Approved at Vidzeme University of Applied Sciences Senate meeting
23 March 2016, Decision Nr 3/5.1.

Vidzeme University of Applied Sciences Strategy 2016 - 2020

Summary

Mission
The mission of Vidzeme University of Applied Sciences is to promote a sustainable development of knowledge society in regional and national level, ensuring the private and public sectors with high level professionals as well as carrying out research on solving socially actual problems.

Vision
Vidzeme University of Applied Sciences is an internationally recognisable regional platform for higher education, science, knowledge transfer and ideas leadership, offering an ecosystem of the digital era for versatile options in acquiring professional higher education and carrying out interdisciplinary research, giving a proactive response to the challenges of the society.

Cocept of Vidzeme University of Applied Scieces platform and ecosystem

The University should constitute **a platform** for fulfillment of dreams and reaching aims. At both individual and collective level. For those who want to acquire **new knowledge and skills**, irrespective of age, and for those who have a good **idea** but lack knowledge and skills to implement it. For those who want to realise their **scientific idea and create new products** by involving into the research work at the university, and for those who wish to pass their knowledge to others by lecturing or consulting. And also for those who want to **meet like-minded people**.

University ecosystem must be formed – university + Cooperation partners + graduates. The University ecosystem must become one of the major promoters of shaping the future in Vidzeme, as well as influence actively the processes in Latvia and behind its borders.
The **University** must become an **opinion leader** in the regional and national level, popularise values essential to it and also act respectively itself.

Developing the Vidzeme University of Applied Sciences (ViA) Strategy for 2016-2020, ViA has considered the following aspects:

- The modern world vision about transition to knowledge society and its challenges, European Union and national level development plans for the higher education and science;
- Development trends, geographical location, resources and demand in the Vidzeme region;
- Guidelines for workout of strategies and research programs at scientific institutions and higher schools, defined in the Regulations by the Cabinet of Ministers Nr 729[1] These guidelines provide that the strategy has to include the following parts: research program, institutional development plan and human resources development plan.

[1] Regulations on the activity program "Entrepreneurship and Innovations" supplement 2.1.1.3.3. sub-activity "Institutional capacity development at scientific institutions". http://likumi.lv/ta/id/270790-noteikumi-par-darbibas-programmas-uznemejdarbiba-un-inovacijas-papildinajuma-2-1-1-3-3-apaksaktivitati-zinatnisko-instituciju.

ViA Strategy defines **three strategic priorities and five horizontal directions of activity** that ensure the accomplishment of the goals set by the priorities.

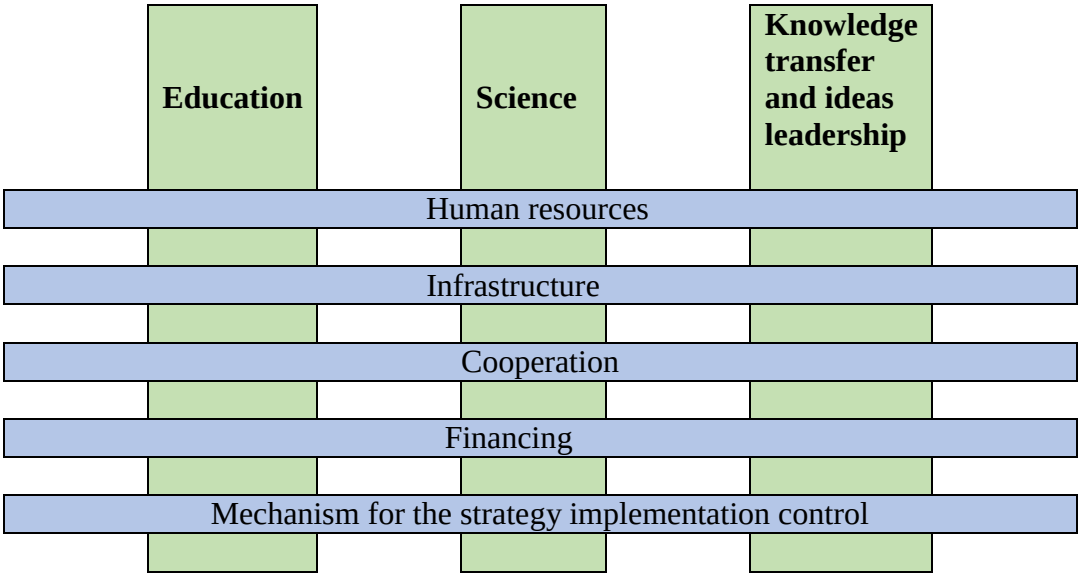
Strategic priorities

- **Education** (ViA education program – study programs and directions, life-long learning, additional education for pupils);
- **Science** – (ViA research development strategy and program – proactive response to the challenges of the society in accordance with the study directions and external demand);
- **Knowledge transfer and ideas leadership** (transferring the knowledge of ViA and its partnering institutions to cooperation partners, taking the intellectual leader's role in Vidzeme to foster the growth of the state and the region).

Horizontal directions of activity to implement the strategic priorities

- **Human resources** (university staff and students – human environment ensuring the development);
- **Infrastructure** (Material technical environment ensuring the development);
- **Cooperation** (national and international cooperation network – higher schools, scientific institutes, municipalities and enterprises, personalities);
- **Financing** (Financing sources for the strategic directions of activity);
- **Mechanism** (internal and external monitoring) **for the strategy implementation control.**

Picture 1
Visualisation of the strategic priorities and horizontal directions of activity at Vidzeme University of Applied Sciences



Vidzeme University of Applied Sciences Strategy 2016-2020

Expanded version

CONTENTS

1. Institutional development plan

1.1. General characteristics of Vidzeme University of Applied Sciences

ViA was founded in 1996 by Vidzeme local authorities (that time – districts) deciding on the necessity of establishing own higher school in the Vidzeme region. In 2001 ViA gained the status of a state educational institution, in 2002 accredited for an indefinite period. In 2015 ViA gained the status of a scientific institution.

