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# **Engaging with the external ecosystem and the regional business sector**

**A comparative case study for HEInnovate**

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## Summary

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This comparative case study focuses on interventions undertaken by two HEIs – Grenoble Institute of Technology and Luleå University of Technology – to address the goal of connecting with the ecosystem and creating effective collaborations with the regional business sector.

To connect themselves with their external ecosystem and the regional business sector, both HEIs offer companies and organisations various opportunities in research and education. Both HEIs have made efforts to provide competences and resources specifically geared towards the regional context. They make efforts to understand the needs and challenges of their prospective partners and conduct networking and outreach activities. To enable these activities, both HEIs invest time and resources. There is a high-level commitment at upper-management level which is reinforced through structural mechanisms that support the HEIs' engagement with the regional business sector, such as services and functions dedicated to facilitating industry collaborations.

As a result of these efforts, both HEIs are known for their strong ties and numerous collaborations and partnerships with industries. Their strong connections with the business sector have increased the societal relevance and innovativeness of their research, facilitated technology transfer and knowledge uptake, and improved the relevance of their education portfolio as well as employment pathways for their students.

# Table of Contents

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1	Introduction	1
2	Analytical framework	1
3	The individual cases	2
3.1	Grenoble Institute of Technology	2
3.2	Luleå University of Technology	6
4	Analysis	9
4.1	The process	9
4.2	Influencing factors	9
4.3	Supporting mechanisms	10
4.4	Context	11
5	Conclusions and lessons learned	11
	Appendix A Sources and contacts	13
A.1.	Sources	13
A.2.	Contacts	15



## 1 Introduction

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The classic role of teaching, research and third mission has widened considerably with Higher Education Institutions (HEIs) now responding much more broadly to the social and economic needs of society. For example, there has been an increased interest in the role of HEIs as drivers of regional development, economic growth and social change in recent years.<sup>1</sup> HEIs can function as a hub for local and regional development – a space where stakeholders can come together and tackle many of the challenges they face, forming new modes of engagement and new configurations.

In considering the changing role of HEIs, it is essential for HEIs to be adaptable, innovative and entrepreneurial across their activities and in their mode of operation. An entrepreneurial and innovative HEI proactively connects with its ecosystem to deliver social, cultural and economic benefits. The capacity of an HEI to connect with its ecosystem can help the advancement of teaching and research and transform the HEI into an important actor in regional development and territorial cohesion.<sup>2</sup>

This comparative case study for the HEInnovate initiative focuses on interventions undertaken by two HEIs to address the goal of connecting with the ecosystem and creating effective collaboration with the regional business sector. The compared cases are Grenoble Institute of Technology (Grenoble INP – UGA) and Luleå University of Technology (LTU). For each we have used information from public sources (e.g., websites, strategy documents), complementing this with information from communications and interviews with representatives of the HEIs.

## 2 Analytical framework

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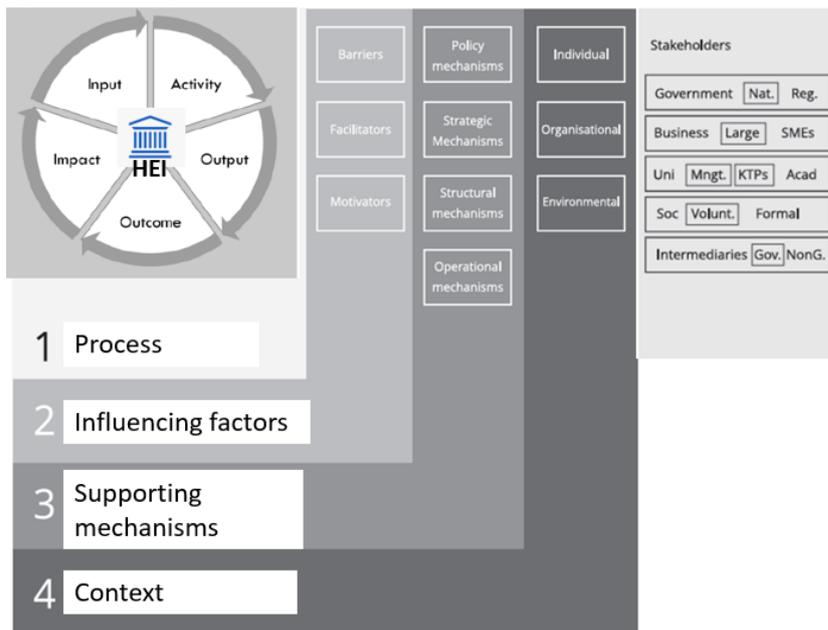
For this comparative study we apply an analytical framework developed by Davey et al. in 2018 (see Figure 1). The framework includes the various levels, factors, and challenges around implementing change towards a more entrepreneurial and innovative HEI.

