvement programmes;

38.27. the number of lecturers (higher education studies) who studied under the programmes of informal education, including the number of lecturers who were awarded certificates of completion of the programme of informal education (%);

38.28. the number of scientists and other researchers (except students) who studied under the programmes of informal education, including the number of scientists and other researchers who were awarded certificates of completion of the programme of informal education (%);

38.29. the number of students who studied under the programmes of informal education, including the number of students who were awarded certificates of completion of the programme of informal education (%);

38.30. the number of traineeships of lecturers;

38.31. the number of funded subsidies for research activities of scientists and other researchers;

38.32. the number of scientists and other researchers (except students) engaged in the public sectors under employment contracts;

38.33. the number of funded subsidies for research activities of students;

38.34. the number of published scientific articles;

38.35. the number of traineeships and internships of students;

38.36. the number of reorganisation projects of science and studies institutions.

VI. ENVISAGED RESULTS

39. The envisaged Programme implementation results (in 2013-2015):

39.1. 8 projects for the development of R&D facilities will be implemented.

39.2. An open access centre on national level will be established.

39.3. 2 research centres will be established.

39.4. 5 new scientific laboratories will be established.

39.5. 28 scientific laboratories will be upgraded.

39.6. 30 national R&D projects will be implemented.

39.7. 25 international R&D projects will be implemented.

39.8. 30 R&D projects ordered by economic entities will be implemented.

39.9. At least LTL8.6 M of private investment will be attracted.

39.10. 4 studies infrastructure projects will be implemented.

39.11. 5 training laboratories will be established or upgraded.

39.12. 3 infrastructure development projects of the centres that carry out the functions of technology transfer and communication will be implemented.

39.13. 30 R&D cooperation contracts will be signed between research institutions and enterprises.

39.14. New technologies will be developed and introduced for at least 15% of all implemented R&D activities.

39.15. At least 5 international events, fairs or other information dissemination measures that present activities of the Valley will be organised.

39.16. A centre that carries out the functions of technology transfer will be established and operating.

39.17. The number of small and medium business entities established within the Communication and Technology Transfer Centre and the Business Incubator (3 years after the implementation of the Programme) will be 40.

39.18. The number of knowledge-intensive enterprises established on the basis of the Valley (3 years after the implementation of the Programme) will be 10.

39.19. The number of joint projects annually implemented together with science and research institutions will be 4.

39.20. The number of projects of introduction of demonstrative experiments in the agricultural and forestry industry (3 years after the implementation of the Programme) will be 20.

39.21. 2 projects for R&D and the improvement of the innovation environment will be implemented.

39.22. The number of enterprises that made use of the innovation support services will be 40.

39.23. 5 curricula will be developed and renewed.

39.24. The number of students who studied under the programmes of formal education will be 350.

39.25. The number of students who were awarded a qualification accepted by the state will be 90.

39.26. 8 qualification improvement programmes will be developed.

39.27. The number of lecturers (higher education studies) who studied under the programmes of informal education will be 220, including 90% of lecturers who were awarded certificates of completion of the programme of informal education.

39.28. The number of scientists and other researchers (except students) who studied under the programmes of informal education will be 250, including 90% of scientists and

other researchers who were awarded certificates of completion of the programme of informal education.

39.29. The number of students who studied under the programmes of informal education will be 300, including 90% of students who were awarded certificates of completion of the programme of informal education.

39.30. The number of traineeships of lecturers will be 20.

39.31. The number of financed subsidies for research activities of scientists and other researchers will be 10.

39.32. The number of scientists and other researchers (except students) engaged in the public sectors under employment contracts will be 20.

39.33. The number of financed subsidies for research activities of students will be 15.

39.34. The number of published scientific articles will be 350.

39.35. The number of traineeships and internships of students will be 30.

39.36. 5 reorganisation projects of science and studies institutions will be implemented.

VII. PROGRAMME IMPLEMENTATION, MONITORING AND CONTROL

40. The programme shall be funded from the EU structural fund resources coordinated by the Ministry of Finance, Ministry of Education and Science, Ministry of Economy, Ministry of Agriculture and other ministries, as well as from the resources of other programmes:

40.1. The measures under the tasks specified in paragraphs 25.1, 25.3 and partially in paragraph 25.5 of the Programme are directly related to the implementation of the General National Complex Programme, approved by Order No ISAK-2336 of the Minister of Education and Science of 3 December 2007 (*Valstybės žinios* (Official Gazette) No 7-262, No 122-4641, 2008).

40.2. The measures under the tasks specified in paragraph 25.2 of the Programme are directly related to the implementation of the General National Programme for Cooperation Between Research and Science on the One Hand and Business on the Other Hand, approved by Order No ISAK-563 of the Minister of Education and Science of 3 March 2008 (*Valstybės žinios* (Official Gazette) No 29-1036, 2008).

40.3. The measures under the task specified in paragraph 25.4 and partially in paragraph 25.5 are directly related to the implementation of the measures under Priority 1, "Research and technological development for competitiveness and growth of the economy", and Priority 2, “Increasing business productivity and improving business environment”, of the Operational Programme for Economic Growth, and under the Rural Development Programme for 2007-2013 and the State Investment Programme.

41. The Programme shall be implemented in 2008-2013.

42. The Programme implementation measures, their implementing bodies and the preliminary requirement for funds in order to implemented them are set out in the Annex to the Programme “Description of the Justification and Implementation of the Development of the Integrated Science, Studies and Business Centre (Valley) NEMUNAS”, which is an integral part of the Programme.

43. Association Slėnis Nemunas and the implementing bodies for the Programme's implementing measures and activities shall submit to the Ministry of Education and Science information on individual state projects. Planning of individual state projects corresponding to the Programme's measures and activities in the areas coordinated by the Ministry of Education and Science shall be organized in accordance with the requirements of the Procedure of State Project Planning.

44. The monitoring of individual projects implementing the Programme shall be carried out, in accordance with the indicators of measures and activities laid down in the Annex to the Programme, by public institutions the Central Project Management Agency and the Lithuanian Business Support Agency, the Support Foundation European Social Fund Agency, the National Paying Agency under the Ministry of Agriculture, the Ministry of Education and Science, the Ministry of Economy and the Ministry of Agriculture.

45. By December 20 each year, Association Slėnis Nemunas and the implementing bodies for the Programme's implementing measures and activities shall submit to the Ministry of Education and Science information on the implementation of the Programmes measures and activity indicators. At the end of the year, the Ministry of Education and Science shall present, together with its annual activity report, the Report on the Implementation of the Physical and Financial Indicators of the Programme to the Government of the Republic of Lithuania.

46. The Ministry of Education and Science, together with the Ministry of Economy, shall carry out monitoring and assessment of the Programme. The assessment activities (strategic analysis, supervision of the quantitative and qualitative result indicators, the current, the intermediate and the final assessment) shall be organized pursuant to the provisions of the Plan of the European Union Structural Aid Assessment, approved by Order No 1K-018 of the Minister of Finance of 15 January 2008 (*Valstybės žinios* (Official Gazette) No 9-314, 2008).

