Digital Innovation Hubs & Smart Specialisation

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LITHUANIA:

ADVANCED MANUFACTURING DIGITAL INNOVATION HUB

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European Commission

Regional context, RIS3 and DIH connection to the regional innovation ecosystem

I. In its active preparation for the EU structural assistance period 2014-2020, in 2012 Lithuania began the process of smart specialisation. The need for EU Member States to formulate smart specialisation strategies was expressed by the European Commission with a view to ensuring more efficient use of funds and resources intended for the development of the research, experimental development (R&D) and innovation system.

II. The Lithuanian DIH took active part in forming the S3 strategy. Experts, academia and business representatives, participated in:

- Working group activities;
- Forming the S3 strategy, that is made up of 4 parts;
- Setting the roadmap and priorities;
- Preparing the strategy plan;
- Created a study ANALYSIS OF THE FUTURE PRODUCTION BUSINESS ENVIRONMENT, describing possible directions of 4 technologies;
- Prepared an R&D&I report and Lithuanian business experience.

The beginning of DIH development reaches 2009, formation of:

- **VIPKC** – virtual database of the R&D service providers and the engineering industry companies;
- **INTECHCENTRAS** – smart manufacturing competence center.

Implementation of the „Intelect" and „Innocluster" projects was the background of fieldlabs and subcontracting services:

- **Fieldlabs** emerged;
- **Subcontracting** services;
- **Consulting** services.

As a part of the European DIH network, LT DIH works as an accelerator to improve technological basis of Lithuanian and region SMEs, prompt the transition of a higher added value products, remain in the European chain of higher value added products.

Relation RIS3 – DIH

How does the DIH influence the RIS3 strategy; how does the RIS3 influence the DIH; how does the DIH implement RIS3 activities?

The strategic objective of **smart specialisation** is to increase, through R&D and innovation (R&D&I) solutions, the impact of high added value, knowledge and high-skilled labour intensive economic activities on the country's GDP and structural economic changes.

Action plans for priorities of the priority area "New production processes, materials and technologies":

- Photonic and laser technologies;
- Functional materials and coatings;
- Structural and composite materials;
- Flexible technological systems for product creation and production.

Following the S3 strategy, companies are recommended to specialize in certain priority areas that are at the same time the **key areas at DIH**. Therefore companies submit applications according to DIH recommended directions. DIH and RIS3 are directly and closely interacting.

DIH services:

DIH consulting services

FieldLab Contracted Services

Digitization technological focus

Priority directions:

Formation of priorities for the development of scientific research & technologies; Creation and implementation of innovative high value-added products & processes; Development of new business models; Quality assurance for all levels of professional training according to the needs of industry; Development of social dialogue as a tool to enhance business competitiveness.

The feedback to the S3 is ongoing, LINPRA, the DIH coordinator

- Prepared the S3 strategy guide to implementation of the priority "Flexible technological systems of product creation and manufacturing" (2012-2013).
- Encourages companies to submit applications to structural funding programs, dedicated to finance technological initiatives.
- Organizes continuous activities with member companies: consultations and support is provided to prepare R & D projects according the guide to the same priority.

