
DONATION & TRANSPLANTATION INSTITUTE (DTI)

ANNUAL ACTIVITY REPORT

2021



DONATION & TRANSPLANTATION INSTITUTE
www.tpm-dti.com

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LETTER FROM THE PRESIDENT

Dr. Martí Manyalich

President of the DTI Foundation



Dear readers,

DTI Foundation has stood out because during this time of pandemic it has been active constantly working online with a good connection between the entire team and overcoming adversity both internally and internationally successfully. Leaving aside the impact of 2020 that surprised us all, this year 2021, with new tools, technologies and ways of working, we have once again achieved the highest activity.

Thanks to everyone who has helped us, to everyone who has made it possible, we wish you good health and that this pandemic does not take away your happiness.

This year 2021 we celebrate 30 years of TPM courses. That family of organ donation professionals that in 1991 got together to train others. This activity has spread with various editions in many countries around the world.

It should be noted that venues such as Vic, Castelldefels and Sant Hilari have hosted many professionals from around the world for a week to learn about organ and tissue donation.

Our TPM course is a global product adapted to all cultures, ways of being and countries; and that presents magnificent results when our students and colleagues in their country of origin can implement their experiences and knowledge learned throughout the course.

However, the most important thing in these courses is the interpersonal and professional relationship that creates more

than a group of friends, a family: the TPM family, which can be found all over the world even if many years have passed.

I would highlight this personal facet of being TPM, but I would not leave aside new technologies that have been implemented in TPM courses, such as virtual reality glasses, Game of Donors online activity, digital Action Learnig, recording sets and classes in streaming. Knowledge and teaching methods have been adapted to the current world situation.

I would like to call attention to the initiatives that the Foundation has had in terms of innovation, in matters of the elderly, in training, in perfusion machines, etc. and specifically in robotics, which we have already been working on for 5 years with this project and we have already been providing services to patients with autism, diabetes, or heart failure, as well as urological issues and cardiopulmonary resuscitation issues in training.

We would say that this part of social robotics has made us advance in a new way of being in many entities, with many people and easing their activities.

Activities that we have traditionally been carried out as the organization of courses in different countries due to the pandemic have been reconverted online and have been carried out in streaming. Likewise, cooperation with China has also been done online. Not only from China but also with countries from the Belt & Road area.

We have also advanced in the field of biotech for research and bioprojects, with technological advances, medical devices and organ preservation solutions.

DTI Foundation is fortunate to have many local and foreign scholarship holders and many volunteers who contribute their experience, their work to improve the projects and the day-to-day life of the Foundation, also helping to save lives.

Finally, I would like to comment on the activities in the DTI Community and especially the social part that this year in a great event at the Palau de la Música with the Orquestra Simfònica del Vallés, the Escolania de Montserrat together with the Fundació Nen Déu, we were able to meet and share together a summer night.

This increases the values, trust and solidarity of this society that we have around our Foundation of people who are helping, the Advisory Committee, other experts, consultants and friends, both national and international.

Let's congratulate ourselves because there are many thousands of lives that are still being saved, but remember that we are still only 10% in meeting global needs and that our goal is to achieve that one million transplants can be performed in the world each year and that no one will miss a transplant if they suffer the misfortune of having a transplantable chronic disease.

ABOUT DTI FOUNDATION

DTI Foundation is a not-for-profit organization formed by a group of internationally renowned experts in organ donation and transplantation.

TRAINING + COOPERATION + INNOVATION + RESEARCH

We are **COMMITTED** to increasing organ donation rates around the world, improving the population's quality of life and promoting regenerative medicine.

Since 1991, we have trained more than **17.000** healthcare professionals from **113** countries through our **TPM®** educational programmes.

As well as providing training, we also **collaborate with organisations on an international level** through the **SEUSA programme**, which presents the best models for organ, tissue and cell donation and transplantation. In DTI Foundation we are working on **new innovation and research projects** such as robotics, bioprojects among others.

This report summarises the main activities of our organization throughout this year **2021**.

***DTI staff**



TPM: 30 YEARS TRAINING HEALTHCARE PROFESSIONALS

In 1991 the so-called “TPM Project”, whose acronym stands for Transplant Procurement Management, was born under the initiative and supervision of **Dr. Martí Manyalich** and the **Transplant Coordination group of the Hospital Clínic de Barcelona**, with the aim of responding to the need for professionalization and training of health professionals in the field of organ donation and transplantation.

From the beginning it had the support of the **Universitat de Barcelona (UB)**, **Organització Catalana de Transplantaments (OCATT)** and the **Organización Nacional de Trasplantes (ONT)** and the first face-to-face course took place at the Parador Nacional de Vic in November 1991. Internationalization came soon with a first course in Argentina in 1993 and in Hungary in 1994.

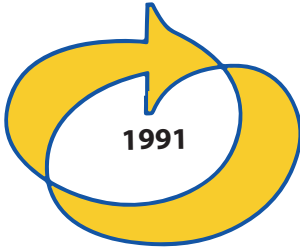
Over the years, the educational project has designed and taught courses in face-to-face, semi-face-to-face and online modalities and has produced a wide range of educational material - always constantly updated - such as the **TPM Manual**, published for the first time in 2001.

The excellent international reception of the program led to the creation in 2008 of the **DTI Foundation** to respond not only to the need for training but also for consulting and cooperation projects adapted to the different needs and demands of the countries.

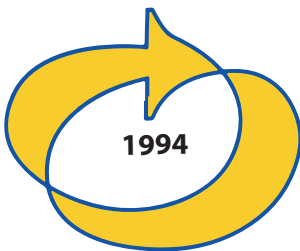
To date, more than **17,000 professionals** from a hundred countries have been trained and more than **300 courses** have been carried out.

This successful activity could not have been carried out without the collaboration of experts with extensive clinical and teaching expertise, and an excellent technical and scientific coordination team. All of them contribute to making the courses not only an educational but also a personal experience, which allows us to say that there is a “TPM Family” all over the world.

