



Smart Specialisation Platform

Smart Story: Adaptation of regional innovation ecosystems to the covid-19 health emergency situation: The case of Castilla y León

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The region of Castilla y León (Spain) underlines the role played by university-based networks that were able to manufacture and deliver protective equipment to hospitals and elderly residence, thanks to their fab-labs and collaborations with other regional stakeholders. The account also stresses how the Smart specialisation projects support and promote the creation and consolidation of collaborative environments as well as knowledge transfer from R&D entities towards the market.

Connectivity as a starting point to reinforce innovation ecosystems in the post-COVID-19 situation

Ecosystems are communities that have the ability to adapt to the environment they are facing. Their component parts interact with each other and have the ability to perform different tasks, change and evolve. Applied to innovation, ecosystems involve researchers, entrepreneurs, industry and society in general and attempt to take full advantage of their innovation potential. The environment context helps to encourage cooperation, networking, brainstorming, funding, and skills among the building blocks of the system.

Connectivity among actors has played a key role, so that the innovation ecosystems present in the universities of Castilla y León could act through their Fab-lab infrastructures during the health emergency unleashed by the Covid-19 pandemic in mid-March 2020.

Through the Foundation of Universities and Higher Education (FUESCYL), the nine regional universities together with the Ministry of Education of the Regional Government of Castilla y León are part of the TCUE network network that is in charge of promoting the knowledge transfer from universities towards companies, (Red de Transferencia de Conocimiento Universidad-Empresa - TCUE). This Network has developed the 2018-2020 action plan as part of the ERDF Operational Programme for Castilla y León 2014-2020, within the framework of the Regional Strategy for Smart Specialisation (RIS3).

The activities of the Network have led to a significant improvement of the pace of university knowledge transfer in the whole region of Castilla y León. This transfer is understood as a bi-directional relationship that requires continuous interaction between researchers and companies, incorporating interdisciplinary approaches, based on collaboration, cooperation and coordination at the regional level.

Reacting to the pandemic: Smart Specialisation and flexible refocusing in times of need

Smart specialisation promotes optimal conditions for the performance of innovation ecosystems, and they reach their full potential when well interconnected. One of the activities promoted by the knowledge transfer network in the 2018-2020 TCUE Plan has been the creation of Fab-lab infrastructures for experimentation, including rapid prototyping and additive manufacturing (3D Printing) by the universities students. These innovation spaces were operating with various levels of maturity within the four public universities before the health emergency crisis started. The critical situation has pushed the Network to focus all its efforts on accelerating and consolidating its collective work in order to respond to the urgent demand.

Castilla y León is one of the largest regions of the European Union; through the public universities' Fab-labs on the one hand, and small 3D printing structures belonging to private universities on the other hand, it has been possible to provide support across the whole regional territory. Indeed, the Network had the ability to take advantage of its regular contacts and continuous connection with the regional actors, to manufacture protective equipment for health personnel and nursing homes. The network includes notably the academic community and research centres, university hospitals, the technology centres and regional clusters networks, the regional government's councils, local companies, together with various directorates of Castilla y León's Regional Government (Health Management, the Civil Protection, Security Forces, the Ministry of Development and Environment).

Thus, when the health crisis broke out, despite of the great difficulties imposed by the confinement measures, the Fab-labs of the four public universities in Castilla y León were able to react immediately, establishing very effective networks of collaboration that allowed boosting manufacturing and the delivery of protective equipment to hospitals and elderly residences. This very important achievement took place in a very

short time and under very difficult conditions, thanks to the effort of the personnel linked to these centres and the generosity of the universities. This allows positioning these new infrastructures as an immediate benchmark in terms of additive manufacturing, prototyping and collaboration and it opens up a huge range of future possibilities with different social agents at stake.

Through its Fab-lab - the most advanced before the crisis - the University of Burgos immediately joined a local network of supply of protective masks to the Burgos Hospital, in collaboration with the City Council, the Cluster of Innovative Solutions for Independent Living (SIVI) and local companies.

By launching its machines, the Fab Lab of the University of Valladolid could join the "Renault to the rescue" network for the manufacture of protection elements for healthcare personnel in hospitals and for nursing homes (using 3D printers). Initiated by more than 120 employees of the Renault Engine Factory in Valladolid, this solidarity project was financed through Amazon crowdfunding, in collaboration with the CIDAUT technology centre, Renault, the start-up AENIUM and other entities.

With respect to the Fab-lab of the University of Salamanca, it went to great lengths to manufacture health protection items for local hospitals, whose network included the Pontifical University of Salamanca.

Although the Fab-lab of the University of León was less developed at the beginning of the health crisis, it started producing 3D manufacturing of sanitary protection material in coordination with the Fab-lab of the University of Valladolid, and thanks to the efforts of local companies.

These achievements would not have been possible without the generous effort of regional stakeholders (the universities, local companies, other spontaneous citizens' networks, etc.). All society players have contributed to support the health system and created true value chains organized in groups that have investigated, designed, prototyped, approved, manufactured and distributed protective equipment throughout the entire territory of the Community.

The transformation and adaptation mechanisms that have emerged during the health crisis will be taken into account in the design and preparation of the next RIS3 Strategy for Castilla y León 2021-2027. In particular, the knowledge transfer plan TCUE 2021-2023 will incorporate the tools and instruments that have proven efficient in this new scenario, and delve into their geographical extension and connectivity with other networks.

The RIS3 of Castilla y León dedicates one of its programs to stakeholders' collaboration within RDI value chains to promote stronger connection between science and business. The TCUE Program promotes universities knowledge transfer capacity, notably through their professionalization and specialization, management capabilities, and through their greater integration into the TCUE Network. The program also fosters collaborative mechanisms that allow for sharing ideas, R & D & I projects, patents, technologies, etc. All these actions have proven to be effective in generating an innovative ecosystem around the centers of knowledge generation.

The recommendations established in the mid-term evaluation of the RIS3 of Castilla y León in 2017, stressed the need to consolidate these collaborative structures that have proven effective in improving the connection between agents. The update for the 2018-2020 period includes a series of key projects conceived as bets, capable of impacting on various thematic priorities and strategic objectives. One of these initiatives seeks to deepen the reach and broaden the scope of knowledge transfer activities and multiply their impact from R&D entities towards the market.

The next Smart Specialisation Strategy 2021-2027 for Castilla y León will continue betting on the creation and consolidation of collaborative environments, deepening its geographical extension and its connection with other innovative ecosystems

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Further information:

Knowledge transfer Network [TCUE](#) (in Spanish)

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Regional government website/ [Junta de Castilla y León](#)

Smart Story: [Building a Regional Stairway to Excellence](#) in Castilla y León