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<sup>1</sup> Mabel Sánchez-Barrioluengoa, Paul Benneworth (2019), Is the entrepreneurial university also regionally engaged? Analysing the influence of university's structural configuration on third mission performance, *Technological Forecasting and Social Change*, Volume 141, April 2019, Pages 206-218

<sup>2</sup> HEInnovate, Entrepreneurial Ecosystem and Networks: <https://www.heinnovate.eu/en> [accessed 16-01-2024]

Figure 1 Analytical Framework



Source: European Commission, Directorate-General for Education, Youth, Sport and Culture, Meerman, A., Galan Muros, V., Davey, T. et al., The state of university-business cooperation in Europe – Final report, Publications Office, 2018, <https://data.europa.eu/doi/10.2766/676478>

Central to the analytical framework is the process dimension, which distinguishes between inputs, activities, outputs, outcomes, and impact. The process can be regarded as a cycle because often its actual outcome and impact will lead to further action in the HEI. The process is embedded in three further dimensions or layers.

The second layer of influencing factors signifies the immediate environment in which the process takes place. At this level, various barriers, facilitators, and motivators influence the process in one or other direction. The third level of supporting mechanisms relates to the HEI's enabling environment that includes the policies, strategies and other structural and/or operational mechanisms that frame rather than directly influence the process. Finally, the fourth dimension stands for the wider context in which the process takes place. It includes factors that are not under the HEI's direct control, such as the individual characteristics and preferences of the actors involved or circumstances in the socio-economic environment of the HEI.

### 3 The individual cases

#### 3.1 Grenoble Institute of Technology

The Grenoble Institute of Technology (Grenoble INP – UGA) is the largest French Institute in engineering and management. It was founded in 1900 in the Auvergne-Rhône-Alpes region of southeastern France. As of 1 January 2020, it is part of Université Grenoble Alpes (UGA) and is now composed of eight schools.

The city of Grenoble is considered a major higher education, research and innovation centre in France, with a long-standing tradition of partnerships between research, higher education,



and industry.<sup>3</sup> It is known as the birthplace of hydroelectricity and microelectronics in France, and high-tech industries have a significant presence.<sup>4</sup> Grenoble INP – UGA has taken advantage of the city's long-standing tradition of partnerships between research, higher education, and industry and embedded itself into the city's research and innovation ecosystem, which consists of several renowned research centres and institutes, as well as industrial research and innovation clusters and networks.<sup>5</sup> Research at Grenoble INP – UGA is conducted at the laboratories, which are operated jointly with partner institutions within the Grenoble-Alps University community.<sup>6</sup>

Grenoble INP – UGA has a long-standing tradition of maintaining strong ties with relevant industries, and currently has about 370 partner companies.<sup>7</sup> Business representatives are also involved in the strategic decisions of Grenoble INP – UGA by participating in the Board of Directors, which includes nine company representatives, as well as within its School Councils.<sup>8</sup> The Scientific Board also includes representatives from the industrial sector.<sup>9</sup>

According to Grenoble INP – UGA's strategic development plan, ambition is to contribute to building a sustainable world in which engineers, managers and researchers act together to initiate transitions. The strategic development plan calls for the promotion of partnership research and technology transfer activities and emphasises the development of initiatives to serve companies.<sup>10</sup> The institute's close ties with business and professional sectors also enables it to anticipate new needs in terms of skills and continuously adapt its offer for continuing education.<sup>11</sup>

Grenoble INP – UGA supports its partner companies in the development of their research and development (R&D) activity through various opportunities. In addition to collaborative research projects, Grenoble INP – UGA owns state-of-the-art facilities distributed across various research laboratories, as well as some major experimental facilities, that are available to businesses. Some technology platforms may also be accessible to companies.<sup>12</sup> In addition, the Professional Training Department of Grenoble INP – UGA provides life-long learning

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<sup>3</sup> GIANT Innovation Campus, Mission and Strategic Vision: <https://www.giant-grenoble.org/en/mission-and-strategic-vision/> [accessed 16-01-2024]

<sup>4</sup> Invest in Grenoble Alps, Our Business Sectors: <https://www.investingrenoblealpes.com/en/why-grenoble/our-economy/> [accessed 16-01-2024]

<sup>5</sup> Campus France, Study in France – Grenoble INP. Available: [https://ressources.campusfrance.org/pratique/etablisements/en/ing\\_inp\\_grenoble\\_en.pdf](https://ressources.campusfrance.org/pratique/etablisements/en/ing_inp_grenoble_en.pdf) [accessed 16-01-2024]

<sup>6</sup> Grenoble INP – UGA, Laboratories & structures of research: <https://www.grenoble-inp.fr/en/research/laboratories> [accessed 16-01-2024]