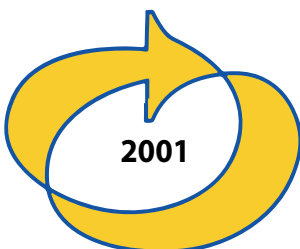
30 YEARS IN



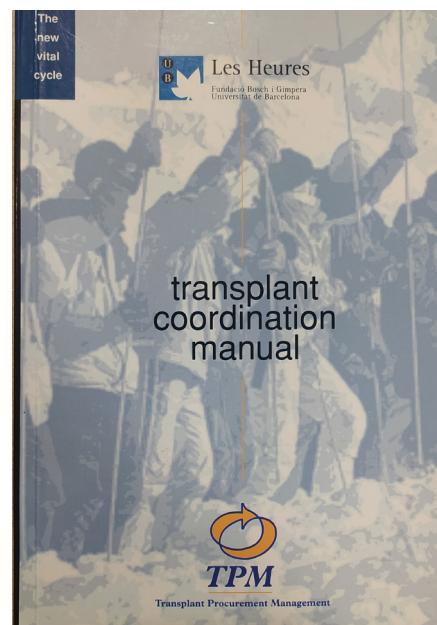
First TPM Course in Spanish.
Barcelona 1991.



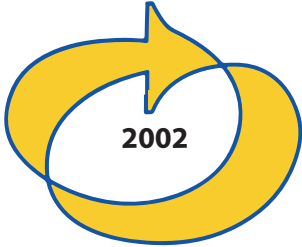
First TPM Course in English.
Barcelona 1994.



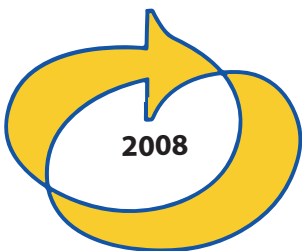
First Edition of the TPM Manual.



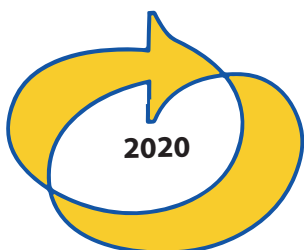
IMAGES



TPM Course expand to an international level.
Malaysia 2002.



ETPOD project: First European Project with a virtual campus and website.



Virtualization of face-to-face courses.



TRAINING/EDUCATION

During 2021 our educational programs have been carried out 100% online due to the SARS-CoV-2 pandemic. The courses have been adapted to include virtual activities which allowed the implementation of the TPM teaching methodology “learning by doing”.

ADVANCED INTERNATIONAL TRAINING COURSE IN TRANSPLANT PROCUREMENT MANAGEMENT

This traditionally face-to-face course, in which participation, teamwork and hands-on simulation is always boosted, has been adapted to the virtual modality applying the use of interactive video games, clinical broadcasted live simulations and an immersive experience with virtual reality.

The 31st edition in Spanish was held in February and gathered **37 participants** from **Spain and 9 Latin-American countries**.

The 26th edition in English was held in May-June and brought together **47 participants** from **16 countries** from around the world.

The overall course organization was graded by the students with 4.5 out of 5 for the Spanish edition and 4.7 out of 5 for the English one.



INTERNATIONAL COURSES



COLLABORATION WITH ISS-CNT – ITALIA

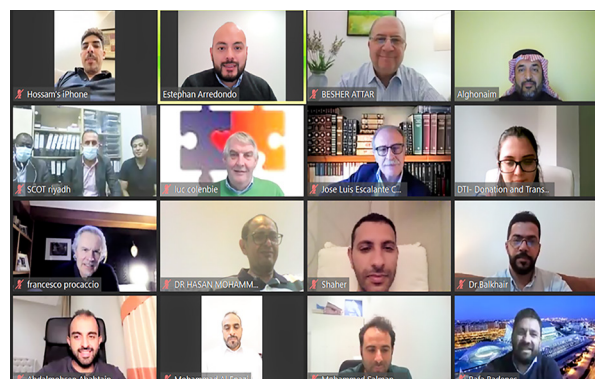
Istituto Superiore di Sanità - Centro Nazionale Trapianti (ISS-CNT) and DTI Foundation which started in 1999. Along this 22 years, 3825 participants have been trained in 98 courses of different modalities.

During 2021, a Self-Study Online Course in Organ Donation and 3 live sessions titled Organ Donation Update in Covid-19 Times have been developed and **100 Italian health professionals** benefited from the training program.

The self-study course lasted one month and aimed at introducing the participants into the field of deceased and living organ donation.

UEMS-EACCME® certification was provided.

The live sessions were distributed in 3 days with the main aim to provide an update on how much the pandemic has affected donation and transplantation activities and how important and necessary it is to continue updating and training healthcare professionals from this field in the context of the pandemic. The faculty included experts from Italy and Spain.



INTERMEDIATE TRAINING COURSE IN TRANSPLANT PROCUREMENT MANAGEMENT – KSA

In 2021 we have continued with the implementation of the project with the **Saudi Center for Organ Transplantation (SCOT)** with the aim to improve and consolidate the deceased organ donation program in the **Kingdom of Saudi Arabia (KSA)**.

The program was led by a renowned group of experts from Spain, Italy, Croatia and Belgium and local faculty from KSA.

It explored fundamental aspects of organ donation and transplantation including donor detection and evaluation, brain death diagnosis, donor management, family approach, organ recovery and allocation, deceased organ donation in KSA and latest updates on organ donation in times of COVID.

177 healthcare professionals successfully completed the training program along the project.

INTERNATIONAL COURSES



BROAOD – Belt & Road Option on Advancing Organ Donation

The **China Organ Transplantation Development Organization (COTDF)** and DTI Foundation had the initiative to create a training program addressed not only to Chinese participants but also to representatives from the Belt & Road countries.

This program was called **BROAOD – Belt & Road Option on Advancing Organ Donation** and the result was a series of three live streaming online courses carried out in May, August, and December.

The courses followed the TPM Intermediate programme methodology.

Each edition has gathered **55 healthcare professionals** (70% from China and 30% from the Belt & Road countries) and a team of DTI experts from USA, Brazil, Iran, Slovenia, France, and Spain.



COLLABORATION WITH IPST – PORTUGAL

We have developed two training activities together with the **Ministério da Saúde – Instituto Português do Sangue e da Transplantação (IPST)**.

