

The research and knowledge transfer activity of the spanish universities in 2015

Executive summary



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Universidades
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Research and Knowledge Transfer Survey is a joint action carried out by the Spanish Universities' Knowledge Transfer Office Network (RedOTRI) and Research Management Units Network (RedUGI), linked to the Spanish Conference of Rectors (Crue Spanish Universities). This survey was launched 15 years ago and since then it has been growing and strengthening. It is harmonized with the European Transfer survey that manages ASTP-Proton association.

Currently, the survey is a national guide for R&KT information in Spain, and it is increasingly used by policy makers and analysts from the national innovation system. The 2015 financial year survey response rate has reached 95% of 70 Crue member universities. Specifically, these 70 universities comprise 48 public and 22 private, both traditional and distance learning, and only four private universities have not responded to the survey, one more than in the 2014 Survey of R&KT.

Edited by:
Crue Spanish Universities
Plaza de las Cortes, 2, 7ª planta
28014 Madrid
www.crue.org
info@crue.org

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Addicta Diseño Corporativo

SUMMARY

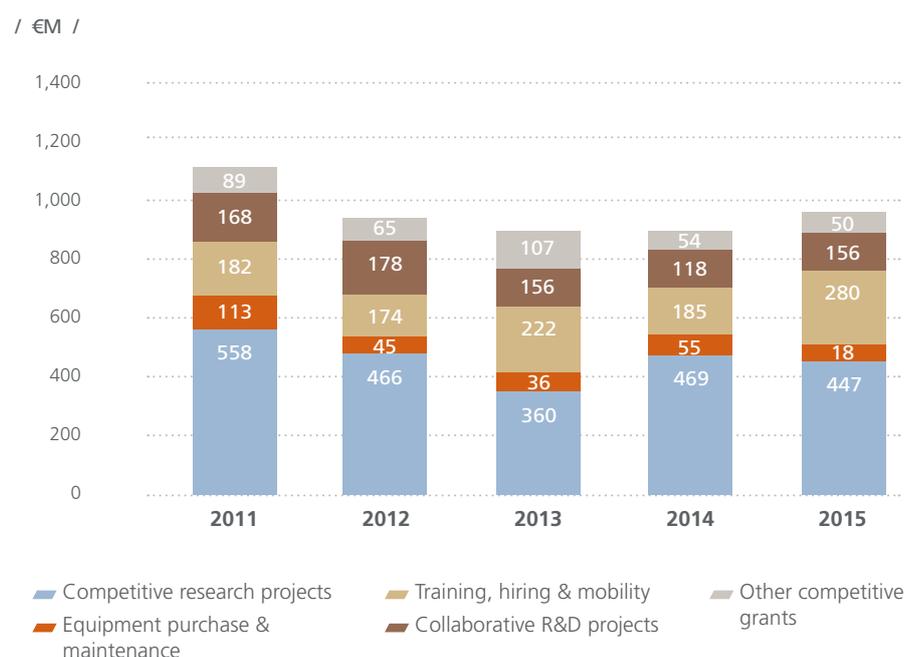
• • • The research and knowledge transfer activity of the Spanish Universities in 2015, compiled by 2015 Survey of Research and Knowledge Transfer (R&KT), shows:

1. A decrease in competitive research projects supported by state and regional public funds.
2. The transfer of knowledge to industry continues its downward trend offset only to the extent that the interaction with companies might be funded with public collaborative grants.
3. A slight rise of public funds for human resources.
4. Recovery in financial resources for UE collaborative projects.
5. The number of license agreements shows an improvement. However, this growth does not implies higher income.

Financial resources from R&D competitive

Amount granted in competitive funds for R&D, by type of activity

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 58.