<sup>7</sup> Grenoble INP – UGA, Bienvenue à Grenoble INP – UGA Établissement public d'enseignement et de recherche: <https://www.grenoble-inp.fr/> [accessed 16-01-2024]

<sup>8</sup> Grenoble INP – UGA, La formation avec l'entreprise, pour l'entreprise et dans l'entreprise: <https://www.grenoble-inp.fr/fr/recherche-valorisation/la-formation-avec-l-entreprise-pour-l-entreprise-et-dans-l-entreprise> [accessed 16-01-2024]

<sup>9</sup> République française, Décret n° 2007-317 du 8 mars 2007 relatif à l'Institut polytechnique de Grenoble. Available: <https://www.legifrance.gouv.fr/loda/id/JORFTEXT00000246773> [accessed 16-01-2024]

<sup>10</sup> Grenoble INP – UGA, Plan de développement stratégique Grenoble INP - UGA Cap 2030 : Engager les transitions et contribuer à bâtir un monde durable, 2021

<sup>11</sup> Grenoble INP – UGA, Grenoble INP - UGA, springboard to the future: <https://www.grenoble-inp.fr/en/about/grenoble-inp-springboard-to-the-future> [accessed 16-01-2024]

<sup>12</sup> Grenoble INP – UGA, Access to facilities: resources for your technological development: <https://www.grenoble-inp.fr/en/companies/access-to-facilities> [accessed 16-01-2024]



opportunities through competence-enhancing training courses as well as the option to tailor courses and training programmes to an individual company's unique needs.<sup>13</sup>

Grenoble INP – UGA also offers companies the opportunity to hire student interns, doctoral students, or post-doctoral students. During an internship, the student works at a company for a given time, gaining valuable work experience and applying knowledge learned in the classroom to real-world situations. These internships contribute to successful career placement after graduation.<sup>14</sup> Through the CIFRE (Convention Industrielle de Formation par la REcherche) scheme, the French Government contributes to the financing of the salary of a doctoral student hired by a company, but supervised by an academic laboratory, to work on a business problem. For the company, it is a way to access knowledge and scientific and technical skills. For the laboratory, it is an opportunity for real application and validation of finalised research.<sup>15</sup>

There are several types of agreements and contracts for business collaborations. A **Collaborative Research Partnership Contract** specifies a shared-cost scientific programme or project that is focused on a single project and targeted at specific research in a specific laboratory. The contract provides a framework for research carried out over periods ranging from six months with an end-of-study internship, one year with the hiring of a post-doctoral student or three years with a thesis supervision.<sup>16</sup>

A **Framework Agreement**, on the other hand, is intended to provide a framework for joint research between Grenoble INP – UGA and the partners. Thus, it covers future collaborations (thesis supervision, specific research, services, etc.) between all of Grenoble INP – UGA laboratories and the partner on various themes. A Framework Agreement is very often drawn up with a large group. The agreement aims to enable long-term relationships, on average over four to five years.<sup>17</sup> A committee composed of representatives of both Grenoble INP – UGA and the partners is created to control the successful completion of the agreement and to define the collaboration's general orientation. Each specific agreement then specifies the scientific managers responsible for monitoring the agreement.<sup>18</sup> A Framework Agreement is not intended to define a specific research programme or project or the associated financial and human resources from the outset, instead, it only contains general conditions for collaboration. Specific research programmes or projects and the associated financial and human resources are set up on a case-by-case basis by the partners through specific contracts. However, the Framework Agreement facilitates the negotiations of these future joint research programmes.<sup>19</sup>

A **Joint Laboratory** is a collaboration between a research laboratory, with Grenoble INP – UGA as a supervisor, possibly other public laboratories outside Grenoble INP – UGA, and one or more private partners. A Joint Laboratory is a large-scale public/private research partnership with a significant human and financial investment. For example, a Joint Laboratory may involve the purchase of a large piece of equipment, or funding from an industrial partner to hire several PhD students or post-doctoral students. In a Joint Laboratory, the public and private partners

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<sup>13</sup> Grenoble INP – UGA, Bénéficiez d'un accompagnement personnalisé: <https://formation-pro.grenoble-inp.fr/qui-sommes-nous> [accessed 16-01-2024]

<sup>14</sup> Grenoble INP – UGA, Recruit our Talents!: <https://www.grenoble-inp.fr/en/companies/internships-and-jobs> [accessed 16-01-2024]

<sup>15</sup> Grenoble INP – UGA, CIFRE: <https://www.grenoble-inp.fr/en/research/cifre> [accessed 16-01-2024]

<sup>16</sup> Grenoble INP – UGA, Just what is a joint laboratory?: <https://www.grenoble-inp.fr/en/research/just-what-is-a-joint-laboratory> [accessed 16-01-2024]