The **VII CURSO AVANÇADO EM COORDENAÇÃO DE TRANSPLANTAÇÃO** applied the same methodology used in the international online TPM advanced courses. Six live streaming sessions were organized, including workshops in small groups, teamwork activities, video games and immersive training with virtual reality.

The **II CURSO EM BANCO DE TECIDOS** was held along three days also in live streaming online modality. It was addressed to transplant coordinators with the aim to promote the tissue donation in the country.

Both courses were taught in Portuguese and the lectures and workshops were developed in pairs of teachers Spain-Portugal.

INTERNATIONAL COURSES



TRAINING ACTIVITIES IN INDIA

Thanks to **Eurofins Foundation**, **80 Indian healthcare professionals** from different regions benefited of a self-study online course and a 1-day workshop in deceased organ donation. This initiative trained professionals from **Bangalore, Goa, Gujarat, Kolkata, Kerala, and Telangana**.

Moreover, Eurofins Foundation has also funded the implementation of an Intermediate online TPM course for **Kerala** region in January 2021.



1st TPM INTERMEDIATE COURSE – PERÚ

Another Intermediate Online TPM course was organized in collaboration with **Seguro Social de Salud del Perú (EsSalud)**. It followed the live streaming online modality and gathered **50 health professionals** from different regions all over the country and working mainly in ICU and emergency departments.

The course objective was to develop the participants' knowledge and skills on deceased organ donation, with the aim to improve their best practices in the field to increase the number of donors and transplants in Peru.



II INTERNATIONAL WORKSHOP ON FAMILY APPROACH FOR ORGAN DONATION

The **2nd edition of the International Workshop on Family Approach for Organ Donation** took place in November and counted with the participation of **15 health professionals from 7 countries**.

It was focused on how to communicate bad news and how to approach organ donation with the families of potential donors in a comprehensive and structured program, combining lectures and practical exercises. Moreover, each student performed an immersive learning experience with **VR technology** at the end of the course.

Master D&T

DTI Foundation offers the possibility to enrol in two different master programs certified by the **University of Barcelona** in a online modality.

The **International Master in Donation and Transplantation of Organs, Tissues and Cells (60 ECTS)** is a specific Master addressed to students who aim to follow a professional path. The program includes synchronous and asynchronous training with **practical simulations and an internship** either online or face to face in a prestigious centre. It is a modular program that can be done in different periods.

Due to COVID-19, the program has been adapted to be 100% online and delivered in a virtual learning environment with the newest online tools to encourage active learning. Theoretical sessions have been included in the virtual classroom and practical simulations have been replaced by live sessions. One of the new pedagogical innovations in this edition is the immersive learning experience for the online internship, a **virtual reality** tour to a simulated tertiary Spanish hospital that includes the best practices in donation and transplantation.

The **Master in Clinical Investigation (60 ECTS)** is an official Master that offers eight different modalities including the specialty in donation and transplantation of organs, tissues and cells. This master is addressed to students who want to follow a PhD program in this field. It is designed to provide the students with knowledge and skills necessary to develop a scientific activity in donation and transplantation at any step. This program has been also delivered online due to the pandemic.

The 2020-21 edition of the professional program ended with **31 participants from 21 different countries** and the research program had 9 participants from 4 different countries. You can find more information about the master degree in <https://tpm-master.org>.

TPM Journey VR
DTI
DONATION & TRANSPLANTATION INSTITUTE



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BARCELONA

Modular Program

DTI Foundation offers **4 different online programmes** accredited with a TPM-DTI diploma equivalent to 10 ECTS.

These programmes can be followed by an internship in centres in Spain, Europe and the United States according to the different areas of knowledge.

TPM educational offer has been designed to enable any student to follow an academic curriculum that may end up with a Master degree. To do so, the student must complete three modules, an internship and a Final Master Dissertation.



Organ Donation

Includes all the topics related with organ donation phases and aims at providing healthcare professionals with the core skills, competences and resources required in organ donor coordination.



Organ Transplantation

Provides knowledge and competences needed for the successful clinical approach of solid organ transplantation, including the waiting list criteria, and pre- and post-transplant treatment, all of them from a multidisciplinary perspective.



Leadership, Quality, Management and Innovation

Offers the opportunity to acquire management and leadership skills related with the field of organ donation and transplantation based on successful international models, it introduces the differences between the main quality systems and the most innovative tools that are currently used.



Tissue Banking and Advanced Therapies

Provides the opportunity to build knowledge and competences in the development of the newest tissue banking practices, advanced therapies, and blood banking.

INTERNATIONAL COOPERATION

United Arab Emirates

DTI Foundation has continued to collaborate since 2016 with **Abu Dhabi Health Services (SEHA)** to promote organ donation in the Middle East. For this purpose, the country's institutions are committed. The United Arab Emirates aims to be one of the most innovative countries in the world, as innovation is the key point for quality of life and development. In this sense, the UAE National Innovation Strategy focuses on the health sector, considering it a vital role for the future innovation process.

This collaboration is based on the implementation of the **TPM Training Program** to develop and establish a unique model of organ and tissue donation in the UAE that combines the strengths and best practices of several successful models around the world. To further train Emirati healthcare professionals and improve their performance, DTI has organized **six webinars during 2021**.



These training actions helped create and train a team of Transplant Procurement Managers (TPM) who will supervise the activity within the donor hospitals. Formalized medical activities, responsibilities and professional roles are crucial to fostering the sustainability and development of organizations.

In addition to facilitating the development of scientific projects in the field of transplant research.

Since September 2021, an international expert exchange program has been implemented with the aim of advising hospitals to enhance knowledge among professionals and thus achieve an improvement in the donation system and an increase in the donor rate.

On November 26th, DTI participated in the most important sporting and social event in Abu Dhabi. The third edition of the **ADNOC-Abu Dhabi Marathon** had more than 12,000 participants in the various races that were held.

During that week the **EOTC (Emirates Organ Transplant Center)** installed a place in the Villa to announce to all attendees the Donation and Transplantation Programme that is being organized at a national level. The goal was to **increase public awareness and highlight the importance of organ donation in saving lives**. Organ donation experts from different countries attended this event.

DTI Foundation continues to work with a team of experts to improve donation and transplantation rates in the country.





