

Una manera de hacer Europa



BUENAS PRÁCTICAS

Actuaciones Cofinanciadas

Lines of aid for the creation, setting up and consolidation of Joint Research Units in line with the strategic challenges and priorities identified in the RIS3 for Galicia
Galician Innovation Agency (GAIN)

Programa Operativo de Galicia

Año 2019

Fondo Europeo de Desarrollo Regional

Lines of aid for the creation, setting up and consolidation of Joint Research Units in line with the strategic challenges and priorities identified in the RIS3 for Galicia

The Galician Innovation Agency (GAIN) has allocated for the 2017-2020 period a line of aid for the creation, setting up and consolidation of Joint Research Units (JRU).

JRUs are an important approach for bringing together the business and scientific-technical fields to develop joint research and revaluation lines. Through them, it is sought to create and strengthen lasting collaboration bonds between universities, centres of technological innovation and businesses, so the efforts of each of these entities add up to the consecution of goals that wouldn't be achievable without such association. 6 Joint Research Units have been bolstered. Specifically, 3 new Joint Research Units have been created and another 3 have been consolidated.

We present two of these Joint Research Units as examples of good practice:

In 2014, the **USC-ESTEVE Joint Research Unit** was established, focusing on the early discovery of drugs, between the University of Santiago de Compostela (USC) and the pharmaceutical company Laboratorios del Dr. Esteve, S.A. (ESTEVE), within the first GAIN grant scheme for the creation of joint research units.

During the 2014-2017 call for applications, both entities came together to initiate the search of new drugs for pain treatment. After the results obtained in this first phase, this JRU has focused on the research of new formulations of future drugs for pain relief. Its goal is the discovery of new medications that at this time do not exist in the market, which will allow a more effective pain treatment, and that could be administered in hospitals or purchased at pharmacies.

In particular, new chemical compositions are sought with specific properties to relieve or suppress pain in a much more effective way than already existing medications and with the capacity to eliminate the enduring pain of many patients that suffer from chronic pain.

On the other hand, the **Joint Research Unit AIMEN-GRUPO COPO**, constituted by the Northwest Metallurgical Research Association-Technological Center (Asociación de Investigación Metalúrgica del Noroeste-Centro Tecnológico) (AIMEN), the Technological Center of Grupo Copo, S.L.U. (CETEC) and the business group Grupo Empresarial Copo, S.A. (GEC), was born with the aim that in the future factories will be more automatised and work will be carried out and coordinated through robots and/or computer programs that are managed from computers or touchscreens. This way, better performance foams for the automotive sector will be manufactured in a flexible and efficient way. This will result, for instance, in a more comfortable driving of our vehicles, since the new foams that fill their seats will be more comfortable.



The overall budget for this line of aid was 5,000,000 euros, of which the ERDF contributes 4,000,000 euros. This monetary amount will spur a private investment of more than 11.5 million euros, which will boost research and its ensuing application.

Both JRUs are considered good practices because:

1. The intervention has been properly publicised among beneficiaries, potential recipients, and public at large.

The USC-ESTEVE Joint Unit has publicised the aid received from the ERDF Funds both through the web and the sign posted on its premises:

La Unidad Mixta ESTEVE-USC es una alianza publico privada que tiene por finalidad codesarrollar nuevos fármacos contra el dolor crónico

[VER FOLLETO INTERACTIVO](#)

ESTEVE USC

Amplia experiencia en transferencia de conocimiento

La alianza entre el Grupo BioFarm de la Universidad de Santiago de Compostela y ESTEVE, una empresa farmacéutica de referencia, representa un salto cualitativo en la colaboración de más de diez años entre ambos socios. La creación de la figura de Unidad Mixta fue una iniciativa de la Xunta de Galicia, a través de la Agencia Gallega de Innovación (GAIN).

ESTEVE es una empresa líder en el sector farmacéutico español, con una facturación de 85 millones de euros y una inversión en I+D de 7,7 millones de euros en 2016. Su actividad empresarial está caracterizada por desarrollar modelos de innovación abierta mediante el desarrollo de colaboraciones y alianzas estratégicas. En enero de 2016, la empresa firmó una alianza mundial con Laboratorios Mundipharma GmbH y su empresa asociada independiente Mundipharma Pharmaceuticals LP para el desarrollo global de una nueva generación de medicamentos para el tratamiento del dolor.