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Annex to the Development Programme for the Integrated Science, Studies and Business Centre (Valley) NEMUNAS

DESCRIPTION OF THE JUSTIFICATION AND IMPLEMENTATION OF THE DEVELOPMENT PROGRAMME FOR THE INTEGRATED SCIENCE, STUDIES AND BUSINESS CENTRE (VALLEY) NEMUNAS

I. GENERAL PROVISIONS

1. The purpose of the Description of the Justification and Implementation of the Development Programme for the Integrated Science, Studies and Business Centre (Valley) NEMUNAS (hereinafter referred to as "the Programme") is to justify the infrastructural, financial and organizational measures necessary for the establishment and successful functioning of the integrated science, studies and business centre (Valley) NEMUNAS (hereinafter referred to as 'the Valley').

2. The Valley is the aggregate of the agricultural, forestry and food industry research, studies and knowledge-intensive business potential that has shared and net infrastructure of research and development (R&D) designed for the development of nationally and internationally competitive fundamental and applied research and for the implementation of the studies process, and that purposefully contributes to the agricultural, forestry and food industry development and to the building of knowledge economy in Lithuania.

3. Implementing the Programme, the open access R&D infrastructure will be developed, which, combined with the already available human and material resources of the Valleys' participants, will make it possible to ensure high quality of R&D work being implemented as well as integration of science, studies and business and to create a favourable environment for the transfer of scientific knowledge and technologies in the field of the agricultural, forestry and food industry to business.

4. To make a more efficient use of the possibilities of the new R&D infrastructure and to concentrate the scientific potential of the country for the implementation of the Valley development areas in the fields of the agricultural, forestry and food industry (agrobiotechnology, bioenergy and forestry; food technology, safety and healthiness), the following activities are planned to be carried out in the Valley: to establish R&D centres; develop the relevant shared infrastructure, integrate and consolidate groups of scientists and researchers for the achievement of common goals, optimise interaction between science and studies institutions and research institutions, including their subdivisions, in the field of agricultural, forestry and food industry. Besides, studies will be provided to satisfy the needs of the agricultural, forestry and food industry (Fig. 1).

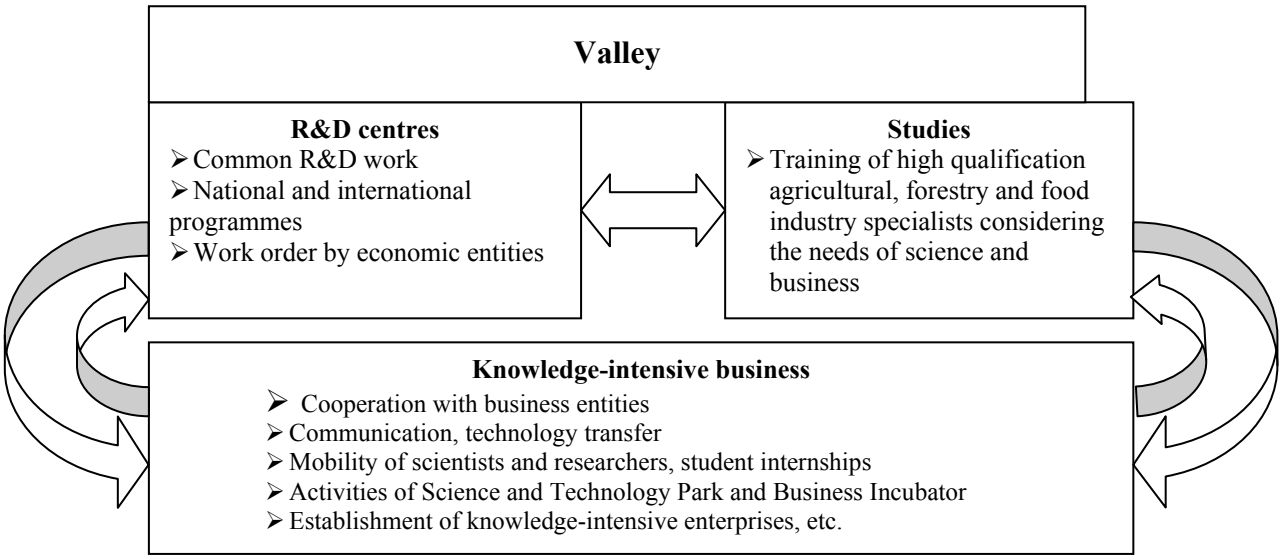

Fig. 1. **Interaction of science, studies and knowledge-intensive business within the Valley**

5. The Programme is designed for the development of the R&D and the related infrastructure of the Valley. The programme shall cover the following activities:

5.1. Development and upgrade of the public R&D infrastructure.

5.2. Development of the R&D infrastructure designed for the implementation of viable research areas (establishment of laboratories, acquisition of equipment).

5.3. Development of the infrastructure for higher education studies.

5.4. Implementation of R&D activities by concentrating the scientific potential and closely cooperating in the fields of science and business:

5.4.1. The Communication and Technology Transfer Centre of the Valley (hereinafter referred to as 'the Communication and Technology Transfer Centre') is being established to transfer technologies and to ensure provision of innovation support services. Groups of scientists will be encouraged to patent scientific inventions, and favourable conditions will be created for the establishment of new enterprises. The Valley plans to develop its activities in the following two key areas, namely: agrobiotechnology, bioenergy and forestry; and food technology, safety and healthiness. In these areas an appreciable potential of the applied works, new technologies and innovations is envisaged, for example, development of technologies for new foodstuff production and storage in the controlled atmosphere and production technologies for the extraction of biologically active preparations from vegetable raw materials and for the production of new veterinary preparations, feed additives and disinfection and disinsectisation substances. Currently, the Science and Technology Park of the Lithuanian University of Agriculture (an economic subdivision of the Lithuanian University of Agriculture) has been operating, however, its activities and the available material base are limited and not sufficient to perform the envisaged functions of the Communication and Technology Transfer Centre (more than 80% of the premises available to the Science and Technology Park of the Lithuanian University of Agriculture are occupied).

Therefore, it is intended to enlarge the existing premises of the Science and Technology Park of the Lithuanian University of Agriculture and of neighbouring structural units by building an annex (intended for the Communication and Technology Transfer Centre) and equipping additional premises (about 240 square meters of the total area).

5.4.2. The new premises are planned to house the premises of the Business Incubator (here support will be provided to the incubation of innovative agricultural and related enterprises and to the establishment of spin-offs) as well as the premises for commercialisation and technology transfer (here the services of patenting, publicity and sales or implementation of new technologies and inventions will be provided) and technological laboratories necessary for research and development projects.

5.4.3. The Science and Technology Park of the Lithuanian University of Agriculture and the Communication and Technology Transfer Centre will form a single complex formation that serves the Valley participants and partners, students and external users, and that ensures continuous transfer of technologies and functioning of the innovation support system.

5.4.4. Development of the Communication and Technology Transfer Centre will be focused on the strengthening of the innovation support system and education of the related human resources and other participants. Therefore, the implementation of the activities that develop the expertise of the Communication and Technology Transfer Centre participants in the transfer of technology and provision of innovation support services is planned.