ISN

DTI Foundation, together with the University of Barcelona, is collaborating with the **Southern Philippines Medical Center (SPMC)** in the Philippines and the **Sri Jayawardenapura General Hospital** in Sri Lanka to reinforce their deceased donation programs and boost their transplantation activity.

In Philippines the activities scheduled to improve deceased donation have successfully been implemented during this Level A year and will be continued in 2022. In Sri Lanka **11 webinars** have been done and DTI has cooperated in the scientific program of the **Sri Lanka Surgical Congress 2021** where several international speakers shared their experiences. Level C activities will continue in 2022.

This partnership works under the umbrella of the **ISN-TTS Sister Transplant Centers Program**, a joint partnership set up between the **International Society of Nephrology (ISN)** and **The Transplantation Society (TTS)**.



INDIA

DTI Foundation has been collaborating with various organizations in India to develop their organ donation program.

For this purpose, it is important that healthcare workers have access to quality training on organ donation and transplantation.

Thanks to the **Eurofins Foundation**, **80** Indian healthcare professionals from different regions benefited from an online training program that included an interactive workshop on organ donation.

At the same time, work continues with the **Kerala Network for Organ Sharing (KNOS)** to implement the TPM model in the state.

When the COVID-19 pandemic caused the suspension of transplant programs across the country, donation and transplantation activity in Kerala did not decline.

BIOPROJECTS

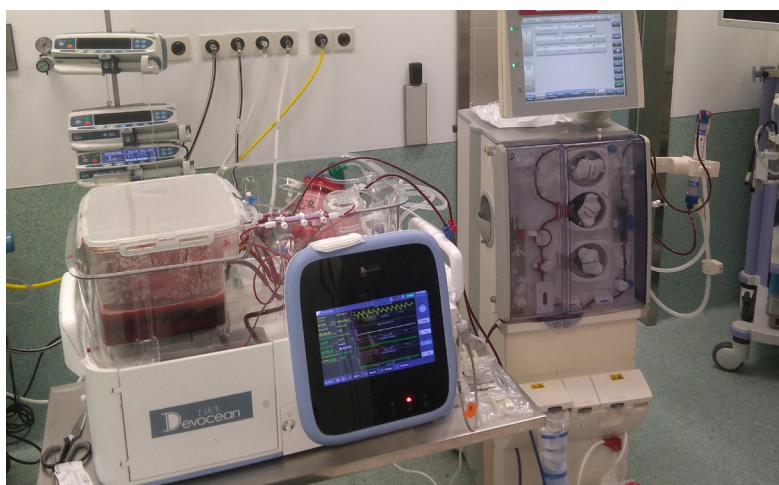
In the field of **biomedical research**, DTI Foundation carries out cooperation projects. For more than 10 years, it has promoted and facilitated the **creation of scientific research projects** that contribute to generating knowledge in different disciplines within the health sciences.

On one hand, the Foundation provides access to quality biological samples to research entities for the promotion of basic research projects.

DTI Foundation collaborates with **Cytes Biotechnologies**, a spin-off of the University of Barcelona, in a project whose objective is to obtain and take advantage of residual tissue from liver resections to isolate liver cells for research. DTI Foundation has created and maintains important alliances with public and private institutions to promote access to quality **biological samples** for research, which will allow us to respond to the increasing needs of the scientific community.

On the other hand, in recent years a new **Scientific Consulting** service has been consolidated in the area of organ, cell and tissue donation and transplantation.

The consulting service of the Bioprojects unit offers activities related to the promotion of products and / or services to companies in the pharma / biotech sector, the coordination of projects for the validation of new technologies and / or medical devices, the coordination of clinical trials , advising on the presentation of projects to different competent authorities and direct participation in international research programs.



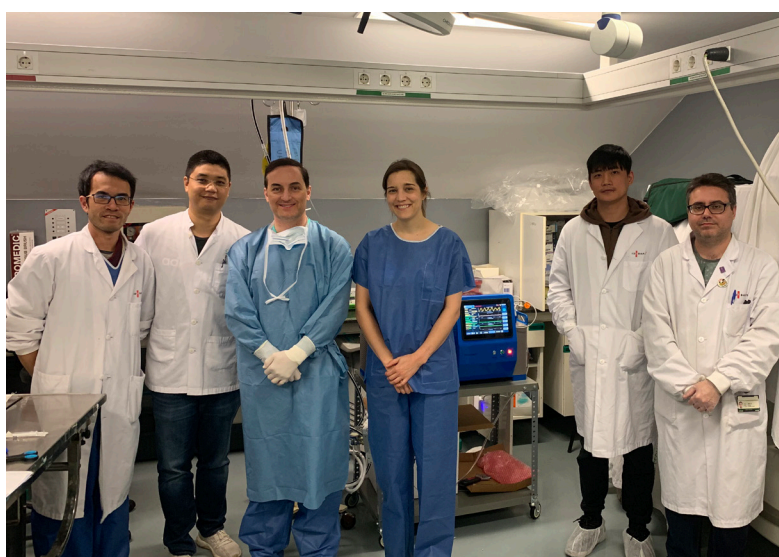
LPS Project

One of the outstanding projects during 2021 has been the **LPS project: Ex Situ Perfusion of Porcine Livers for Transplantation Using the Normothermic Liver Perfusion System (NPS-Liver)**.

This project, promoted by the **Guangdong Shunde Industry Design Institute**, led by **Dr. Constantino Fondevila** from the **Fundació Clínic per a la Recerca Biomèdica** and coordinated by the DTI Foundation, aims to validate and fine-tune a liver perfusion device to keep livers ex situ in normothermia for 24 hours. DTI, helped create the collaboration agreement between the Guangzhou technology group and Dr. Fondevila's research team and, since his signing, has served as project coordinator.

The first phase of this project contemplated the **validation of the device** by perfusing pig livers during 24-hour periods.

The positive results obtained during the first phase have been presented to different international donation and transplantation conferences (ESOT, TTS or SET, among others). Currently, work is continuing on the next phases of the project, as the goal is that the device designed by the Guangdong Shunde Industry Design Institute can be validated for clinical use.