El grupo de investigación BioFarm de la USC, coordinado por la Doctora Isabel Laca, tiene una amplia experiencia en transferencia de conocimiento. Está especializado en descubrimiento temprano farmacológico, donde ha trabajado siempre en colaboración con la industria farmacéutica y biotecnológica, convirtiéndose en un referente internacional en este campo.

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La Unidad Mixta ESTEVE-USC está cofinanciada por el Fondo Europeo de Desarrollo Regional (FEDER) de la Comisión Europea.

The JRU has also prepared informative brochures of the interventions carried out, and even a video, in which the contribution of community funds is highlighted:



Unidad Mixta USC-Esteve

Secondly, the Joint Unit AIMEN-GRUPO COPO has also publicised the aid received from the ERDF Funds both through the web and the sign posted on its premises:

UMI DIGI4AUT :: Digitalización de los procesos de fabricación de espumas para automoción

UMI AIMEN-GRUPO COPO DIGI4AUT

Conectividad, digitalización y modernización de procesos de fabricación

Palabras clave

NOTICIAS
PROYECTOS

Este proyecto ha sido financiado por la Agencia Gallega de Innovación, así como cofinanciado con cargo a los fondos FEDER y en colaboración con la Xunta de Galicia, la Xunta de Galicia y la Xunta de Galicia.



This Joint Unit has also hosted a presentation event and has published an article in issue 29 of the AIMEN Technology Centre Bulletin, where community funds contribution has been highlighted:



O Porriño, 13 de febrero de 2018.- AIMEN ha dado a conocer, en el marco del seminario "Conectividad, monitorización y sensorización inteligente en el entorno industrial", dos de las UMI que tiene en marcha: DIGI4AUT y JOINTS 4.0. La primera de ellas se enmarca en la última convocatoria resuelta por la Xunta de Galicia y está desarrollada en colaboración con el Grupo Empresarial COPO y el Centro Tecnológico del Grupo Copo. Su objetivo es implantar metodologías de producción avanzadas para componentes. Mientras JOINTS 4.0 supone la consolidación de la alianza establecida con GKN Driveline Vigo en 2015 para desarrollar nuevas tecnologías de fabricación sostenible para el sector de automoción. Ambas iniciativas están subvencionadas por GAIN, así como cofinanciadas a cargo de **Fondos FEDER** y cuenta con el apoyo de la Consellería de Economía, Empleo e Industria de la Xunta de Galicia.

Actualidad I+D+i

Digitalización de los procesos de fabricación de espumas para automoción. 2017-2020

AIMEN, el Centro Tecnológico del Grupo COPO y el Grupo Empresarial COPO conforman esta Unidad Mixta de Investigación que nace con el propósito de alcanzar la digitalización de la fabricación como plataforma para implementar un nuevo modelo de Fábrica Avanzada 4.0, capaz de abordar de forma flexible y eficiente, la fabricación de espumas de mayores prestaciones para el sector automoción.

Para lograrlo, se han definido un conjunto de objetivos que pasan por desarrollar sistemas de sensorización avanzada y comunicaciones, que permitan implementar la fábrica cognitiva y nuevos sistemas dinámicos de gestión; diseñar máquinas, celdas y plantas escalables y reconfigurables, utilizando nuevos sistemas de control cognitivo con capacidad de reacción ante situaciones impredecibles; optimizar los procesos, integrar los sistemas de gestión y posibilitar la trazabilidad unitaria de cada producto mediante la obtención de un gemelo virtual con toda la información existente en planta; y por último, desarrollar sistemas para el análisis masivo de datos a través de herramientas de mantenimiento y control predictivo, identificando patrones de fallo y avería, que permitan anticiparse al fallo.

En otras palabras, DIGI4AUT plantea el desarrollo de tecnologías que conecten el mundo físico con el digital con las siguientes características: Conectividad: adquisición de toda la información relevante del sistema, Digitalización: generando un gemelo digital de la planta real, Reconfigurabilidad:

implementando un nuevo concepto de máquinas, celdas y plantas escalables y Cognición: implementando el concepto de Fábrica Cognitiva, donde máquinas y procesos se reajustan a variaciones en la fabricación.

