



**THINKING  
SMART**

Toolkit for the engagement of  
HEI in regional growth

**University of Trás-os-Montes e Alto Douro (UTAD)**

The Entrepreneurial Discovery in HEIs

2017, February

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## 1. University of Trás-os-Montes and Alto Douro (UTAD)

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This report is one output of the ERASMUS+ Thinking Smart project and presents the results of WP3 - Entrepreneurial Discovery in HEIs for each partner university. The entrepreneurial discovery process aimed to achieve a higher level of understanding on how the alignment of HEIs with regard to the regional development needs and priorities (considering its potential) can be promoted. As well, it aimed to support a strategic and operational change in HEIs through a process based on cooperation and engagement, thus being essential for the involvement of stakeholders.

### 1.1. Introduction

These workshops were organized during the same day so as to assist in improving the participation process and numbers for the two workshops. Please see the minutes of these encounters in the annex. The UTAD work for WP3 can be divided into 3 stages that will be described in the following aspects:

- ✓ *Stage 1 – Creation of collaborative working groups with stakeholders and mind setting workshop (divided in two parts)*

The working group consisted of individuals who participated in the mind setting workshop. The Mind Setting Workshops took place at Régia Douro Park – Science and Technology Park ([www.regiadouro.com](http://www.regiadouro.com)) in Vila Real, 26th October 2016. The stakeholders invited from UTAD for the Mind Setting Workgroup were the vice-rector and pro-rector and the head of department in economics, sociology and management; regional development government agency (CCRD-N)<sup>1</sup>; chamber of commerce (NERVIR) and tourism business association (AETUR); consulting firm (AGRIREAL); non-profit organization (Centro de Gestão Agrária do Cima Corgo); Vice-Director Régia-Douro Park (business incubator park)<sup>2</sup>; and a civil society organization (Douro Generation, DG-AdD).

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<sup>1</sup> Could not be present but answered a set of questions by e-mail.

<sup>2</sup> Confirmed presence but did not attend.

The first part of the mind setting workshop focused on the identification of key regional needs, challenges, and opportunities for the further development and implementation of the regional RIS3. A structured collective discussion took place involving the whole working group that explored a set of 5 questions to be discussed as a focus group (for further details please see Annex).

The second part of the workshop focused on co-generating ideas about how the HEI can contribute to the further development of the RIS3. The workshop was attended by the same participants that were engaged in the first part of the workshop. The meeting started with a recap of the key points from the 1st part of the mind setting workshop. A structured collective discussion took place looking to explore innovative ways in which the UTAD can cooperate more deeply with other regional actors in the implementation and further iterative design of the RIS3.

✓ *Stage 2 – Mapping and critical analysis of HEIs capabilities and offer*

In this stage UTAD identified and analysed the regional offer and capabilities of the HEI as they relate to the priorities of the RIS3 and the challenges identified in the 1st part of the workshop. These capabilities, suggestions, proposals a participative approach to solving problems for the HEI reflect a holistic approach that covers teaching and learning, research and development, enterprise and business development, and public or community engagement/service. The analysis also tried to map the institution's key regional and extra-regional linkages relating to each of these fields. The analysis was carried out through desk-based research and surveys/interviews with key people in the HEI relating to the fields above. We sent 31 internal questionnaires to key stakeholders (1 Rectorate individual, 18 Heads of School/Departments, 12 Research Centres and 5 Others Units) and obtained 14 responses (1 Rectorate, 5 Head of School/Departments, 3 Research Centres and 4 other units).

✓ *Stage 3– Matching between regional/local needs and priorities and HEIs capabilities and suggestions was concluded as well in this work.*

In this stage, UTAD performed a matching exercise between the regional needs and priorities identified in the 1st workshop (Part 1) and the offer, suggestions and capabilities of the HEI identified in part 2. The members of the workshop responded to the interview questions as a focus group. This permitted clarification by the group

members and at times permitted disagreement in perspectives until a consensus was attained.

## 1.2. Overview of the Regional RIS3

General overview, to include questions from the focus group interview as well as the questionnaire sent to the key actors within UTAD with a response rate of 42%:

- The RIS3 priorities for the region will be presented as a general overview and the responses to the focus group interviews and key stakeholders at the UTAD to the questionnaires sent to research centres, departments, heads of the college, and other entities.

One of the strongest governmental representative example is the Northern Portugal Regional Coordination and Development Commission (CCDR-N) that carries out regional planning activities, implemented in conjunction with the Regional Council, such as, the ‘NORTE 2020’ initiative, that aims at establishing a regional strategy for the 2014-2020 horizon, by promoting the motto of the ‘Europe 2020’ strategy, whose main goal is a “smart, sustainable and inclusive growth”. Within the context of the NORTE 2020 initiative, CCDR-N has identified a regional strategy for smart specialisation, including the identification of the fields and economic activities where there is relevant critical mass or the potential for it. Interestingly, the CCDR-N is not an autonomous regional entity and is one of several nationally linked CCDRs throughout Portugal with a strong connection to the national government.