5.4.5. To ensure an effective work of all Valley founders, the activities of the Communication and Technology Transfer Centre of the Valley will be supplemented by the following centres with their activities developed in both scientific and services provision areas:

5.4.5.1. the Agroinnovation Economy and Management Centre;

5.4.5.2. the Centre of Agricultural Science, Training and Consulting Information Technologies

5.4.6. Preliminary calculations of the funds necessary for the development of the Communication and Technology Transfer Centre are given in Table 1.

Table 1. Requirement of funds for the infrastructure of the Communication and Technology Transfer Centre

Object	Work	Requirement of funds (LTL thou.)
The building of the Communication and Technology Transfer Centre, Academy Campus, Kaunas District Municipality	Construction and outfitting of approximately 2400 square meter object	12 200
Assocation Slėnis Nemunas	R&D equipment of an open access laboratory necessary for the incubated enterprises	3 900
	Total	16 100

6. The R&D infrastructure of the Valley covers R&D centres subordinate to it (Fig. 2).

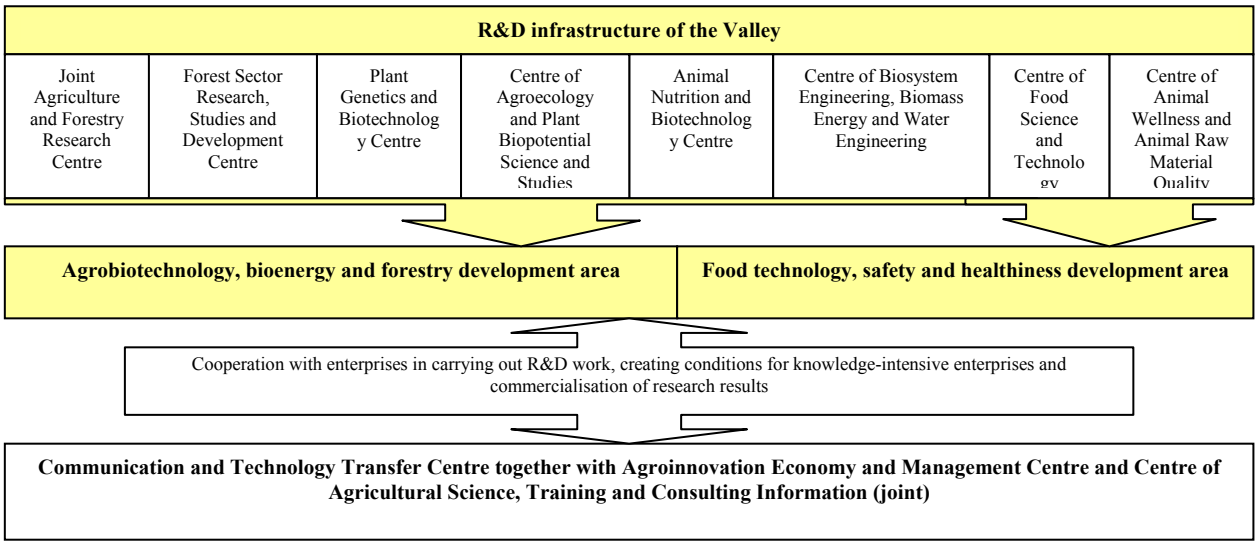

Fig. 2. **Valley structure**

7. The description of the scientific laboratory equipment shall be approved by the Ministry of Education and Science. The equipment complexes, planned to be acquired, have been developed taking account of the requirement of R&D work and focusing on international, national and regional R&D programmes and probable orders of economic entities. Considering the specific nature of R&D work in the field of agricultural, forestry and food industry, part of the equipment intended for the development consists of the equipment designed for outdoor work.

8. The plan of the measures for the consolidation of the scientific potential of the Valley shall be approved by the Ministry of Education and Science.

9. The implementation of other projects is planned alongside the development of the R&D infrastructure of the Valley:

9.1. To develop the R&D activities, develop and upgrade technological and information infrastructure designed for those activities.

9.2. To create, renew and implement higher education curricula on the 1st and 2nd educational levels.

9.3. To develop competences of higher education studies staff (lecturers).

9.4. To develop scientists' competences and to promote mobility (including post-doctoral internships).

9.5. To carry out projects of introduction of demonstrative experiments in the agricultural and forestry industry.

9.6. To carry out the restructurisation of science and studies institutions.

9.7. To establish new knowledge-intensive enterprises.

9.8. To provide public services to business (information, consultation and methodical services).

9.9. To arrange consultation events together with the representatives of science and studies institutions.

9.10. To arrange permanent consultations concerning the introduction of high and medium-high technologies in enterprises.

II. THE ORDER OF PRIORITY OF THE PROGRAMME'S ACTIVITIES AND THEIR LOGICAL LINKS

10. The Programme envisages the implementation of the activities related to the development of the Valley R&D and the related studies infrastructure. Moreover, R&D projects as well as other Valley activity and development projects will be implemented. These projects are inter-linked and designed for the implementation of the general objectives and tasks of the Programme (Fig. 3).

