Executive Data Report

ASTP 2023 Annual Survey

On the European Knowledge Transfer Landscape

Financial Year 2021

Contents

Survey Overview

The 2023 Annual European Survey on Knowledge Transfer activities and outputs (FY2021 data)

ASTP is the pan-European association of Knowledge Transfer (KT) professionals with a core mission to share best practices and develop competencies among KT professionals. Part of this role involves undertaking an annual survey of KT activities which also allows us to create a better understanding of knowledge transfer resources, and activities.

We are pleased to present the Annual Survey Executive Data Report with the data provided by respondents for Financial Year (FY) 2021.

This report draws on data of a total of 674 KTOs from 21 European countries. Thereof, are 97 aggregated KTO datasets provided by one national association and 577 datasets from responding KTOs. The aggregated data was included in the summary overview (see next page) and excluded from the detailed analysis in the remainder of the report to avoid biases.

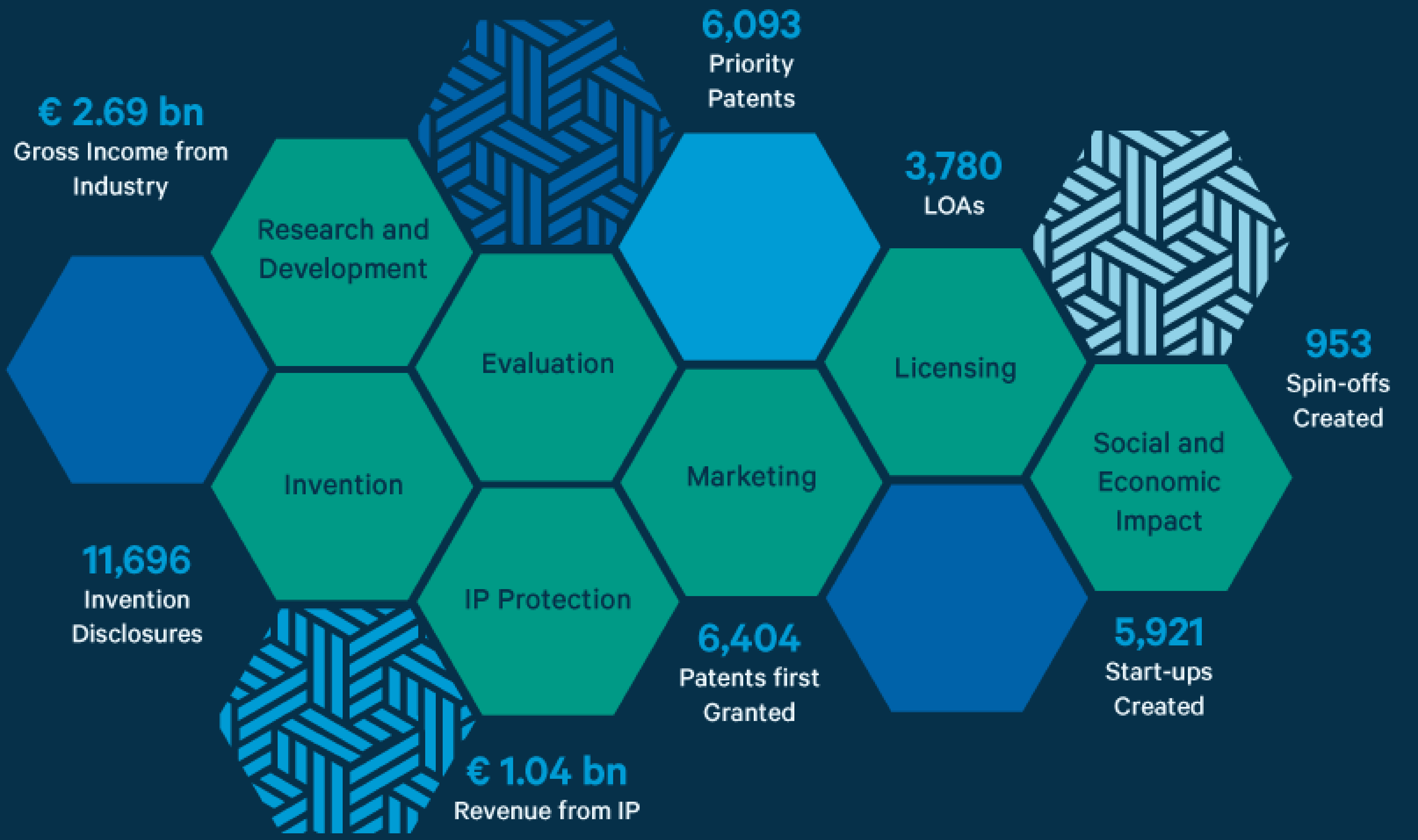
ASTP has been collecting and analysing data greatly supported by collaborating National Associations (NAs).

The datasets originate from two kinds of sources :

- KTOs that participated in the ASTP FY2021 survey (open from March to May 2023). It was sent to all KTOs in ASTP's database.
- NAs provided data that they collected by running national surveys.

Care was taken to only include data that was compatible with ASTP's survey questions and definitions. In particular, we offer grateful thanks to the following NAs; Universities Denmark, Réseau C.U.R.I.E (France), TransferAllianz (Germany), swiTT (Switzerland), KTI (Knowledge Transfer Ireland), Netval (Italy), RedOTRI (Spain), PACTT (Poland) and Research England (UK), for providing data from their national surveys.

674 KTOs from 21 European Countries



Source: ASTP Survey Report on Knowledge Transfer Activities in Europe for Financial Year 2021