The work carried out during the preparation of the smart specialisation strategy (S3) had significant involvement of relevant stakeholders and experts through the organisation of surveys, thematic workshops and individual meetings. The opinion of many regional stakeholders is that “Norte 2020” encompasses most of the necessary conditions to succeed in the implementation of its specialisation strategy, regarding namely critical mass, industrial strength and internationalisation potential (business and scientific communities), among other requirements.

After an analysis of the regional context and potential for innovation, and the establishment of an overall vision for North's future, the following priority areas have been selected for the entire northern region:

- ✓ Life and health sciences
- ✓ Culture, design and fashion
- ✓ Sea-related economic activities
- ✓ Human capital and specialised services
- ✓ Mobility and environment industries
- ✓ Advanced manufacturing
- ✓ Agriculture environmental systems and food
- ✓ Symbolic capital, technology and tourism services

Benefits and other outcomes obtained from the implementation of the Smart Specialisation Strategy encompass a definition of public policy instruments that permits for the implementation of regional strategies and focuses the policy instruments in the priority areas. Equally important is the definition of a governance model that allows, in its application, to articulate in space and time with the different investments in each priority area promoted by various entities (producers and users of technology, entities of the Scientific and Technological System and other institutions), involving the construction of Smart Specialisation Regional Platforms. As it relates to UTAD and not the other HEIs in the northern region, the focus on the Douro region is linked well by 1) Agriculture environmental systems and food, 2) Symbolic capital, technology and tourism services and 3) human capital and specialized services. The UTAD has a close historical connection to the Douro region within the northern region.

- The process through which they were arrived at and involvement of different stakeholders (including the HEI) in this process.

A short description of the process that involved UTAD and other entities used the following instruments. The work carried out during the preparation of the smart specialisation strategy (S3) had significant involvement of relevant stakeholders and experts through the organisation of surveys, forums, thematic workshops and individual meetings.

- What do each of the organisations represented see as their contribution to delivering the RIS3?

The members of the focus group responded to the focus group interview question as follows. In the Douro region, in order to strengthen and have a greater contribution, the regional stakeholders need to be more active in identifying training needs. As the Douro region has an agricultural and vineyard tradition, the focus on courses within agriculture and rural/agrarian management has relevance. It could be similar to the agricultural management course that was discontinued so many years ago at UTAD. We have rivers for sport fishing and this could be a relevant contribution by regional actors with the assistance of UTAD. The regional entities need to give added value to the regional culture, such as handicrafts, regional food products, etc. to attract more tourists. The organizations want to contribute for greater participation by reducing the barriers to tourism – more government investment for trails for national and international hikers. UTAD has an oenology course that fit very well to the Douro region.

Also, there is human capital, for example in our elderly people. It is necessary to think of all this in an integrated development format.

In addition, the discussion also involved the necessity for the strategy to link well to economic viability of the region. In the agro-environmental sector there is no economic viability, but there is social viability, because our specificity is very rich. Production profits are low, so resorting to subsidies is important and more attention to multifunctional agricultural production.

In the region there is work for cooperatives and associations to become more involved in RIS3 by informing and engaging their members to link efficiently to agri-chain markets. Also, more concern to help businesses invest and help us create synergies for the region and other stakeholders. In this context, it is important to look at regional identity, since there is unbelievable added value in the region, but regional stakeholders need assistance to make use of these resources. Tourism, cultural events and agri-food are some examples of areas for greater interaction, but it is also important to look at the elderly in the sense of creating a memory file to save the

traditional activities such as growing flax to weave linen products in an innovative manner.

Also civil society associations through partnership with UTAD must do greater collective marketing and training to strengthen the capacities of the micro and small producers by way of an intermediary entity, showing them that it is important to gain added value in their products. There is an interest in creating brands through which it is possible to do the marketing and selling for these small producers. Also upstream, there is a need for more work at the origin, namely optimizing aspects such as hygiene, quality, management, accounting, etc. In this way, it is intended to integrate with a package to be offered to members, for increasing profitability and cultural impact through greater collaboration with UTAD, the regional incubator entity (Régia-Douro Park) and municipalities, business associations, consulting firms and civil society entities.

With regard to the Sub Regional CCDR-N structure for Vila Real/Technical Office of the Douro Mission, the contribution to the implementation of RIS3 is due to the quality and effectiveness of the performance of the competencies reflected in the commitment to the scope of the territorial and environmental plan, by seeking and fostering the establishment of robust partnerships, contributing to the design in structuring investment projects based on the increase valorisation of regional resources. In addition, the management of the classified World Heritage landscape of the Alto Douro Vinhateiro, and more specifically the mission to protect, conserve and enhance, as well as to promote this evolutionary and living cultural landscape, by guaranteeing its sustainability as one of the main economic assets of the Douro region.

- Action plan for implementation of the RIS3 and current progress.

The UTAD has developed priorities and a list of key human resources to address regional development issues with the regional partners and the UTAD regional centres.

### 1.3. The role of the HEI in RIS3 design and implementation.

In this section, the responses to the overall question have been accomplished through the response to the questionnaire by a key person in the rectorate. This includes contacts with a Vice-Rector and Pro-Rectors on the Rector's team.