EUROPEAN PROJECTS

ODISSeA – Final stage of the ODISSeA project



- UniBo (Italy)

The project included an assessment diagnosis, a “Train the trainers” course, and a Postgraduate Programme in Organ Donation. It faced important challenges due to covid-19 pandemic. In order to carry on with the agenda, the project deadlines were extended until July 2021.

The 8 universities have accredited the postgraduate programme, which enabled the institutions to improve their capacity building.

41 local faculty were trained in the “Train the trainers” course, that was scored “highly positive”. A total of 260 students successfully passed the Postgraduate Programme, and they increased their knowledge on living and deceased organ donation.

Additionally, a South-East Asian professional network with leaders in the field of organ donation was built among the project participants, faculty, and EU experts.

All the partner countries expressed their commitment to continue further editions of ODISSeA postgraduate within their universities, especially Malaysia, that will offer the training to a Master’s degree.

ODISSeA (Organ Donation Innovative Strategies for Southeast Asia) is a project co-funded by the European Commission aimed to develop an innovative and sustainable specialized training programme in organ donation in Universities of **Malaysia, Myanmar Philippines and Thailand**. The consortium consists of:

- University Teknologi MARA (Malaysia)
- University Of Malaya (Malaysia)
- University Of Medicine Of Mandalay (Myanmar)
- University of Medicine 1, Yangon (Myanmar)
- Ateneo de Davao University (Philippines)
- University of Santo Tomas (Philippines)
- Thammasat University (Thailand)
- Mahidol University (Thailand)
- University of Barcelona
- Dinamia (Spain)
- University of Zagreb (Croatia)



Co-funded by the
Erasmus+ Programme
of the European Union

TEODOR – Trans-European Educational initiative in Organ Donation and Transplantation (2020-2023)

TEODOR is a trans-European educational initiative on organ donation and transplantation. It is an **Erasmus + project funded by the European Commission** within the framework of the "KA2 - Strategic Partnerships in the field of education and training" programme.

The training includes a **Train the Trainers** programme and the TEODOR multi-level modular mixed training divided into two modules: one for donation professionals and the other for transplantation professionals.

It will be carried out with the support of **Spanish and Swedish partners** (University of Barcelona, DTI Foundation and Skane Lans Landsting), given their experience in organ donation and transplantation.

This project, led by the **Pauls Stradins Clinical University Hospital**, Latvia, started in 2020 and will end in 2023. The aim is to design and test an innovative training programme on organ donation and transplantation for healthcare professionals from:

- **Latvia** (Pauls Stradins Clinical University Hospital and University of Latvia)
- **Czech Republic** (Fakultní nemocnice Královské Vinohrady)
- **Lithuania** (National Transplant Office under the Ministry of Health).

The first phase of the project has included a data analysis that allowed to diagnose the current situation. Thanks to this diagnosis, the content of the program has been created and developed.



PAULA STRADIŅA
KLĪNISKĀ UNIVERSITĀTES
SLIMNĪCA



UNIVERSITAT DE
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UNIVERSITY
OF LATVIA

Transforming Universities Towards Entrepreneurship (TRUE)

TRUE (Transforming Universities Towards Entrepreneurship) has the mission to remove obstacles that inhibit **innovation and entrepreneurship** in the university field. To achieve it, TRUE will strengthen links between the public and private sector through the creation and access to innovative and customized tools, which will facilitate innovation and entrepreneurship beyond the scope of higher education, having a real and effective impact on European citizens.

This initiative expects to impact **4,000** European citizens during the funding period and up to **19,000 by 2030**. This will be possible thanks to the unlimited commitment of TRUE partners that will promote, through the activities designed, a change of vision in European universities, boosting an entrepreneurial and transformative perspective in the day-to-day life of these institutions. The consortium consists of:

- University of Barcelona (Lead partner)
- UCEIF Foundation
- Sapiens Mindset
- University of Montpellier
- Donation and Transplantation Institute
- Polytechnic Institute of Lisbon
- University of Extremadura



TRUE wants to develop innovative and entrepreneurial HEIs that will train a future generation of social innovators and entrepreneurs and generate life-changing solutions at all levels of society to thus increase the quality of life of European citizens, and boost economic growth and competitiveness, thereby fulfilling the goal HEI Initiative.

This will be possible thanks to multi-stakeholder collaboration, the development of support units, training programs and development of the right metrics to measure and guide policies.



EUROPEAN SOLIDARITY CORPS

The **European Solidarity Corps (ESC)**, known until 2016 as **European Voluntary Service (EVS)**, is an international volunteering programme by the European Commission for young people to go individually or in teams to another country, usually from one European country to another, to work for a non-profit cause. Since 2017, the programme also offers opportunities for European youth to get engaged as volunteers in their own communities.

DTI applied for this programme and thanks to this application, during 2021 DTI has counted with the participation of two volunteers from Poland. They have participated in two different projects for **nine months**.

The main goal of the activity has been to support the development and implementation of organ and tissue training programmes. The reception of the volunteers in the Foundation has allowed them to be trained both in the field of donation and transplantation and in the learning training and cooperation.



ROBOTICS

DTI Foundation works to incorporate robotics in different fields, mainly in **training and international cooperation** projects in the social and health sector. Thanks to the collaboration with **Alisys**, a leading company in innovation and robotics, the Foundation now promotes projects in the field of chronic diseases and socio-sanitary robotics. The different projects that are currently being carried out can be grouped into three main areas:

Education

In the educational field, a robot has been used in some of the training programs offered by the Foundation in the area of donation and transplantation. The robot has acted as a **teacher assistant** in face-to-face courses at the **University of Barcelona**, as well as in intensive courses in international conferences, serving as a complementary element to the teacher's explanations, an element of consultation and review of the lesson or even examining the knowledge of students through oral questionnaires.

On the other hand, a collaboration has been established with doctors from the **Faculty of Medicine of the University of Barcelona** to use the robot as a training assistant in practical medicine courses, such as bladder catheterization workshops or cardiopulmonary resuscitation courses. The robot complements in these workshops the explanations of the health professional and evaluates the knowledge acquired by the students.