In 2015 ViA offers studies in six study directions sixteen study programs, studies are oriented to the professional higher education (all college, bachelor and master's level study programs are programs of professional higher education programs) and close cooperation with the professionals of the respective industries. This approach has proved good results in employment of the ViA graduates – more than 90% of the graduates are employed, which is a very high showing, especially considering the fact that the most part of the graduates find a job in the Vidzeme region, which, in turn, is an essential factor in ensuring a polycentric development of the country. Irrespective of the high employment rates, during the last years ViA has been influenced by the demographic reality in Latvia – the number of students has fallen considerably, from 1414 students (in 2008) to 870 (in 2015). Recent years show growth in the number of students coming not from the Vidzeme region.

High level shows in the international cooperation and internationalisation of the study process. More than one third of the university graduates have participated in international student exchange programs or had practice abroad. A longstanding tradition of the university is Baltic

International Summer School[2], regularly gathering foreign participants. Since 2014 the university carries out an international study program of master's level – International Tourism Events Management (ITEM)[3].

At the foundation, only studies in the field of social sciences were offered, however the further years experienced development of spheres like information technologies and engineering sciences. In 2011 the doctoral study program "Sociotechnical Systems Modelling" was started, in 2015 the decision by LR Cabinet of Ministers ViA acquired promotion rights in Information Technologies.

The scientific activity up to now has mostly been developed in the scientific institutes founded by ViA. Sociotechnical Systems Engineering Institute (SSII)[4] was founded in 2006, but Institute of Social, Economic and Humanities Research (HESPI)[5] in 2013.

In 2014 and 2015 structural reforms were carried out, as a result two faculties were formed (Engineering and Society Science), and also Knowledge and Technology Centre, whose main spheres of responsibility are fostering cooperation with entrepreneurs and variation of the services offered by the university (life-long learning, applied research, etc.). Along with the growth of the scientific capacity at the university and following the international tendencies, ViA became a scientific institution in 2015, and through internal scientific consolidation has changed the legal status of HESPI, transforming it from an agency into a structural unit of the university.

During the recent years ViA has encountered several essential challenges that make search for new ways of future development. ViA owns a small number of state budget financed study entities, but the university continuously managed to attract a considerable number of students ready to self-finance their studies. However, the demographic situation and the increased emigration of the population have reduced immensely the number of the potential students – in seven years the number of students has fallen by more than 30 %. Negative influence on the development of the university was also caused by the considerable decrease of state financing for the higher education and science in Latvia as a whole, which took place during the financial and economic crisis (in 2009). Cooperation with entrepreneurs at the moment is only in the level of study practice, the regional enterprise structure (small-size and micro-businesses dominating) at least this moment is not favourable for development of applied research; in turn the academic science at the university is developed basically in the framework of SSII. During the previous planning period ViA did not apply to any structural funding project supporting science, did not participate in the program of establishing State research centres, and was the only one of the state regional higher education establishments that has not qualified for the status of a scientific institution. Scientific activities at ViA were supported by financing from the core budget, but these means are quite limited. Other regional universities, by getting financing from the science basis and applying for different structural funding programs, have invested considerably more means into the scientific activity.

An essential contribution into the development of ViA was in 2012-2014, when reconstruction and extension of the Engineering building was carried out and modern laboratories were formed[6]. This project boosts significantly the scientific capacity of ViA from the infrastructure point of view and provides an opportunity for not only development of research, but also increases the

[2] http://biss.va.lv/
[3] http://jointmaster.va.lv/
[4] http://www.socsimnet.com/
[5] http://www.va.lv/lv/lapa/par-hespi/
[6] For the building in Tērbatas Street 10, its reconstruction, extension and adoption to the persons with funtional handicap the university raised funds of European Regional Development Foundation (ERDF). The total eligible project funding is 2,62 million Euro, including the ERDF funding – 85%, state budget co-funding – 7,17%, and the university self-investment – 7,73% of the total budget.

prospect of ViA to grow as a regional centre of innovations. The cosy and visually attractive facilities have considerably widened the opportunities for ViA to organize different popular-science and educative events, thus enhancing the investment into the development of the region and also building the recognition of ViA itself[7].

Presently ViA has to search for alternative ways of development to ensure sustainability as in the scientific activity, so in successful operation of the university as a whole.

SWOT analysis characterising the university situation in 2015

Strengths
Well-developed infrastructure
Attractive environment (Valmiera city and the entrepreneurial environment)
Young employees with a potential of future growth (academic and administrative staff)
Orientation to professional higher education
Internal values of the organisation – creativity, informal environment, individual approach
International cooperation

Weaknesses
Inability to attract students with tuition fees
Lack of financing for the development of the university
Insufficient number of proactive researchers
Overload of the present qualified employees and inability to involve into new activities
Insufficient cooperation with the secondary level educational establishments in Valmiera and the region
The offer and contents of the study programs is lagging behind the development trends in economy and technologies
Few full-time foreign students, despite the wide offer of study programs in English

Opportunities
Attract research projects and services
Continue developing interdisciplinary orientation into the study contents
Involve additional human resources
Raise funds for the university development
Attract foreign students
Foster the growth of the region

Threats
Inability to find alternatives for the decresing number of students
Inability to find own niche in the Latvian an Baltic region market of education and science
Non-balancing finances
Loss of qualified human resources
Vidzeme region loses its university

1.2.ViA strategic priorities

1.2.1. Education

The goal of the strategic priority – to ensure contemporary and qualitative offer, based on the results of research, corresponding to the demand and prognosis of the labour market, and also good international practice.