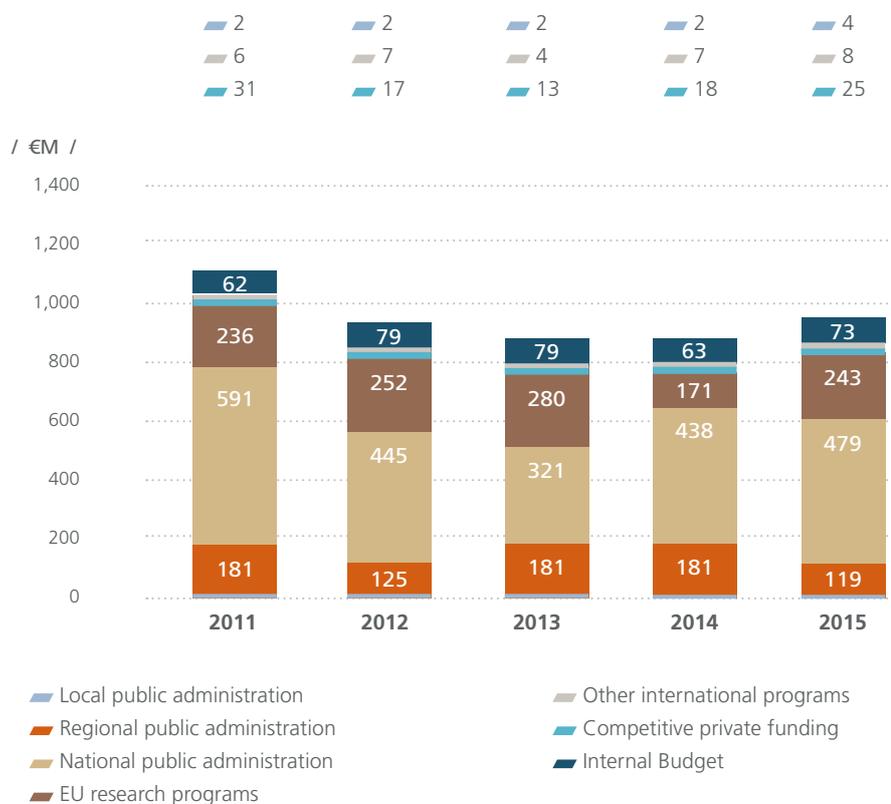


Financial resources obtained in 2015 from competitive research programs amounted €951M, which represents an 8% increase over the previous year. In spite of the improvement this quantity is far from the levels of 2011, when competitive research funding reached €1,109M.

In terms of type of activity, this slight recovery is associated with an increase of the human resources grants, mainly from national public funding, due to the policy of promoting youth employment. Also, funding boost for collaborative projects with EU companies can be observed, as a result of the fully functioning of the Horizon 2020 framework programme. This recovery of Human Resources funding and collaborative projects funding offset the sharp decline of scientific infrastructure grants, and, to a lesser extent, of the competitive research projects from the regional and national administration sources.

Amount granted in competitive funds for R&D, by funding sources

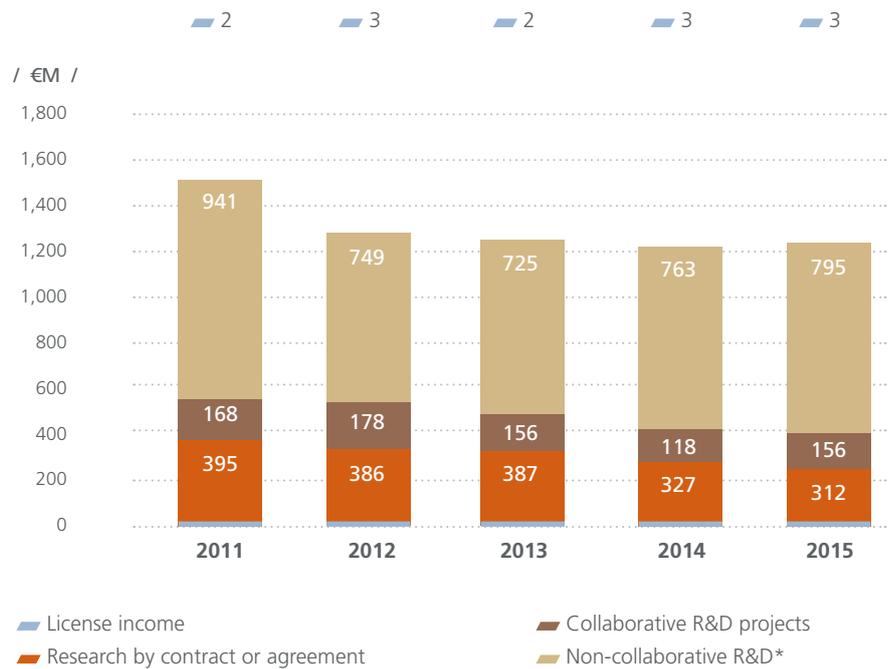
Source: 2011-2015 R&KT Surveys. Number of responses in 2015: 51.