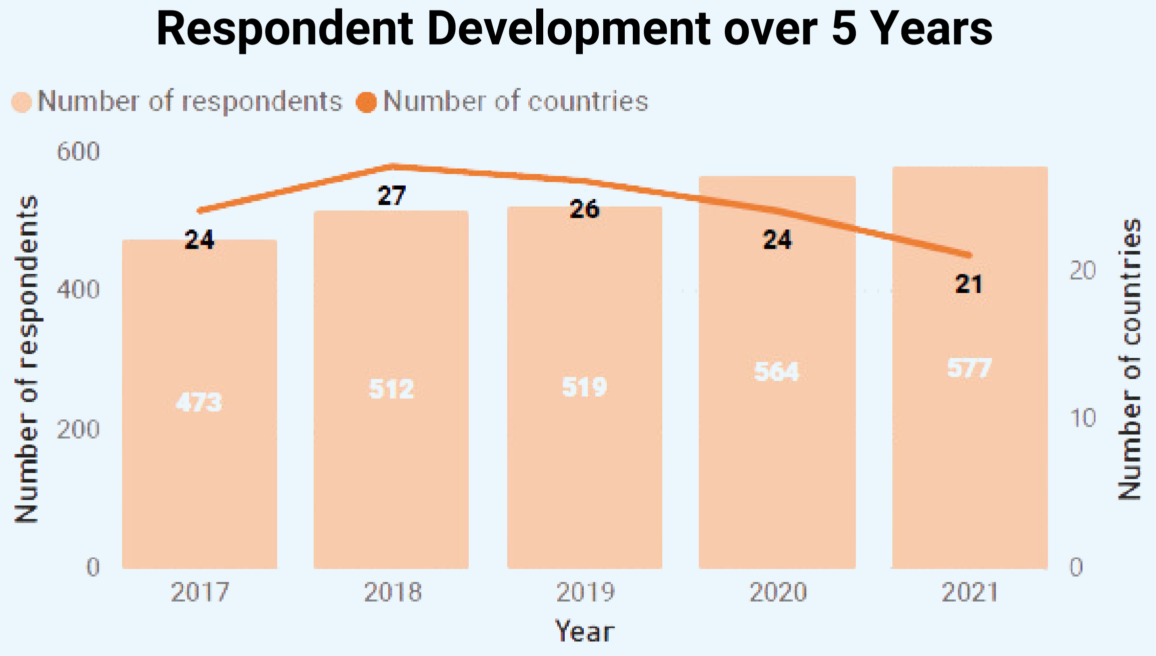
Information on Responding KTOs

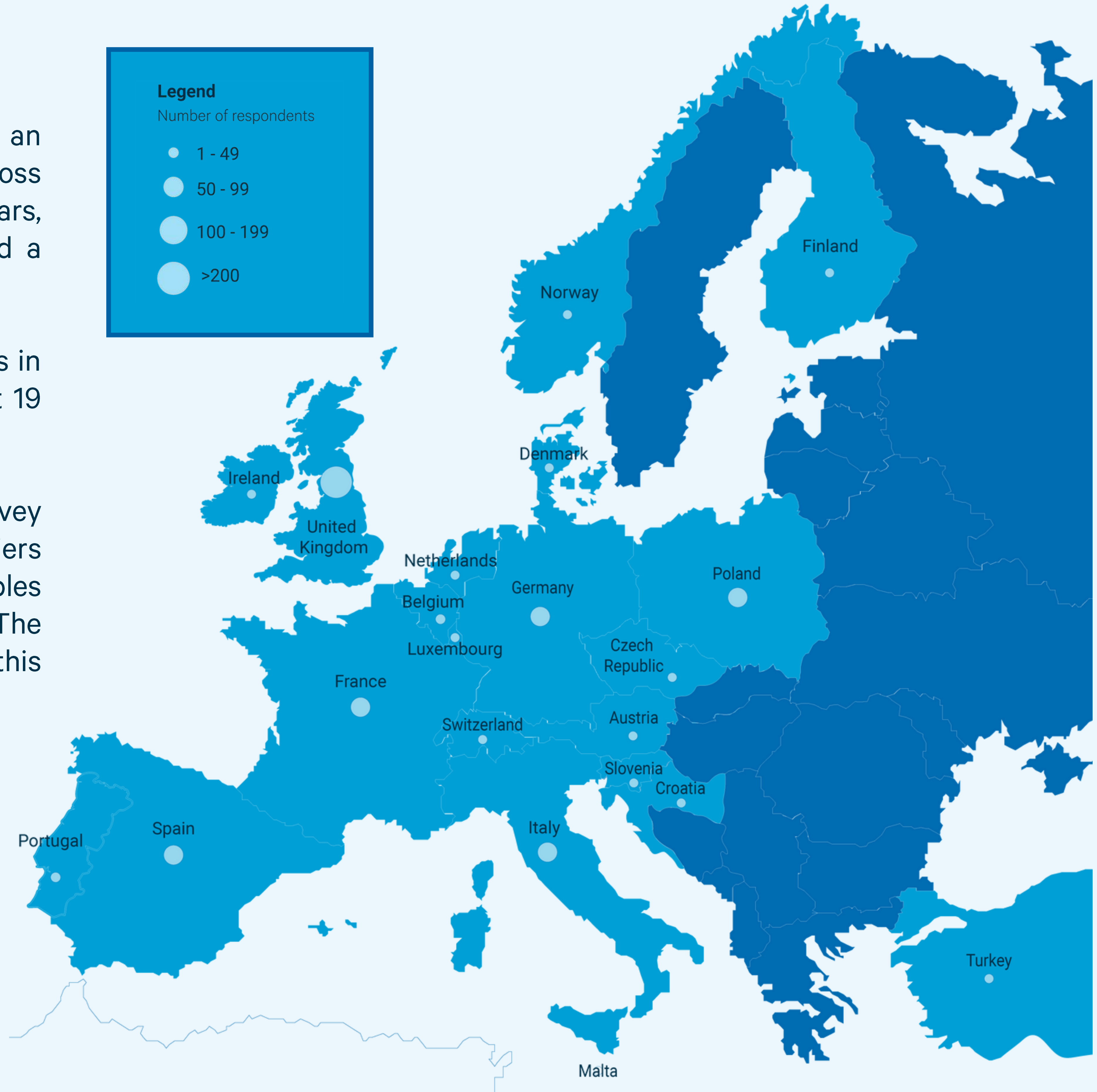
FY2021 Survey Sample

The consistent increase over the years in the total number of responses shows an appetite to be part of the KT metrics landscape and its growing importance across Europe. Germany and the UK still had an increasing response trend over the last years, with about 20 more respondents for FY2021 compared to FY2020. We have had a significant increase with input from the Polish National Association PACTT.

The variability of the number of countries is due to some KTOs being the only ones in their countries to take part in the survey but not on a regular basis. We note that 19 countries have regularly been responding over the last six years.

Data quality – A strict data cleaning protocol is conducted by the ASTP Survey Committee, including, when possible, cross-checking with respondents when outliers are detected, for correction or confirmation. In empirical databases, values for variables may be missing due to non-availability, confidentiality or incompatibility of data. The total number of respondents for each question varied. Thus, each graph indicates this with "n".