[7] http://www.va.lv/lv/zinas/vidzemes-augstskolas-jaunais-inzenierzinatnu-korpuss-piesaista-uznemeju-uzmanibu.

Directions of activity ensuring the strategic priority

Human resources

- Increase gradually the proportion of the elected academic staff with the doctoral scientific degree, reaching 70% in 2020.
- Foster the collaboration of the academic staff with the new scientists, attract foreign lecturers, leading scientists, professionals o the industry and ViA graduates;
- Develop new, modern and result-oriented academic culture of knowledge society with an active discussion about the new challenges of society, with continuous proactive reaction to them in the form of preparing new research and innovation projects;
- Improve the support mechanism for the perfection of foreign language skills (opportunity to acquire and improve the knowledge of foreign languages through the open university, as well as in specially designed courses of foreign languages);
- Involving students into the ViA ecosystem, orientation to qualitative methods (work all the yearlong with certain secondary educational establishments, potential student groups, so that the university gets mostly students with high motivation who have before got acquainted with ViA and its values), not quantitative methods (bright marketing and advertising campaigns shortly before enrolment of students or during the enrolment);
- Use actively the platforms of life-long learning and open university to enable the interested people of all ages get and additional education;
- Supply an individual approach in cases of necessity to the people with functional disability;
- In the process of study and training, continue ensuring individual and interdisciplinary approach;
- Ensure involvement of the ViA students (including the students of life-long learning programs) into implementation of the strategic priority, forming an effective feedback on the evaluation of the study process results;
- Provide involvement of ViA students into the study process, including the sphere of life-long learning and activities connected with additional education at secondary educational establishments;
- As far as possible, involve ViA students into ensuring administrative and other functions of the organisation by offering practice places and part-time jobs.

Infrastructure

- Provide a modern equipped study environment (lecture rooms, laboratories, equipment, informative data basis) that is possibly accessible for unlimited time (7x24);
- Renovation of the students' hostels;
- Establishing a children's room, where the students and lecturers could (shortly) leave their children during the lecture or lecturing.

Cooperation

- Develop cooperation network with higher schools, scientific institutions, other educational establishments, municipalities and enterprises;
- Carry out exchange visits for the academic staff, guest-lectures and various cooperation projects with the partners of the cooperation network;
- Organise a week of academic guest-lectures once a year, providing guest-lecturers for all the week long, these exchange visits should be used to strengthen future cooperation (academic and round-table discussions);
- Encourage students' participation in various exchange programs, employ the activities of ViASA students in strengthening international partnership;
- Using the cooperation partners' (especially municipalities') international cooperation network to attract foreign students;

- Involve cooperation partners into discussions about opening new study programs or directions at ViA.

Financing

- Provide a possibly higher accessibility of higher education (more budget places at ViA), as well as opportinities for the ViA emplyees to get an internationally competitive reward;
- Exploit actively the opportunities of receiving additional financing for implementation of the ViA strategic priorities and directions of activity from various sources of financing (private financing, state and municipal financing, EU structural funds or means of other EU programs (for example, Horizon2020, Erasmus+, etc.));
- Establish a motivating pay system, introducing an essntial component of performance inancing, which will allow to divert additional financing for those who have given more investment into the implementation of ViA strategic directions: additional funding attraction through the state higher education financing second pillar performance financing, attracting financing from the third-parties or attracting full-time tuition fee foreign students.

Control mechanism for strategy implementation

- Measures, that ensure internal and external monitoring of ViA strategic priority. To ease the monitoring, a range of criteria have been fitted with performance indicators that enable following the pace of implementing the strategic directions, as well as to timely identify digression from the plan. The criteria in the field of education include graduates' employment rates, the proportion of the elected academic staff with the doctoral scientific degree, the attracted foreign lecturers, number of students (including foreign), etc.
- External monitoring is done by involving the Counsellors Convention, also ViA Study Direction Boards with additionally involved experts of the industries;
- Internal monitoring is done by the ViA Constituent Assembly, ViA Senate ViA Strategic Advisory Board;
- Purposeful preparation for the planned accreditation of study directions in 2017-2019, during which all the ViA study directions will be evaluated according to international criteria.

1.2.2. Science

The goal of the strategic priority – to provide a research environment corresponding to international criteria and research results that are used in solutions of specific problems (innovations), high-quality scientific publications and also in transfer of research results to education programs and national economy.

Directions of activity ensuring the strategic priority

Human resources

- Involve into research the ViA academic staff, foreign and local new scientists, as well as ViA students and graduates;
- Involve into research the staff of cooperation partnering institutions (higher and secondary education establishments, scientific institutes, state and private enterprises);
- Form a data-basis of the potential researchers – recognise the range of persons who, if necessary, could operatively be involved into research projects.

Infrastructure

- Provide accessibility of ViA infrastructure to cooperation partners for carrying out training, applied research or testing;

- Establish and maintain an IT platform for storage of the research data with the aim of using them in other researches or comparative research with a time series gap;
- Establish and maintain a uniform IT system to carry out surveys, involving students into the execution.

Cooperation

- Develop cooperation networks with higher schools and scientific institutions, other educational institutions, municipalities and enterprises – potential partners in research projects, including foreign ones;
- Employ the existing ties of academic partnership when incorporating Horizon2020 project partners'consortions;
- Arrange with the cooperation partners about common employment of infrastructure in research projects;
- Deal cooperation contracts with partners who might enter a cooperation of several directions (strategic partnership). Regularly review and update contractual relations.
- Involve cooperation partners in organising conferences at ViA, as well as to promote ViA participation in conferences of other institutions.