In terms of funding sources, the recovery of the contribution of the National Government funds remains steady, although such funding still remain below 2011 levels. In addition, funding in European programmes has increased, representing 25% of the total competitive funding. The internal budget for University programmes has also increased, therefore universities continue to make a special effort to offset the loss of funding.

Total economic volume: Research and Knowledge Transfer

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 56.



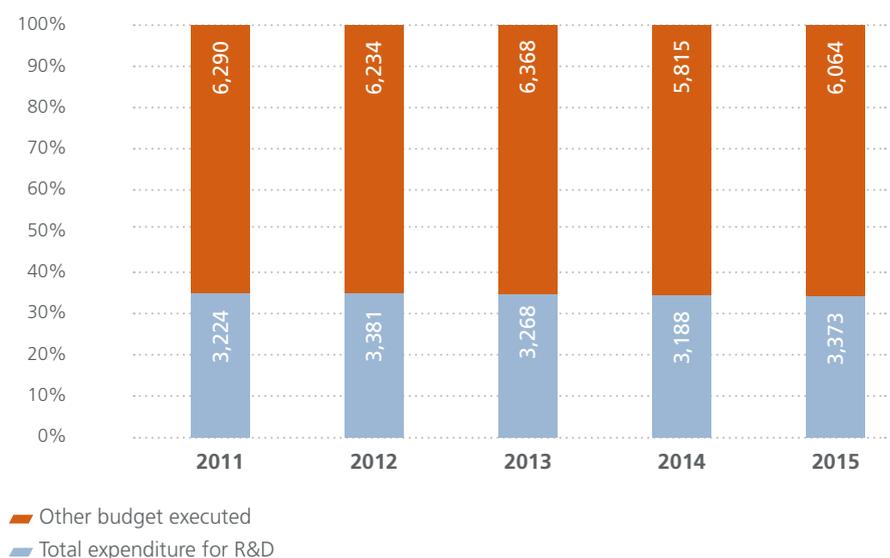
* "Non-Collaborative R&D" includes financial resources obtained from competitive non-collaborative research projects, human resources grants, scientific infrastructure grants and other competitive grants.

Expenditure for R&D

According to the 2015 R&KT Survey, the expenditure for R&D in universities increased slightly over the previous year, reaching €3.373M. R&D expenditure represents the 36% of the University's executed budget, a similar percentage to that of the previous year. But the share of R&D money obtained from third parties has slightly increased, and the general university budget represents 42% of total R&D expenditure. This is linked to the increase of the expenditure supported by public funding programs.

R&D weight in university

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 65.