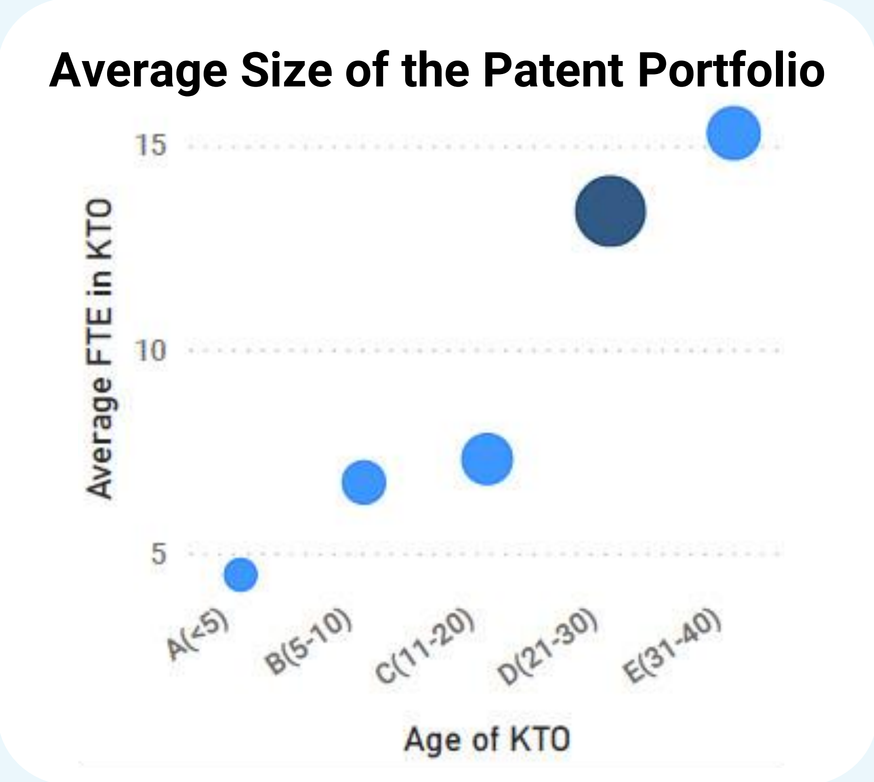


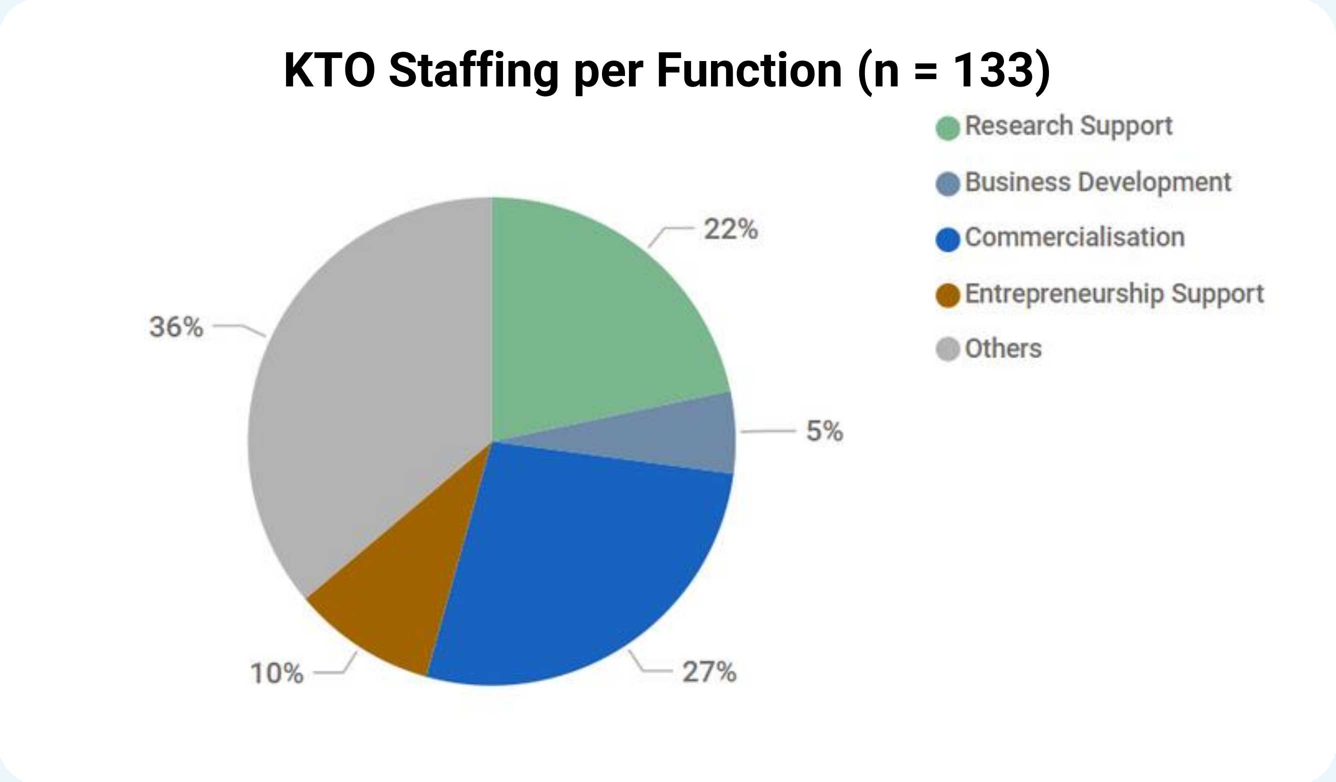


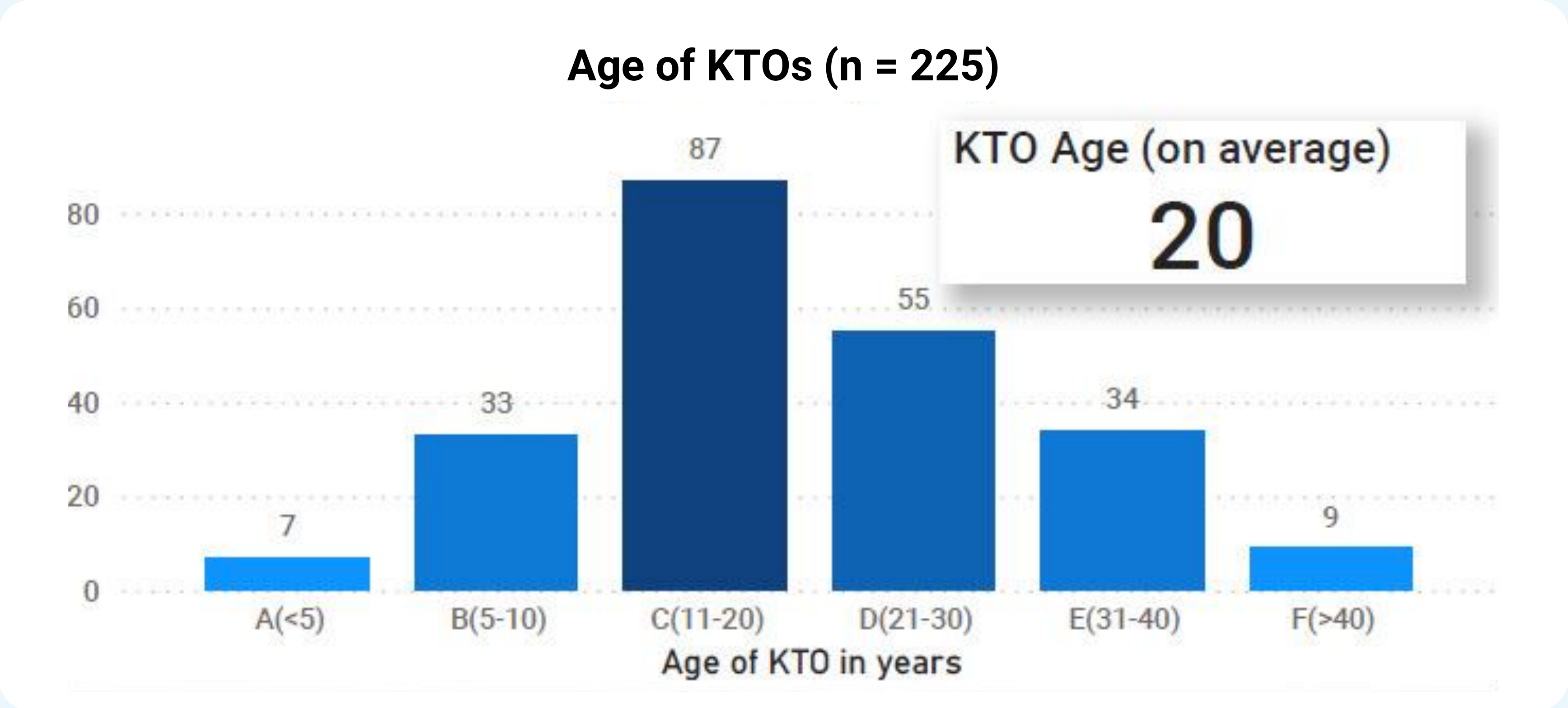
Profile of Responding KTOs

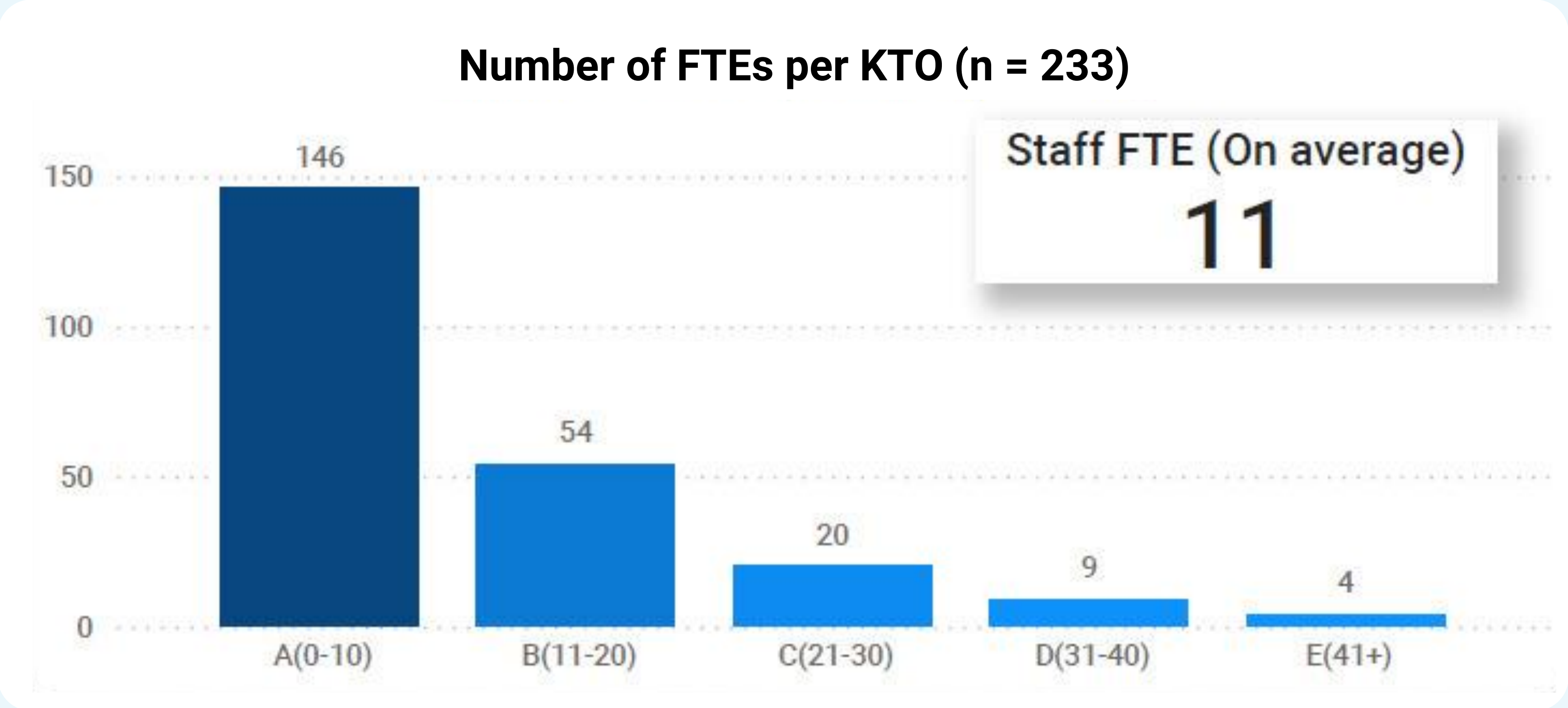
KTO size was 11 FTE on average and the biggest group of KTOs is matured to within the range of 11-20 years old. Those KTOs have a relatively mature and sizable patent portfolio, however the age group of KTOs that has built the most sizeable portfolio is the one between 21-30 years old, with an average of 13 FTEs.