- What role did the HEI play in identifying the region's research and knowledge strengths/assets as part of the RIS3 development process? (e.g. was there proactive involvement in gathering and analysing data or a more reactive response to evidence gathering?)

The UTAD Rector and the administration have played an important role in constructing the relationship with the CCDR-N for the mutual identification of the smart specialisation themes to confront RIS3 for the Douro region. The co-decision making process has highlighted the skill for facilitating dialogue and completing an analysis and assessment of the regional situation with the governmental entity, while sharing the UTAD research, training and outreach experience. Inventories and sounding boards were carried out to identify the potential multi-stakeholder partners; civil society citizens, business and municipality leaders; and the power brokers in the region. And next, delineate the essential stakeholders to participate in the smart thinking specialisation process.

Key actors from UTAD participated in specific meetings where focus group interviews occurred to identify various thematic areas promoted by CCDR-N, in order to diagnose and identify future priority actions.

- Who in the HEI was involved? Did individual academics contribute or was the process managed centrally?

The UTAD involvement included the vice rector and pro-rector and some professors/researchers in specialist areas, either individually or as a representative of the research centre (CITAB).

- How closely do the selected RIS3 priorities map onto research and teaching strengths of the HEI?

UTAD played an important part in identifying the RIS3 domains for the northern zone with collaboration with CCDR-N (national/regional governmental development organization). UTAD had a strong contribution to the topics: "Agro-environmental Systems and Food" and "Symbolic Capital, Technologies and Services of Tourism", where in the latter, UTAD is exploring the technological and research component for the tourism in the Douro region.

The intervention of UTAD in the Douro region has taken place in particular within the transfer of technology and innovation, namely through research, outreach, innovation collaboration with Douro regional entities by constructing trusting partnerships. There are now many projects involving businesses and civil society through specific researchers from various UTAD departments.

UTAD is an engine for the Douro region and plays a key role in linking projects with the needs of the regional population. Also in other areas UTAD plays an active role, as in the culture, environment or in the field of eco-intelligent wine-producing villages.

However, there are additional projects where UTAD can make a contribution to local entrepreneurship such as clothing design, theatre, music, mobility and environment (the UTAD Campus can be a laboratory, for expanded use by the municipalities). UTAD has a consortium with UP and Minho universities that are opening doors to ocean research through a PhD programme by way of a partnership with these northern universities also in the life sciences and health, rehabilitation engineering, etc.

In terms of summary, UTAD has a trans-disciplinary role that must be valued for greater collaboration with the regional actors and the engagement of UTAD personnel.

In the set of priorities of RIS3, there is one that strongly agrees with the main strength of UTAD, Agro-environmental Systems and Food; a second one where the UTAD also has important forces involves the Symbolic Capital, Technologies and Services of the Tourism;

RIS3 is based on the principle that the regional innovation and competitiveness strategy must be based on the characteristics and assets existing in the territory and that the policies and measures that are implemented have a visible impact on

competitiveness, economic growth and employment, and it is therefore essential to foster interactions with regional agents that reflect the regional identity.

It is understood that the activities and projects carried out in the scope of research and teaching by UTAD, compete transversally for the areas of expertise identified in RIS3.

It should be pointed out, however, that UTAD has a significant portfolio of research projects and strategic partnerships established with the companies in the region with a focus on the agri-food, forestry and tourism sectors, with an example of knowledge, technologies and innovative solutions available for culture and production of wine, olive oil and tourism qualification.

Considering that one of the strengths of UTAD's research and teaching is the proximity and capacity to respond to the development needs of the territory, for the exploitation of the endogenous resources of the region. It is understood that there is a high degree of alignment with the domains "Agro-environmental Systems and Food" and "Symbolic Capital, Technologies and Services of Tourism".

- Are there non-teaching or research activities (e.g. business support, knowledge exchange etc.) specifically targeted at firms in priority areas?

Yes, there is a reinforcement in teaching in the 2 domains mentioned above, graduate and post-graduate: 1) PhD in the area of agri-food (Agrichain); 2) postgraduate studies in tourism and gastronomy; and the new PhD in Development, Societies and Territories that began teaching students in January of 2017, as well as, the PhD in Agro-business and sustainability. The question above has also been addressed in the questionnaires from the key stakeholders at UTAD. For example, please find their responses to this question in the following statements.

[IE-UTAD] The Business Incubator of UTAD (IE-UTAD, which is operationally included in the structure of Office to Support the Insertion in Active Life - GAIVA) externally develops several projects to promote and stimulate entrepreneurship, fostering the

creation of new projects/businesses that rely to a large extent on the valorisation of the endogenous resources of the Douro region (Agro-food, Tourism, Technology).

Internally the Business Incubator provides pre-incubation, incubation and consolidation services to UTAD and region start-ups (a result of the various protocols established such as the EmpreenDouro Network, the Tâmega and Sousa Entrepreneur Network, the Tabuaço Entrepreneur's Desk, Support Network for the Sustainable Sabor Entrepreneur, etc.), from the point of view with consulting services for a business idea and next interface with UTAD Research and Researchers.