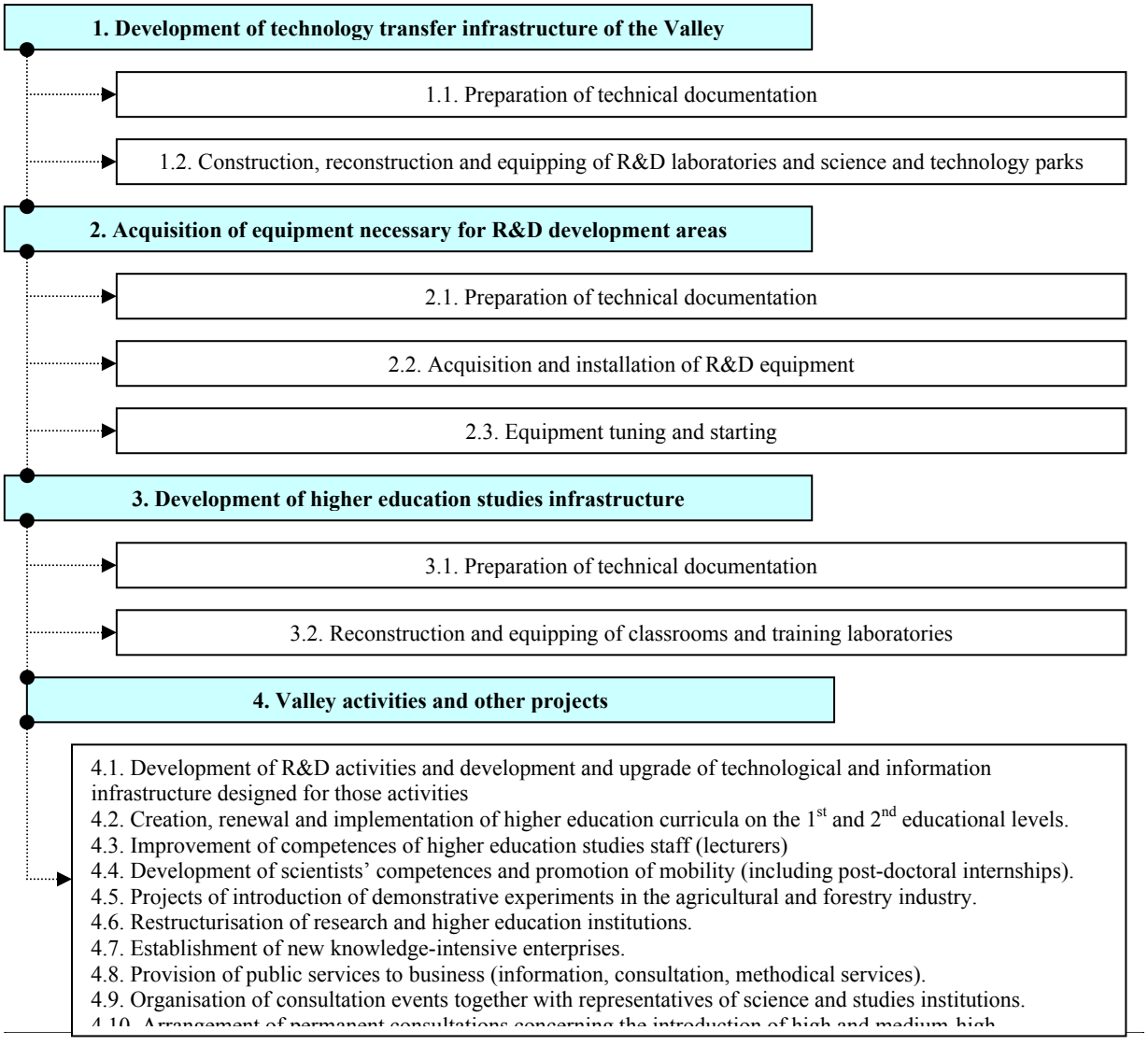

Fig. 3. **The scheme of the Programme activity links**

11. The implementation of the Valley R&D and the studies infrastructure projects is foreseen to be simultaneous. Besides, it is planned to start the procedures for the preparation of project documentation and construction works and to provide equipment to the laboratories.

III. THE IMPLEMENTATION MEASURES OF THE VALLEY DEVELOPMENT PROGRAMME

12. The implementation measures given in Table 2 match to the Programme tasks, and the supervision of the implementation of the activities given in the measures shall be carried out by the coordinators. They shall provide information necessary for the administration of the projects.

Table 2. Measures for the implementation of the tasks of the development programme for the Valley NEMUNAS

Tasks	Measures	Implementing bodies	Year of implementation	Preliminary requirement of funds (LTL thou.)					
				Total	2009	2010	2011	2012	2013
1. To develop modern R&D infrastructure for the research development needs of the agricultural, forestry and food industry.	1.1. To establish the state research institute Agrarian and Forest Science Centre	Minister of Education and Science	2009–2011	–	–	–	–	–	–
	To develop the infrastructure of the state research institute Agrarian and Forest Science Centre	Lithuanian Institute of Agriculture, Lithuanian Institute of Horticulture, Lithuanian Forest Research Institute	2009–2011	31,980 (Ministry of Education and Science, European Regional Development Fund)	10 000	15 000	6 980	–	–
	1.2. To the establish Agrarian and Forest Science Centre and to develop its infrastructure	Lithuanian University of Agriculture, Lithuanian Institute of Agriculture, Lithuanian Institute of Horticulture, Lithuanian Forest Research Institute	2009–2011						
	1.3. To establish the Forest Sector Research, Studies and Development Centre and to develop its infrastructure	Lithuanian Forest Research Institute, Lithuanian University of Agriculture	2009–2011	3,510 (Ministry of Education and Science, European Regional Development Fund)	1 800	1 710	–	–	–
	1.4. To establish the Centre of Food Science and Technology and to develop its infrastructure	Kaunas University of Technology, Lithuanian Institute of Horticulture, Food Institute of Kaunas University of Technology	2009–2011	5,370 (Ministry of Education and Science, European Regional Development Fund)	2 500	2 500	370	–	–
	1.5. To establish the Centre of Animal Wellness and Animal Raw Material Quality and to develop its infrastructure	Lithuanian Veterinary Academy, Veterinary Institute of the Lithuanian Veterinary Academy	2009–2012	14,920 (Ministry of Education and Science, European Regional Development Fund)	2 920	5 000	5 000	2 000	–
	1.6. To establish the Animal Nutrition and Biotechnology Centre and to develop its infrastructure	Lithuanian Veterinary Academy, Institute of Animal Science of Lithuanian Veterinary Academy	2009–2012	6,650 (Ministry of Education and Science, European Regional Development Fund)	2 650	2 000	2 000	–	–

Tasks	Measures	Implementing bodies	Year of implementation	Preliminary requirement of funds (LTL thou.)					
				Total	2009	2010	2011	2012	2013
	1.7. To establish the Plant Genetics and Biotechnology Centre and to develop its infrastructure	Lithuanian Institute of Horticulture, Lithuanian Institute of Agriculture, Lithuanian University of Agriculture	2009–2011	8,925 (Ministry of Education and Science, European Regional Development Fund)	3 000	3 000	2 925	–	–
	1.8. To establish the Centre of Agroecology and Plant Biopotential Science and Studies and to develop its infrastructure	Lithuanian Institute of Agriculture, Lithuanian University of Agriculture	2009–2011	10,160 (Ministry of Education and Science, European Regional Development Fund)	3 000	3 000	4 160	–	–
	1.9. To establish the Centre of Biosystem Engineering, Biomass Energy and Water Engineering and to develop its infrastructure	Lithuanian University of Agriculture, Water Farm Institute of Lithuanian University of Agriculture, Agrarian Farm Engineering Institute of Lithuanian University of Agriculture	2009–2012	13,485 (Ministry of Education and Science, European Regional Development Fund)	5 000	6 000	2 485	–	–
	1.10. To establish the Association Slėnis Nemunas	Lithuanian University of Agriculture, Lithuanian Veterinary Academy, Kaunas University of Technology, Lithuanian Institute of Agriculture, Lithuanian Institute of Horticulture, Lithuanian Forest Research Institute, Water Farm Institute of Lithuanian University of Agriculture, Agrarian Farm Engineering Institute of Lithuanian University of Agriculture, Veterinary Institute of the Lithuanian Veterinary Academy, Institute of Animal Science of Lithuanian Veterinary Academy, UAB Achemos grupė, UAB Arvi ir ko, AB Kauno grūdai, Lithuanian Biofuel Producers and Suppliers Association LITBIOMA, AB Utenos mėsa, Association of Lithuanian Land Reclamation Enterprises, UAB Vakarų medienos grupė, Baltic Agribusiness Institute and other participants of the valley	2008	–	–	–	–	–	–