<sup>17</sup> Ibid

<sup>18</sup> Ibid

<sup>19</sup> Ibid



must commit financial and human resources to a predetermined research programme, which comprises several sub-projects.<sup>20</sup> A Joint Laboratory is usually set up between partners that have already collaborated before. This way, the partners know each other well and share common long-term goals. A Joint Laboratory goes beyond the classic research collaboration on a particular project or on a particular transfer of results. A Joint Laboratory, like a Framework Agreement, is intended to be a long-term commitment, approximately four to five years or more.<sup>21</sup> A Joint Laboratory, like a Collaborative Research Partnership Contract and a Framework Agreement, defines a common strategy for the exploitation and transfer of the results of the collaboration. The staff involved are clearly identified and they work in each party's premises. Each party can have access to the others' specific equipment that is necessary for carrying out the projects defined by the Joint Laboratory.<sup>22</sup>

To facilitate the implementation of collaborations and partnerships between Grenoble INP – UGA and the industry, the institute has several support mechanisms. The **Business Partnership Valorisation Service (S-VPE)** of Grenoble INP – UGA supports research staff and teachers in the development, negotiation and contractualisation of all types of research partnerships with companies. It supports in the detection and protection of valuable results, and their transfer to socio-economic and cultural actors or via the creation of start-ups. The S-VPE also serves students from the eight schools for the detection, protection and valorisation of the results of educational projects.<sup>23</sup> In addition, **INPG Entreprise SA** (IESA for INPG Entreprise SA), a private valorisation subsidiary of Grenoble INP – UGA, ensures technological transfer from research laboratories to industry.<sup>24</sup> Its core activities cover three complementary business segments: (1) consultancy and research contracts, (2) promotion of business applications stemming from research, and (3) support capital investment in high-tech start-up companies.<sup>25</sup> IESA helps companies identify the resource corresponding to their needs and can offer terms of use.<sup>26</sup> A forerunner in the Grenoble ecosystem for scientific and technological philanthropy, the **Grenoble INP Foundation** shares its experience and dynamism with industrial companies and individual donors alike, in order to build and develop ambitious, innovative projects. The **Grenoble INP – UGA Career Service**, on the other hand, connects companies to students and recent graduates. It also helps to build partnerships between companies and the schools and creates opportunities for partners to promote their companies and industries to students.<sup>27</sup>

Grenoble INP – UGA also has an established network called **IN'Partners** that brings together business leaders and directors of industrial groups with researchers, students and directors of

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<sup>20</sup> Ibid

<sup>21</sup> Ibid

<sup>22</sup> Ibid

<sup>23</sup> Grenoble INP – UGA, Service valorisation partenariats entreprises (SVP-E): <https://www.grenoble-inp.fr/fr/organisation/service-valorisation-partenariats-entreprises-svp-e#body> [accessed 16-01-2024]

<sup>24</sup> Grenoble INP – UGA, Collaborer en R&D avec Grenoble INP – UGA: <https://www.grenoble-inp.fr/fr/recherche-valorisation/collaborer-en-r-d> [accessed 16-01-2024]

<sup>25</sup> Grenoble INP – UGA, INPG Entreprise SA celebrates its 20th anniversary!: <https://entreprise.grenoble-inp.fr/inpg-entreprise-sa-celebrates-its-20th-anniversary> [accessed 16-01-2024]

<sup>26</sup> Grenoble INP – UGA, Access to facilities: resources for your technological development: <https://www.grenoble-inp.fr/en/companies/access-to-facilities> [accessed 16-01-2024]

<sup>27</sup> Grenoble INP – UGA, Recruit our Talents!: <https://www.grenoble-inp.fr/en/companies/internships-and-jobs> [accessed 16-01-2024]



the schools and research laboratories of Grenoble INP – UGA.<sup>28</sup> IN'Partners offers events focused on research and innovation and functions as a sort of think tank.

### 3.2 Luleå University of Technology

Luleå University of Technology (LTU) is a Public Research University established in 1971 in Norrbotten County, Sweden. Located in the Arctic region, it is Scandinavia's northernmost University of Technology. Norrbotten County is Sweden's largest as well as the second most sparsely populated county. The region is rich in natural resources such as hydroelectricity, timber, and minerals, and the industrial landscape is characterised by large industries in forestry, mining and hydropower.<sup>29</sup> As the region is considered the bedrock of Sweden's mining and mineral industry, LTU has established itself as Sweden's mining university, and its education and research portfolios are overall geared towards the industrial landscape of the region.