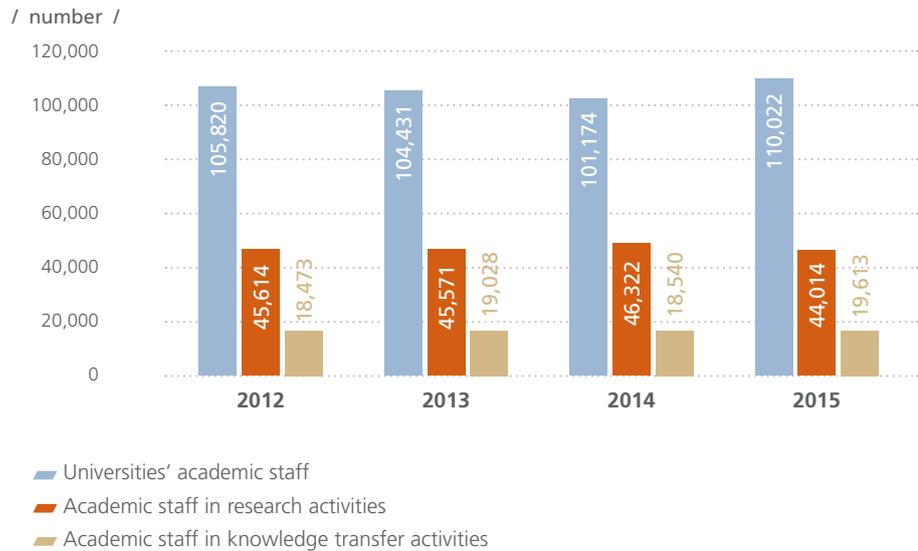


Universities' academic staff

In 2015, Universities' academic staff has experienced a slight increase over recent years (data collected from 48 public and 18 private universities). However, this recovery does not imply an increase in personnel performing research and transfer activities, reaching 40% and 18% of faculty respectively, which are lower to the percentages of the previous year.

Activity of Universities' academic staff

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 59.

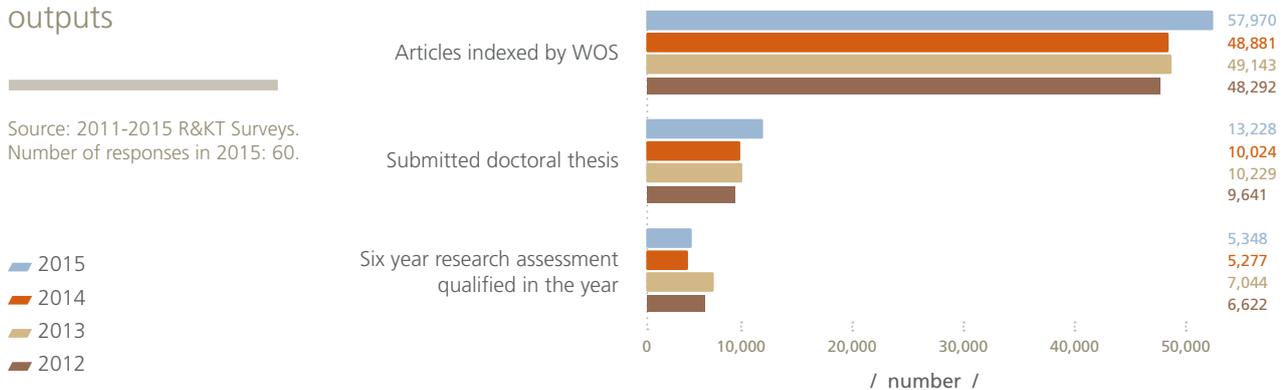


Research outputs

Research outputs (measured in submitted doctoral thesis, in number of articles in scientific publications indexed by Web of Science (ISI) or in six year research assessment qualified in the year) show a slight increase in 2015. This increase is greater in the case of the submitted doctoral thesis, perhaps due to the completion of the old educational plan.

Research outputs

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 60.