Tasks	Measures	Implementing bodies	Year of implementation	Preliminary requirement of funds (LTL thou.)					
				Total	2009	2010	2011	2012	2013
2. To concentrate high qualification Lithuanian and foreign scientists and researchers for joint activities.	2.1. To initiate the reorganisation of science and studies institutions	Minister of Education and Science	2009						
	2.2. To implement the reorganisation of science and studies institutions	Lithuanian University of Agriculture, Lithuanian Veterinary Academy, Kaunas University of Technology, Water Farm Institute of Lithuanian University of Agriculture, Agrarian Farm Engineering Institute of Lithuanian University of Agriculture, Veterinary Institute of the Lithuanian Veterinary Academy, Institute of Animal Science of Lithuanian Veterinary Academy, Food Institute of Kaunas University of Technology	2009-2012	16,000 (Ministry of Education and Science, European Regional Development Fund)	2 000	7 000	6 000	1 000	–
3. To renew and upgrade the relevant studies infrastructure and to strengthen science, studies and business interaction.	3.1. To expand the studies infrastructure and the the Agroinnovation Economy and Management Centre and Centre of Agricultural Science, Training and Consulting Information at the Lithuanian University of Agriculture	Lithuanian University of Agriculture	2009–2012	12,900 (Ministry of Education and Science, European Regional Development Fund)	4 000	4 000	4 900	–	–
	3.2. To expand the studies infrastructure at the Lithuanian Veterinary Academy	Lithuanian Veterinary Academy	2009–2012	7,100 (Ministry of Education and Science, European Regional Development Fund)	3 500	3 600	–	–	–
	3.3. To create, renew and implement higher education curricula on the 1st and 2nd educational levels.	Lithuanian University of Agriculture, Lithuanian Veterinary Academy	2009–2012	1,250 (Ministry of Education and Science, European Social Fund)	–	750	500	–	–

Tasks	Measures	Implementing bodies	Year of implementation	Preliminary requirement of funds (LTL thou.)					
				Total	2009	2010	2011	2012	2013
4. To create conditions for the cooperation between businesses and science and studies institutions,	4.1. To establish the Communication and Technology Transfer Centre and to develop its infrastructure	Lithuanian University of Agriculture, Lithuanian Veterinary Academy, Lithuanian Institute of Horticulture, Lithuanian Forest Research Institute	2009–2012	10,000 (Ministry of Economy, European Regional Development Fund) 6,100 (private funds)	6 100	5 000	5 000	–	–
so that commercialisation of scientific research results serves as the basis for the formation of the elements of knowledge-intensive businesses	4.2. To establish the Centre of Assessment of the Varietal Value of Animals and of Exhibitions-Auctions and to develop its infrastructure	Lithuanian Veterinary Academy	2009–2012	19,000 (Ministry of Agriculture, Rural Development Fund) 28,348 (Ministry of Finance, State Budget funds (State Investment Programme))	5 000	14 000	10 000	9 500	8 848
	4.3. To develop the expertise of the Communication and Technology Transfer Centre participants in the transfer of technology in order to ensure provision of high quality innovation support services	Lithuanian University of Agriculture, Lithuanian Veterinary Academy, Lithuanian Institute of Agriculture, Lithuanian Institute of Horticulture, Lithuanian Forest Research Institute	2009–2012	1,700 (Ministry of Economy, European Regional Development Fund) 300 (private funds)	800	800	400	–	–
5. To expand the scope of R&D work within the agricultural, forestry and food industry on the national and international level	5.1. To carry out projects of introduction of demonstrative experiments in the agricultural and forestry industry.	Lithuanian University of Agriculture, Lithuanian Veterinary Academy, Lithuanian Institute of Horticulture, Lithuanian Institute of Agriculture, Lithuanian Forest Research Institute, Kaunas University of Technology	2009–2013	20,000 (Ministry of Agriculture, Rural Development Fund)	4 000	4 000	4 000	4 000	4 000
	5.2. To develop the R&D activities, develop and upgrade technological and information infrastructure designed for those activities.	Lithuanian University of Agriculture, Lithuanian Veterinary Academy, Lithuanian Institute of Horticulture, Lithuanian Institute of Agriculture, Lithuanian Forest Research Institute, Kaunas University of Technology	2009–2013	1,250 (Ministry of Education and Science, European Regional Development Fund)	750	500	–	–	–

Tasks	Measures	Implementing bodies	Year of implementation	Preliminary requirement of funds (LTL thou.)					
				Total	2009	2010	2011	2012	2013
	5.3. To develop competences of higher education staff (lecturers).	Lithuanian University of Agriculture, Lithuanian Veterinary Academy, Kaunas University of Technology	2009–2013	1,250 (Ministry of Education and Science, European Social Fund)	750	500	–	–	–
	5.4. To develop scientists' competences and to promote mobility (including post-doctoral internships).	Lithuanian University of Agriculture, Lithuanian Veterinary Academy, Lithuanian Institute of Horticulture, Lithuanian Institute of Agriculture, Lithuanian Forest Research Institute, Kaunas University of Technology	2009–2013	1,250 (Ministry of Education and Science, European Social Fund)	750	500	–	–	

IV. SOURCES OF FINANCING FOR PROGRAMME MEASURES AND ACTIVITIES

13. Individual projects corresponding to the Programme's measures and activities shall be implemented in accordance with the administration and funding requirements for the projects of EU structural funds (the European Regional Development Fund and the European Social Fund) or the requirements of the national legislation. The coordinators of projects eligible for funding under the state project planning procedure shall present additional descriptions in line with the regulations approved by the Ministry of Education and Science or other ministries.

Table 3. Sources of financing for Programme measures and activities

Measure No*	Measures and activities that correspond to the Programme tasks	Preliminary requirement of funds (LTL thou.)	Funding sources					
			Ministry of Education and Science, European Regional Development Fund	Ministry of Education and Science, European Social Fund	Ministry of Finance, State Budget funds (State Investment Programme)	Ministry of Economy, European Regional Development Fund	Ministry of Agriculture, Rural Development Fund	other
1.	**Development and upgrade of the public R&D infrastructure.**							
1.2.	Joint Agriculture and Forestry Research Centre**	31 980	31 980	–	–	–	–	–
1.3.	Forest Sector Research, Studies and Development Centre	3 510	3 510	–	–	–	–	–

* Numbers of measures correspond to those given in Table 2.
** Including the development of the infrastructure of the state research institute Agrarian and Forest Science Centre.