UTAD is qualified as an entity providing services in the various components (Entrepreneurship, Incubation, Innovation, etc.)

[GAP]<sup>3</sup> UTAD conducts consulting activities in priority areas of RIS3, such as Agro-environmental and Food, Symbolic Capital, Tourism Technologies and Services, Human Capital and Specialized Services.

With regard to the existing support programs for companies in the primary sector, most of them belong to the Rural Development Program, although in case of innovation, these companies may compete for other types of Portugal 2020, in these area or projects in co-promotion.

[GFORM]<sup>4</sup> This question does not apply to GFORM

[GRIM]<sup>5</sup> Since there has been a focus on territory and regional development, UTAD has targeted several projects. There is a Great concern and support to businesses and the regional development. UTAD has always played an important role in the development of the region and maintained linkages with businesses and supported spin offs from UTAD interventions.

[IE-UTAD] Specifically, the Business Incubator of UTAD does not develop structured exchange actions.

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<sup>3</sup> Project Support Office

<sup>4</sup> Trainning Office

<sup>5</sup> International Relations and Mobility Office

However informally, we try to promote networking among the various start-ups we support, as we recognize in this process a fundamental added value to the success of the new businesses

Given the generic and transversal nature of the incubator there is no particular attention to the start-ups in the priority areas of RIS3.

[GAP] There are no support measures for these areas. However, UTAD has protocols with several companies where students can be trained.

[GFORM] This question does not apply to GFORM objectives.

In terms of exchange of knowledge, namely student placements or mobility of teachers and non-teachers, there is a concern to make agreements with institutions that favour regional development in the areas of tourism, regional products, among others. Following the European Commission's strategy that smart specialization in itself implies for a need for strategic cooperation as an essential component, underlining the importance of guiding global perspective. UTAD has been involved in value chains, by seeking synergies with other regions and building collaboration and networks, along with supporting a cross-border program for Teachers and Researchers (IACOBUS Program) with the universities from Northern Portugal and Galicia. At the same time, the academic community of UTAD benefits from several international mobility programs with different HEIs within and outside the European Union, allowing them to stay for one semester, one year or one week in one of these Universities And thus allowing the internationalization of its actors and preparing the students for a better preparation in the labor market.

[Physic Dept] The supply depends on demand by students. In this area, there are some plans, however we are talking about small numbers so that the initiatives will be punctual.

[DESG]<sup>6</sup> This is an activity of the Gform unit at UTAD

[CETRAD]<sup>7</sup> Check with GForm for a clearer answer

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<sup>6</sup> Economics, Sociology and Management Department

<sup>7</sup> Centre for Transdisciplinary Development Studies

[ECHS]<sup>8</sup> Offers. Especially through the courses made available by the Training Office within (GForm).

[Eng Department]<sup>9</sup> There are no other teaching programs offered by the Department in this context. However, departmental management has been encouraging and frequently disseminating entrepreneurship and technology transfer workshops for companies to teachers and students, mostly offered by the institution (UTAD), namely through GAIVA, Gform and the Rectorate itself.

[INESC TEC]<sup>10</sup> Yes and it is expected to offer in 2017 other postgraduate and short course programs in areas related to the application of intelligent systems to the agro-forestry sector.

[Mathematics Department] No. A continuing teacher training program is being developed, which will include the area of Mathematics.

The CQVR supports several undergraduate, masters and doctoral courses at UTAD and, in addition to some sporadic cases, does not develop professional development activities or short courses. There are no plans to expand them in the future because they go a little way outside our more research-focused mission.

The teaching activities are not part of the mission of the Chemistry Centre - Vila Real, and researchers can implement them as teachers, but this takes time to construct and the evaluation of a research centre focuses mainly on the published results of the research done and the their disclosure.

- How does the HEI contribute to building capacity on the demand side (e.g. support for student and graduate enterprise, spin outs etc.)? Are any of these activities focused specifically on priority areas?

Yes, at this moment we have two major research projects in the field of Agro-environmental Systems and Food (INTERACT and INNOVINE & WINE), a research project in the field of Symbolic Capital, Technologies and Services of Tourism

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<sup>8</sup> Social and Human Sciences School

<sup>9</sup> Engineering Department

<sup>10</sup> Institute of Systems and Computer Engineering

(DOUROTUR) and a third in the area of " Life and health "on the scope of sport, physical exercise as a variable for health.

[IE-UTAD] As previously stated, UTAD's Business Incubator does not act in a specific way (that is, it does not give priority to some start-ups over others in the area in which they are developed).

The positioning of UTAD's Business Incubator aims to provide the best support to entrepreneurs in the development, maturation and affirmation of their business ideas, as a result of their physical and human capacities, offering free space for incubation, consulting in management areas and strategy and in the connection with Research.

[GAP] UTAD has supported the creation of spin-offs, providing support both in terms of business plan preparation and in the Intellectual Property registry, with a business incubator. There are already UTAD spin-offs whose activities fall into the areas of RIS3 both at national and regional level. UTAD aims to increase the number of spin-offs and / or start-ups.

[GFORM] The UTAD Training Office offers, in addition to other non-degree programs, actions aimed at newly graduated students, people trained at their work-site, as well as for companies in the labour market.

