

Abstract 38

UNRAVELLING THE TRIPLE HELIX THROUGH CASE STUDIES IN ACADEMIA. THE EXPERIENCE OF THE DIRECTORATE RESEARCH, TECHNOLOGY TRANSFER AND THIRD MISSION AT THE UNIVERSITY OF MODENA AND REGGIO EMILIA

Poster

Bedin E ^[1], Bergonzini V ^[1], Catellani G ^[1], Chini I ^[1], De Nittis L ^[1], Di Maggio F ^[1], Goldoni V ^[1], Maria Giulia L ^[1], Lomi V ^[1], Manzoli F ^[2], Minetti A ^[1], Munari L ^[1], Nobili S ^[1], Barbara R ^[1], Saendig N ^[1], Sandroni I ^[1]

^[1]Università di Modena e Reggio Emilia ~ Modena ~ Italy, ^[2]~ Italy

Abstract text:

Purpose

In developing models of cooperation among academia, government and industry, the role of research, technology transfer and third mission units inside the universities has assumed a pivotal importance in the last three decades. In this poster, we show how the University of Modena and Reggio Emilia (UNIMORE) has conceived, institutionalized and made operative its role of facilitator of a constructive interaction among researchers, industries, government and citizens.

Originality and value

Three practical case studies accompany the presentation of how the Directorate of Research, Technology transfer and Third Mission (DRTT) works at UNIMORE. More broadly, these cases enable us to consider empirically the specific dynamic among the three composing parts of the helix and to demonstrate the salient role of universities in knowledge-based configurations.

Design and methodology

This role is exemplified by the evolution of the Directorate in relation to its development and services. The analysis is based on a qualitative case-study methodology. Data are collected from multiple secondary sources at the university level, through document analysis and semi-structured interviews with the Directorate personnel.

Results and findings

The story of how the Directorate settled its name of “Research, Technology transfer and Third mission” among the central administration units of UNIMORE is a case study itself, mirroring the transition from Mode 1 to the Triple Helix.

Before year 2000, the support given to researchers from the central management was let to the initiative of the General Affairs Directorate; in 2000, the national and international research office was created and in 2008 transformed in the Directorate “Education and Research”. Born in 2005 under the political input of the Ministry for Research and University, the industrial liaison office (ILO) entered the Directorate in 2008. In 2015 the DRT acquired its autonomy. In 2018 the inclusion of UNIMORE Third mission activities completed the design. Today, four offices compose the Directorate: national and international research, technology transfer, public engagement (DRTT).

Triple Helix Summit 2020

Designing globally connected regional innovation ecosystems

Case study 1 - Center for Regenerative Medicine (CRM) and Holostem Terapie Avanzate

The creation of spin-offs implies big efforts in terms of application for local, national, public and private funds, and a systematic activity of stakeholders and public engagement.

With the support of ILO and in connection with the UNIMORE CRM - focused on basic and translational research - the spin-off Holostem was founded in 2008 as profitable union among the UNIMORE pioneering scientists and Chiesi Farmaceutici S.p.A.

CRM is an example of how all the DRTT offices effectively collaborate:

- in the last three years, the national research office supported the submission of three successful project proposal, the participation to the national Cluster ALISEI and the regional Clust-ER Health, and to the Emilia Romagna High Technology Network
- the international research office supported the participation to the H2020 EuroStemCell project
- in the IATRIS (Italian Advanced Translational Research Infrastructure) network, ILO is active in the Intellectual Property working group
- the Third mission office accompanied the research group in the constitution of Le Ali di Camilla, lively association aimed to empowering patients affected by Epidermolysis bullosa and other epithelial diseases.

Case study 2 - Rigenerand

A second case study shows how DRTT facilitated the collaboration among medical biotechnological research, local industries and funding agencies. The spin-off Rigenerand was born in 2009, thanks to the partnership between a pioneering research group on cell and gene therapy at UNIMORE and RanD s.r.l, a biomedical company. Soon after its constitution, and thanks to the investment by the Principia III-Health SGR Fund and other local investors, the prototype of a bioreactor ISOCULT was produced and a new 500 sqm cell factory was built. Regenerand is located in the well-known biomedical Technopole of Mirandola (MO), financed by the Emilia Romagna region and industries, and it has been recently authorized by AIFA to produce cell and gene therapy products for human uses. Now the company has an independent limited structure (srl).

The DRTT facilitated the constitution and participation of UNIMORE scientists to the regional Clust-ER Health, and the participation of its scientific coordinator to national and international projects.

Case study 3 - Modena Automotive Smart Area, MASA

MASA is private-public living lab to test, evaluate and implement connected and autonomous vehicles within the city of Modena. In 2015, when the Italian Ministry of Education, University and Research financed the Automotive Academy UNIMORE as "University Strategic project". Two years later, MASA was born as the result of the partnership between UNIMORE, the Municipality of Modena and Maserati S.p.A.

DRTT facilitated the participation of several UNIMORE's researchers to the national Cluster Transport, to the regional Clust-ER Mechanics and Mechatronics, and to three nationally and regionally funded projects. From 2015, 17 international projects (main programs: H2020, CEF, ECSEL) were supported in the automotive area.

Impact and transferability

Triple Helix Summit 2020

Designing globally connected regional innovation ecosystems

UNIMORE is a large university counting on 13 departments, 15 PhD schools, around 800 researchers and 700 administrative and technical staff.

The impact of its research support services has not just to be measured in quantitative terms, but also qualitative:

- Since its settlement, ILO counts 43 spin-offs/start-ups approved by the academic committees and 157 registered patents
- In the last three years, the national research office supported the birth and financing of 245 projects and the international research office that of 95 Horizon 2020 projects (14 as coordinators, 56 as partners, 25 as third parties)
- More than 200 events were supported by the Third mission office, both to engage researchers, stakeholders and the general public
- DRTT organizes every year a one-week course aimed to train PhD researcher on the so-called soft skills
- We make available to the University personnel guidelines to facilitate the participation to the main national and international funding programs
- We periodically moderate thematic tables around the main interdisciplinary-interdepartmental research lines (from robotics to climate change, from nanomedicine to gender equality).

DRTT work is an example of activities aimed at strengthening the intersection spaces connecting university, business and governmental bodies.

In permanent transition, next step is to trigger new, genuine co-production processes, believing that third mission and research are not separated entities but two complementary parts of the same interfacing activity. When will its name change again?

References (Harvard style):

Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, p., & Trow, M. (1994). *The new production of knowledge: the dynamics of science and research in contemporary societies*. Sage

Kellogg, D. (2006). *Toward a post-academic science policy: Scientific communication and the collapse of the Mertonian norms*. *International Journal of Communications Law & Policy*, Special Issue, Access to Knowledge, Autumn.

Nowotny, H., Scott, p., & Gibbons, M. (2003). Introduction: 'Mode 2' Revisited: The new production of Knowledge. *Minerva*, 41(3), 179-194.

Etzkowitz, H., & Leydesdorff, L. (2014). The endless transition: a 'Triple Helix' of university-industry-government relations. *Minerva*, 203-208.