

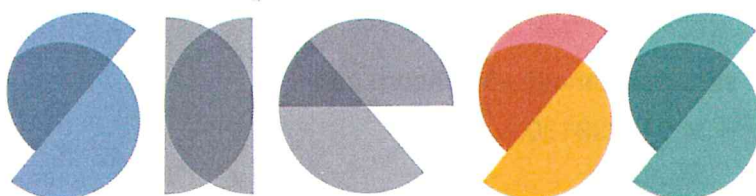
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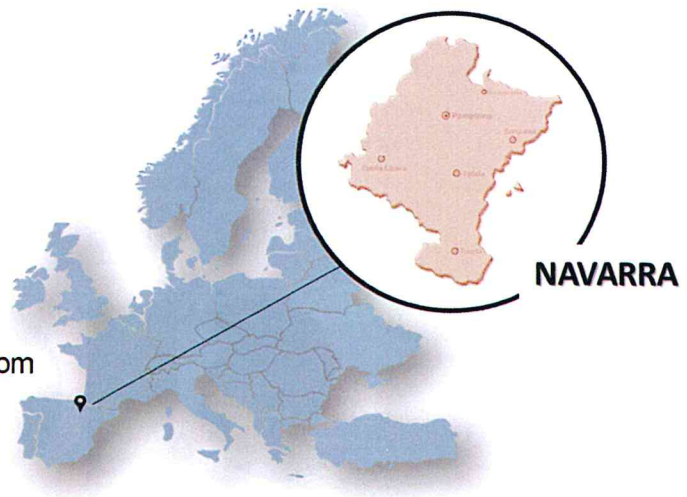
ADVANCED INNOVATION & TECHNOLOGY CORPORATION

Part I – General information

- Project: INKREASE - Innovation and Knowledge for REgional Actions and Systems.
- Partner organisation: ADItech Technology Corporation (PP4)
- Country: Spain
- NUTS2 region: Comunidad Foral de Navarra
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Navarra region, located in the north of Spain, stands at the crossroads of the two great logistic corridors in Spain: North-South (linking Paris and Madrid) and East-West (Bilbao-Zaragoza-Barcelona), providing access to the Spanish and European markets, with more than 100 million consumers. Based on the Smart Strategy Specialization of the region, the vision of the future is contained in the following 5 development themes of Navarre:

- Cohesive Navarre, socially and territorially, as a final objective of the strategy.
- Healthy Navarre, with healthy products and services, taking care of people.
- Sustainable Navarre, environmentally responsible and efficient in the use of resources.
- Industrial Navarre, increasing our productivity with 4.0 technologies.
- Competitive Navarre, improving the global position of our companies.

Using these five themes of the strategic vision, six high priority economic areas are proposed: **automotive and mechatronics, food chain, renewable energy and resources, health, comprehensive tourism and creative and digital industries.**

Within INKREASE project, the cross-innovation addressed on these six priorities has been exposed and shared through an effective good practices exchange between geographical areas as well as study visits and staff exchange activities.

ADItech Technology Corporation is the coordinator of the Navarra innovation system, this is the agent in charge of coordinating all delivery agents in the system and stimulating the interaction between science, technology and business in Navarra. ADItech managed the participation of the regional stakeholders in all actions of INKREAE, identified good practices with application in the region and promoted the cooperation between international stakeholders, institutions and regions involved in the project within the first phase.

Part II – Policy context

Within INKREASE project, the policy instrument addressed is the **Navarra ERDF Operational Programme, specifically the Thematic Objective 1 (TO1) to promote research, technological development and innovation.**

More in detail, the TO1 aims to promote investment performed by companies in innovation and research and the development of synergies between companies, technology centers and the higher education sector to develop new products and services and to facilitate technology transfer, social innovation, green innovation, public service applications, demand stimulation, network interconnection, clusters and open innovation.

Aligned with the previous mentioned policy instrument, the Action Plan aims to impact in the **investment for growth and jobs programme**. In particular, it pretends to generate smart, sustainable and inclusive growth and the achievement of economic, social and territorial cohesion. Besides, the action plan is expected to provide a more coherent distribution of resources for research avoiding unnecessary investments due to duplicity of regional equipment or infrastructures.