At the moment, some training actions have already taken place for the external public mentioned above, namely:

- Post-graduation in Accounting and Finance;
- Postgraduate studies in Spanish Studies;
- Postgraduate of Psychopathology;
- Post-graduation in Psycho-Oncology;
- Postgraduate in regional journalism UTAD / Lusa;
- Post-graduation in Computer Engineering;
- Post-graduation in Psychomotricity - from early childhood to adolescence;
- Post-graduation in Electronics and Automation;
- Postgraduate in Regional Journalism;
- Sanitation;
- Language development: Language, Phonology, Reading;

- Quality control of wines;
- International Course of Specialist in Appreciation of Social Responsibility;
- Preparation course for the Examination of Professional Evaluation of admission to the Order of Certified Accountants;
- Communication and leadership in Social Intervention Institutions;
- New Food Challenges Course "Cooking for clients with allergies and food intolerances and metabolic diseases";
- IV Course of Melissopalinological Analysis;
- Technical Guide of sites of geological and mining interest;
- Course in the Company Katrein Automotive "Radio frequency and Antennas;
- Techniques of climbing, pruning and surgery of trees in Fundão (Atlantic Forest - SGFI, S.A.)
- Climbing, pruning and tree climbing techniques in Lousada (Municipality)
- Climbing techniques, pruning and surgery of Trees in the Guard;
- Course in the Katrein Automotive Company "Metrology";
- Training course on "Operational firing";
- Continuing Education Training and Technological Update in the Environment;
- Continuous Training course Solid Waste Management;
- Continuous Training Course Computer Aided Design Techniques;
- Continuous Training Course Practical Course on Finite Elements in ANSYS;
- Continuing Education Course Geographic Information Systems

In addition we have many others in the process of internal accreditation, requested and established in partnership with entities external to UTAD:

- Post-graduation in Gastronomic Sciences - Food and Wine In-Motion ";
- Portuguese wines: from grape to glass (action directed at foreign wine exporters).

[GRIM] UTAD has a support structure for entrepreneurship and contributes to research and teaching activities for the development of the regional economy. Higher education institutions provide human capital for strengthening innovation through their research activities and also provide strategic advice to regional authorities. However, there is a need for greater involvement in the formulation of regional policies and a greater link with businesses in the

region in order to absorb the research and knowledge generated by UTAD for the benefit and the development of the business competitiveness.

- What are the key national and international links the HEI has with other public and private research groups in the priority areas?

At the national level there is a strong link with the Agri-Food Cluster (PortugalFood), with the wine cluster (ADVID), with INIAV,

[Physics Dept] The fabric of business, specifically, in the production sector is rare, so contacts and knowledge transfer are usually done informally and with personal knowledge.

[DESG] 1. The research projects are developed in partnership with our research centre. 2. DESG has historically fostered a culture of participation with regional entities in the preparation of funded or none funded research projects. 3. DESG participates in networks with civil society, associations, businesses, incubators in a perspective of co-production and use of knowledge.

[CETRAD] An established network has been built by CETRAD over more than two decades, on which we can rely on new applications, project partnerships, support for CETRAD governance, etc. When personnel change in these stakeholder organizations (and/or in CETRAD), these contacts have to be renewed and sometimes revised (up scaling/downscaling of collaboration). Changes in circumstances (as in government decentralization of responsibilities for service and/or EU attribution of greater autonomy for regions and municipalities) that alter the respective negotiating strengths of stakeholders, a fact that needs to be taken into account in our interactions with them. Thus there is no specific plan - merely a process of constant response and re-adjustment.

[ECHS] Essentially through institutional channels (Departments, Research Centres, etc.). There are plans, within the framework of the Institution's Strategic Plan, for the development and deepening of these links.

[Eng Department] There are internal recommendations to promote the linkage to businesses, in particular through protocols, in order to perceive market needs and collaborate with them, for example through training of undergraduate students or

master's students. There have also been, through various professors of the Department, projects in co-promotion with companies. Naturally, links of this kind will be strengthened in the future.

[INESC TEC] The researchers of the INESC TEC pole of UTAD have participated in events and work meetings to identify and establish potential collaborations with businesses and organizations that pose concrete challenges for the solution of problems that they encounter. The intention is to consolidate and further develop these links based on sustained plans to implement solutions that effectively contribute to improving the efficiency of companies and industrial processes. It is also worth mentioning that with the support of the UTAD-GAP, the participation of researchers in projects with businesses is encouraged.

[Mathematics Department] The institution has a catalogue of skills and services online, which includes services provided by the elements of the Department to companies. The Business Association of Vila Real, as well as the Commercial and Industrial Association of Vila Real were contacted by the Directorate of the Department to define possible possibilities of cooperation. There are also individual contacts between teachers and companies, in particular cases, fruit of personal knowledge.

[Chemistry Centre] Linking researchers to the region's public and private agents is something that has to be built step by step based on trust. That is, in order to put into practice a collaboration between a researcher and a company, people must first know each other, recognize their technical and scientific value, test a possible collaboration with some stages of student involvement, do some effective work that interests companies and introduces them to us. It is only after establishing a basis of trust between the parties that an effective collaboration can be established.