Por lo de pronto ya se han detallado todas las operaciones de proceso y máquina,

parámetros de relevancia y principales variables a medir, con lo que se definirá el modo con el que la fábrica 4.0 debería trabajar. Así mismo, ya se han iniciado cada una de las líneas de investigación que permitan establecer el nuevo concepto de fábrica avanzada. ■



In addition, on November 13, 2017, both JRUs took part in the event that GAIN held in the City of Culture (Santiago de Compostela) for the promotion of Joint Research Units. Said event, under the title *ENCONTRO UMIX: MESTURAS GAÑADORAS*, had the objective of publicizing the Joint Units established in Galicia since the beginning of the program in 2014, as well as the results derived from them.

The event, which took place concurring with the awarding of this line of aid, was opened by the Councillor of Economy, Employment and Industry, Francisco Conde, who emphasized the role of ERDF Funds in achieving the set objective that talent and science leave the laboratory and settle in the industry. The event was attended by about 200 people from companies, technology centres, universities and administration.

ENCONTRO UMIX
Mesturas gañadoras

Colaboración sin precedentes en el campo de la cooperación gallega en materia de I+D+i e innovación.

Programa

- Sesión de inauguración en la sede de la Xunta de Galicia (13 de noviembre de 2017).
- Sesión de presentación de los resultados de los proyectos de I+D+i en materia de innovación en Galicia (14 de noviembre de 2017).
- Sesión de presentación de los resultados de los proyectos de I+D+i en materia de innovación en Galicia (15 de noviembre de 2017).
- Sesión de presentación de los resultados de los proyectos de I+D+i en materia de innovación en Galicia (16 de noviembre de 2017).
- Sesión de presentación de los resultados de los proyectos de I+D+i en materia de innovación en Galicia (17 de noviembre de 2017).
- Sesión de presentación de los resultados de los proyectos de I+D+i en materia de innovación en Galicia (18 de noviembre de 2017).
- Sesión de presentación de los resultados de los proyectos de I+D+i en materia de innovación en Galicia (19 de noviembre de 2017).
- Sesión de presentación de los resultados de los proyectos de I+D+i en materia de innovación en Galicia (20 de noviembre de 2017).

Programa Operativo FEDER Galicia 2014-2020 Línea de materia de Innovación



2. The intervention brings in innovative features

The **USC-ESTEVE Joint Research Unit** is researching the development of new drugs to suppress pain resistant to existing treatments and that many people suffer from. This joint unit works on the discovery of the composition of these new drugs and is also in charge of making all the necessary tests so these new drugs reach the market. The participation of the Pain Unit of the University Hospital Complex of Santiago de Compostela stands out in this joint unit.

In the **Joint Research Unit AIMEN-GRUPO COPO**, sensors are being incorporated to determine the fundamental parameters of the production process that influence, not only in obtaining moulded polyurethane foams, but in the polyurethane production process itself.

The introduction of intelligent manufacturing technologies when moulding the foam and the development of flaw detection systems in the products obtained, produce essential information for the automatic adjustment/calibration of the robots that inject polyurethane into the moulds.

3. Compliance of the results with the set objectives

The **JRU USC-ESTEVE** has already obtained good results during these years of operation. They are studying many different chemicals with the potential to be transformed into a drug to soothe or eliminate pain. As a most outstanding achievement, this joint unit has already obtained a new drug to treat pain that stems directly from the nervous system and that will soon be available to patients. It has already successfully passed all clinical trials and is being evaluated for market introduction.

At **JRU AIMEN-GRUPO COPO**, analysis of the production processes of the raw material (polyurethane) that is used to produce foam products for automotive seats has been completed. Also, the necessary sensors have already been installed on the polyurethane production line to prevent collapse when mixing time is insufficient, an essential parameter for this production process.

4. Contribution to the resolution of a problem or weakness detected within the territorial scope of intervention

The **JRU USC-ESTEVE** works to solve one of the great health problems that exist today worldwide: chronic pain (a pain that lasts for a long time, months or even years). This type of pain is particularly prevalent in regions such as Galicia, since it is a territory with a very aged population. Despite the numerous advances in pain treatment, there's still a sizeable portion of the population that suffers from pain on a daily basis. This joint unit is trying to discover new medications to relieve or suppress this type of pain.

At the **AIMEN-GRUPO COPO** unit, the first problem solution was managing to produce in-house the raw material to produce the foam used in the manufacturing process. Being able to sidestep the import of raw material from northern European countries, to produce it with improved composition and characteristics, and to know every detail of the production process through the sensor units installed at different steps of the manufacturing line, constitutes a quantum leap on improving productivity and quality.