	<p>SECCIÓN 1. ESTRATEGIA DE LA CONTRIBUCIÓN DEL PROGRAMA OPERATIVO A LA ESTRATEGIA DE LA UNIÓN PARA UN CRECIMIENTO INTELIGENTE, SOSTENIBLE E INTEGRADOR Y AL LOGRO DE LA COHESIÓN ECONÓMICA, SOCIAL Y TERRITORIAL 6</p> <p>1.1. Estrategia de la contribución del programa operativo a la estrategia de la Unión para un crecimiento inteligente, sostenible e integrador y al logro de la cohesión económica, social y territorial 6</p> <p>1.1.1. Descripción de la estrategia del programa para contribuir al desarrollo de la estrategia de la Unión para un crecimiento inteligente, sostenible e integrador y al logro de la cohesión económica, social y territorial 6</p> <p>1.1.2. Justificación de la selección de los objetivos temáticos y las prioridades de inversión correspondientes, tomando en consideración el acuerdo de asociación, basada en la identificación de las necesidades regionales y, en su caso, nacionales, incluida la necesidad de abordar los problemas identificados en las recomendaciones pertinentes específicas de cada país adoptadas de conformidad con el artículo 121, apartado 2, del TFUE y en las recomendaciones pertinentes del Consejo adoptadas de conformidad con el artículo 148, apartado 4, del TFUE, teniendo en cuenta la evaluación ex ante 27</p> <p>1.2. Justificación de la asignación financiera 29</p> <p>SECCIÓN 2. EJES PRIORITARIOS 33</p> <p>2.A. Descripción de los ejes prioritarios distintos de la asistencia técnica 33</p> <p>2.A.1. Eje prioritario 1. Potenciar la investigación, el desarrollo tecnológico y la innovación 33</p> <p>2.A.2. Justificación del establecimiento de un eje prioritario que abarque más de una categoría de región, objetivo temático o Fondo (cuando proceda) 33</p> <p>2.A.3. Fondo, categoría de región y base de cálculo de la ayuda de la Unión 33</p> <p>2.A.4. Prioridad de inversión 34</p> <p>2.A.5. Objetivos específicos correspondientes a la prioridad de inversión y resultados esperados 34</p> <p>2.A.5. Objetivos específicos correspondientes a la prioridad de inversión y resultados esperados 36</p> <p>2.A.5. Objetivos específicos correspondientes a la prioridad de inversión y resultados esperados 38</p> <p>2.A.6. Acción que se va a financiar en el marco de la prioridad de inversión 41</p> <p>2.A.7. Innovación social, cooperación transnacional y contribución a los objetivos temáticos 1 a 7 49</p> <p>2.A.8. Marco de rendimiento 50</p> <p>2.A.9. Categorías de intervención 51</p> <p>2.A.10. Resumen del uso previsto de la asistencia técnica, incluidas, en su caso, las acciones destinadas a reforzar la capacidad administrativa de las autoridades que participan en la gestión y el control de los programas y beneficiarios 52</p> <p>2.A.1. Eje prioritario 2. Mejorar el uso y calidad de las TIC y el acceso a las mismas 53</p> <p>2.A.2. Justificación del establecimiento de un eje prioritario que abarque más de una categoría de región, objetivo temático o Fondo (cuando proceda) 53</p> <p>2.A.3. Fondo, categoría de región y base de cálculo de la ayuda de la Unión 53</p> <p>2.A.4. Prioridad de inversión 54</p> <p>2.A.5. Objetivos específicos correspondientes a la prioridad de inversión y resultados esperados 54</p>
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Figure 1: FEDER Operative Programme for Navarra region (Spain).

Part III – Details of the actions envisaged

ACTION: SIESS. Scientific Infrastructures and Equipment Sharing System.

1. The background

The Action Plan presented within INKREASE project arose from the **exhaustive analysis of the main necessities detected on Navarra region**. Related results of this reflection were collected into the Research and Innovation strategy for Smart Specialisation (**RIS3**) of Navarra, prerequisite to receive funding from the European Regional Development Fund (ERDF).

In this sense, **it was detected that Navarra incurs in duplicity when acquiring scientific equipment or building infrastructures for researching usages**. This is originated due to the lack of knowledge of the exiting equipment and infrastructures by all regional innovation agents. Eventually, this leads to an unnecessary duplication of costs.