Financing

- Exploit actively the opportunities of receiving additional financing for implementation of the ViA strategic priorities and the direction of activity from various sources of financing (private financing, state and municipal financing, EU structural funds or means of other EU programs (for example, Horizon2020, Erasmus+, etc.));
- Establish a motivating pay system, introducing an essntial component of performance inancing, which will allow to divert additional financing for those who have given more investment into the implementation of ViA strategic directions: additional funding attraction through the state higher education financing second pillar performance financing, attracting financing from the third-parties or attracting full-time tuition fee foreign students.

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- External monitoring is done by involving the Counsellors Convention, also ViA Study Direction Boards with additionally involved experts of the industries;
- Internal monitoring is done by the ViA Constituent Assembly, ViA Senate ViA Strategic Advisory Board;
- Purposeful preparation for the planned international evaluation of Latvian Scientific institutions in 2017.

1.2.3. Knowledge transfer and ideas leadership

The goal of the strategic direction – to ensure the transfer of knowledge from ViA and its partnering institutions to the cooperation partners, popularization of ViA values and ideas, as well as taking the intellectual leader's role in Vidzeme to foster the growth of the state and the region.

Directions of activity ensuring the strategic priority

Human resources

- Ensure communication of the ViA leading experts of the respective fields with the society (presentation of ViA research results, participation in regional, national and international forums, interviews and discussions in mass media);
- Enhance the interest of the industry professionals to participate in the activities at the university (consultations, address in events organised by ViA);
- Involve the persons studying at ViA in various events of knowledge transfer, also as volunteers and offering ViA as a place for practice.

Infrastructure

- Provide accessibility of ViA infrastructure to cooperation partners for carrying out training, applied research or testing;
- Renovation of the students' hostels;
- Establishing a children's room, where children could be left by the lecture attendants or by cooperation partners for the time of business meeting.

Cooperation

- Develop cooperation networks with higher schools and scientific institutions, other educational institutions, municipalities and enterprises
- Summarise and update regularly the information about the ViA offer and opportunities in different forms of cooperation;
- Identify the potential range of partners for commercialisation of ViA research results.

Financing

- Exploit actively the opportunities of receiving additional financing for implementation of the ViA strategic priorities and the direction of activity from various sources of financing (private financing, state and municipal financing, EU structural funds or means of other EU programs (for example, Horizon2020, Erasmus+, etc.));
- Establish a motivating pay system, introducing an essntial component of performance inancing, which will allow to divert additional financing for those who have given more investment into the implementation of ViA strategic directions: additional funding attraction through the state higher education financing second pillar performance financing, attracting financing from the third-parties or attracting full-time tuition fee foreign students.

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- Measures, that ensure internal and external monitoring of ViA strategic priority. To ease the monitoring, a range of criteria have been fitted with performance indicators that enable following the pace of implementing the strategic directions, as well as to timely identify digression from the plan. The criteria in the field of science include the number of scientists involved into research, including doctoral students and new scientists, number of ViA students, number of scientific publications included into data-basis of Scopus and Web of Science, number of the submitted and implemented regional, national and international projects;
- External monitoring is done by involving the Counsellors Convention, also ViA Study Direction Boards with additionally involved experts of the industries;
- Internal monitoring is done by the ViA Constituent Assembly, ViA Senate ViA Strategic Advisory Board.

2. Vidzeme University of Applied Sciences research development strategy and program

2.1. Basic principles for the workout of the development strategy and program

ViA Research development strategy and program (further on – Program) has been developed considering EU and Latvian documents for long-term and medium-term development, as well as other legislative acts that determine the basic principles of activity at scientific institutions.

The Program has been developed through evaluation of the basic initiatives[8] of the European Commission strategy „Europe 2020: strategy for smart, sustainable and inclusive growth", as well as other EU long-term and medium-term development and analytical documents, researches and publikācijas[9] by Organisation for Economic Co-operation and Development (OECD).

The main Latvia state long-term development planning document is the Saeima approved on June 10, 2010 „Sustainable Development Strategy of Latvia until 2030" (LATVIJA-2030)[10]. ViA Program has been developed based on the basic principles put forward in LATVIJA-2030 – environmental, social and economical issues are closely interrelated and should be solved jointly, not separately[11]. The directions and issues defined in ViA Program correspond with the LATVIA-30 determined seven priorities (Development of culture space, Long-term investments in human capital, Innovative and eco-efficient economy, Change of paradigm in education, Nature as future capital, Spatial development perspective, Innovative government and public particiption).

Also ViA Program has been developed according to the hierarchically highest national level medium-term planning document „National development plan 2014-2020" (NDP-2020)[12] and the priorities defined there – economic growth, human securability and growth-oriented territories. A special attention has been paid to NDP-2020 activity programs „Enhanced research, innovation and higher education", „Highly productive and exportable production and internationally competitive services" and „Sustainable management of nature and cultural capital". Considering the location of ViA (the Valmiera city), development of the ViA Program was laid essentially on the NDP-2020 posture of the state regional policy": Contrasting the present monocentric population structure, a balanced polycentric approach has to be developed, formed by mutually subordinated centres, connected in various levels, that get support in enhancement of entrepreneurship, transport, public services and tourism infrastructure, using an integrated territorial approach (urban environment)."