The University's strategic research base is in the technical area, although many research areas are multi- or interdisciplinary. The main part of the research is applied and takes place in close collaboration with industry. LTU has a long experience of working closely with the business sector, particularly those active in the regional economy, and has the highest share of business funding (of total external funding) of all HEIs in Sweden.<sup>30</sup> Business representatives are also represented in the Board of the University.<sup>31</sup>

Drawing on the University's location in the Arctic region, the vision of LTU is to create global societal benefits through innovative education and ground-breaking research results. To realise its vision, LTU focuses on six main strategies. One of these is to ensure quality, relevance and visibility in its education and research through stable and long-term collaborations. LTU aims to have mutually value-creating professional relationships and to be a highly sought-after partner in collaborations. The University's Strategic Plan (2020–2025)<sup>32</sup> emphasises how collaborations with external actors contribute to raising and problematising research questions, thus ensuring their relevance and enabling a future-oriented research agenda. It also gives the University input into educational aspects, which enables the creation of an educational portfolio that is relevant, attractive and visible.

LTU offers companies various opportunities for collaborating with the University. For example, it can support companies and organisations with a need for scientific expertise to solve a challenge or develop a new solution through so called commissioned research.<sup>33</sup> There is also the opportunity to hire an industrial doctoral student full-time or part-time. The assignment combines direct results for the company or organisation with the academic challenge the doctoral student needs for his/her dissertation.<sup>34</sup> In addition, the University has many testbeds,

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<sup>28</sup> Grenoble INP – UGA, IN'Partners - Le réseau des partenaires de Grenoble INP – UGA: <https://www.grenoble-inp.fr/fr/entreprises/in-partners> [accessed 16-01-2024]

<sup>29</sup> Norrbotten museum, Industrilandskap: <https://norbottensmuseum.se/kulturmiljoe/bebyggelse/industrilandskap.aspx> [accessed 15-01-2024]

<sup>30</sup> The Kamprad Family Foundation for Entrepreneurship, Research & Charity, Bakgrundsmaterial – NorrlandsNavet. Available in Swedish: <https://familjenkampradstiftelse.se/wp-content/uploads/2020/05/Bakgrundsmaterial-NorrlandsNavet.pdf> [accessed 15-11-2023]

<sup>31</sup> Luleå Tekniska Universitet, Organisation: <https://www.ltu.se/om-universitetet/organisation> [accessed 06-03-2024]

<sup>32</sup> Luleå Tekniska Universitet, Strategisk plan 2020–2025, Dnr 4869–2019. Available in Swedish: [https://www.ltu.se/download/18.4df8324618b6aa272daa91d/1698398520365/Universitetets%20strategiska%20plan%202020-2025\\_dnr%204869-2019.pdf](https://www.ltu.se/download/18.4df8324618b6aa272daa91d/1698398520365/Universitetets%20strategiska%20plan%202020-2025_dnr%204869-2019.pdf) [accessed 06-03-2024]

<sup>33</sup> Luleå Tekniska Universitet, Samverka med forskaren som expert: <https://www.ltu.se/samverkan/forskningssamverkan> [accessed 06-03-2024]

<sup>34</sup> Ibid



laboratories and demonstration environments that a company can use. LTU also provides innovation support for small and medium-sized enterprises (SMEs) as well as licensing and patent support.<sup>35</sup>

In education, LTU offers companies the opportunity to collaborate with students through thesis projects or student 'consulting' project courses. In both these types of collaborations, the company formulates an issue or a challenge that the student investigates. The projects are short-term (no more than 20 weeks) and require no compensation on behalf of the company.<sup>36</sup> In addition, LTU offers companies and organisations competence-enhancing training courses through LTU Professional Education. The courses are developed to meet the needs of the region's most important industries and professional roles, but there is also an option to tailor courses and training programmes to an individual company's unique needs.<sup>37</sup>

The **Collaboration and Innovation Office** under the Department of Communications and Collaboration is the designated support function for collaborations in research and innovation between the University and external parties. The purpose of the Collaboration and Innovation Office is to enable and support collaborations between LTU and the surrounding society.<sup>38</sup> It therefore functions as a gateway for companies and organisations that wish to collaborate or receive support from LTU in other ways. In addition, the **Career Centre** at LTU acts as a bridge between academia and industry. It supports students and recent graduates in their career choices and functions as a contact point for companies wanting to market their business and recruit students from LTU.<sup>39</sup> Furthermore, to strengthen their connections with the regional business sector, LTU has established relationships with the business units at the various municipalities in Norrbotten County. These business units then function as contact points between LTU and the business sector, in particular SMEs as they might be challenging for LTU to reach out to directly given the large size of the County.