Subsequently, to solve this problem, a **Scientific Infrastructures and Equipment Sharing System (SIESS) was designed and implement to provide an online catalogue-like able to show the capacity** of Navarra innovation agents. This will let R&D entities to share infrastructures and equipment for research and development purposes, envisaging increasing collaboration between them and importantly, saving cost for the society. Initially, exclusively used for R&D centres, public companies and universities. This is a useful tool to address the policy instrument of Navarra ERDF Operational Programme: TO1.

Through the action plan of the INKREASE project, SIESS is being developed. First of all, by mentoring similar systems already implanted into INKREASE partners' regions:

- Regional Innovation Systems working with a strong structure and stablished as a restricted and controlled system of entities focused on Innovation. (In particular, Central Denmark, Lower Austria, Emilia Romagna). Based on the information provided by these three regions, from ADItech we established the initial planning to launch SIESS platform.
- Policy Instruments related to how to boost innovative and collaborative networks at Regional level. (Specifically, Central Denmark, Lower Austria, Emilia Romagna). These regions acted as advisors to articulate this platform with Navarra Government. They provided guidance in the policy instruments used in their regions to support and built their tools and systems with similar proposes.
- Infrastructures Sharing System in Lower Austria.
 - Study visits during the Interregional Event in St.Polten.
 - Presentation with information about the infrastructures sharing units in Lower-Austria, by ECOPLUS.
- Basis for future Infrastructures Sharing System in Emilia-Romagna.
 - Meeting in ASTER during the Staff Exchange in Bologna

Based on these mentioned systems, the basis for the development of SIESS were established. Within the process, partners from Central Denmark, Lower Austria and Emilia-Romagna were contacted to solve specific doubts about the methodology and how to proceed to design the strategy of maintenance of the platform.

2. Action

Until the date, the first phase of **analysis of the regional necessity** was addressed. This included (i) the development of the infrastructures and equipment catalogue, (ii) the design of the taxonomy for the general classification, (iii) the design and development of the software for common management and (iv) the regional communication campaign.

Hereafter, the **second phase of expansion, monitoring and maintenance** will be faced. This consists on:

- **Expansion:** SIESS platform counts with 346 researchers/technologist registered and interacting each other. Within the upcoming years 2019 - 2020 it is expected that all researchers/technologists working in the region, a total of 1.200, will have access to the platform. Not only the expansion in regards to the number of participants is considered but also an increase in the number of the equipment shared in the database. Similarly it is scheduled the incorporation of computational software for simulation matters with common licenses that lets shared costs by registered members/associated institutions.
- **Monitoring:** in the next months specific indicators to monitor the expansion phase will be defined. Similarly, each 6 months an exhaustive analysis of the feedback from end-user will be developed. In this sense, participants are continuously providing feedback via email to the technical responsible of SIESS. The information is collected and it must be analysed to incorporate to the platform those suggestions that enrich SIESS and their usage.
- **Maintenance:** web maintenance, incorporation of improvements and changes in the platforms must be performed on an ongoing basis. To support this maintenance activities, ADItech will rely on the Government of Navarra different calls. Specifically, each year the regional Government launches a call to implement tools and platform to support innovation*.

* Last April and May 2019, a general and regional elections were celebrated. This implies changes in some departments of the regional Government related to innovation and subsequently, some calls will be modified. Within 2019 the maintenance or modification of these calls will be determined.

Despite of the achievement of some specific goals of SIESS (new collaborations between research centres, sharing equipment, registration of a part of the researchers/technologists, etc.), until the date there is no modification in the policy instrument selected by ADItech: the Navarra ERDF Operational Programme, specifically the Thematic Objective 1.

3. Players involved

The Government of Navarra launched in 2017 the call “Funding for technology centers, research and dissemination of knowledge organizations for the acquisition of equipment and R & D infrastructures.” ADItch was one of the beneficiaries of this fund with its project: SISS platform.

Thus, ADItch is the coordinator of this action, this is the responsible of the management, definition of the strategic plan and implementation of the platform, from the definition of the catalogue and design of the taxonomy for the classification to the implementation and maintenance of the software and communication campaign.

Up to date, **12 entities from the Navarra Innovation System are sharing their infrastructures and equipment (Figure 2)**. 10 technology centres, research and dissemination of knowledge organizations and 2 universities.