For 2021, the KTO staffing per function is almost equally distributed between Research Support, Commercialisation and Other functions.







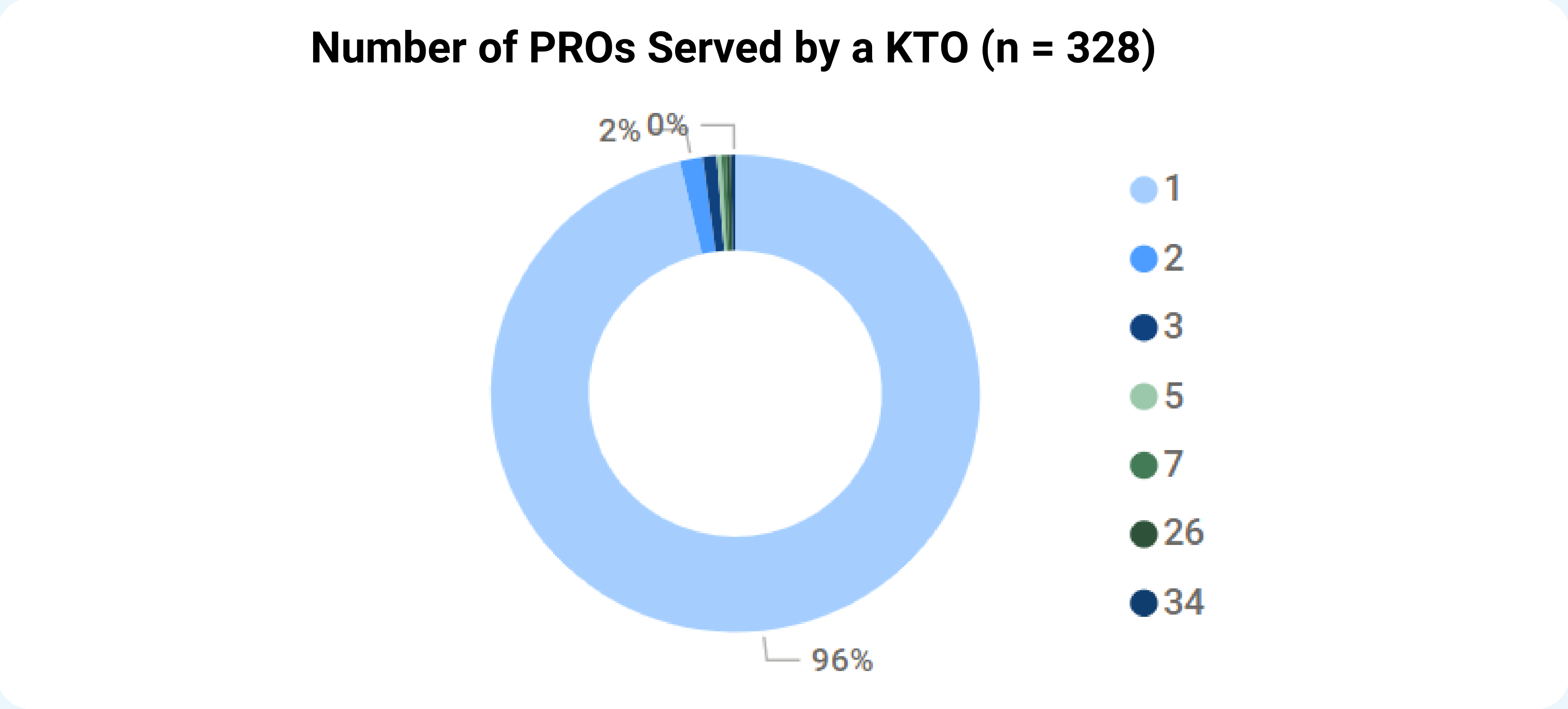


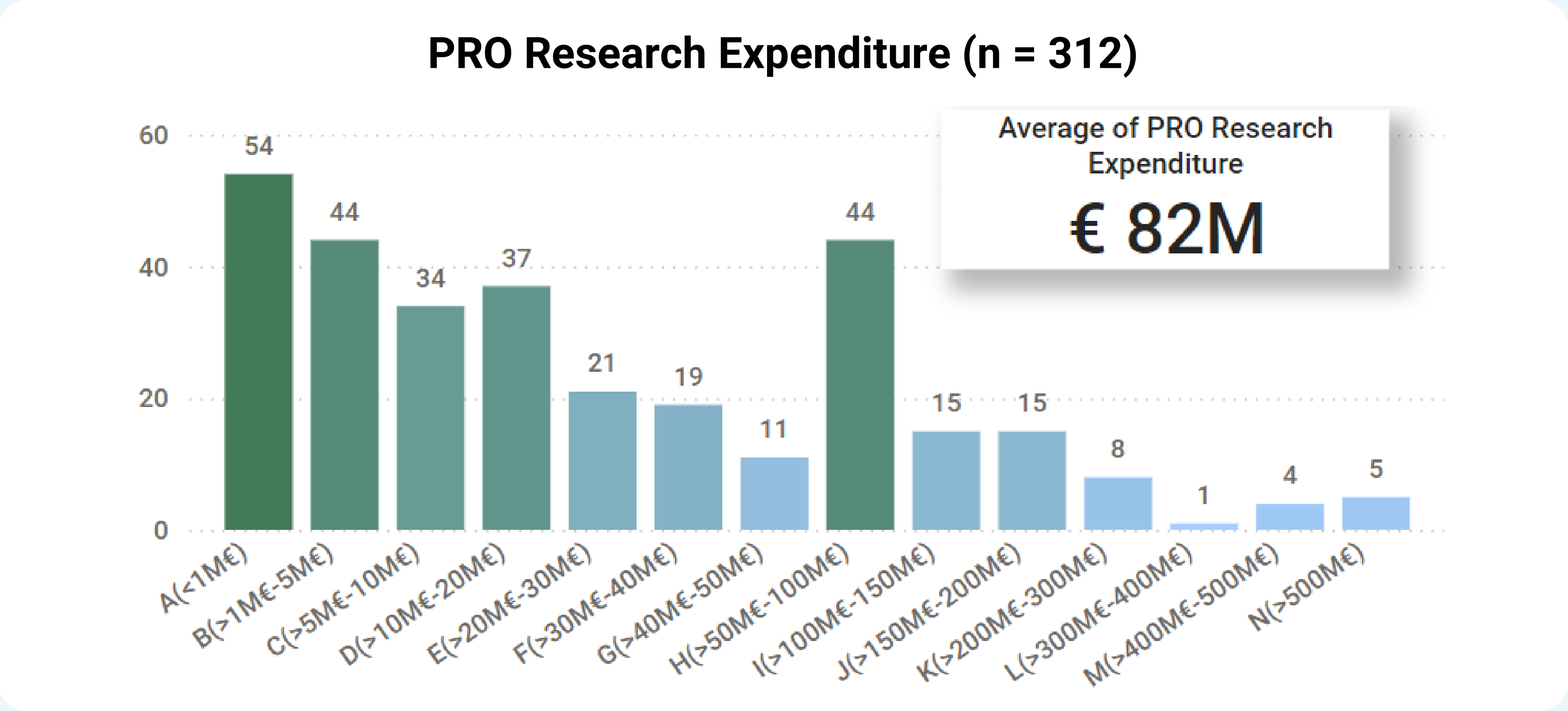
PROs Served

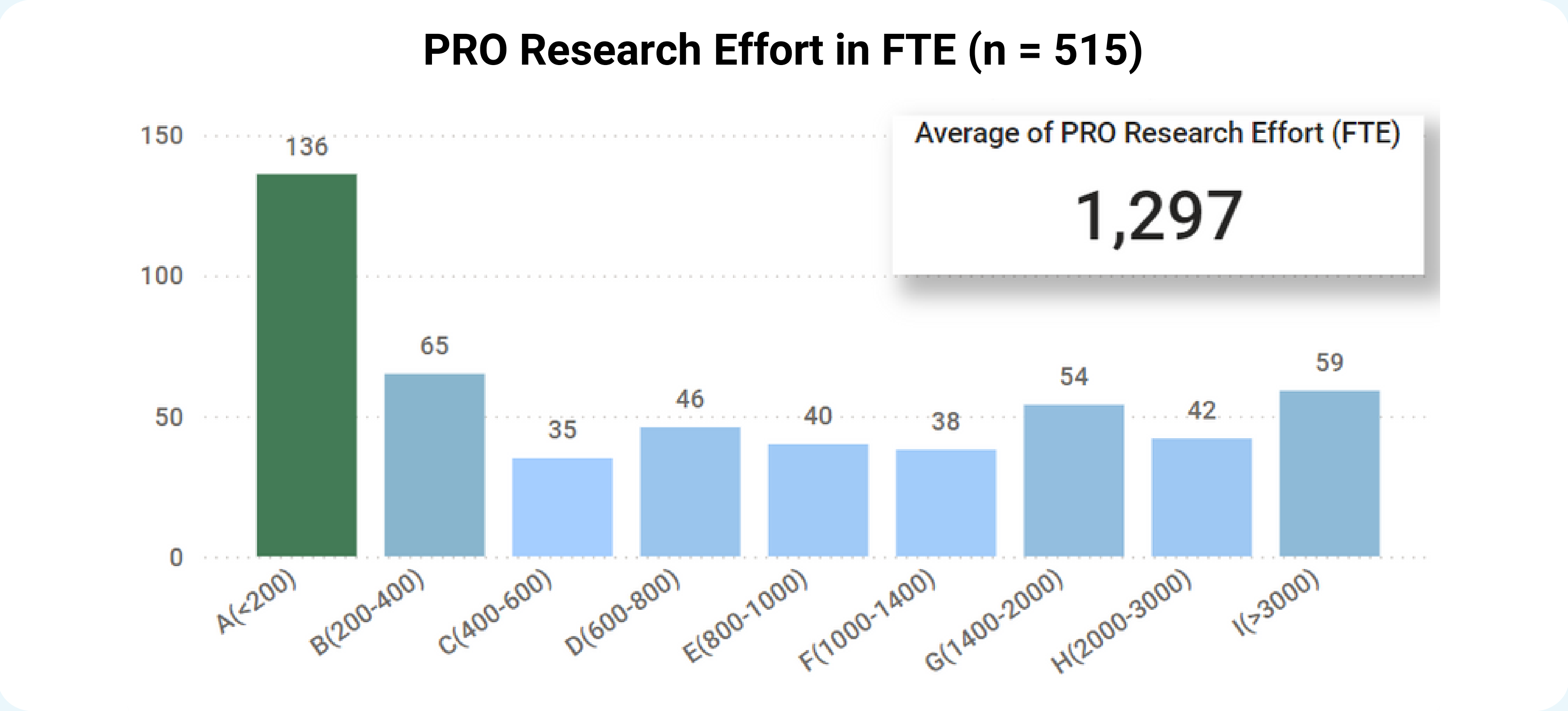
As shown on the pie chart, most KTOs serve a single Public Research Organisation (PRO). Only a minority of 1% operate on behalf of 10 or more research institutions.

In order to normalise for organisation size and perform some analysis on the metrics, we asked KTOs to provide two metrics for the PROs that they serve: the PRO Research Expenditure and the PRO Research Effort expressed in FTE (including the cumulated data provided by KTOs which serve several PROs).

Among the respondents, we observe that the average PRO research expenditure is 82M€ and the average PRO research effort is around 1,300 FTE.







Industry Collaborations

Number of Agreements and Income

In FY2021, KTOs reported that a total of 124,366 industry agreements had been concluded. A breakdown of these numbers across different industry agreement types are given in the first table.

Consultancy agreements are the most frequent form of engagement between academia and industry.