Science industry medium-term planning document „Guidelines for science, technology development and innovation 2014-2020" (ZTIP-2020) strongly accentuates the guiding motive of NDP-2020 „Economic breakthrough": „The spheres covered by the guidelines are to viewed in accordance with the NDP priority „Economic growth" envisaging that the competitiveness and export promotion for Latvian goods and services needs a tight, commercial cooperation with science, fostering the interest of the private sector to invest into research and innovations." ZTIP-2020 stresses that the Latvian science in 2020 will be concentrated in scientific institutes that are competitive at the level of the world developed countries. ZTIP-2020 and the informative report

[8] http://ec.europa.eu/eu2020/pdf/1_LV_ACT_part1_v1.pdf.
[9] For example, http://www.keepeek.com/Digital-Asset-Management/oecd/science-and-technology/oecd-science-technology-and-industry-outlook-2014_sti_outlook-2014-en#page1.
[10] http://www.pkc.gov.lv/images/LV2030/LIAS_2030_en.pdf
[11] There, page 6
[12] http://www.pkc.gov.lv/images/NAP2020%20dokumenti/20121220_NAP2020_apstiprinats_Saeima.pdf.

„On the development of Smart specialisation strategy in Latvia"[13] define seven priorities of growth, and five spheres of smart specialisation.

Priorities of growth

- **1st priority**

More efficient use of raw materials for production of goods with greater added value, creation of new materials and technologies, and diversification of their application. Wider use of non-technological innovations and Latvian creative industry potential to produce goods and services with greater added value of national economy sectors.

- **2nd priority**

The creation of such innovation system that provides support for the creation of new products and technologies within the framework of existing sectors and cross-sectors, as well as for new sectors with high growth potential based on key sectors defining the development and providing an effective new products/services identification system, and that is able to find and provide support for the creation of new products both in the existing sectoral and cross-sectoral frameworks, and creating of new sections with high growth potential.

- **3rd priority**

Improvement of energy efficiency, which include the creation of new materials, production process optimisation, introduction of technological innovations, use of alternative energy resources and other solutions.

- **4th priority**

Development of a modern and contemporary standard-compliant ICT system in the private and public sectors.

- **5th priority**

A modern, and corresponding to the future labour market demands, education system that facilitates the transformation of national economy and development of competences required for the implementation of SSS priorities, enterprising spirit and creativity at all levels of education.

- **6th priority**

Advanced knowledge base (basic science and scientific infrastructure) and human capital in areas of knowledge, in which Latvia has a comparative advantage and which are important in the process of transformation of the national economy: in areas of knowledge related to the smart specialisation areas (1) knowledge-intensive bio-economy, (2) biomedicine, medical technologies, bio-pharmacy and biotechnologies, (3) smart materials, technologies and engineering systems, (4) smart energetics, and (5) ICT, as well as key technologies identified by the EC (nanotechnologies, micro-and nano-electronics, photonics, advanced materials and manufacturing systems, biotechnologies).

- **7th priority**

Studying of the existing resources of territories and specialisation, proposing the prospective economic development opportunities and directions int. al. leading and prospective business directions in the municipal territories.

[13] http://tap.mk.gov.lv/mk/tap/?pid=40291636.

Spheres of smart specialisations

1) Knowledge-intensive bio-economy
2) Biomedicine, medical technologies, bio-pharmacy and biotechnologies
3) Smart materials, technology and engineering systems
4) Smart energetics
5) Information and communication technologies

In the case of ViA, it must be accented that the above mentioned seventh priority of growth is *"studying of the existing resources of territories and specialisation, proposing the prospective economic development opportunities and directions int. al. leading and prospective business directions in the municipal territories".* It means that also the national level planning documents actualise the need of respecting specialisation in the regional level.

In the regional level, the strategic goals and spheres of smart specialisation, considering mostly the priorities of national level, have been defined by the Vidzeme Planning Region (VPR). Defining the strategic goals, VPR has followed the principle: **raise productivity** in the existing traditional industries, as well as to diversify the regional spheres of entrepreneurship by developing **new branches of knowledge economy** (see Table 1).

Table 1
Strategic goals of Vidzeme region and spheres of smart specialisation[14]

Strategic goals	Spheres of smart specialisation
Facilitate production of goods with greater added value (including the niche products) in the traditional industries of the region	Wood products of high added value Production of healthy food and drinks Recreation and sustainable tourism
Diversify the economics of the region, developing entrepreneurship in the spheres of present specialisation	Rehabilitation and health-care services Using biomass for chemical processing and energy Smart materials
Development of new forms of entrepreneurship in the branches of knowledge economy	Information technologies Creative industries Remote professional services

Developing the ViA Program, guidelines were regarded set by the regulations of the Cabinet Nr 729 (Regulations on the operational program 'Entrepreneurship and innovations' complement 2.1.1.3.3. sub-activity "Development of the Institutional Capacity of Scientific institutions")[15]. According to the criteria set in the regulations, it is envisaged to evaluate the research programs of the leading scientific institutions in Latvia, so they are current also for ViA. Guidelines in The Cabinet Regulations Nr 729 set the following sub-parts of research programs:

1) Description of medium-term (5 years) priority research directions;
2) Plan for participation in EU research and innovation basic program "Horizon2020" competitions and other support programs for research and innovation and in technology initiatives;
3) Plan for the increase in the number of publications;
4) Plan for improving knowledge and technologies management;
5) Plan for the development of research infrastructure.

[14] http://www.vidzeme.lv/lv/petijums_vidzemes_planosanas_regiona_viedas_specializacijas_iespejas.
[15] http://likumi.lv/ta/id/270790-noteikumi-par-darbibas-programmas-uznemejdarbiba-un-inovacijas-papildinajuma-2-1-1-3-3-apaksaktivitati-zinatnisko-instituciju

ViA Program has been developed regarding ViA specifics, the study directions being carried out at the moment, evaluating the previous experience and the future development prospects. The Program has been developed along with the ViA strategy of 2016-2020, involving the university staff and students, attracting external experts – ViA Counselors Convention, entrepreneurs, Valmiera municipality and Vidzeme Planning Region.