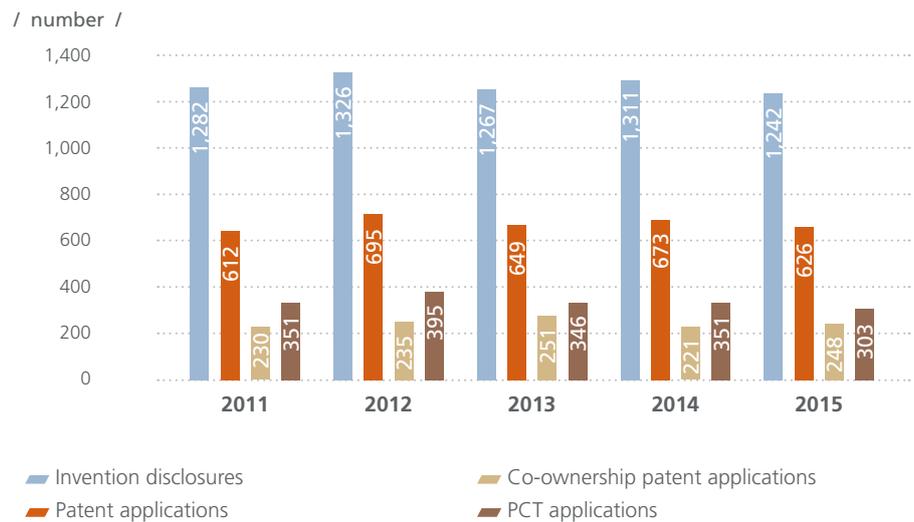


Results protection

In 2015, the number of patent applications and PCT applications decreases to levels four years ago. However, the number of co-ownership patent applications is increased, as a result of the growing cooperation between different entities.

Intellectual property protection

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 66.

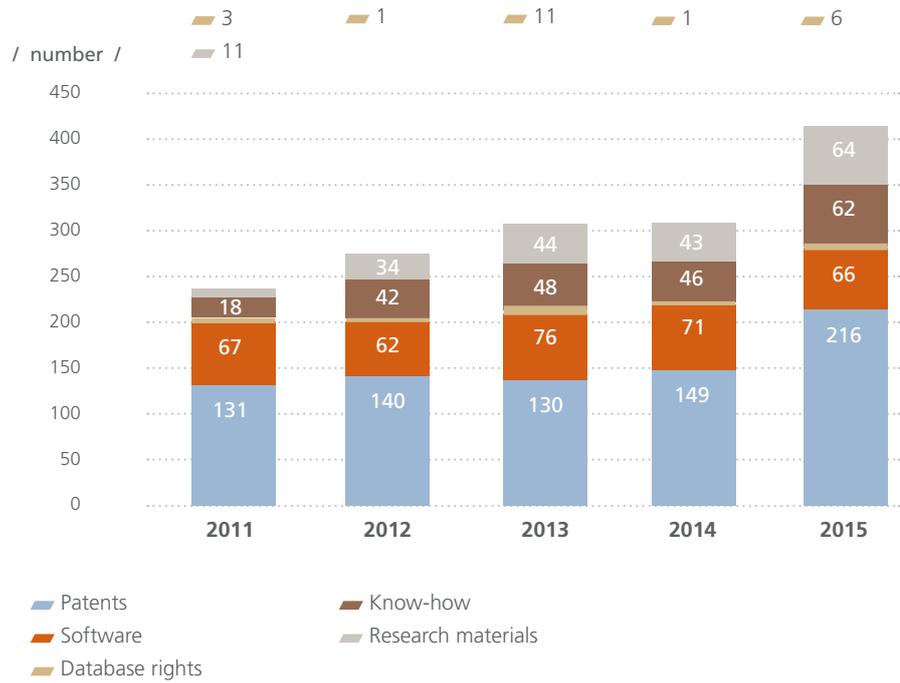


Commercialization of protected technologies

Regarding knowledge transfer linked to commercialization of protected technologies, the number of license agreements, particularly patent license agreements, shows a clear improvement, boosting the trend that began in 2014. The number of know-how license and chemical or biological materials agreements has also recovered. However, this growth does not imply higher returns. In 2015, patent licensing income has been €2,6M, far from other knowledge transfer mechanisms, such as €312M from research by contract or €156M from R&D collaborative projects.