Management and administration

In this area, the use of different types of robots that can carry out routine or repetitive tasks is proposed, to **ease the burden** of healthcare professionals and invest this time in improving patient care. In this sense, robots are used in different services of the **Hospital Clínic de Barcelona** for tasks as diverse as: registering the entry of patients in the unit, showing the activity schedules of long-stay patients or



regular treatment, tray-taking robots that help to distribute food or medicine.

Health

The goal is to generate added value in the care provided, both to patients with certain pathologies and to people dependent on care through robotics.

We are currently working on a collaborative project with the **Hospital de Día de Psiquiatría Infanto-Juvenil del Hospital Clínic de Barcelona** for the development of therapies using robots for children with autism. By creating a group of experts in **autistic appearance disorder** in children and teenagers, with the support of technological allies, it is intended to develop therapeutic programs based on the use of robotics to explore possible improvements in the care of these types of patients.

A collaborative project similar to that of patients with autism is also being developed in the **Unidad de Geriatría de Agudos de la clínica Plató del Hospital Clínic de Barcelona**. Therapeutic education activities for patients with **diabetes and heart failure** have begun at this center. The aim is to verify whether the use of robotics adapted to the needs of the patient positively influences the self-care of patients regarding their pathologies.

The final goal is to be able to demonstrate that robots are capable of carrying out certain types of tasks autonomously and generating value in the service offered to patients or healthcare professionals. This way, basic procedures can be standardized in the health field and personalized attention can be given, adapted to an increasingly technological and digital environment, but with the focus always on the patient's experience and on giving the best response to their needs.



INNOVATION AND RESEARCH

DTI Foundation continues to seek ways to increase its contribution to organ donation and transplantation research. It continues to be committed to promoting and participating in research in different **international cooperation projects**.

During 2021, 45 abstracts and several innovation projects have been presented in 17 international congresses. The project that has been presented the most has been I-DTI. DTI Foundation projects have had the most presence in the 4YFN Congress in Barcelona, ESOT in Milan and EATBC.

The **scientific publications** from DTI and its experts have been: " Design and implementation of the European-Mediterranean Postgraduate Programme on Organ Donation and Transplantation (EMPODaT) for Middle East/North Africa countries" (ESOT 2021, Chloë Ballesté) and " Leadership, management, quality, and innovation in organ donation: 2019 Kunming recommendations for One Belt & One Road countries" (The Journal of Clinical and Transplantation Research, Chloë Ballesté).

I-DTI

I-DTI is a second opinion platform specialized in organ donation and transplantation. This web application is accessible through **www.i-dti.com**. It has a software in charge of storing the donation indicators for hospitals following the **ODEQUS** (Organ Donation Quality System) methodology.

The web platform and mobile application allows all users to have a **24/7 consultation** with experts in the field of donation and transplantation to solve their doubts. This platform has almost **1,000 users** and continues to grow while creating a community of experts in the field of health.

From I-DTI not only public consultations can be made, it also allows the creation of private chats and groups with a secure encryption privacy policy.

The countries that use I-DTI the most are: Spain, India (Kerala), the Philippines, Sri Lanka, but also Germany, Sweden, Argentina, France, Croatia, South Africa, Brazil, Japan and Serbia amongst many others.

The I-DTI project has been presented to a large number of congresses this year to promote its use in the healthcare field. Some of the conferences where it has been presented have been: 4YFN, ESOT, MESOT, World Hospital Congress, SOROT. The presentation has been through abstracts, posters, presentations and promotion at stands.



4 YEARS FROM NOW - MOBILE WORLD CONGRESS 2021

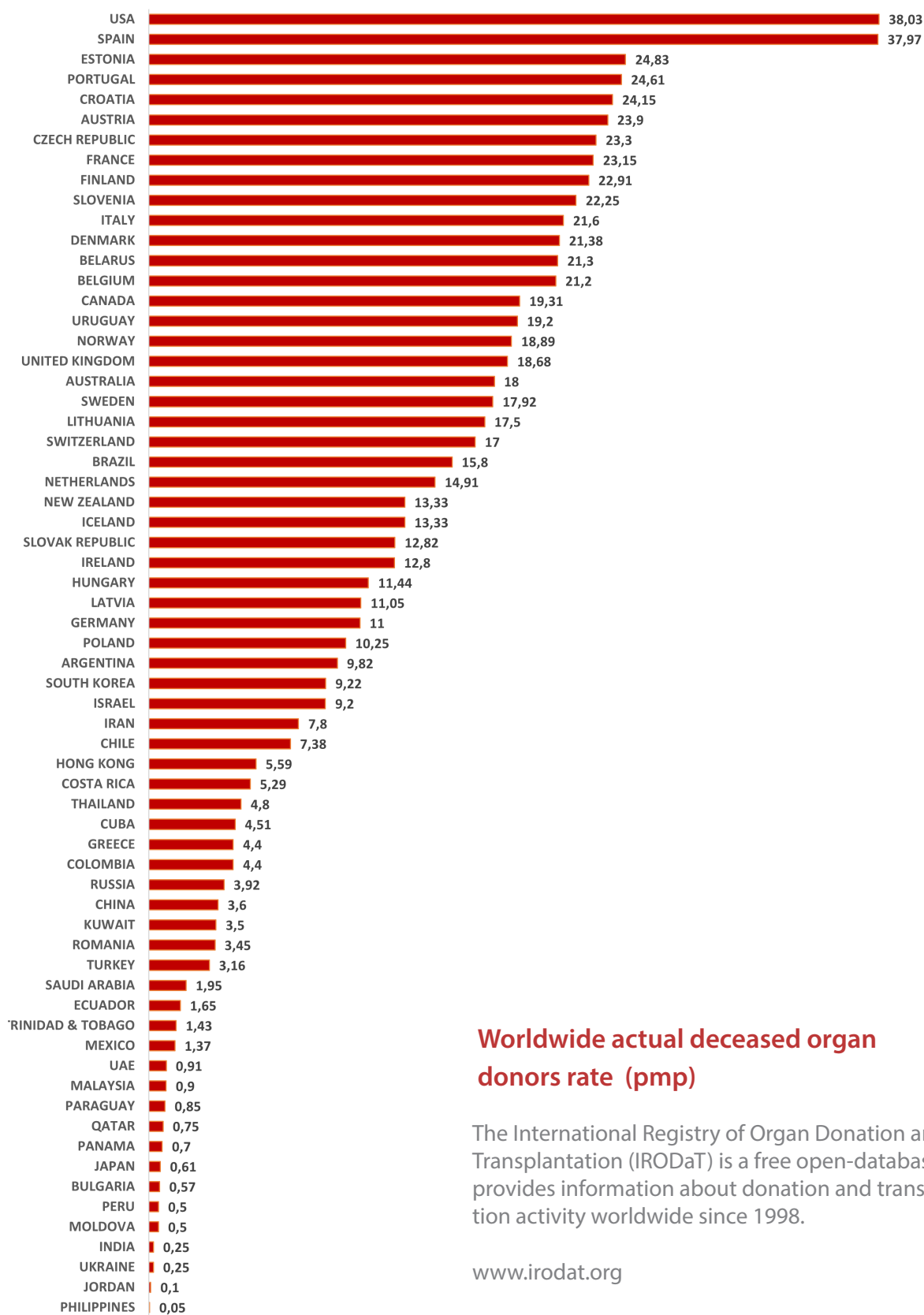
4 Years From Now 2021 (4YFN 2021) took place from June 28th to July 1st, it was held at the **MWC Barcelona Convention Center**, one of the most important congresses in the world. Hundreds of startups signed up for the opportunity to showcase and present their ideas and innovations to thousands of attendees, including potential investors, customers, competitors and experts. DTI had a stand in pavilion 2 of the convention where DTI Foundation showed services and projects such as I-DTI and robotics. This took place with the support of **BIOCAT** and **ACCIÓ**.