2.2.Description of the research development strategy and program

ViA research and research strategy are the reaction to the new challenges created by the transition to knowledge society and globalisation. These aspects are equally important for all scientific and higher education institutions, irrespective of their location. This approach ensures the polycentric development declared in the state planning documents.

2.2.1. Goals of the research development strategy and program

ViA research long-term goal (2016-2025)
ViA research long-term goal is to create and adapt new technologies of next generation knowledge society.

The research goal has to be reached by employing interdisciplinary and cross disciplinary, social systems modelling, quantitative, qualitative and design methods of research. Next generation knowledge society technologies research involve application and creation of new, including global, information systems. They form the understanding in organisations about the development and obstacles in application conditions of various information systems (IS). They involve understanding and prognosis of state management system, understanding of business processes in the global network and modelling of new business methods and chains of value creation. They are tended to raising productivity and effective use of resources to create new working places, using the smart knowledge society technologies.

ViA research medium-term (2016-2020) goals and tasks
ViA research medium-term goal is to foster at national and Vidzeme regional level the development of smart specialisation spheres and increase of productivity, doing research in the directions of actual social and technological challenges. To reach this goal, the following tasks have been put forward:

- Continue establishing in the research environment of the program Horizon2020, considering the experience and results of the successfully finished FP7 projects;
- Form new smart development models of sustainable knowledge economics, society and technologies;
- Develop projects on e-society ecosystems and tools, based on the open data, open IT services and open innovation paradigms;
- Carry out research on business processes in the global network and the Internet of Things, as well as modelling of value creation chains;
- Carry out research on the issues of promoters, obstacles, threats and legal introduction of knowledge society technologies;
- Carry out research aimed at making the new technologies into socially and economically productive technologies, especially by using solutions of IT and the Internet of Things.

2.2.2. Evaluation of the previous period (2010-2015) research specialisation fields

During the previous period, research was mostly developed in the ViA established scientific institutes. Sociotechnical Systems Engineering Institute (SSII)[16] was founded in 2006, but Institute of Social, Economic and Humanities Research (HESPI)[17] in 2013. ViA became a scientific institution in July 2015.

The brightest success in research at ViA is connected with the active participation in research programs of EU 6th framework and 7th framework, and Horizon2020, successfully carried out by SSII:

- "Large Scale Choreographies for the Future Internet (IP)" (CHOReOS No. 257178 (2010-2013));
- "Future Policy Modelling (IP)" (FUPOL No. 287119 (2011-2014)).

The main results have been achieved in imitation modelling, virtual reality, future internet technologies.

HESPI has taken part in preparation of two highly valued projects of Horizon2020, which up to now have not been financed due to lack of means:

- "Community based model for transferring cultural heritage via tourism and education – Case Struve";
- "Teaming for Latvia" (TEALAT).

HESPI takes part in State research program "Economic transformation, smart growth, governance and the legal framework for the sustainable development of the state and society - new approaches to creation of sustainable knowledge society (EKOSOC_LV)" with the researchers of the institute being managers in two projects, and participants in three projects:

- "Trends of social and political transformation in Latvia in the post-crisis period";
- "Processes of cultural environment development, preserving the diversity of environment and urbanization in the context of balanced development in Latvia";
- Development of innovation and entrepreneurship in Latvia in accordance with the smart specialisation strategy";
- "Rural and regional development processes in Latvia and opportunities in the context of knowledge economy";
- "Influence of the changes in social awareness on the sustainable provision of ecosystem services".

Since 2006, SSII publishes collection of scientific articles ICTE in Regional Development. Procedia Computer Science. The collection included into the data basis of SCOPUS/Elsevier.

ViA in cooperation with North Vidzeme Biosphere Reserve have published three (in 2006, 2008, 2010) collections of articles with an international editorial board on sustainable development, including nature and social sciences.

ViA is also capable of working in other spheres, for example, carrying out voluminous projects of infrastructure development, which is proved by the accomplished in 2014 building of Engineering Sciences (ERDF project "Establishment of a Modern and Suitable for Handicapped People Complex for Priority Study Directions at Vidzeme University of Applied Sciences".

[16] http://www.socsimnet.com/
[17] http://www.va.lv/lv/lapa/par-hespi/

2.2.3. Vidzeme University of Applied Sciences medium-term (2016-2010) research directions and foundation for the choice

ViA is prioritary developing the following research directions:

- **Smart technologies and eco-buildings in the national economy**
- **Virtual reality technologies and visualisation**
- **E-learning management and technologies**
- **Socio-technical systems modelling technologies**
- **Sustainable national economy and knowledge society**
- **Communication ecosystem and technologies**

The choice of the research directions was made considering the priorities defined previously in the national and regional level medium-term planning documents, as well as ViA internal capacity (the results achieved during the previous period) and the study directions planned for 2016-2020 (see Tables 2., 3., 4., 5., 6., 7).

Smart technologies and eco-buildings in the national economy

Table 2

Correspondence with the state, regional and institutional priorities – scope of compliance	Grounding
Growth priorities in Latvia	Corresponds with the growth priorities 1, 2, 3, 4 and 7.
Spheres of smart specialisation in Latvia	Corresponds with the sphere Smart materials, technologies and engineering systems
Strategic goals of Vidzeme region	Corresponds with the strategic goals of Vidzeme region: • Facilitate production of goods with greater added value (including the niche products) in the traditional industries of the region • Diversify the economics of the region, developing entrepreneurship in the spheres of present specialisation • Development of new forms of entrepreneurship in the branches of knowledge economy
Spheres of smart specialisation in Vidzeme region	Corresponds with spheres of smart specialisation in Vidzeme region: • Wood products of high added value • Smart materials; • Information technologies
Study directions carried out at ViA	Corresponds with study directions carried out at ViA: • Information technologies; • Construction.