Measure No*	Measures and activities that correspond to the Programme tasks	Preliminary requirement of funds (LTL thou.)	Funding sources					
			Ministry of Education and Science, European Regional Development Fund	Ministry of Education and Science, European Social Fund	Ministry of Finance, State Budget funds (State Investment Programme)	Ministry of Economy, European Regional Development Fund	Ministry of Agriculture, Rural Development Fund	other
1.4.	Centre of Food Science and Technology	5 370	5 370	–	–	–	–	–
1.5.	Centre of Animal Wellness and Animal Raw Material Quality	14 920	14 920	–	–	–	–	–
1.6.	Animal Nutrition and Biotechnology Centre	6 650	6 650	–	–	–	–	–
1.7.	Plant Genetics and Biotechnology Centre	8 925	8 925	–	–	–	–	–
1.8.	Centre of Agroecology and Plant Biopotential Science and Studies	10 160	10 160	–	–	–	–	–
1.9.	Centre of Biosystem Engineering, Biomass Energy and Water Engineering	13 485	13 485	–	–	–	–	–
3.	**Development of the infrastructure for higher education studies**							
3.1.	Expansion of the studies infrastructure and the Agroinnovation Economy and Management Centre and Centre of Agricultural Science, Training and Consulting Information at the Lithuanian University of Agriculture	12 900	12 900	–	–	–	–	–
3.2.	Expansion of the studies infrastructure at the Lithuanian Veterinary Academy	7 100	7 100	–	–	–	–	–
	Funds of the National Complex Programme for the development and upgrade of the public R&D and higher education studies infrastructure, total	115 000	115 000	–	–	–	–	–
4.	**Other activities**							
4.1.	Communication and Technology Transfer Centre	16 100	–	–	–	10 000	–	6 100
4.2.	Centre of Assessment of the Varietal Value of Animals	47 348	–	–	28 348	–	19 000	–
5.1.	Projects of introduction of demonstrative experiments in the agricultural and forestry industry	20 000	–	–	–	–	20 000	–
4.3.	Development of the expertise of the Communication and Technology Transfer Centre participants in the transfer of technology in order to ensure provision of high quality innovation support services	2 000	–	–	–	1 700	–	300
3.3.	Creation, renewal and implementation of higher education curricula on the 1st and 2nd educational levels	1 250	–	1 250	–	–	–	–

Measure No*	Measures and activities that correspond to the Programme tasks	Preliminary requirement of funds (LTL thou.)	Funding sources					
			Ministry of Education and Science, European Regional Development Fund	Ministry of Education and Science, European Social Fund	Ministry of Finance, State Budget funds (State Investment Programme)	Ministry of Economy, European Regional Development Fund	Ministry of Agriculture, Rural Development Fund	other
5.2.	Development of R&D activities, development and upgrade of its technological and information infrastructure	1 250	1 250	–	–	–	–	–
5.3.	Development competences of higher education staff (lecturers)	1 250	–	1 250	–	–	–	–
5.4.	Development of scientists' competences and promotion of mobility (including post-doctoral internships)	1 250	–	1 250	–	–	–	–
	Other activities, total	90 448	1 250	3 750	28 348	11 700	39 000	6 400
2.	**Restructurisation of research and higher education institutions**							
2.1.	Integration of the Institute of Agrarian Farm Engineering of the Lithuanian University of Agriculture and Institute of Water Farm of the Lithuanian University of Agriculture into the Lithuanian University of Agriculture	7 000	7 000	–	–	–	–	–
2.2.	Integration of the Institute of Animal Science of Lithuanian Veterinary Academy and Veterinary Institute of Lithuanian Veterinary Academy into the Lithuanian University of Agriculture	5 000	5 000	–	–	–	–	–
2.3.	Integration of the Food Institute of the Kaunas University of Technology into the Kaunas University of Technology	4 000	4 000	–	–	–	–	–
	Restructurisation of science and studies institutions, total	16 000	16 000	–	–	–	–	–
	Total	221 448	132 250	3 750	28 348	11 700	39 000	6 400

V. PRELIMINARY SCHEDULE OF PROGRAMME IMPLEMENTATION

14. The coordinators of the Programme's measures and Association Slėnis Nemunas shall evaluate the preliminary schedule of Programme implementation within a year of the start of Programme implementation.

Table 4. Preliminary Schedule of Programme Implementation

Activity No	Programme measures and activities	2008	2009				2010				2011				2012				2013			
		quarter																				
		IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
1.	**Development and upgrade of the public R&D infrastructure.**																					
1.1.	Establishment of the Agrarian and Forest Science Centre																					
	Development of the infrastructure for the Agrarian and Forest Science Centre																					
1.2.	Joint Agriculture and Forestry Research Centre																					
1.3.	Forest Sector Research, Studies and Development Centre																					
1.4.	Centre of Food Science and Technology																					
1.5.	Centre of Animal Wellness and Animal Raw Material Quality																					
1.6.	Animal Nutrition and Biotechnology Centre																					
1.7.	Plant Genetics and Biotechnology Centre																					
1.8.	Centre of Agroecology and Plant Biopotential Science and Studies																					
1.9.	Centre of Biosystem Engineering, Biomass Energy and Water Engineering																					
1.10.	Establishment of Assocation Slėnis Nemunas																					
3.	**Development of the infrastructure for higher education studies**																					
3.1.	Expansion of the studies infrastructure and the Agroinnovation Economy and Management Centre and Centre of Agricultural Science, Training and Consulting Information at the Lithuanian University of Agriculture																					
3.2.	Expansion of the studies infrastructure at the Lithuanian Veterinary Academy																					
4.	**Other activities**																					
4.1.	Communication and Technology Transfer Centre																					
4.2.	Centre of Assessment of the Varietal Value of Animals and of Exhibitions-Auctions																					
5.1.	Projects of introduction of demonstrative experiments in the agricultural and forestry industry																					
4.3.	Development of the expertise of the Communication and Technology Transfer Centre participants in the transfer of technology in order to ensure provision of high quality innovation support services																					
3.3.	Creation, renewal and implementation of higher education curricula on the 1st and 2nd educational levels																					
5.2.	Development of R&D activities, development and upgrade of its technological and information infrastructure																					
5.3.	Development competences of higher education staff (lecturers)																					
5.4.	Development of scientists' competences and promotion of mobility (including post-doctoral internships)																					

Activity No	Programme measures and activities	2008	2009				2010				2011				2012				2013			
		quarter																				
		IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
2.	Restructurisation of research and higher education institutions																					

VI. THE MAIN INDICATORS OF MONITORING OF THE ACTIVITIES MATCHING THE PROGRAMME'S MEASURES

15. The indicators of monitoring of the measures matching the Programme's tasks shall be applicable in implementing the indicators of Priority 1 "Research and technological development for competitiveness and growth of the economy" and Priority 2 "Increasing business productivity and improving business environment" of the Operational Programme for Economic Growth and Priority 3 "Strengthening the capacities of researchers" of the Operational Programme for Human Resources Development. Project operators of the activities matching the Programme's measures shall provide information on the indicators of individual projects to the Assocation Slėnis Nemunas. The measure implementing bodies and Association Slėnis Nemunas shall assess ands itemise the risk of Programme measures, activities and individual projects comprising the Programme measures within a year of the start of Programme implementation.