ESOT CONGRESS MILAN

The representatives of the DTI Foundation had the pleasure of participating in the **European Society for Organ Transplantation Congress 2021 (ESOT)**, which took place from August 29 to September 1 in Milan, Italy. During the Congress, the president of DTI Foundation, **Martí Manyalich**, received the **ESOT Honorary Membership** in recognition of his constant commitment in the field of organ donation and transplantation. His professionalism and his perseverance throughout his career confirm the well-deserved award. In addition, **Chloë Ballesté**, DTI's Director of International Development and Cooperation, was elected Councilor in the ESOT Council Elections. Chloë Ballesté was also a speaker at the session entitled "Yes, we can! How to Start a DCD Program", where she explored the ins and outs of donation programs after a diagnosis of DCD and explained how to start one.



IRODaT reports on the donation rates worldwide 2020



Worldwide actual deceased organ donors rate (pmp)

The International Registry of Organ Donation and Transplantation (IRODaT) is a free open-database that provides information about donation and transplantation activity worldwide since 1998.

www.irodat.org

IDOTCOVID

International Database on Organ Donation and Transplantation - COVID19

An international database of solid organ transplant recipients COVID-19 positive has been designed and developed with a cooperation between **Hospital Clinic of Barcelona, IDIBAPS** and DTI. This database is: IDOTCOVID

IDOTCOVID is a **real-time, open-access, global database**, that provides reliable information towards transplantation activity and outcomes of SOTs infected with COVID-19. The database has been active for two years and it was built after a collaboration between **Hospital Clinic de Barcelona, Institute of Biomedical Investigation August Pi i Sunyer, IDIBAPS** and DTI.

So far IDOTCOVID counts with data from **1415 solid organ transplant patient** who were COVID-19 positive, from **80 transplant centers** in **24 countries**.

This data is being tested to run **5 different supervised learning models** to finally build the Decision Support Algorithm for supporting the clinical decision making. This will allow the customization of treatments with a focus on clinical management (outpatient vs hospital admission) and on Immunosuppression treatment (suspension vs reduction), given each patient medical history and conditions.

The final algorithm will be added to the website of IDOTCOVID giving **free access** to all participating centres, offering a real-time analysis to optimize outcomes based on individual patient data. In the same way, all collaborating transplant centres that performing follow-up of transplanted patients will be provided with accurate information in the management of these patients based on the evidence-practices around the world.

<https://www.idotcovid.org/>



IDOTCOVID

International Database on Organ Donation and Transplantation - COVID19

DTI Community

The DTI Community is an **international community** of people and institutions and it promotes the transfer of knowledge and the evolution of professional competencies in organ donation, hoping to be able to involve and connect the community locally, nationally and globally, while creating lasting and sustainable relationships.

It annually offers educational and networking opportunities with the goal of supporting the professional development of its members. It brings together a network of more than **5.000 people** from around the world, all of them related to the health sector and the donation and transplantation of organs, tissues and cells.

The community has activities aimed at experts in the sector, as well as family members and transplant patients. Online clinical sessions have been organized monthly on various topics, from the organ perfusion system to gender disparity in organ donation and transplantation. Talks are also organised for patients and their relatives. We collaborate with different associations such as **AETHA** (Asociación de Enfermos y Trasplantados Hepáticos de Aragón).

Join DTI Community today! www.dticommunity.org



SCHOLARSHIPS

DTI Foundation, together with DTI Community, offers a series of scholarships for participants in the TPM and Master's training courses. These scholarships are offered thanks to the projects of Teaming, Global Giving, BROAOD and the benefits of the solidarity events that take place during the year.

During 2021, DTI Foundation has awarded **seven scholarships** to students of the International Master in Donation and Transplantation of Organs, Tissues and Cells, a master's degree from the University of Barcelona. By offering a modular program, scholarships have also been offered for independent students who decided to take only one module of the master's degree. The total number of students who received scholarships for the different modules has been **nine**.

Scholarships have also been offered for the Advanced International TPM Course. The total number of scholarships for this program were **10**, three from the DTI Foundation and seven scholarships from the BROAOD programme.

Scholarship students are from a wide variety of countries. The main country, directly linked to the donations of the **BROAOD programme**, is China. Students from Bosnia Herzegovina, Kenya, Thailand, Ethiopia, Trinidad and Tobago and the United Arab Emirates have also received scholarships.

Everything learned by the students is applied later in their respective work centers and they have the support of the Foundation for any improvement they need to implement.



PALAU DE LA MÚSICA

The solidarity concert held by **Fundació Nen Déu** and DTI Foundation on June 28 was a success. Even though the COVID-19 pandemic restrictions did not allow a full capacity, both organizations managed to sell **90%** of the tickets available for the event in **Palau de la Música Catalana**.