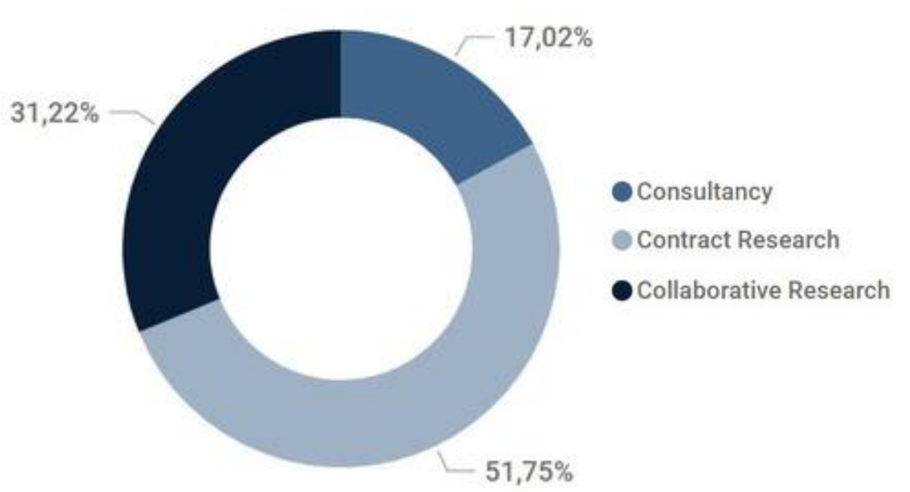
Total income from industry agreements are shown in aggregated form in the overview figure on page 2. The number of respondents for each of the indicators is not the same. The later is shown in the second table on this page, and accounts for a total of €2.4 billion of income generated during FY2021 by the active agreements with the industry.

Considering only the KTOs that have populated data above zero for the three types of agreements in terms of number and amount received (54 KTOs for 2021), the Collaborative Research Agreements count for 10% of the number of agreements but they generate 50% of revenue from industry agreements. Additionally, the Contract Research Agreements generates 36% for a count of 25% of the newly signed agreements and the Consultancy Agreements generate 14% of the income for a count of 65% of the newly signed agreements (not displayed on the pie charts).

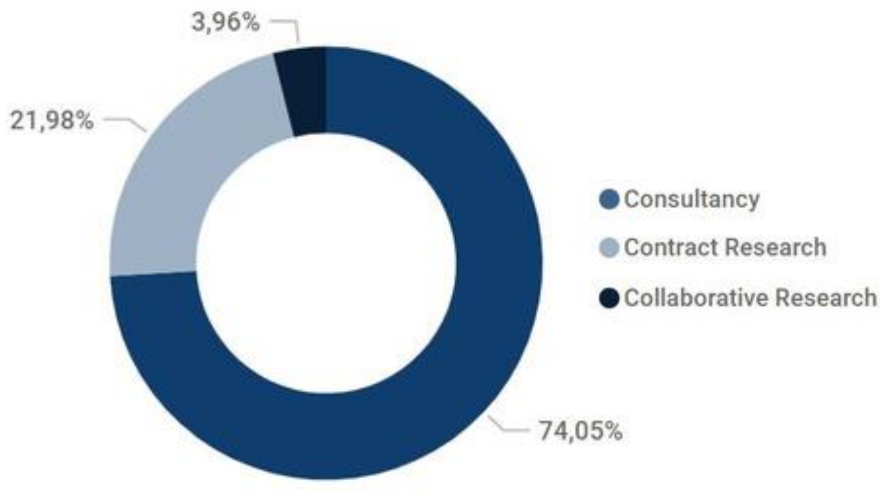
Year	Collaborative Research Agreements (n=141)	Contract Research Agreements (n=330)	Consultancy Agreements (n=287)
2021	4.931	27.341	92.094

Year	Income from Collaborative Research Agreements (n=80)	Income from Contract Research Agreements (n=289)	Income from Consultancy Agreements (n=286)
2021	€ 744.227.767	€ 1.233.596.601	€ 405.773.320

Income from Industry Agreements (n = 57)



Income from New Industry Agreements (n = 60)