The collaborations that CQVR researchers have with companies have more or less followed this pattern. They are not links that derive from an institutional basis but from personal relationships constructed by each of us individually. Public events help to publicize the Centre's activities, but the most important are visits to companies, knowledge of their problems, interest in these problems and, of course, a quick response to these problems, at low cost.

- What role does the HEI play in the leadership and governance of RIS3 in the region (e.g. membership of boards or other strategic groups)? How visible has the HEI leadership been in spearheading and supporting the process to date?

The university managers are aware of the S3 and took part in the design and implementation for the Douro Region. The predominant topics identified were 1) Food, Agriculture and Sustainability and 2) Agro-Environmental and Food Systems. The thematic orientation was identified as Innovation prospecting for the food and agricultural sector. It was pointed out that UTAD participated in the design of the programmes in research and development for the agro-food sector with CCRD-N and other partners. It was reiterated that this type of cooperation and participation in the decision-making resulted in a change for the Douro region in the reception of funds for agricultural development with greater involvement of regional businesses, civil society, local governments and chambers of commerce. The HEIs in the region have strengthened their involvement in the smart specialisation strategy for the region.

At the level of the agro-food area, UTAD has sought to affirm themselves as a leader for some large projects in the area of vine and wine at different levels (soil and climate, production, oenology, market), and in the area of smart farming has streamlined a project with other HEIs.

- How are the activities of the partner university currently being mobilised to help deliver the regional RIS3?

UTAD has been working very hard, with a high success rate during the last 2 years for research Projects and we have over 100 applications submitted to assist in strengthening RIS3.

#### 1.4. Gaps, barriers, challenges

This is directly related to the second part of the entrepreneurial discovery workshop that allowed the stakeholders through the focus group interview questions to identify gaps,

barriers and challenges in the implementation of the RIS3. This part also uses the responses to the internal questionnaires from key leaders at UTAD.

- What are the gaps in research and development, human capital, and other innovation resources within the regional economy that need to be addressed for the successful implementation of the RIS3?

Regarding research gaps, UTAD has attempted to overcome the lack of explicit involvement in some areas through the RIS3 framework, applying a transdisciplinary approach. Thus, along with the introduction of innovation and technologies, there must also be social science intervention. It is not something that is done from one day to the next, but it has been done gradually and continuously.

UTAD's main gap is not in research, but in innovation, that is, in the transfer of technology to businesses or, more concretely, in how to bring the businesses to a competitive point for using technologies to innovate. Thus, there should be a technological follow-up by UTAD.

Small jobs could have a "cover page" for UTAD. Thus, instead of small businesses going alone in the international market, the business associations and Régia-Douro Park, assist them in a collective format to export local products. In this sense, it is important to know who to address or make contact at UTAD. For example, for rural extension associations, their role should not only be to help farmers obtain funding, but also to have UTAD give guidance in this process.

Given the knowledge and the appraisal made on the socioeconomic trends for the region, the main constraints to the implementation of RIS3 are the lack of qualified critical mass; the weakness of the industrial and business sector; lack of skilled employment; the lack of scale at the level of some regional products/producers in face of the requirements of internationalization and the competitiveness of the markets. Also, the weak support for voluntary social support measures that foster intergenerational transfer of knowledge and promote integration and social cohesion.

- What are the potential barriers to HEIs assuming these roles in addressing resource/capability gaps?

There should be a more effective link between the university and private/voluntary civil society entities, beyond the simple establishment of protocols, and should also involve extra funding to facilitate monitoring, as is the case with other countries with additional funding, for example, from local banks.

To have extension educational programmes with micro-enterprises, there must be tutorial methods or greater supervisory occupational experiences for doctorates in the regional businesses. UTAD has "know-how", but it should not be exclusively to do only this supervisory work, and the businesses themselves must also assume this partnership role.

It is not enough for UTAD to support project applications, it is also necessary to support its implementation.

- What are the main barriers for the HEIs and other types of organisations to work together in the development of the RIS3?

Notwithstanding UTAD's progress and all the work to open this teaching and research institution to the territory with concrete results in the development of technologies and promotion of specialized education, focused on the region's assets, namely oenology, agronomy, ecology among others, some points of collaboration and interaction with the regional actors could be reinforced to fill some of the gaps previously identified. In this way, UTAD will be able to reinforce the offer of complementary training in areas related to traditional arts and crafts, with the cultural and intangible heritage of the region, natural resources and hunting and fishing, in order to promote the transfer of intergenerational knowledge. Young professionals aimed at safeguarding and promoting the identity values and endogenous resources of the Alto Douro Vinhateiro cultural landscape. On the other hand, considering this region as a tourist destination of excellence and tourism itself as a creative industry, UTAD can make a relevant contribution to the level of qualification aspects for this demand, providing solutions and innovative ideas that complement this sector. In another perspective, taking advantage of the UTAD experience at the level of social volunteering, partnerships and collaborative platforms could be developed to disseminate the application of this concept by the business sector.