LTU has several strategic industrial partners with which the university has had long-term and well-developed collaborations, and where there are opportunities for future collaboration as the partners have a shared commitment towards common interests and goals. To formalise and structure these relationships, LTU has entered into agreements with these partners, so called **Strategic Partnership** agreements. Through the agreements, the University and the collaborating party commit to working together in identifying future areas of collaboration and developing goals, strategies and concrete action plans and joint activities.<sup>40</sup> For each Strategic Partnership, the Vice-Chancellor appoints a partnership manager who has a good relationship with and knowledge of the strategic partner and all collaboration activities. The partnership manager maintains a continuing in-depth dialogue with the partner organisation regarding opportunities for joint initiatives to develop, strengthen and broaden the partnership.<sup>41</sup>

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<sup>35</sup> Ibid

<sup>36</sup> Luleå Tekniska Universitet, Samverka med studenten som resurs: <https://www.ltu.se/samverkan/studentsamverkan> [accessed 06-03-2024]

<sup>37</sup> Luleå Tekniska Universitet, LTU Professional Education – Become more: <https://www.ltu.se/samverkan/ltu-professional-education> [accessed 06-03-2024]

<sup>38</sup> Luleå Tekniska Universitet, Samverkans- och Innovationskontoret: <https://www.ltu.se/samverkan/samverkans-och-innovationskontoret> [accessed 06-03-2024]

<sup>39</sup> Luleå Tekniska Universitet, Karriär och framtid: <https://www.ltu.se/studentwebben/karriar-och-framtid> [accessed 06-03-2024]

<sup>40</sup> Luleå Tekniska Universitet, Strategiska partnerskap: <https://www.ltu.se/om-universitetet/strategiska-partnerskap> [accessed 06-03-2024]

<sup>41</sup> Ibid

**Centres of Excellence** at LTU is another organisational structure for long-term collaboration in research, development, innovation and education within a specific thematic area between the University and external partners from both the private and the public sectors. Through the Centres of Excellence, the University's role as a resource for the outside world is strengthened while at the same time enhancing research, development, innovation and education through the efforts of the collaborating parties.<sup>42</sup> The process of establishing a Centre of Excellence begins with researchers or other university staff, together with external collaboration parties, identifying a thematic area or societal challenge that needs to be met by cross-border collaboration in research, development and innovation through a long-term partnership. Together, the parties formulate a clear goal and purpose that sets out the direction for the formation of the centre. The collaboration within a centre must then be formalised through a special cooperation agreement where the conditions for the cooperation and the financing of the centre's activities are regulated. Upon formation, a Centre of Excellence is tied to a relevant university department. The Head of Department is then responsible for the centre's function and finances. The operational management of a Centre of Excellence consists of a steering group and an operations manager.<sup>43</sup> To facilitate the spread of knowledge generated at a Centre of Excellence, a network of external stakeholders can be linked to the centre. The network can gain access to information about research results through newsletters, websites, participation in seminars and conferences and other similar activities. The network can also provide input for continued research and development within the centre.<sup>44</sup>

**NorrlandsNavet** is a centre at LTU for business development for SMEs in northern Sweden. It is run by LTU with financing from the Kamprad Family Foundation for Entrepreneurship, Research and Charity.<sup>45</sup> The purpose of NorrlandsNavet is to work with SMEs in the region to identify knowledge needs and development challenges where collaborations with LTU can contribute to solutions that realise and accelerate growth opportunities. Within NorrlandsNavet, SMEs can then get access to PhD students and researchers from different scientific disciplines to conduct research activities strengthen the companies' conditions for growth. The PhD students do most of the field work and therefore spend considerable time with the companies, while researchers are responsible for research design, supervision and mentoring.<sup>46</sup> NorrlandsNavet also organises opportunities for SMEs to hire a student intern to work on solving a specific challenge for nine weeks during the summer break. The internship is financed by NorrlandsNavet through the Kamprad Family Foundation, which means that it is free of charge for the company.<sup>47</sup> In cases where an identified challenge requires competence building in a particular industry, one or more separate courses can be developed and offered to the companies operating within that industry.<sup>48</sup> Furthermore, to ensure that research results are also accessible to companies that

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<sup>42</sup> Luleå Tekniska Universitet, Riktlinjer för centrubildningar vid Luleå tekniska universitet, Dnr 1173-2023. Available in Swedish: <https://www.ltu.se/download/18.7198ccc318d1cb93e688ad/1705594465550/Riktlinjer%20f%C3%B6r%20centrubildningar%20vid%20Lule%C3%A5%20tekniska%20universitet.pdf> [accessed 06-03-2024]

<sup>43</sup> Ibid

<sup>44</sup> Ibid

<sup>45</sup> Luleå Tekniska Universitet, Om Norrlandsnavet: <https://www.ltu.se/samverkan/norrlandsnavet/om-norrlandsnavet> [accessed 06-03-2024]

<sup>46</sup> Luleå Tekniska Universitet, Forskning i samverkan: <https://www.ltu.se/samverkan/norrlandsnavet/forskning-i-samverkan> [accessed 06-03-2024]

<sup>47</sup> Luleå Tekniska Universitet, Studentsamverkan: <https://www.ltu.se/samverkan/norrlandsnavet/studentsamverkan> [accessed 06-03-2024]