 AIN - Navarre Industry Association	 CENER - National Renewable Energy Centre	 CIMA - Center for Applied Medical Research	 CNTA - National Centre for Technology and Food Safety
 CSIC - Spanish National Research Council	 INTIA - Navarre Institute of Transfer and Innovation in Agri-Food Sector	 LUREDERRA - Multi-sectorial and multi-purpose technologies	 NAITEC - Automotive and Mechatronics Technology Center
 NASERTIC - Navarre Services and Technologies	 NAVARRABIOMED - Biomedical Research Centre	 UN - University of Navarra	 UPNA - Public University of Navarre

Figure 2. Entities from the Navarra Innovation System sharing infrastructures and equipment in SISS platform.

Regarding to **the end-users (scientist and/or technologist accessing and consulting the SISS platform)**, a **total of 346** from those 12 entities, are registered. They can navigate through the platform and identify equipment of infrastructures useful for their projects.

SISS classification system is based on the taxonomy developed by the University of Leeds.

Nonetheless, specialists from all SINAI agents have optimized this taxonomy by proposing the missing terms that would describe accurately their specific inventory, building a robust and global shared classification system that will be updated in a timely manner.

Having a professional taxonomy allows us to compare similar infrastructures and equipment among different agents in Navarra, describing the scientific and technological capabilities of various disciplines within this leading Spanish region.

The classification is based on three levels that can be visually identified by a color code: a first level of class in black, within which you can find a second level of order in grey and in the latter, you can find, in light grey, a final level of genus. You can perform a search of equipment within each of the aforementioned categories (Figure 3).

Class	Order	Genus
92 Process Equipment - Physical	All Materials Characterisation	All Imaging
156 Process Equipment - Biological	85 Chemical Analysis	2 Electrical
308 Materials Characterisation	4 Diffraction	3 In Vivo Fluorescence
163 Sample Measurement/Analysis	5 Electron/Ion Microscopy	5 Infra-Red
11 Large Scale Instruments	27 Imaging	1 Magnetic Resonance
183 Infrastructure	2 Magnetometry	6 Optical
18 Sample criopreservation	29 Mechanical Properties	5 Ultrasound
	33 Optical Microscopy	5 X-ray
	73 Physical Properties	
	0 Radiometry	
	33 Spectrometry	
	10 Spectroscopy	
	5 Surface analysis	
	2 Surface Probe Microscopy	

Figure 3. Example of a search by keywords within SISS platform.

HPC - High Performance Computing Solution for Navarra

Infrastructure IT Data Management



The solution consists of 720 Intel (R) Xeon (R) E5-2620v4 @ 2.10GHz architecture cores with a total of 5.76TB of RAM. The system has a storage of 1TB in SATA disks for scratch and 47TB for effective data storage in SATA disks. Two INFINIBAND FDR 56Gb / s switches are used for communications. It also has a POWER 9 solution with two NVIDIA Tesla cards to perform high complexity graphic simulations in a faster and more efficient way.

Manufacturer: IBM, DELL, MELLANOX, NVIDIA

Location: NASERTIC DATA CENTER

Contact name: [REDACTED]

Contact phone number: [REDACTED]

Contact email: [REDACTED]

Figure 4. Example of equipment shared by the entities registered in SISS platform.

In the future, it is expected a first phase where SISS will be opened to companies located in Navarra and a second one where the platform will have a totally opened website.

5. Costs

During the first phase of INKREASE, the costs related to the Action Plan of Navarra, the SIESS platform, have been performed to address coordination, information collecting (equipment, infrastructures, data of participants, etc.), design of the taxonomy for the classification of the data, development of the software, image and communication and diffusion of the tool and its benefits. Specifically:

First catalogue of Infrastructures and Equipment available at Innovation System in Navarra:

- 6.000€

Launching of the SIESS on-line Platform:

- 39.000€

6. Funding sources

The funds to cover costs of this Action Plan comes from the Regional Government of Navarra through its call "Funding for technology centers, research and dissemination of knowledge organizations for the acquisition of equipment and R & D infrastructures" launched in 2017. ADItech presented the initiative to this call, resulting awarded with the approval of the proposal.

Additionally, the staff costs associated to this action have been covered by ADItech with its own staff.

Date: 24/06/2019



Signature: General Manager of ADItech, Juan Ramón de la Torre

Stamp of the organisation