



15th NETVAL REPORT

PUBLIC-PRIVATE TECHNOLOGY TRANSFER: WHEN PEOPLE MAKE THE DIFFERENCE

September 2019

Data used in this report refer to the year 2017.

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Previous Netval reports are available online at: <http://netval.it/>

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Netval

Netval (Network for the Valorization of Research), founded in November 2002 as a network of universities and later transformed into an association in September 2007, has **81 members** as of September 2019, including 60 universities. The universities affiliated to Netval represent **62.5% of all Italian universities** (including those without scientific-technological disciplines), and **84.4% of the total national teaching staff**. What is most notable, however, is that the universities belonging to Netval have **88.9% of the professors belonging to scientific and technological (S&T) disciplinary sectors** and **92.7% of the total number of spin-off companies from public research in Italy** (i.e. 1,749 on 31.12.2018).

Netval counts among its members also: **eight public research institutions**, ENEA, Italian National Agency for New Technologies, Energy and Sustainable Economic Development; Area Science Park; CIRA, Italian Aerospace Research Center; CNR, National Research Council; CREA, Council for Agricultural Research and Analysis of Agricultural Economics; IIT, Italian Institute of Technology; INAIL, National Institute for Insurance against Accidents at Work; INFN, National Institute for Nuclear Physics; **eight research hospitals (IRCCS)**: CRO National Cancer Institute; Ca' Granda Foundation Ospedale Maggiore Policlinico di Milano; Don Carlo Gnocchi Foundation; Pascale Foundation National Cancer Institute; Burlo Garofolo Institute for Maternal and Child Health; SDN Diagnostic and Nuclear Research Institute; Rizzoli Orthopedic Institute; Bambin Gesù Pediatric Hospital; **two foundations**: Idis Foundation - Città della Scienza; Trentino Innovation Hub (HUB) and **two agencies**, the Italian Space Agency (ASI) and ARTI Puglia.

Netval is active on several fronts, for example:

- design and implementation of training courses - including for third parties - on the topics of technology transfer and the so-called third mission, to support economic, social and cultural development of the community;
- annual report on technology transfer;
- interaction with national and international ministries and institutions;
- participation in ASTP, the leading pan-european knowledge transfer association;
- collaboration with CRUI, the Conference of Italian University Rectors, and participation in ANVUR, the Italian National Agency for the Evaluation of Universities and Research Institutes working groups;
- promotion of international collaborations;
- promotion of concrete tools - such as the **www.knowledge-share.eu** platform and the **www.spinoffitalia.it** database - to promote public-private technology transfer processes.

Netval's main purpose is the dissemination of technology transfer information and culture in Italy through initiatives addressed to creating links and connections among Technology Transfer Offices (TTOs) by organizing meetings, training courses and participation in thematic groups. In particular, since its creation, Netval has developed the most complete and up-to-date training program

available in Italy on valorization of public research results and has expanded its training offer over the years with proven satisfaction of participants, mainly TTO staff from public research institutions and universities, young researchers and entrepreneurs.

Netval members (81 organizations) in September 2019



Positive discontinuity determined by people

This report is released in September 2019 during the International Summer Conference organized by Netval in Rome. It is based on information on technology transfer activities (TT) carried out in 2017 and on the association's activities implemented over the last 18 months. The collection of data for 2018 is currently underway, and is being carried out by Netval for the first time using an IT platform.

Netval's activity has been very intense in recent months, as evidenced, among other things, by the quantity and scope of training events and the number of members reached as of April 16, 2019. Netval members are currently 81: 7 new members joined the association in 2018 and 3 more in the first half of 2019.

As for data on technology transfer, which were collected using a questionnaire, the first relevant information is that all indicators show significant increases. The increase in the number of people

working in Technology Transfer Offices (TTOs) at universities and public research institutions, however, is most satisfactory. An increase mainly due to the renewal of the UIBM-MISE¹ call, through which UIBM-MISE and several academic research institutions have co-financed contracts for new resources to be used in TTOs. We consider this a very important innovation policy action, the result of teamwork between UIBM-MISE and Netval, which managed to involve a large number of universities, public research institutions and research hospitals. These partners co-financed the measure, according to a scheme proving satisfactory for the target subjects. An intensification of the capacity for dialogue as a result of this policy action with researchers on one hand and with companies on the other, appears highly beneficial and profitable, acting as a catalyst for an increasingly consolidating technology transfer eco-system.

The UIBM-MISE call is currently expressing all its potential. This is a reinforcement of TTOs - albeit temporary - of considerable importance and it is noteworthy that it is an investment of resources promoted by UIBM-MISE, which, with the aim of increasing companies' competitiveness, considered it useful to strengthen the capacity of universities and public research institutions to transfer the results of their research to industry. This policy had the double benefit of strengthening the capacity of research institutions to enhance their research and of supporting the economy by injecting innovation that would otherwise have struggled to reach the market. Furthermore, Netval and UIBM-MISE organized free training courses to provide the winners of the positions funded through the call with the necessary knowledge to be immediately operational. It is therefore a policy measure for which Netval is particularly grateful to UIBM-MISE and which, given the success of the operation, could be proposed as a best practice of potential interest also for other ministries.