Virtual reality technologies and visualisation

Table 3

Correspondence with the state, regional and institutional priorities – scope of compliance	Grounding
Growth priorities in Latvia	Corresponds with the growth priorities 1, 2, 4, 5, 6, 7.
Spheres of smart specialisation in Latvia	Corresponds with the sphere Information and communication technologies
Strategic goals of Vidzeme region	Corresponds with the strategic goals of Vidzeme region: • Facilitate production of goods with greater added value (including the niche products) in the traditional industries of the region • Diversify the economics of the region, developing entrepreneurship in the spheres of present specialisation • Development of new forms of entrepreneurship in the branches of knowledge economy
Spheres of smart specialisation in Vidzeme region	Corresponds with spheres of smart specialisation in Vidzeme region: • Information technologies; • Creative industries; • Recreation and sustainable tourism; • Rehabilitation and health-care services
Study directions carried out at ViA	Corresponds with study directions carried out at ViA: • Information technologies; • Construction; • Tourism; • Communication and media.

E-learning management and technologies

Table 4

Correspondence with the state, regional and institutional priorities – scope of compliance	Grounding
Growth priorities in Latvia	Corresponds with the growth priorities 1, 2, 4, 5, 6, 7.
Spheres of smart specialisation in Latvia	Corresponds with the sphere Information and communication technologies
Strategic goals of Vidzeme region	Corresponds with the strategic goals of Vidzeme region: • Facilitate production of goods with greater added value (including the niche products) in the traditional industries of the region

	• Diversify the economics of the region, developing entrepreneurship in the spheres of present specialisation • Development of new forms of entrepreneurship in the branches of knowledge economy
Spheres of smart specialisation in Vidzeme region	Corresponds with spheres of smart specialisation in Vidzeme region: • Information technologies; • Creative industries; • Remote professional services; • Rehabilitation and health-care services.
Study directions carried out at ViA	Corresponds with study directions carried out at ViA: • Information technologies; • Construction; • Business administration; • Governance; • Tourism; • Communication and media.

Socio-technical systems modelling technologies

Table 5

Correspondence with the state, regional and institutional priorities – scope of compliance	Grounding
Growth priorities in Latvia	Corresponds with the growth priorities 1, 2, 3, 4, 5, 6, 7.
Spheres of smart specialisation in Latvia	Corresponds with the sphere Information and communication technologies
Strategic goals of Vidzeme region	Corresponds with the strategic goals of Vidzeme region: • Facilitate production of goods with greater added value (including the niche products) in the traditional industries of the region • Diversify the economics of the region, developing entrepreneurship in the spheres of present specialisation • Development of new forms of entrepreneurship in the branches of knowledge economy
Spheres of smart specialisation in Vidzeme region	Corresponds with spheres of smart specialisation in Vidzeme region: • Information technologies; • Remote professional services.
Study directions carried out at ViA	Corresponds with study directions carried out at ViA: • Information technologies; • Business administration; • Governance; • Tourism.

Sustainable national economy and knowledge society

Table 6

Correspondence with the state, regional and institutional priorities – scope of compliance	Grounding
Growth priorities in Latvia	Corresponds with the growth priorities 1, 2, 5, 6, 7
Spheres of smart specialisation in Latvia	Corresponds with the sphere Knowledge-intensive bio-economy
Strategic goals of Vidzeme region	Corresponds with the strategic goals of Vidzeme region: • Facilitate production of goods with greater added value (including the niche products) in the traditional industries of the region • Diversify the economics of the region, developing entrepreneurship in the spheres of present specialisation • Development of new forms of entrepreneurship in the branches of knowledge economy
Spheres of smart specialisation in Vidzeme region	Corresponds with spheres of smart specialisation in Vidzeme region: • Recreation and sustainable tourism; • Rehabilitation and health-care services; • Creative industries; • Remote professional services.
Study directions carried out at ViA	Corresponds with study directions carried out at ViA: • Information technologies; • Construction; • Business administration; • Governance; • Tourism.

Communication ecosystem and technologies

Table 7

Correspondence with the state, regional and institutional priorities – scope of compliance	Grounding
Growth priorities in Latvia	Corresponds with the growth priorities 1, 2, 5, 6, 7
Spheres of smart specialisation in Latvia	Corresponds with the sphere Information and communication technologies
Strategic goals of Vidzeme region	Corresponds with the strategic goals of Vidzeme region: • Facilitate production of goods with greater added value (including the niche products) in the traditional industries of the region

	• Diversify the economics of the region, developing entrepreneurship in the spheres of present specialisation • Development of new forms of entrepreneurship in the branches of knowledge economy
Spheres of smart specialisation in Vidzeme region	Corresponds with spheres of smart specialisation in Vidzeme region: • Information technologies; • Rehabilitation and health-care services; • Recreation and sustainable tourism; • Reative industries; • Remote professional services.
Study directions carried out at ViA	Corresponds with study directions carried out at ViA: • Information technologies; • Communication and media; • Governance; • Tourism.

2.2.4. Directions of action for reaching the medium-term goals

Science ecosystem and communication with the society

- Active communication with the state and private sector, society in general (including use of current public communication platform in the Internet environment), explain and ground the defined goals of research, tasks and directions, and also inform about the results of the research;
- Organise international and national level scientific seminars and conferences;
- Maintain discussion on the interpretation of research and science in the university of knowledge society.