In the concert **Escolania de Montserrat** and **Orquestra Simfònica del Vallès** performed with soloists in both choirs. The group was led by Xavier Puig while Álvaro Carnicero accompanied on the organ. Orquestra Simfònica del Vallès first performed Georg Händel's Concerto in B-flat major before the choral groups came together for performances of Magnificat by Anselm Viola and Missa by Joseph Haydn in honorem B.V.M. in E flat major.

The benefit concert was initially scheduled for 2020, but the COVID-19 pandemic forced the event to be delayed. Fundació Nen Déu and DTI Foundation aimed to produce an event in which the audience would not only appreciate good music, but also would learn more and become more aware of the missions of both organizations.

DTI Foundation raised almost 3.000€ which have been added to the Foundation's scholarship fund. DTI is proud to have partnered with Fundació Nen Déu and appreciates their help and support for this event.



DTI STORE

The **DTI Community Online Store** was created to provide grants to the worldwide healthcare community interested in TPM training. Thanks to people's response on acquiring DTI Community's products such as: a white mask, a black mask, two T-shirt designs, a mug and a bag.

All these items bear the logo of the DTI Community.

In addition, **Laura Geli's book**, Restart, is also on available on the website. The book is Laura's testimony as a transplant patient. Laura approaches us, and brings us closer to, the world of organ transplants with the ease of someone who has experienced it firsthand.

Benefits from sales help the Foundation **save lives**. This happens by awarding scholarships to healthcare professionals in the world of organ donation and transplantation.

<https://www.dticommunity.org/community-store/>



TEAMING

Teaming is a platform which DTI Community uses to raise funds to provide scholarships. This fundraising tool is based on monthly donations of only **1€**, which is, only **12€** per year.

It is a small donation, but a great contribution. Each donation helps and paves the way for **healthcare professionals to be trained in organ donation and transplantation**, and return to their hospitals with the experience gained.

The training of healthcare professionals was crucial for Spain to become a leader in organ donations. DTI Foundation wishes to train experts from other countries to provide more opportunities to save lives.

A cooperation project has been created for underdeveloped countries where there is a high incidence of kidney disease to increase organ donations and save lives.

<https://www.teaming.net/save1millionlives>



GLOBAL GIVING

Promoting donations in different aid projects is important to continue helping all underdeveloped countries. Global Giving is a crowdfunding platform that connects non-profit organizations with donors and companies from almost every country in the world.

There are currently three crowdfunding projects in Global Giving. The first directed to raise funds for the **IDOTCOVID** project. In this case, it is expected to obtain funds to continue collecting data on transplant patients from different countries around the world.

The second project is to help **AETHA** raise funds for the maintenance of its shelter facilities for family members of organ transplant patients. AETHA shelters are intended to provide free accommodation near the hospital for the patient's family.

The third and final project is **Save 1 Million Lives**. This is the project with the most impact and its objective is to raise funds to help doctors from countries in Asia, Africa and South America to save a million lives.

Check out the projects on Global Giving: www.globalgiving.org/.



DTI IN 1 MINUTE



+17.000

TRAINED IN TPM COURSES
ONLINE AND FACE-TO-FACE



+100

COUNTRIES WORLDWIDE BENEFIT
FROM DTI'S ACTIONS



10%

NEW
STUDENTS



6 COUNTRIES DID TPM
TRAINING IN 2021

ITALY

CHINA

SAUDI ARABIA

INDIA

PORTUGAL

PERU

Thanks to our staff, an internationally recognized pool of experts and over 40 committed volunteers/interns who have worked in DTI Foundation. Every single one of them has contributed to offering a second chance to millions of patients on a waiting list for transplant in the world.



7

INTERNATIONAL
COOPERATION
PROJECTS ON GOING



4

EUROPEAN PROJECTS



18

COUNTRIES



25

ORGANIZATIONS



+125.000

YEARS OF LIFE GAINED*

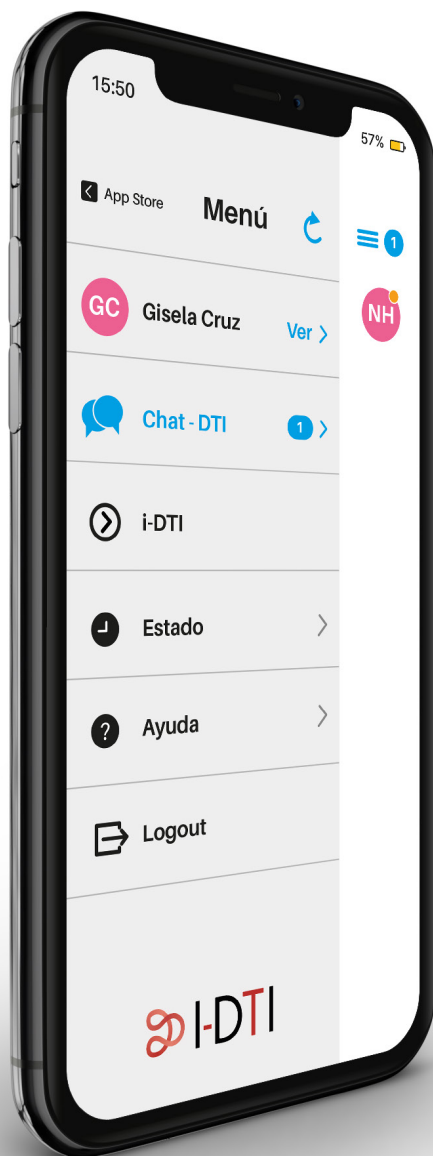
since 2009 thanks to our contribution

*Each donor means theoretically 50 years of life gained

WWW.DTICOMMUNITY.ORG

"IS THIS A SUITABLE DONOR? HOW DO I MANAGE THIS CASE?"

FACING DOUBTFULLY SCENARIOS IN ORGAN DONATION AND TRANSPLANTATION?



Networking (Medxat®)



Knowledge Transfer



International Experts



24/7 Consultancy



Data Protection



Artificial Intelligence

ASK INTERNATIONAL EXPERTS

Web-app accessible via: www.i-dti.com

Available in digital stores

