

# Launch of reality-based training programmes for the management of organ donations and transplants



Next 24 March will be the Spanish National Transplant Day (Photo: National Cancer Institute / unsplash.com)

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*The Donation and Transplantation Institute and the UOC spin-off Immersium Studio have developed immersive activities for healthcare professionals to provide training prior to dealing with real cases*

*Using experiences close to reality, the initiative teaches how to approach interviews with relatives of donors*

*Participants will also learn about the Spanish hospital model of excellence in donation and transplant management through virtual reality*

The Donation and Transplantation Institute ([DTI](#)) and [Immersium Studio](#), a UOC spin-off, have developed virtual reality experiences that can be used to train health professionals in the area of organ and tissue donation and transplantation. The contents include interviews with relatives of donors and a visit to a hospital to learn about the practices implemented in the Spanish organ and tissue donation and transplantation model. In fact, Spain is currently the world leader in this field and, according to data from the Ministry of Health, accounted for 20% of EU donors and 6% of the world's donors in 2019.

[Family Approach VR](#) has been the first activity developed, with **health professionals from 24 countries** participating so far. The experience allows students to perfect the skills required to manage interviews with bereaved family members who may become organ donors. The professionals practise techniques including giving bad news and managing consent for organ and tissue donation. "With this virtual reality experience, making decisions has direct consequences that change how the learning experience is given," said Luis Villarejo, Immersium Studio's CEO.

Each student lives a **personalized experience** that is produced by their decisions, and which may or may not conclude with getting the family's consent for the donation. The situations with which they interact seek to be realistic, using recreations of real cases with professional actors. "The experience offers users **constant feedback** on their actions, explaining what they did right or wrong, so that they can perfect their knowledge and make corrections, if necessary," added Villarejo. In addition, according to its creators, thanks to this virtual experience, professionals learn how to support a family in **coping with the loss of a loved one**.

Health care professionals from eight leading Spanish hospitals have taken part in

this training activity. According to Francisco Muela, transplant coordinator nurse at Barcelona's Hospital Clínic, it is “an opportunity to make contact **more real than the role playing** we do among team members when we have never given bad news before and we join the Transplant Coordination service”. Muela stressed that learning with virtual reality, with the possibility of choosing between different options, helps to “**rethink** the situation better **before rushing in**, keeping calm and planning more carefully the strategy for **approaching relatives**”. In addition, the nurse underscored that since the experience is personalized, “it makes it easier to experiment and **learn from your mistakes**”.

For Dr Chlœe Ballesté, DTI's Director of Development and International Cooperation, learning from experience and one's own mistakes provides a way of “**learning without upsetting real people**, who are already going through a very difficult time”. Ballesté highlighted that the technology is not simply complementary to traditional training but immerses health professionals in an “**individualized live experience** that is very **difficult to replicate with face-to-face trainers**, because of the time needed and the teaching staff it would require”. In addition, online training with virtual reality allows it to be done from anywhere in the world, which has meant that the course “has been approached from a universal perspective, so that it can be used profitably by any professional in any country, although we intend to customize it in the future for each location that requires it, adapting to different donation and transplantation models,” she said. “The immersive training technique also enables us to organize **a visit to a virtual hospital** so that participants can understand how it works and how it is organized, without having to travel,” she added.

Family Approach VR uses **voice-based interaction and role changing** – users go from being critical care physicians to transplant coordinators – with **dramatic shifts** in the direction taken by the **experience**, depending on whether the student makes the right or wrong decisions. The training includes a self-assessment and monitoring system used by the trainers and by the students themselves that lets them see where they are in the learning process.

## **The Spanish model as a reference for organ and tissue donation and transplantation**

DTI and Immersium Studio have developed a second experience to learn from the Spanish model's best practices in organ and tissue donation and transplantation. The [TPM Journey](#) is a **virtual visit** to a simulated tertiary **hospital** that allows students to learn from the **best practices integrated in the Spanish donation and transplantation model**. The core role is the transplant coordinator, who accompanies the user through the hospital's different departments and services, including case follow-up. In each department, students are received by the management staff, who explain what their work consists of. The departments involved include the transplant coordination office, the emergency room, intensive

care units, the immunology laboratory, the departments that deal with each of the solid transplantable organs, a tissue donation centre, and the medical director, among other areas.

Learning is enriched with the presentation of a number of **case studies** that students must **solve**. Thus, TPM Journey takes in all the medical, technical, legal and financial aspects that arise during the donation and transplantation process. As in the previous training activity, it includes immersive interaction, self-assessment and monitoring methods.

This experience not only evaluates the knowledge acquired but also how much more the professional wants to know. “The ambition to increase the level of knowledge is sown by putting users in situations in which they are asked questions that they can successfully answer if they have the necessary basic knowledge,” explained Villarejo.

## About DTI

The Donation and Transplantation Institute ([DTI](#)) groups a number of internationally recognized experts in the field of donation and transplantation, mainly from Spain, Europe and the Americas, who advise on the development of projects and the creation of research networks.

Transplant Procurement Management (TPM), DTI’s educational division, was created 30 years ago and is a world leader in healthcare practitioner training. Its goal is to increase the quantity, quality and effectiveness of donations and transplants by training the professionals involved in the process. Since 1991, it has trained more than 14,000 professionals from over 100 countries.

## About Immersium Studio

This spin-off, developed from the UOC’s RDI activity, specializes in generating virtual reality and augmented reality experiences for all fields of activity, including education, culture and tourism. Its technology and methodology, based on the use of interactive 360° video, creates a complete immersion in another context for experiencing sensations such as role playing. [Immersium Studio](#) is the outcome of more than a decade of experience acquired by its CEO, Luis Villarejo, in the field of augmented, virtual and mixed reality-driven educational technologies, also known as immersive technologies. In 2019, the spin-off was awarded the [prize for the best immersive learning experience worldwide](#) at the International Conference of the Immersive Learning Research Network, a leading event in the industry.

The UOC promotes Immersium Studio through [Hubbik](#), the platform created to support entrepreneurship, knowledge transfer and open innovation, and it is

funded by [Invergy](#), the University's vehicle for investing in education and ICT start-ups and spin-offs related with its fields of knowledge.

*This project supports SDG (Sustainable Development Goal) 3, good health and well-being, which seeks to ensure a healthy life and promote well-being for everyone.*



The UOC's research and innovation (R&I) is helping overcome pressing challenges faced by global societies in the 21st century, by studying **interactions between technology and human & social sciences** with a specific focus on the network society, e-learning and e-health.

Over 500 researchers and 51 research groups work among the University's seven faculties and two research centres: the Internet Interdisciplinary Institute (IN3) and the eHealth Center (eHC).

The United Nations' **2030 Agenda for Sustainable Development** and **open knowledge** serve as strategic pillars for the UOC's teaching, research and innovation.

More information: [research.uoc.edu](https://research.uoc.edu). [#UOC25years](https://twitter.com/UOC25years)



## #UOCexperts

**Luis Villarejo**

Immersium Studio CEO, UOC spin-off



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## Related links

**Family Approach VR images**

[More information](#)

**TPM Journey VR images**

[More information](#)

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**Course offering**



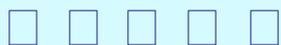
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