Table 5. The indicators of monitoring of the activities matching the Programme's measures

Indicator type	Indicator	Measuring units	Quantified indicators for 2015 (Programme part)
Activity	1.1–1.9. **Development and upgrade of the public R&D infrastructure.**		
Product	R&D facilities development projects	number	8
Result	Established open access centres on national level	number	1
	Established research centres	number	2
	Established scientific laboratories	number	5
	Upgraded scientific laboratories	number	28
	Implemented R&D projects:	number	85
	national	number	30
	international	number	25
	ordered by economic entities	number	30
	Attracted private investment	million LTL	2,6
Activity	3.1 and 3.2. **Development of the infrastructure for higher education studies**		
Product	Projects of the infrastructure of studies	number	4
Result	Established or upgraded training laboratories	number	5
Activity	4.1–4.3. **Communication and Technology Transfer Centre, Centre of Assessment of the Varietal Value of Animals and of Exhibitions-Auctions**		
Product	Infrastructure development projects of the centres that carry out the functions of technology transfer and communication	number	3
	Projects aimed at the improvement of the R&D and innovation environment	number	2

Indicator type	Indicator	Measuring units	Quantified indicators for 2015 (Programme part)
	R&D cooperation contracts signed between research institutions and enterprises	number	30
	R&D activities implemented within the developed and introduced technologies	%	15
	Organized international events and fairs	number	5
Result	Established and operating centres that carry out the functions of technology transfer	number	1
	Small and medium business entities established within the Communication and Technology Transfer Centre and Business Incubator (3 years after the implementation of the Programme)	number	40
	Enterprises that made use of the innovation support services	number	40
	Knowledge-intensive enterprises established on the basis of the Valley (3 years after the implementation of the Programme)	number	10
	Joint projects annually implemented together with science and research institutions	number	4
	Attracted private investment	million LTL	6
Activity	5.1. **Projects of introduction of demonstrative experiments in the agricultural and forestry industry .**		
Product	Projects of introduction of demonstrative experiments and infrastructure in the agricultural and forestry industry	number	20
Activity	3.3. **Creation, renewal and implementation of higher education curricula on the 1st and 2nd educational levels**		
Product	Developed / renewed curricula	number	5
	Students who studied under the programmes of formal education	number	350
Result	Students awarded a qualification accepted by the state	%	90
Activity	5.3. **Development competences of higher education staff (lecturers)**		
Product	Developed qualification improvement programmes	number	8
	Lecturers (higher education studies) who studied under the programmes of informal education	number	220
	Scientists and other researchers (except students) who studied under the programmes of informal education	number	250
	Students who studied under the programmes of informal education	number	300
	Traineeships of lecturers	number	20

Indicator type	Indicator	Measuring units	Quantified indicators for 2015 (Programme part)
Result	Lecturers (higher education studies) awarded certificates of completion of the programme of informal education	%	90
	Scientists and other researchers (except students) awarded certificates of completion of the programme of informal education	%	90
	Students awarded certificates of completion of the programme of informal education	%	90
Activity	5.2 and 5.4. **Development of scientists' competences and promotion of mobility (including post-doctoral internships).**		
Product	Financed subsidies for research activities of scientists and other researchers	number	10
	Scientists and other researchers (except students) engaged in the public sectors under employment contracts	number	20
	Financed subsidies for research activities of students	number	15
Result	Published scientific articles	number	350
	Traineeships and internships of students	number	30
Activity	2. **Restructurisation of research and higher education institutions**		
Product	Implemented projects	number	5

VII. ORGANIZATIONAL PLAN OF THE PROGRAMME

16. The Programme's organization measures are aimed at cooperation among the Valley's initiators and participants, coordination of their interests, as well as at ensuring public access to the infrastructure created in the Valley.

Table 6. Organizational measures of Programme implementation

Organisational measure	Objectives, tasks and functions

Organisational measure	Objectives, tasks and functions
Activities of Association Slėnis Nemunas	Functions of Assocation Slėnis Nemunas: implementation of the valleys objectives; coordination of the interests of the Valley's partners; representation of the interests of the Valley's partners; approval of the Valley development documentation by the Valley's partners; coordination of Valley development; implementation of the programme, prioritetisation of the activities and projects; ensuring of added-value generation: benefits to science, studies, business and society; ensuring of the Valley management efficacy; measuring, monitoring and assessment of the achieved Valley performance indicators; publicizing of the Valley activities and results; ensuring openness of activities; ensuring of horizontal cooperation among the valleys in order to use the available property, scientific findings and resources effectively; ensuring of effective cooperation of science and business; ensuring and effective use of open access to the created research infrastructure
Valley contract	The contract envisages the roles, obligations and responsibilities of the Valley participants The essential provisions of the contract: the Valley's initiators and participants shall establish their interests and needs within the infrastructure through contracts, assuming the respective obligations regarding the maintenance of the infrastructure; scientific and business entities participate in the specific projects of the Valley's activities on the basis of short-term contracts; jobs shall be established to promote exchange of scientists and to attract scientists of the highest qualification

VIII. MANAGEMENT SCHEME OF THE PROGRAMME

17. Association Slėnis Nemunas shall be established to match the interests of science, studies and business (Association's structure is given in Fig. 4). Association founders and members shall be science and studies institutions, research institutes and business entities who expressed their wish to take part in the establishment and development of the Valley.

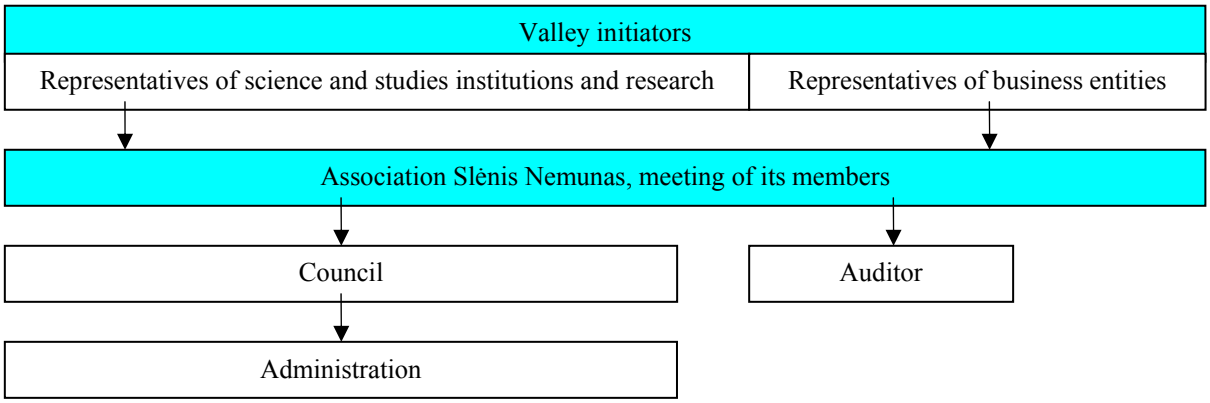

Fig. 4. **Structure of Association Slėnis Nemunas**

18. The administration of Association Slėnis Nemunas shall ensure that an open access to the R&D infrastructure is organized for all participants of the Valley under the rules for the establishment and management of open access centres approved by the Minister of Education and Science, it shall also conclude strategic and development plans, carry out marketing of the Valley, represent common interests of the participants of the Valley at municipal and state authorities, initiate joint projects and take part in their implementation, develop contacts with other integrated science, studies and business centres of Lithuania as well as with foreign state partners and international organisations, and promote cooperation between the members of Association Slėnis Nemunas and other participants of the Valley. Implementation of the individual measures under the Programme shall be the responsibility of the implementing bodies of those measures.