International, national and regional level research and research support project application preparation and project implementation

- Develop plan for participation in competition for European Union framework program for research and innovation Horizon2020 and other research and innovation support programs and technology initiatives;
- Prepare new Horizon2020 project applications;
- Participate in preparation of new ERA-NET project on the research of migration processes, applying methods of imitation modelling and Big Data research methods;
- Prepare new project applications for Erasmus+, Nordplus to ensure scientists' mobility;
- Model joint projects and Living Lab with European and world higher schools, municipalities and enterprises;
- Prepare project applications for Latvia-Estonia program;
- Create and implement Vidzeme Life-long learning strategy;
- Develop joint project with the municipalities of Vidzeme;
- Continue developing the program of Valmiera city municipality grants.

Fostering increase in the number of international publications (publications in magazines, the citing index of which reaches at least 50 per cent of the average citing index for the branch)

- Support ViA SSII in further publishing of the magazine ICTE in Regional Development;
- Initiate creation of new inter-institutional scientific magazines;

- Motivating, results-based remuneration system, envisaging a considerably higher remuneration for the publications the citing index of which reaches at least 50% of the average citing index of the branch;
- Setting up a support mechanism for translations and article editing, providing respective funding for this activity in the structural units;
- Priority for getting involved with research projects and activities, where the scientific publications of the project are supposed to be published in high-quality scientific magazines, included in the Web of Science and Scopus data basis;
- Develop practice in writing joint publications, involving also employees of other institutions – cooperation partners – involved in research and agreeing to the cooperation partners' offer for writing joint publications.

Creating a support system for the existing and potential employees of ViA and structural units getting involved into research

- Divert ViA financing for reaching the medium-term goal and tasks of the Program;
- Development of motivating and performance based support system for the employees who get involved into research;
- Divert an essential part of the financing from higher education performance and scientific institutions' science basis to those structural units, due to activities of which this funding has been acquired;
- Support for participation in Horizon2020 information and project days;
- Organising at ViA courses on European science environment, European science policy, types of Horizon2020 programs and projects, project preparation;
- Initiation of new traditions – „Project breakfast" and „Research discussion afternoons", where society challenges, project ideas and research actualities are discussed, experience in international projects presented, as well as video materials prepared in the format of YouTube/MOOC.

Activities to foster twinning

- Cooperation and communication inside the organisation – regular meetings of the employees involved in the research in the framework of ViA research directions (at least once a month), and also the organisation as a whole (at least once a half-year), thus ensuring circulation of the current information. A factor fostering the internal cooperation are the above mentioned „Project breakfast" and „Research discussion afternoons";
- Cooperation with Latvian and foreign higher education and scientific institutions in the framework of existing cooperation contracts, and also identifying and developing cooperation with new partners;
- Involvement into the scientific activities of partnering institutions – participation in conferences, organising committees, editorial boards, project idea discussions, etc.
- Recognising regional cooperation partners' infrastructure and offering joint infrastructure development plans (with the aim of avoiding doubling infrastructure and equipment objects and their possible ineffective use);
- Maintaining and activating cooperation with the state and private sector (including participation in various organisations of entrepreneurs), organising regular meetings (using also Study direction boards) to get actual information about the current problems in the state sector and spheres of entrepreneurship, and also to inform the representatives of society about the scientific actualities and trends;
- Informing the representatives of the private sector and state institutions about implementation opportunities of various joint projects, involvement into implementation of various projects;

- Cooperation with secondary education establishments, participation in pupils' thematic groups to foster the youth's interest and understanding about research already before entering the university.

Enhancement of science and technology management to foster commercialisation of the research results and transfer to national economy

- Involvement into various levels (international, national and regional) of applied research projects;
- Offer of ViA infrastructure to the cooperation partners;
- Offer of ViA intellectual potential to the cooperation partners;
- Bringing the university research environment and the entrepreneurial environment closer to each other and formation of a united ecosystem, including offering the entrepreneurs remote jobs at the university;
- Participation in pre-incubation and business incubation activities, including cooperation partners;
- Involvement of the university students and graduates in developing enterprises with a potential of creating a high added value, including formation and mentoring of students' and graduates' interdisciplinary groups.

Development of research infrastructure, ensuring fostering implementation of research goals and priorities

- Ensuring access to international data basis of scientific literature;
- Recognising regional cooperation partners' infrastructure and offering joint infrastructure development plans (with the aim of avoiding doubling infrastructure and equipment objects and their possible ineffective use);
- Balance and meaningful development of the infrastructure necessary for the study process and research;
- Purposeful diversion of a part of science basis funding and other means acquired from scientific activities to renovation of infrastructure;
- Participation in project competitions for infrastructure development;
- Workout of infrastructure development plan, balanced with the priority research directions (the desirable development plan is to be worked out with the view on the respective research direction and then a joint ViA infrastructure development plan is to be worked out).

3. Plan for the development of resources and results management system and the results management system.[18]

Resources and results management system is harmonised with the university internal quality system. The Improvement plan is determined by the indicators and descriptions of processes, made according to the strategic priorities and horizontal directions of activity. Performance indicators are balanced with the national and international indicators, they determine the reference points, what is the performance in implementing the set goals and make it possible to evaluate the performance of the university in the context with other Latvian and international higher schools.

External monitoring of strategy implementation is done by:

Counsellors Convention

Study direction Boards with experts of industries;

Internal monitoring of strategy implementation is done by:

Constituent Assembly

[18] Performance indicators are being adjusted and will be added to ViA Strategy 2016-2020 until April 30, 2016.

Senate;
Strategic Advisory Board.