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Bottom UP Ecosystem

SMEs – field labs

Networked, cluster organizations

Universities
R & T organization
Incubator/accelerator
Start-up company

Partners / Supporting organisations:
Large enterprises – partners

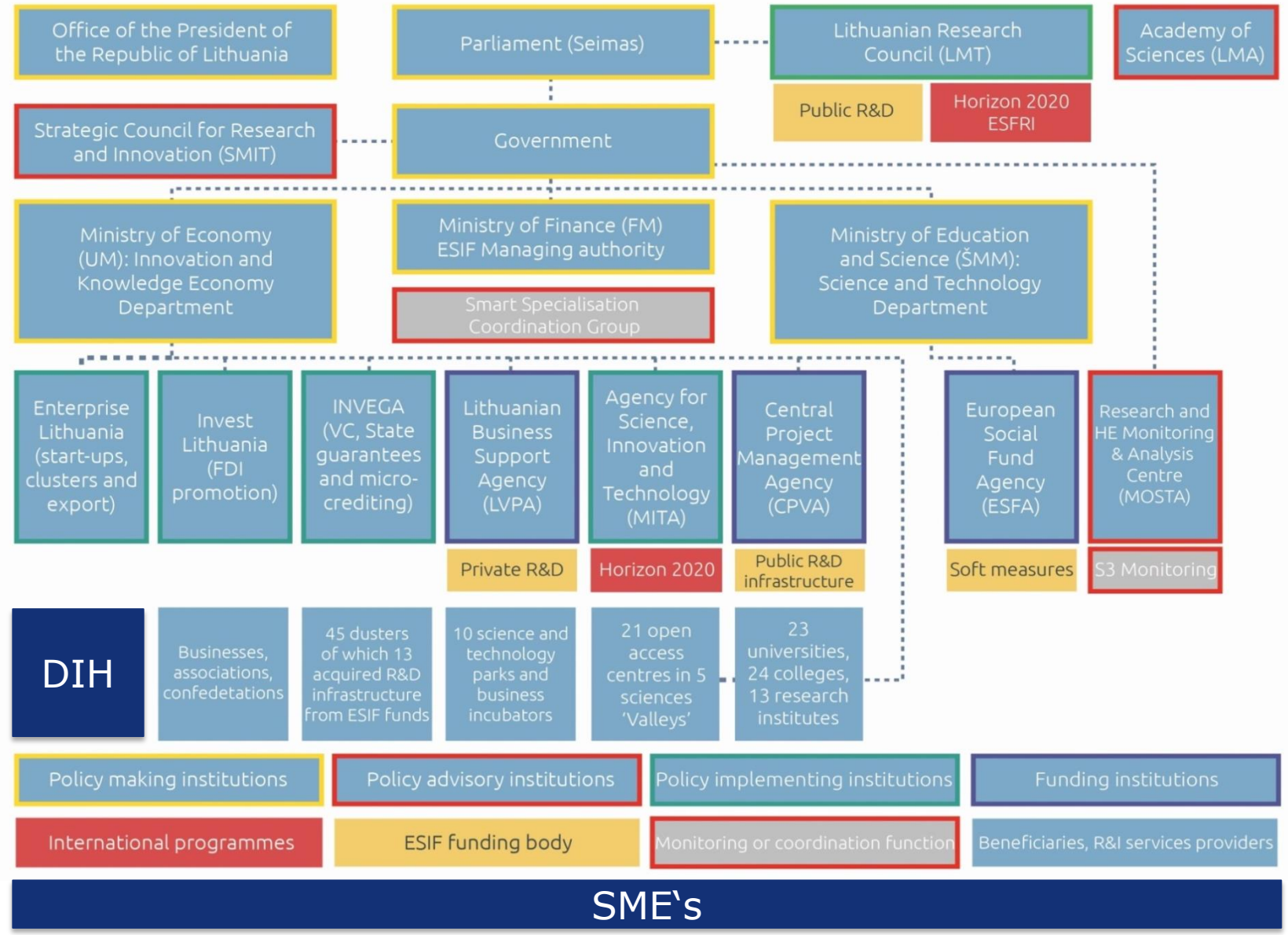
Industry associations

Economic development agencies

VET Educational institutions

National /Regional governments

Lithuanian R&I system (governance and funding)



Services, Funding, Challanges

DIH consulting services:

Search for innovations; Establishing the company's digital level and providing recommendations; Preparation of company's digital strategic plans and necessary investments; Training and consulting in the field of digitization and innovative technologies; Mediation between science and business and business and business; Studies.

FieldLab Contracted Services:

Practical Digitization; Technology design / installation services; Demonstration, testing, production of prototype small quantities, including 3D printing methods; Testing of new functional materials for the engineering industry; Identification and harmonization of related and interactive activities; Collection and processing of data for statistical analysis of characteristics; Quality control of products, validation of produced batches, characterization; Safety tests and assessment of environmental and health impacts; the preparation of the technical documentation required for CE marking under the Machinery Directive etc.

Digitization technological focus:

Sensors, actuators, MEMS, NEMS, RF; Photonics, electronic and optical functional materials; Robotics and autonomous systems; Internet of Things (e.g. connected devices, sensors and actuators networks); Data mining, big data, database management; Simulation and modelling; Software as a service and service architectures; Cloud computing; Additive manufacturing (3D printing); Laser based manufacturing; ICT management, logistics and business systems.