<sup>48</sup> Luleå Tekniska Universitet, Livslångt lärande: <https://www.ltu.se/samverkan/norrlandsnavet/livslangt-larande> [accessed 06-03-2024]



are not active in NorrlandsNavet, knowledge distribution is a central part of NorrlandsNavet. Knowledge distribution takes place through workshops, webinars, seminars and education opportunities as well as scientific and popular science publications.<sup>49</sup>

## 4 Analysis

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### 4.1 The process

To connect themselves with their external ecosystem, and particularly the business sector, both Grenoble INP – UGA and LTU offer companies and organisations various R&D opportunities, including research collaborations, commissioned research and consulting, and access to testbeds, laboratories and demonstration environments. Opportunities in education include internships or apprenticeships, student ‘consulting’ projects, thesis collaborations, work placements in doctoral studies, and competence-enhancing training courses for companies and organisations. Both Grenoble INP – UGA and LTU also offer career services to connect companies with students and recent graduates as well as opportunities for partners to promote their companies and industries to students. In addition, both Grenoble INP – UGA and LTU emphasise that they make efforts to understand the needs and challenges of their prospective partners. They also conduct networking and outreach activities to inform companies about the opportunities offered at the respective HEI.

To enable these activities, both Grenoble INP – UGA and LTU invest time and resources. They have established support services and functions and dedicated staff to manage the HEIs’ relationships with the business sector. Staff mobility is enabled, and infrastructure, facilities and equipment have been made available for businesses and organisations. Grenoble INP – UGA and LTU also cooperate with the business sector in strategic decision-making by including business representatives in their respective HEI’s boards.

As a result of these efforts, both Grenoble INP – UGA and LTU are known for their strong ties and numerous collaborations and partnerships with relevant industries. According to both HEIs, their strong connections with the business sector have increased the societal relevance and innovativeness of their research, facilitated technology transfer and knowledge uptake, and improved the relevance of their education portfolio as well as the employment pathways for their students.

### 4.2 Influencing factors

The efforts undertaken by the two HEIs are motivated by several factors. First and foremost, both Grenoble INP – UGA and LTU are motivated by their mission to create societal benefits and contribute to sustainable development, as evidenced by their respective strategic plans. They view themselves as primarily providers of goods and services to the benefit of society.

According to both Grenoble INP – UGA and LTU, collaborations and partnerships with the regional business sector contribute to the realisation of their respective mission by raising and problematising research questions and providing new insights for research. This enables a more future-oriented research agenda and increases the societal relevance and innovativeness of the research. Collaborations and partnerships with the regional business sector also promote

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<sup>49</sup> Luleå Tekniska Universitet, Spridning av ny kunskap: <https://www.ltu.se/samverkan/norrlandsnavet/om-norrlandsnavet/spridning-av-ny-kunskap> [accessed 06-03-2024]



technology transfer and knowledge uptake thus facilitating the utilisation of research results in society, which can stimulate social development and economic growth.

Furthermore, both Grenoble INP – UGA and LTU emphasise that collaborations and partnerships with the regional business sector give the HEIs input regarding emerging industry needs in terms of skills and competencies. This enables the HEIs to continuously adapt their education offer and better align curricula with the needs of the labour market, supporting the creation of an education portfolio that is relevant and attractive for potential students as it increases the employability of the HEIs' graduates. Collaborations and partnerships with companies also provide a direct link between students and potential employers, thus improving employment pathways for students and recruitment opportunities for businesses.

Both Grenoble INP – UGA and LTU have a long-standing tradition of maintaining strong ties with the regional business sector. Prior experience of successful collaborations and partnerships ensures trust in a shared commitment towards common interests and goals, which facilitates future collaborations and partnerships. The challenge, according to LTU, lies in establishing new relationships. This is because many businesses, particularly SMEs, lack the financial and human resources to undertake innovation in a systematic way. To initiate new connections, offering small 'packaged' opportunities with low cost and minimal risk (e.g., internships or student 'consulting' projects) can act as a facilitator.

Another facilitator is having committed staff who understand the motives of the HEI for collaborating with the business sector. However, for a collaboration to be successful in the long-term, it needs to be built on mutually beneficial relationships involving knowledge exchange, co-creation and risk-sharing. In addition to having a clear understanding of the internal motivators for initiating partnerships and collaborations with the business sector, the HEI therefore needs to identify and communicate the potential benefits for the other party. Both Grenoble INP – UGA and LTU make efforts to understand the needs and challenges of their prospective partners and to clearly communicate the benefits of the respective HEI's various offers to potential industry partners.

LTU maintains that initiating and developing business collaborations requires time and effort. The biggest barrier, according to LTU, is therefore insufficient time and resources allocated to university staff to initiate and develop business collaborations and partnerships.