- Other challenges/barriers/gaps identified?

[Physic Dept] These informal and knowledge-based contacts become difficult to systematize and to continue, but attempts are made to fit the activities into the available funding frameworks.

[DESG] 1. Teachers / researchers guide their research topics and lines according to the needs of the region/activity sectors. There is a concern to respond to the global thematic areas of research, from the value of local resources.

[CETRAD] No answer

[ECHS] There are, in particular, applications for projects usually coordinated by project offices or research centres.

[Eng Department] In particular under the theme of RIS3, no initiatives have been planned. However, there are areas identified in RIS3 that are implicitly being explored by professors from the Department of Engineering, namely in collaboration with Research Centres in which they are collaborators, for example in CITAB and INESC TEC, participating in several national and international funding projects.

[INESC TEC] There are no examples in the case of the INESC TEC pole of UTAD

[Mathematics Department] There are some teachers included in applications for research projects, but in none of them are teachers in the field of Mathematics major researchers.

[Chemistry Centre] The CQVR has developed RIS3 research projects with several companies in the region financed with structural funds

- What general roles could the partner university and other regional HEIs take in helping to address these gaps in resources/capabilities?

UTAD can be important in measuring and assessing the impacts and strengthening needs assessment process that may be relevant for assisting new entrepreneurs to act/innovate in the Douro society. It must be mentioned that the Régia-Douro Park has been an important player in this regard.

We are witnessing a change in the "modus operandi". It is important to be able to predict the future better. In local businesses/associations it is possible to do a reading at the micro level, but it is difficult to read on a more global level. UTAD can be important to integrate all this: marketing psychology, mobility psychology, how to forecast, etc.

Nowadays there is a paradigm shift, in the sense that projects are bigger, having a bigger "umbrella", and therefore we must have greater interdisciplinary approach. RIS3 is not properly closed and therefore must be a transdisciplinary element.

It is important for the university to be able to do work for businesses, while businesses contribute to the costs for these actions through the university know-how.

### 1.5. Identified opportunities for further/future involvement of the HEI

In this section, the report utilizes the internal questionnaires as well as the focus group interviews completed in the entrepreneurial discovery workshops.

- What are the main capabilities of the HEI that are not currently being fully mobilised and could help address the regional innovation resource/capability gaps?  
UTAD has had a hard time associating people from sociology, liberal art and even economics to RIS3, since this initiative focuses heavily on technology, agricultural science and tourism.

- In which areas is greater collaboration between the HEI other regional actors needed to address these gaps?

There should be a monitoring and dissemination unit at the UTAD to assist in innovation, i.e. a kind of entity that could function as a liaison office between the university and businesses/associations and civil society.

It should be made available in all the areas in which UTAD has teaching and research obligations and an interlocutor for all of these areas, as well as having a centralized "modus operandi".

- In terms of research, are there any new or additional activities planned which will (further) strengthen the capacity of the HEI in the RIS3 priorities?

In terms of research, UTAD has been active in the 2020 research areas.

- In terms of teaching, what new programmes or modules (undergraduate and post graduate) are planned in the priority areas? Will local businesses/clusters have any input in designing or shaping new programmes?

We need to be more active in working with businesses to design and shape new programmes.

- How could international linkages be better mobilised to bring new knowledge or connections to support the implementation of RIS3?

Through the participation of UTAD in international research and development networks

- Does the HEI have an explicit strategy to increase research capacity/investment/funding applications in any of the priority areas?

There is a strategy to deepen the research areas through new national and international proposal applications.

- To what extent has the HEI changed its approach to knowledge creation in response to the demands posed by societal challenges facing the region (which may also have global resonance – e.g. climate change, sustainability, ageing etc.)? Are there mechanisms in place to encourage or support transdisciplinary research to address these?

Climate change is one of the central themes in the various research projects referred to, along with the sustainability issues present in the concerns along the production chain. Active aging associated with sport is one of the central issues of the Nano Stigma project.

- Are there mechanisms to encourage or support transdisciplinary research to address these challenges?

The fact that these ID projects were coordinated by the rectorate allowed, whenever possible, to extend the transdisciplinary perspective, including researchers from different areas of knowledge to study the same subject.

- To what extent does the HEI collaborate with other regional HEIs in contributing to the design and implementation of RIS3? Are there new initiatives/mechanisms to support and encourage this? Are there explicit plans and strategies in place to expand collaborations in the future?

UTAD has several technology transfer projects for companies in the agri-food sector. The HEI coordinated a research and development project with other universities and polytechnics on smart farming.

- Are there new initiatives / mechanisms to support and encourage this collaboration? Are there explicit plans and strategies to expand these collaborations in the future?

There is a good network of contacts between IES and a strong desire to implement and lead new projects. UTAD intends to lead some collaborative laboratories that will associate different units of other IES, in particular in the area of agri-food, vine and wine, smart farming, tourism and gastronomy.

In the past process i.e. the PROVERN QUADRO, the UTAD did more evaluation and assessment of the policies and strategies, while today the process will be more in the domain of implementation, governance and the management of the project process. The potential space for the future will be implementation and greater selectivity in projects that fit the regional strategy as well more involvement in construction of regional smart specialization strategy. The future will involve the evaluation of the regional smart specialization strategy for the territory.