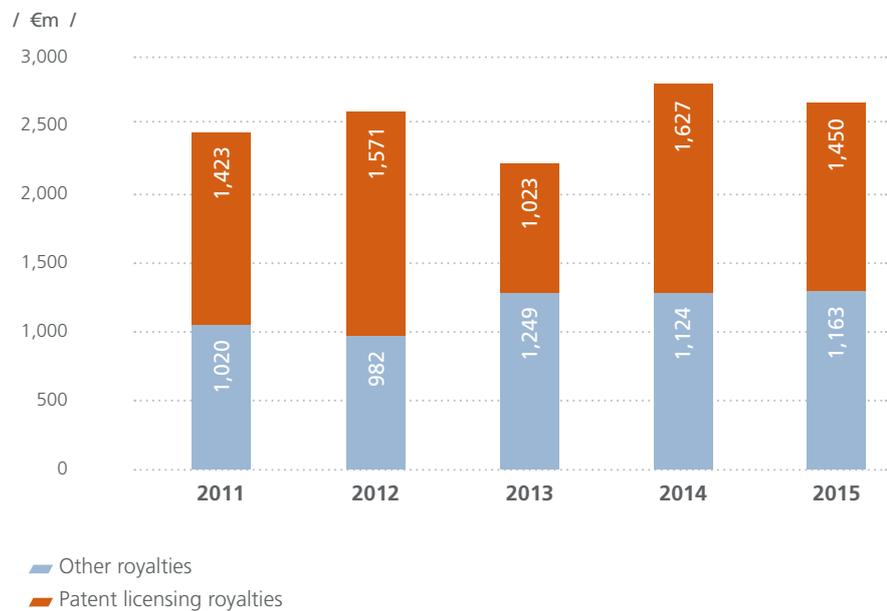
License agreements

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 57.



License income

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 56.