For Grenoble INP – UGA, the main barrier is related to the French research system which recognises publications more than innovation, thereby encouraging researchers to publish results without always questioning the value of their findings. This is exacerbated by HEI's ranking systems that reward research publications over entrepreneurship and innovation and a lack of incentives for researchers to collaborate with industry.

### 4.3 Supporting mechanisms

Both Grenoble INP – UGA and LTU have strategies which emphasise the importance of collaborations and partnerships with the business sector for the realisation of the vision and mission of the respective HEI, signalling a high-level commitment at upper-management level. According to both Grenoble INP – UGA and LTU, the value of collaborations and partnerships permeates the governance of the respective HEI.

The commitment on behalf of the strategic management is reinforced through structural mechanisms supporting the HEIs' engagement with the regional business sector. These include services and functions dedicated to facilitating industry collaborations, such as the S-VPE and IESA at Grenoble INP – UGA and the Collaboration and Innovation Office at LTU. This means that both HEIs have committed resources, not least in the form of dedicated personnel to



manage these support services and functions. In addition, Grenoble INP – UGA has created a cartography which explicates and organises the set of services provided to businesses by the institute. The cartography is structured around two dimensions. The first dimension relates to the complexity of the problem that needs to be solved, and the second about the time constraints in solving the problem. Grenoble INP – UGA also offers incentives for academics to engage in collaboration and valorisation activities by reducing the teaching time for academics when undertaking these kinds of activities.

Furthermore, both Grenoble INP – UGA and LTU have developed contracts and agreements to formalise and structure their collaborations, such as Collaborative Research Partnership Contract, Framework Agreements and Joint Laboratories at Grenoble INP – UGA and Strategic Partnerships and Centres of Excellence at LTU. These various contracts and agreements function as structural mechanisms that set out the terms of the collaboration and thus facilitate trust by ensuring mutually beneficial relationships.

Operational mechanisms at Grenoble INP – UGA and LTU to strengthen their connections with the business sector primarily include networking and outreach activities. Both HEIs conduct networking sessions, seminars, and marketing activities to inform companies about the opportunities they offer.

#### 4.4 Context

As technical HEIs, both Grenoble INP – UGA and LTU have a strong base in applied research, and as such are embedded in a tradition of academic activity in a close relationship with industrial partners. However, their respective regional context has had a major influence on the direction of their development. The HEIs have both made efforts to provide competences and resources specifically geared towards the regional context and used their strategic location as a source of competitive advantage by steering their activities towards the most contextually suitable orientation. For example, Grenoble INP – UGA has taken advantage of the city of Grenoble's long-standing tradition of partnerships between research, higher education, and industry and embedded itself into the city's research and innovation ecosystem. LTU, on the other hand, being located in the bedrock of Sweden's mining and mineral industry, has established itself as Sweden's mining university, and its education and research portfolios are overall geared towards the industrial landscape of the county.

## 5 Conclusions and lessons learned

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**Motivators for engaging with the regional business sector include increasing the societal relevance and impact of research and improving the attractiveness of education.** According to both Grenoble INP – UGA and LTU, collaborations and partnerships with the regional business sector increase the societal relevance and innovativeness of their research. Such collaboration provides new insights for research and enables a more future-oriented research agenda. It also facilitates the utilisation of research results in society by promoting technology transfer and knowledge. In addition, collaborations and partnerships with the regional business sector give the HEIs input regarding emerging industry needs in terms of skills and competencies. This enables them to better align curricula with labour market needs and thus facilitates the creation of a more relevant and attractive education portfolio.

**To successfully engage with the regional business sector, a HEI needs to be relevant to the regional context.** Both Grenoble INP – UGA and LTU have made efforts to provide competences and resources specifically geared towards the regional context. Thus, they have



used their strategic location as a source of competitive advantage by steering their research and education activities towards the most contextually suitable orientation.

Furthermore, there is a high-level commitment at upper-management level at both Grenoble INP – UGA and LTU, and the importance of collaborations and partnerships with the business sector permeates the governance of the respective HEI. The commitment is reinforced through structural mechanisms that support the HEIs' engagement with the regional business sector, such as services and functions dedicated to facilitating industry collaborations.

**For collaborations to be successful, they need to be built on mutually beneficial relationships.**

In addition to having a clear understanding of the internal motivators, a HEI therefore needs to identify and communicate the potential benefits for the other party. Both Grenoble INP – UGA and LTU make efforts to understand the needs and challenges of their prospective partners and to clearly communicate the benefits of the respective HEI's various offers to potential industry partners. In addition, various contracts and agreements setting out the terms of collaboration function as structural mechanisms that facilitate trust by ensuring mutually beneficial relationships.

Establishing new connections can be challenging, however, as many businesses lack the financial and human resources to undertake innovation in a systematic way. **To initiate new connections, offering smaller opportunities with low cost and minimal risk can act as a facilitator.**



## Appendix A Sources and contacts

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## A.2. Contacts

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