## 1.6. Future Implementation of the RIS3

Once again, in this section, the report uses information gleaned from the focus group interviews and the internal questionnaires.

- What actions can be taken (on all sides) to better align activities (including priorities, incentives, timelines, etc.) in order to foster the necessary collaboration with other regional actors?

There should be a computer platform for the regional stakeholder and Douro citizens to visit and learn about the areas for collaboration with both businesses as well as how UTAD can be identified to assist, in this sense the platform could contain various types of information, namely projects to be developed, project results, analytical data, etc.

In order to boost entrepreneurship it would be relevant to launch some initiatives, such as a construction of a list of e-mails where the projects in development could be disseminated in a regional network by sharing information with all stakeholders and entities in the region. In addition, there could be social action events and routine dynamic actions so that the regional partners could disseminate project information to others and thus the stakeholders would be able to consider the projects that we would like to associate with or participate.

Although the recent past reveals the convergence and articulation between the different regional actors in the development of concerted actions in a network, such as the signing of a Charter of Commitment for the Development of Trás-os-Montes and Alto Douro or The U-Norte Consortium itself, it is understood that other fronts of consultation, particularly with the private sector and central administration institutions with responsibilities in the territory, can be further developed. The Douro Mission was involved in the definition of a strategy for the Douro region in order to consolidate a plan of action that would aggregate public and private investment projects and intentions that became an application for the Collective Efficiency Strategy PROVERE DOURO 2020, with a view to enhancing endogenous resources, capitalizing on the support provided by NORTE2020.

In another perspective, administrative simplification and the dematerialization of processes have brought services and users closer to each other, saving time and resources. This should reinforce the focus on the implementation of networks, even collaborative platforms, that include the largest possible number of information and service solutions, with the aim of facilitating access to the financial incentives provided by the Operational Programs, supporting the regional agents in the hierarchy of their priorities, the selection of options, the technical support to the implementation of their projects and also in the monitoring of the results.

From the range of possible measures to be developed by the different sectors of activity, it may be decisive for the development of the region to strengthen associativism and sectorial cooperation as ways of conferring scale and competitiveness in the context of internationalization.

The strategy links to the process for strengthening projects involving food, forestry, patrimony and tourism. UTAD has reoriented to these areas linking to regional strategy (CCRD-N) and tries to involve all the schools and departments at UTAD in this finality surrounding gastronomy, food chains and Douro Tourism and now using digitalized platforms to reach out to all communities in the Douro society and also construct multi-disciplinary projects and proposals.

- Are there specific opportunities for collaboration between the HEI and regional actors that were identified through the workshops?

Local associations have made themselves available to compile information on small projects in their organizations and deliver it to UTAD so that UTAD can use this information to explore and analyse further activities under RIS3 as good practices for the Douro region.

NORTE 2020 and the other National Operational Programs have on the agenda the opening of numerous notices for the distribution of the amounts planned for the following priority axes: Priority Axis 01 - Research, Technological Development and Innovation, Priority Axis 02 - Competitiveness of Small and Medium Enterprises , Priority Axis 03 - Low Carbon Economy, Priority Axis 04 - Environmental Quality, Priority Axis 05 - Urban System, Priority Axis 06 - Employment and Mobility of Workers,

Priority Axis 07 - Social Inclusion and Poverty, Priority Axis 08 - Education And Lifelong Learning, Priority Axis 09 - Institutional Capacity Building and ICT and Priority Axis 10 - Technical Assistance.

At cross-border and European level, UTAD and its partners have already proven experience in formatting applications for the INTERREG programs (SUDOE, INTERREG EUROPA, POCTEP and Atlantic Space).

- Are there external factors affecting the ability of the HEI to contribute more (e.g. the national HE policy, funding regimes etc.)? What could be done to address these?

We believe that the density of the metropolitan areas on the coast have created disadvantages for the low density areas in Portugal. The universities in the interior need to improve their cooperation in these matters.

## 1.7. Conclusions

The location of UTAD within a low-density population area, gives added importance to the responsibility for contributing to the economic and social development of the Douro region as well as territorial cohesion with the national cohesion plan. It is in this context that a collaborative and cooperative work approach with the various actors in the Douro region, such as, municipalities, business associations or chambers of commerce and the civil society has been synergetic in the smart specialization strategy (S3) for the regional social and economic analysis process. The development of this territory requires enhancing the value of endogenous resources and working to contribute to the innovative process, which mainly focuses on the primary sector in the Douro region.

- Incentives to participation within HEI in Entrepreneurial Discovery and S3 governance;
- Improved communication mechanisms between HEI and regional/national authorities;
- Better participation of HEI in S3 implementation;

- Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes).

There is still more funding for regional development in the metropolitan areas near the coast. UTAD will continue to play a more active role to adjust and develop business models that improve the disadvantages found in the interior regions of Portugal. The national financing process should consider policies to reverse this advantage found in the metropolitan areas on the coast by the distribution of funds to minimize this situation.