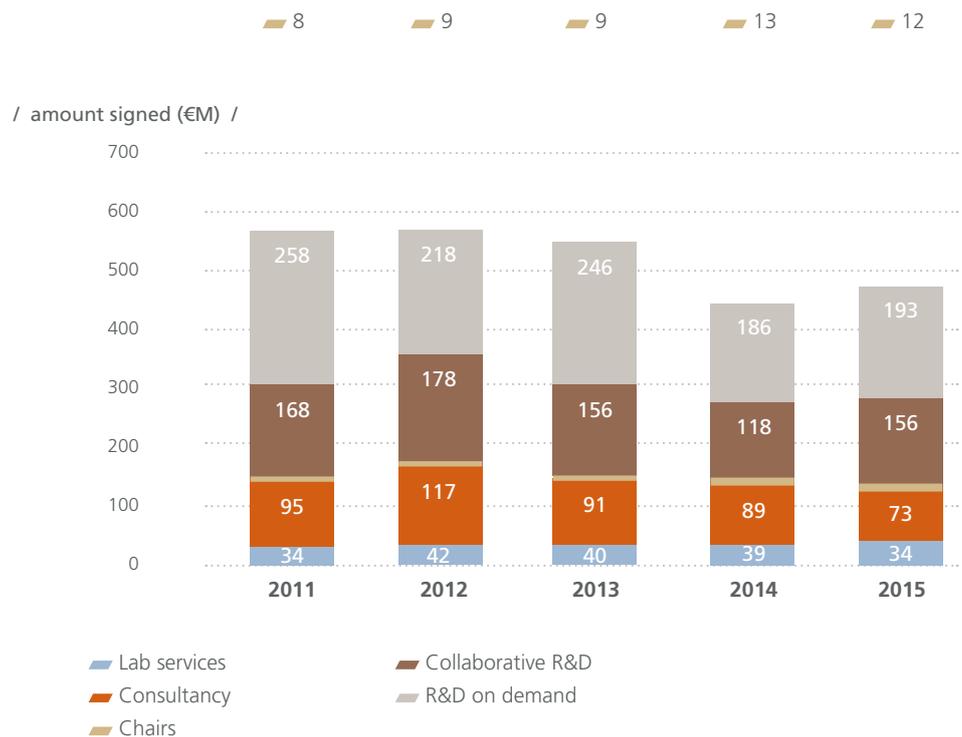


Research contracts and collaborative research

Regarding knowledge transfer from Universities to companies through research contracts and collaborative research, just like consultancy contracts, services and company university chairs, in 2015 a slight recovery has occurred compared to the previous year. This recovery reaches €468M, although it is still far from the levels of 2010 (€634M). Public sector contracts has also increased 4 percentage points in 2015. It should be pointed out that R&D contracts with foreign companies has risen (19%), although the main market for Universities is still the national one.

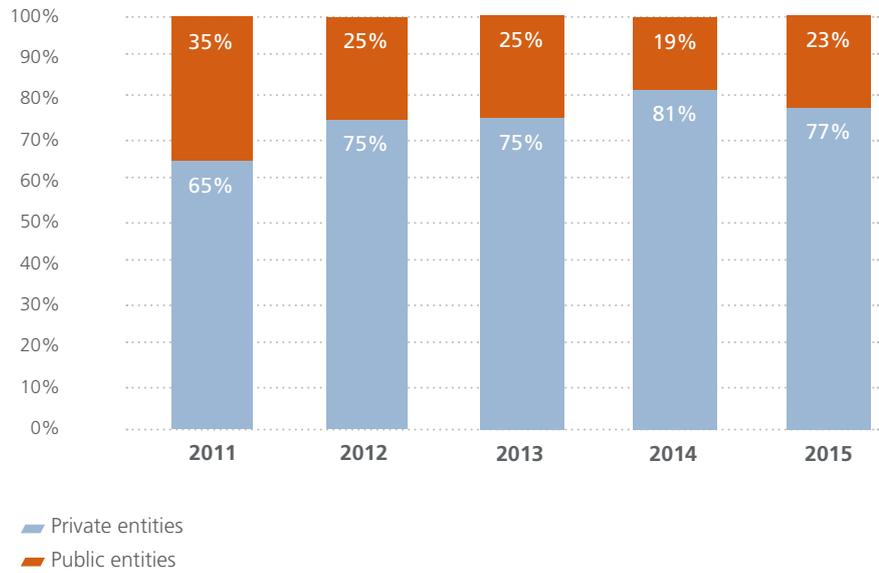
University-third parties interaction financial volume

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 56.



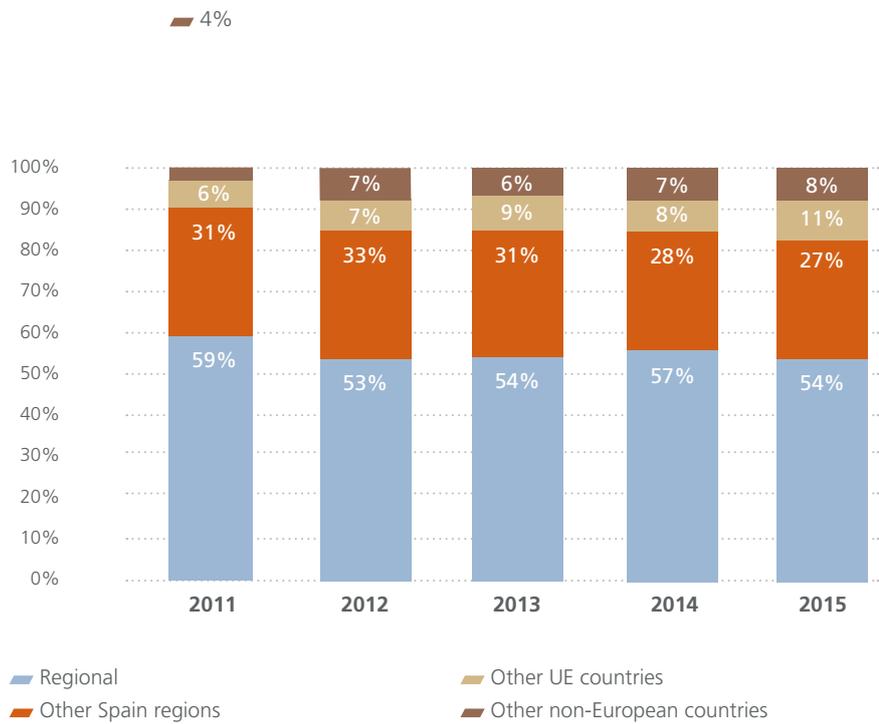
Distribution of contracted amounts, by type of entity

