

HIGHER EDUCATION FOR SMART SPECIALISATION

The objective of the [Higher Education and Smart Specialisation \(HESS\) project](#) is to analyse how HEIs can be better integrated into S3 policy mixes and how the European Structural and Investment Funds can be more effectively spent to achieve S3 objectives. The project also aims to explore how institutional capacity in Europe's countries can be built by strengthening the role of HEIs within the 'quadruple helix' of government, academia, business and civil society.

The HESS project is managed in partnership by the Joint Research Centre and the Directorate General for Education, Youth, Sports and Culture of the European Commission.

HESS Case study: Lithuania

The Smart Specialisation Strategy in Lithuania has constituted an important framework to coordinate R&I policies and investments with a significant improvement from past experiences, creating a space for a participatory process of innovation stakeholders. The HEIs are actively participating in the S3 process, with a good correlation of the S3 selected priority areas and the higher education research capacities, but with no significant changes in the internal decision-making. The higher education system presents an unbalanced funding model, with most incomes devoted to education activities rather than research and innovation.

Selected research questions:

1. How are HEIs contributing to S3 via implementation of skills and human capital mission?
2. Which issues are hindering the retention and attraction of highly skilled talent?
3. How and to what extent are HEIs rebalancing the activities aimed at the three missions to support implementation of S3?
4. Which are the opportunities and strengths of the innovation system to be promoted?

Case study outcomes:

Attraction and retention of talent: attracting and retaining talented academic staff remains challenging for HEIs, mainly due to bureaucratic constraints.

- Measures would be needed for the level of wages for academic staff be closer to the EU average and careers in research are attractive to top talents, developing long-term investment in attracting top talents from abroad in Government and HEIs agreement.
- The Government in coordination with key HEIs and business stakeholders should develop and implement a comprehensive strategy for STEM/Engineering education covering all stages of education.
- Introducing entrepreneurship, innovation management or interdisciplinary research skills within the existing range of courses that contribute to S3 implementation.

Innovation system strengthening: a challenge remains to decide the scope of S3 priorities (concentration vs balanced development R&I fields), the lack of significant impact of S3 in HEIs decision making or the coordination between multiple S3 funding instruments.

- There is a need of a renewed long term 'contract' between the Government and HEIs regarding the future HE education, research priorities and resources. This should include also strengthening the position of colleges in the research system.
- Working hand in hand on capacity building, talent generation and attraction to research infrastructures, to ensure the impact of the ERDF investments on R&I infrastructures.
- Current ERDF funding devoted to generating research infrastructures can have a tremendous impact in boosting R&I capacities in Lithuania if it is well combined with measures for the use of these infrastructures in joint research-business projects.

Balancing HE education, research and innovation activities: the existing balance between studies and research is not optimal.

- The reallocation of resources from HEI education towards research activities, which has been historically underfunded, should be considered.
- Stronger regularity and consistent funding for research is essential for building research teams, development and implementation of ambitious research agendas.
- Invest in building HEIs knowledge transfer activities, with adequate resources and staff, specially through activities to develop the R&I absorption capacity by business.

HESS Case study: The Northern Netherlands

The Northern Netherlands has a strong innovation ecosystem around a number of established sectors where there are robust relationships between HEIs and companies with innovative infrastructure. There is a long tradition of higher education in the Northern Netherlands, with strong presence of Universities of Applied Sciences and RUG University of Groningen.

In the long-standing culture of collaboration of the regional innovation ecosystem, the key regional economic development issue remains the fact that it is a relatively sparse economic environment, which challenges the regional innovation governance. The case study was launched when the Northern Netherlands started the preparations for a new RIS3, and it will help providing external reflections on the process as well as helping to stimulate the input of HEIs into the RIS3 design.

Selected research questions:

1. How to reinforce the **R&I ecosystem governance** and stakeholders' co-leadership of S3, supported by HEIs capacities and strategic role in building regional networks?
2. How to **strengthen the SMEs engagement in S3** and which role can HEI play in connecting SME's to collaborative innovation processes?
3. How the **attraction of highly skilled talent** to the region can be integrated in the S3?

Case study outcomes:

1. **Connecting SMEs to S3:** a key challenge is improving the connectedness of SMEs into regional innovation networks and activities.
 - It requires addressing the management of the "innovation scalator" by which individual connections with SMEs then grow, become networks and eventually may evolve into key regional strengths.
 - To develop a stronger common agenda between provinces, cities and municipalities and the lead sectors, with HEIs setting out a stronger regional platform on what they can offer collectively to develop a denser and more dynamic regional innovation system.
 - Raising the innovation management skills of potentially innovative SMEs is critical and this can be supported by regional teachers and researchers. Student placements have an important role to play in this process, helping these firms to access HEI knowledge.
2. **Human capital:** The issue of "brain drain" was something that was widely identified as a problem for the region.
 - Develop a clear human capital vision within the OP, funding those activities that build absorption capacity in regional organisations and support appropriate skills development.
 - Develop a single long-term agenda for regional innovation foregrounding Human Capital in the smart specialisation strategy.
 - HEIs should identify internally and collectively what capacities they have to contribute to regional innovation skills and align that with the RIS3 and OP.
3. **Governance & Innovation Ecosystem:** the main challenges is the fragmentation within innovation policy in the Northern Netherlands.
 - Address innovation policy overgrowth, through strong political consensus to create a dense innovation ecosystem, provide strategic directions to the strategy and stronger focus on implementation.
 - Emphasis on bringing emerging actors into innovation policy processes, using continuous discovery to avoid lock-in effect in historically innovative sectors.
 - Create a strong unified leadership voice for HE in the NNL is absolutely necessary to create meaningful political leadership and avoid replicating local fiefdoms
 - Ensure HEIs innovation networks and infrastructures remain open to newcomers, providing innovation services for new and potential innovators in the region.