5. High degree of coverage of target population

The **JRU USC-ESTEVE** has made possible the discovery of new chemical compounds with analgesic properties, which may eventually become drugs for the treatment of different kinds of pain.

This fact entails an important coverage on the target population, since chronic pain is currently a high prevalence, worldwide spread health problem. In Europe, 19% of adult population suffers from moderate to severe chronic pain, while in the United States this rate exceeds 9%, excluding oncologic pain. Therefore, it is estimated that more than 90 million people are affected, a number that increases when taking mild pain into account. This joint unit aims to create drugs with greater efficacy and fewer side effects, both medical needs yet to be met. Hence, the realisation of a preclinical candidate for the treatment of pain is of paramount importance in providing coverage to the population suffering from chronic pain.

The improvements set to be achieved through the work of the **JRU AIMEN-GRUPO COPO** will be reflected as a growth in the competitiveness of Galician industry and in its possibilities of generating industrial employment and increasing wealth. The automotive sector is very important because it creates considerable employment and wealth. Given that Galician technology centres and specialized SMEs participate in the development of this project, the knowledge to be acquired may be extended to the rest of the Galician industrial sector, which will generate even more employment and wealth in the Autonomous Community of Galicia.

6. Observance of horizontal criteria of equality of opportunities and non-discrimination, as well as social responsibility and environmental sustainability.

GAIN is committed to “responsible research and innovation (RRI), and as such, the generation of qualified employment and the health and quality-of-life improving effects on the citizenry of the co-financed operations were taken into account when preparing the aid scheme.

Specifically, the **JRU USC-ESTEVE** aims at the quality of life and well-being of people who suffer from chronic pain. The elderly are, fundamentally, who suffer from these chronic pain and will be the ones who benefit the most from this research. And, as we know, women have a longer life expectancy than men, so there will be a very significant number of women who will end up benefiting from the results of this research.

Furthermore, in the course of the research, the specific impact of these drugs on the improvement of the situation of women has been studied.

On the other hand, this JRU must comply with the Sustainable Development Plan of the University of Santiago de Compostela. For this reason, special attention has been paid to the recycling of all types of waste that may have been generated in the research process. The use of plastics has been reduced as much as possible. Particular emphasis has been put on the recycling of electrical and electronic waste, so prevalent nowadays in any laboratory. Also, striving to achieve a sustainable university campus, interventions have been carried out aimed at saving energy and water and reducing the use of polluting chemicals.

Regarding the **JRU AIMEN-GRUPO COPO**, great interest has been placed into the training and integration of its employees and in achieving a healthy work environment. Thus, a commitment to equality of opportunities in the access to a job has been made, promoting career development and labour and family conciliation.

Regarding environmental sustainability, this research unit has proposed a production process very efficient in the use of resources. It has tried to minimise expenditure on raw materials, since some of them can be toxic and harmful to the environment. Parts of the production process have also been modified in order to save energy and reduce water consumption. Another goal has also been to reduce the volume of waste generated, since it poses a risk to the environment as well.

7. Synergies with other policies or instruments of public intervention

The Galician Innovation Agency (GAIN) has promoted the creation, setting up and consolidation of joint research units within the framework of RIS3 Galicia and specifically within the Galicia Innova program. The main objective of this program is for the money invested by public administrations to spur investment by individuals and companies in Galician innovation processes and in turn contribute to further development of the Autonomous Community.

Likewise, there are other aid schemes to promote research and innovation in Galicia. On the one hand, we must highlight the "**Industry 4.0 Initiative**" (Iniciativa Industria 4.0) grants, that supports the automation and robotization of Galician companies. Also, the "**H2020 Complement**" (Complemento H2020) that helps in the preparation and presentation of proposals to the Horizon 2020 program of the European Union, with the aim of obtaining financing.

It is also worth pointing out as complementary lines of intervention those included in the **Conecta-Pyme** program, which grants aids to develop research and innovation projects by small groups of companies, and the **Innova Pyme** program which aims to promote innovation by smaller companies, which usually have more difficulties to conduct it.

Lastly, also noteworthy is the **program for the consolidation and structuring of technology centres**, which grants aid to finance the operating costs of the technology centres of Galicia with the clear objective of improving the research and innovation services they provide to businesses.

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