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 58.



Distribution of contracted amounts, by geographical origin

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 57.



Spin-off companies

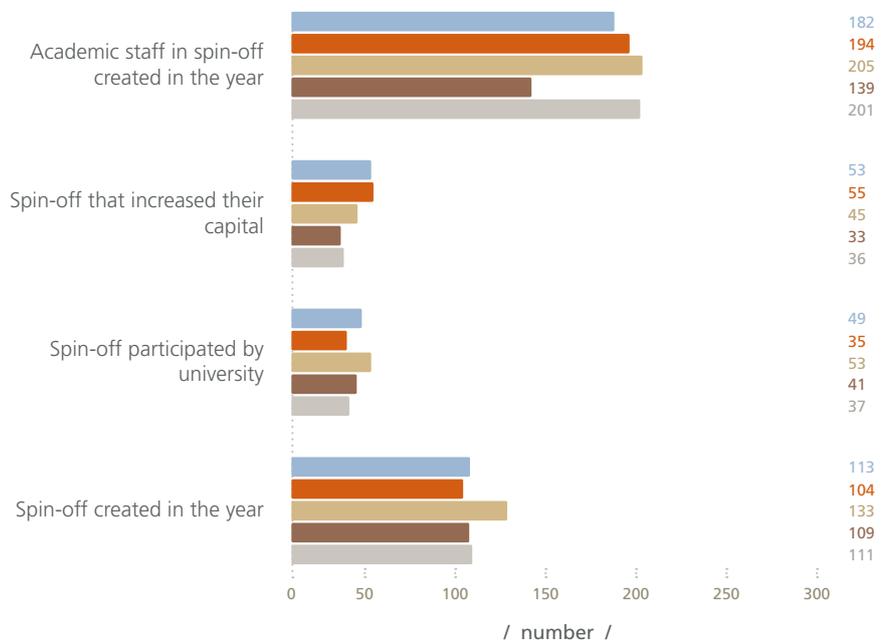
Spin-off companies are created in order to exploit the university research results, as an effective mechanism for transferring knowledge. In 2015, the number of spin-off companies created is similar to the previous year one. Survey reports a growth in the participation of universities in spin-off companies' equity, reaching the 43% of cases. The number of spin-off companies that increased their capital does not change.

The capital rise is a good signal of validation and maturation of the company because it becomes more valuable. The number of these spin-off companies that increased their capital is far below the number of companies created during the previous five years that still survive. This fact highlights that it is necessary to increase seed funding and to improve the management capacity of these companies. Since 2014, the academic staff promoting these companies is decreasing.

Spin-off companies

Source: 2011-2015 R&KT Surveys.
Number of responses in 2015: 51.

2015
2014
2013
2012
2011



Resources of KTO and RMU

The slight recovery of the staff in the Knowledge Transfer Offices (KTO) and in the Research Management Units (RMU) is also associated with the national government policy for youth employment promotion. The hiring of these workforce generates a slight growth in the KTO staff. RMU staff also grows, highlighting the increase in the number of employees dedicated to economic management, public grants for R & D (excluding the part of collaborative projects) and administrative support in research management.