Funding:

European Social Fund, National basic research funding, Private partners‘ funding and resources, Memberships fee, Horizon 2020, service fee.

- DIH Service providers has a real return on investment in line with the Business Model;
- The DIH acts on a commercial basis and seeks to be independent of project financing.

Challanges:

- **Consolidated projects**. How to consolidate the community and invest in common projects while community members are interested in acting in their own favored areas and are not fully aware of the value of common projects. The challange – learning to maintain company‘s independence while working together.
- Developing of **soft competences** for DIH members.
- The creation of an enterprise self-assessment tool that would allow the enterprise to prepare for digitization – how to become a FoF company. The challenge – a lack of a **common strategy** for large volumes of different specialization companies.
- One-stop-shop principle and its management. **Selling services** to potential customers, maturing their need of services.

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Good practices in the RIS3/DIH work

The DIH can demonstrate several "Success stories".

- In a project finished 2015, Baltec CNC Technologies44, De Futuro and Audimas have developed a "Smart Sensitive Sensor System for Human Health Monitoring {iMON)".
- In December 2016, UAB Baltec CNC Technologies and their partners started 4CHANGE, the "Industry 4.0 CHAlleNGE: Empowering Metalworkers For Smart Factories Of The Future project under the Erasmus program
- InTechCentras45, being the official representative of the German Innovation Center Industry 4.0 (Germany Innovation Center for Industry 4.0) in Lithuania, provides a three-level training course with a final exam assessment that results in a "Industry 4.0 Driver License".

LINPRA, coordinator of the Lithuanian DIH, initiated and was one of the authors of S3 development related studies, carried out and published online:

- Improvement of accessibility of Lithuanian R & D support centers for engineering industries
- Plan of smart specialization strategies for engineering industries
- Lithuanian enterprises in international R & D programs – assessment of participation
- R & D network: experience and opportunities of international projects
- Guide to implementation of the priority "Flexible technological systems of product creation and manufacturing"
- Analysis of business environment for future manufacturing
- Lithuanian training institutions – possibilities to ensure the development of engineering industry competitiveness

http://www.manufuture.lt/lt/studijos

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PAŽANGIOS GAMYBOS TECHNOLOGIJŲ CENTRAS

Coordinator

The Engineering Industries Association of Lithuania LINPRA

www.linpra.lt

www.intechcentras.lt

www.manufuture.lt/en/vipkc

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*** Website to be launched soon:**

http://dih.linpra.lt/

Organizational form: Networked organization, without formal structure, bottom up

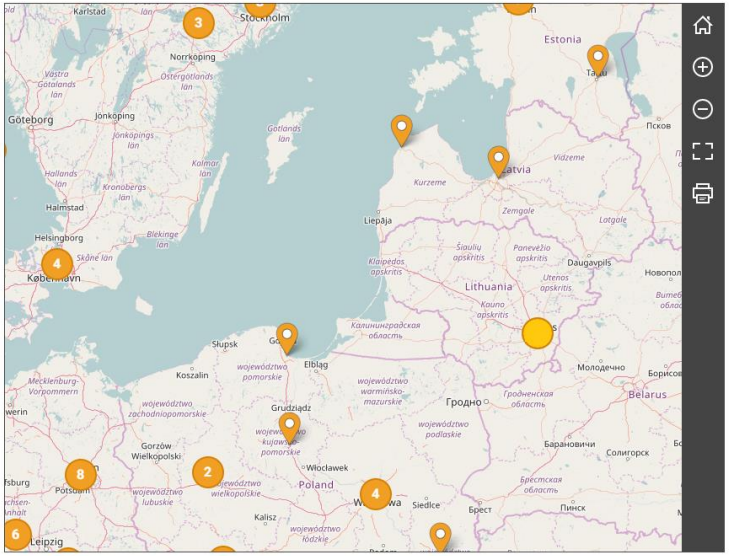
Turnover: 250.000-500.000

Number of employees: 9

Evolutionary State: Fully operational

Geographical Scope: National

Digital Innovation Hubs



http://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool

Vision:

The driving force of Lithuanian ecosystem – a reliable and competitive partner in the whole European network of digital innovation hubs.

Mission:

By integration of Lithuanian ecosystem participants, in usage of digital technologies, to increase the competitiveness of Lithuanian enterprises.