IX. COUNCIL OF THE VALLEY

19. An order of the Minister of Education and Science and the Minister of Economy shall form the Council of the Valley, which will carry out monitoring of the Programme (Figure 5), i.e. it will carry out the following functions:

19.1. examination of Programme implementation, and drafting of reports to the Ministry of Education and Science and the Ministry of Economy;

19.2. assessment of the progress achieved in Programme implementation;

19.3. when necessary, evaluation of the necessity of Programme amendments and submission of proposals to the Ministry of Education and Science and the Ministry of Economy.

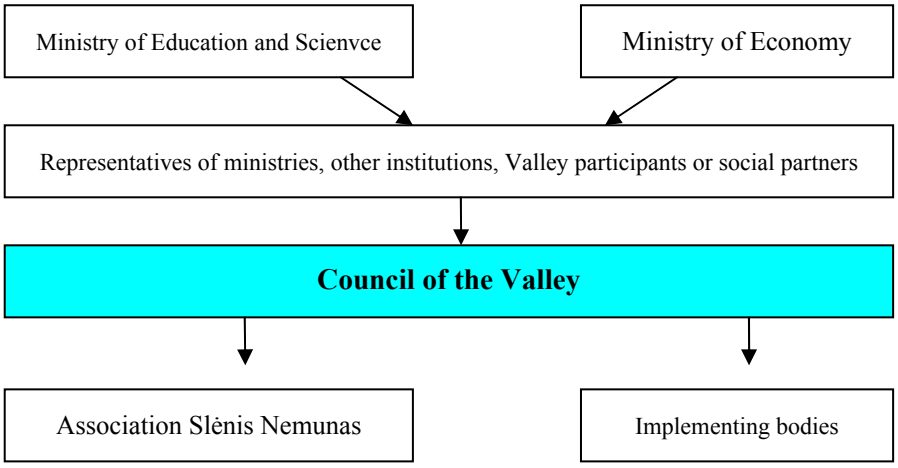

Fig. 5**. Monitoring of Programme implementation**

X. PROGRAMME COMMUNICATION (PUBLICITY) PLAN

20. Publicizing of Programme implementation and of the Valley's activities shall be a responsibility, on different levels, of the Ministry of Education and Science and Ministry of Economy (presentation of the Valley's activities on the national level), Association Slėnis Nemunas and implementing bodies of individual measures (public announcements on the activities of the Valley, a website, information publications, press releases, visual information materials, presentation of activities in conferences, etc). The main publicity measures envisaged:

20.1. preparation of informational material;

20.2. online publication of information;

20.3. information provision and publicity activities on TV;

20.4. information provision and publicity activities on the radio;

20.5. information provision and publicity activities in the press;

20.6. publishing and distribution;

20.7. conferences;

20.8. other events.

XI. THE PROGRAMME RISK MANAGEMENT PLAN

21. The Programme measure coordinators and Association Slėnis Nemunas shall make a thorough assessment of the risk of individual projects comprising the Programme measures within a year of the start of Programme implementation.

Table 7. The Programme Risk Management Plan

No.	Risk type	Risk description	Measures of risk reduction
1.	Risk associated with investments and funding them		
1.1.	Increase in investment value	investment value in implementing the project may not exceed the one planned according to the estimates	a survey of potential suppliers and contractors; analysis of their commercial proposals
1.2.	Benefits of the project fail to meet the expectations	the investments made may bring economic benefits that are smaller than the ones envisaged in the project assumptions and results	analysis of experience in similar projects, detailed economic and financial justification of the project
2.	Economic risk – inaccuracy of economic assumptions and results	estimation of project benefits may produce inaccurate assumptions distorting the project results	justification of the selected methods; evaluation of the quality of assumption justification; analysis of scenarios based on different economic assumptions
3.	Technical/technological risk		
3.1.	Investment quality	suppliers may supply poor-quality equipment	selection of reliable suppliers, guarantee requirement in supply contracts, insurance of contracts and equipment
3.2.	Delays	the activities envisaged in the project implementation plan may be delayed	sanction clauses in the contracts; a real and reasonable work schedule (with a reserve for emergencies)
4.	Other risk – organizational	change of the manager responsible for Programme implementation or illness of another member of the team	allocation of tasks among members of the implementation team so that a member could be replaced by another

XII. THE PLAN FOR THE USE OF PROGRAMME FUNDS

22. Project coordinators of individual projects matching the Programme's measures shall provide information on the need of funds for individual projects to the Programme coordinators.

Table 8. The plan for the USE of Programme Funds

Measures	Preliminary requirement of funds (LTL thou.)				
	2009	2010	2011	2012	2013
1. **Development and upgrade of the public R&D infrastructure**					
1.2. Joint Agriculture and Forestry Research Centre*	10 000	15 000	7 580		

* Including the development of the infrastructure of the state research institute Agrarian and Forest Science Centre.

Measures	Preliminary requirement of funds (LTL thou.)				
	2009	2010	2011	2012	2013
1.3. Forest Sector Research, Studies and Development Centre	1 800	1 710			
1.4. Centre of Food Science and Technology	2 500	2 500	370		
1.5. Centre of Animal Wellness and Animal Raw Material Quality	2 920	5 000	5 000	2 000	
1.6. Animal Nutrition and Biotechnology Centre	2 650	2 000	2 000		
1.7. Plant Genetics and Biotechnology Centre	3 000	3 000	2 925		
1.8. Centre of Agroecology and Plant Biopotential Science and Studies	3 000	3 000	3 560		
1.9. Centre of Biosystem Engineering, Biomass Energy and Water Engineering	5 000	6 000	2 485		
3. **Development of the infrastructure for higher education studies**					
3.1. Expansion of the studies infrastructure and the Agroinnovation Economy and Management Centre and Centre of Agricultural Science, Training and Consulting Information at the Lithuanian University of Agriculture	4 000	4 000	4 900		
3.2. Expansion of the studies infrastructure at the Lithuanian Veterinary Academy	3 500	3 600			
4. **Other projects**					
4.1. Communication and Technology Transfer Centre	6 100	5 000	5 000		
4.2. Centre of Assessment of the Varietal Value of Animals and of Exhibitions-Auctions	5 000	14 000	10 000	9 500	8 848
5.1. Projects of introduction of demonstrative experiments in the agricultural and forestry industry.	4 000	4 000	4 000	4 000	4 000
4.3. Development of the expertise of the Communication and Technology Transfer Centre participants in the transfer of technology in order to ensure provision of high quality innovation support services	800	800	400		
3.3. Creation, renewal and implementation of higher education curricula on the 1st and 2nd educational levels		750	500		
5.2. Development of R&D activities, development and upgrade of its technological and information infrastructure	750	500			
5.3. Development competences of higher education staff (lecturers)	750	500			
5.4. Development of scientists' competences and promotion of mobility (including post-doctoral internships)	750	500			
2. **Restructurisation of research and higher education institutions**	2 000	7 000	6 000	1 000	