If the increase in staff in technology transfer concerns an investment variable, that is the ability of the system to develop actions of exploitation of research results, also the numbers related to generated outputs have increased in 2017 and, in most cases, the absolute values were the highest ever recorded.

The following is a summary of the most relevant data referring to the 60 organizations participating in the Netval survey:

- in 2017, **TTOs staff (full-time equivalent)** amounted to a total of 346.1 units, with an average value of 5.8 units and an average increase of 1 unit compared to the previous year;
- the **number of new patent applications** was 454 (+ 11.6% when compared to 2016, with 407 applications), with an average of 7.8 against 6.8 in 2016;
- 444 **patents were granted** in 2017, with an average value of 7.8 (+ 387.5% compared to 2004 and + 27.9% compared to 2016);

¹ *UIBM: Ufficio Italiano Brevetti e Marchi - the Italian Patent and Trademark Office; MISE – Ministero per lo Sviluppo Economico – the Italian Ministry for Economic Development.*

- the **patents in the portfolio** at the end of 2017 are 5,317 (+ 6% compared to 2016, but above all + 52.5% compared to 2015 and + 347.2% compared to 2005), with an average value of 93.3 active IPR titles against 83.6 of the previous year;
- the **expenditure incurred for the protection of Intellectual Property (IP)** in 2017 amounted to approximately €4 million (+ 205.4% compared to 2004 and -0.8% compared to 2016), with an average amount of around €78,000;
- the **average number of licenses and/or options** was 142 in 2017, with an average of 3 agreements. These values are higher than in previous years (126 in 2016 and 93 in 2015); a 30.4% increase was therefore recorded compared to 2016 and a 76.5% increase compared to 2015;
- the **revenues deriving from active licenses** on 31 December 2017 amounted in total to € 2.8 million, with an average value of € 62,000. This value more than doubled when compared to 2015, after a period of constant values, around 1.5 million, from 2004 onwards;
- in 2017, 115 **spin-off companies** were established, confirming a steady trend over the last ten years.

In addition to purely quantitative indicators, other positive elements characterized Netval's activity and the technology transfer system in general over the last year.

A first important improvement is the consolidation of the interest in **clinical innovation**. The collaboration between Netval and the **Ministry of Health** continued after confirmation that the valorization of research results in the health sector (universities, hospitals, research hospitals, research institutes, etc.) was a valuable sector to insist upon in the country's best interest.

For the second year in a row, Netval and the Ministry of Health carried out a technology transfer survey in all 51 research hospitals – thus not only those affiliated to Netval - to release a specific research report. Furthermore, in February 2019 the Netval Board of Directors, invited by the Directorate General for Research and Innovation in Health of the Ministry of Health, presented data on technology transfer in research hospitals (IRCCSs) during a meeting with the Scientific Directors of all Italian IRCCS. In recent years, there has been a flurry of activity in technology transfer within IRCCSs, which are high quality research generators, with innovative solutions that have significant economic and social implications, very often stemming from specific medical needs defined through close contact with users. A significant activity in this area was also the participation - promoted by Netval for the second consecutive year - of some organizations and universities in BioVaria (www.biovaria.org), a European matchmaking event in the field of Life Sciences taking place in early May in Munich every year.

Also the collaboration with the **Ministry of Foreign Affairs and International Cooperation** intensified and in 2019 Netval was invited to meet all the scientific attachés of the Italian Embassies, to assess the possibility of starting further collaborations in the field of valorization of research results.

In relation to collaborations with institutions and associations operating at an international level, Netval actively participates in the activities and is part of the board of **ASTP**, the leading pan-european knowledge transfer association. Furthermore, Netval has managed to secure ASTP membership for Italian organizations at particularly favorable conditions. The collaboration with **EPO** (European Patent Office) also intensified during the last two years.

At an international level, a very important event was the third **study trip to Israel** (in autumn 2018) organized in collaboration with CRUI, the Conference of Italian University Rectors, and the Embassy of Israel in Italy, which covered organization and costs in Israel. Fifteen people participated in the study trip, both technology transfer managers and young spin-off entrepreneurs. Collaboration with our Italian Embassy in Tel Aviv is still very intense.

The study trip organized by Netval to China in collaboration with the Galileo Galilei Institute of the Sant'Anna School in Chongqing was an absolute novelty. Twenty-nine people participated in the trip focusing on technology transfer, which took place from 23 to 30 March, 2019.

A further result recently consolidated was the full activation of the **www.knowledge-share.eu** platform, a proper showcase and gateway to Netval affiliates' intellectual property. This stemmed from an initiative of Turin Polytechnic in collaboration with Intesa Sanpaolo bank, made available to Netval and in which also UIBM-MISE decided to invest, becoming a partner. The platform is now populated by 932 patents - for each a brief presentation is available with photos and videos - and was officially presented in Turin on 26 June 2019, during the Italian Tech Week (ITW) of the 2019 edition of Teschshare Day.

Netval renewed the contract with **Questel** for 2019, which allows its members to have an excellent IP data bank available.