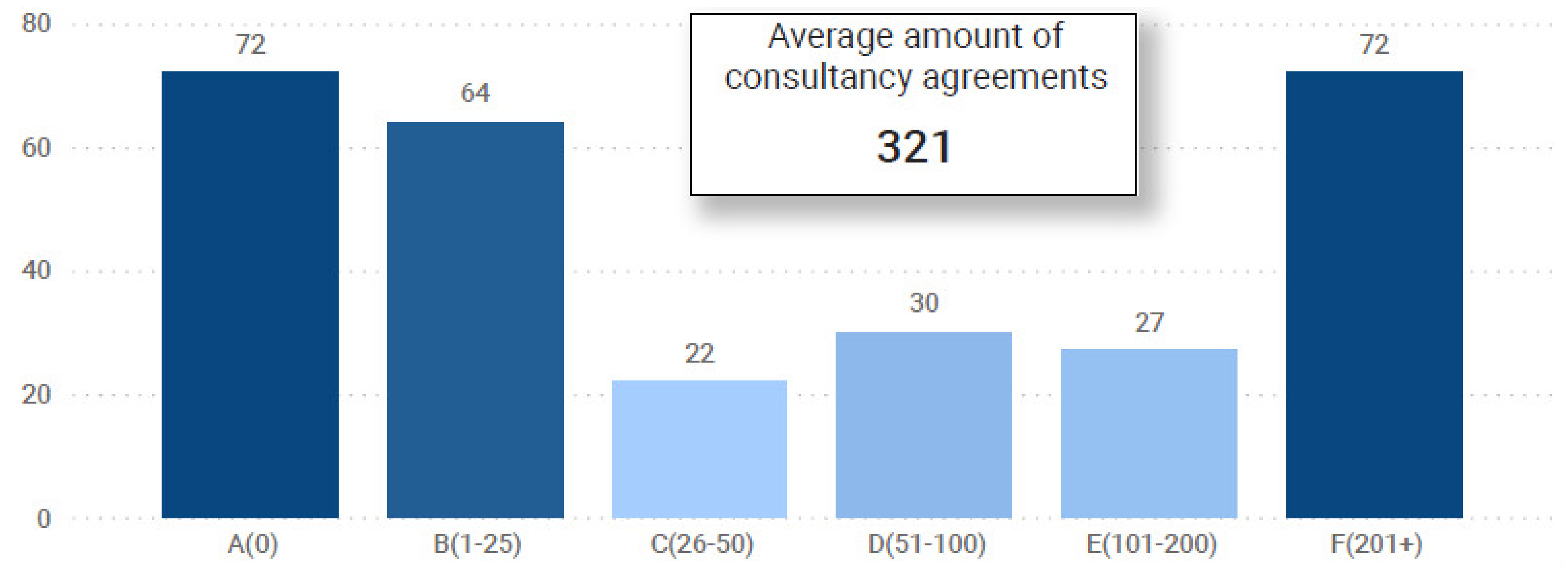


New Agreements by Type

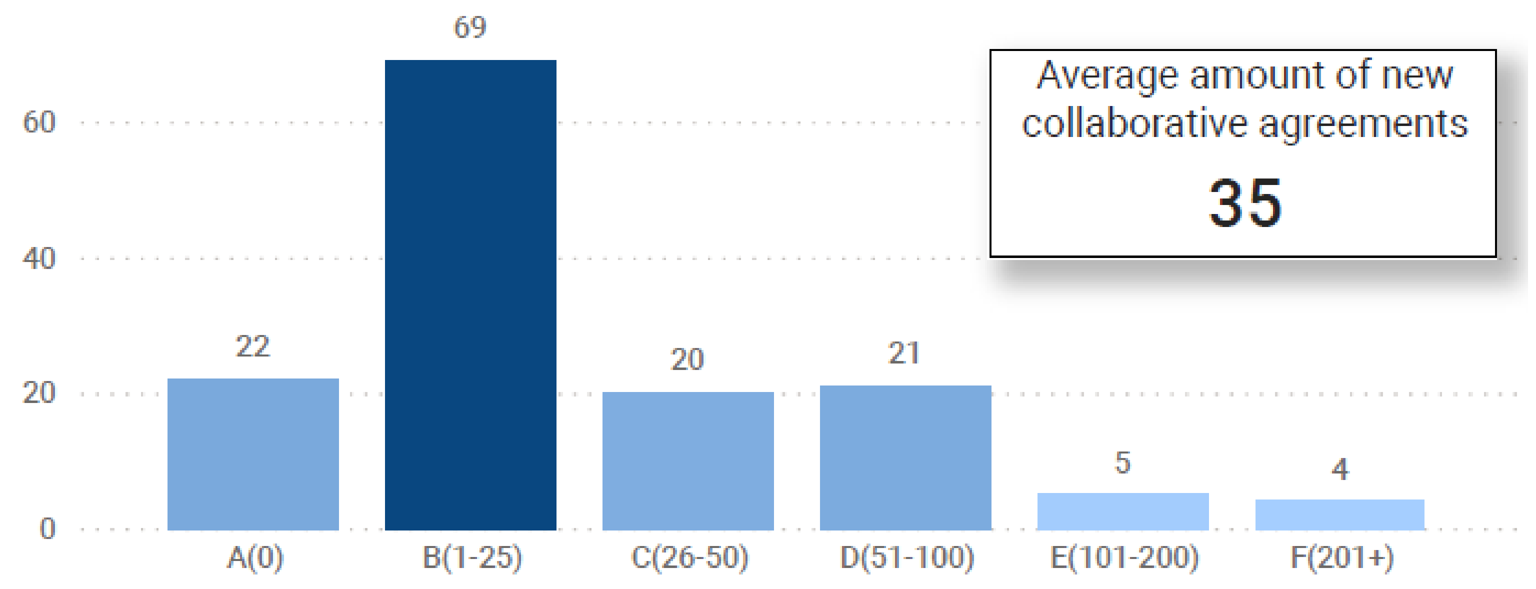
The graphs in this section give a more detailed look at the distribution of the number of new contracts concluded per KTO.

About 302 out of 577 of all respondents have reached at least one new agreement during FY2021 (84% for Collaborative Research, 74% for Contract Research and 75% for Consultancy Agreements). Considering the number of answers for each type of agreement, 55% of KTOs have signed fewer than 50 new Consultancy agreements, 79% for Collaborative Agreements and 68% for Contract Research Agreements.

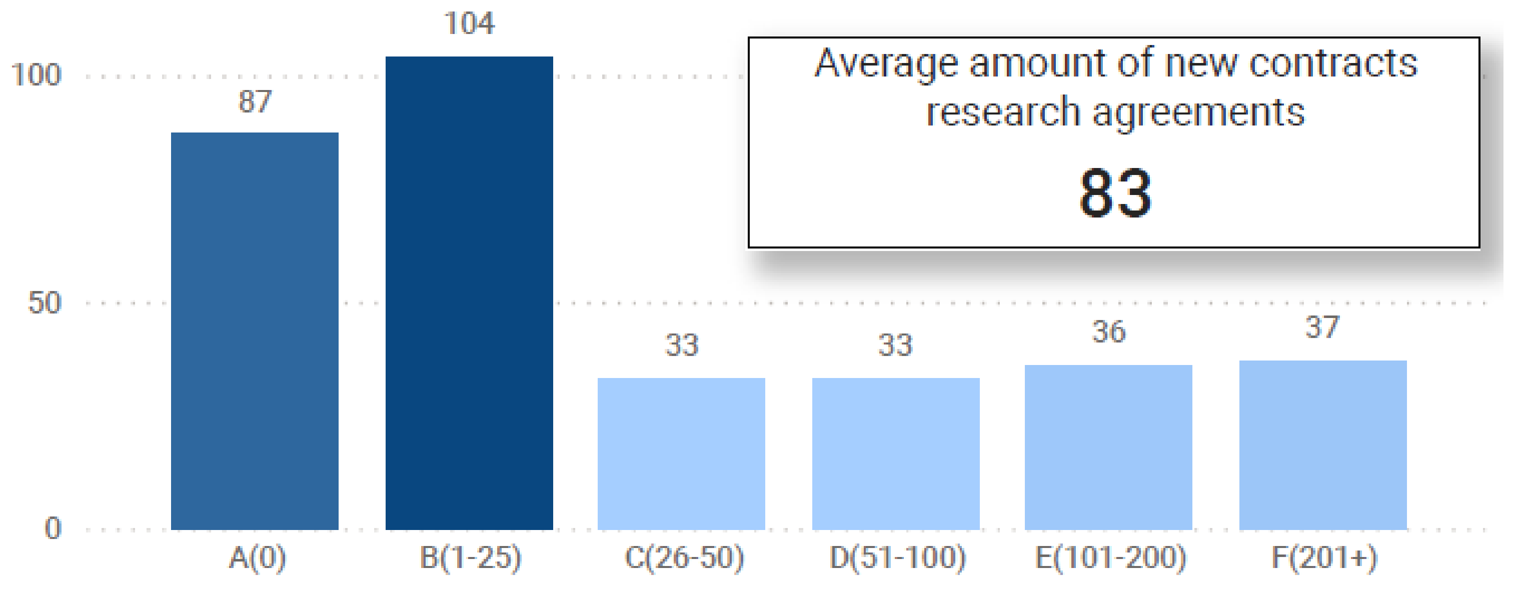
Number of New Consultancy Agreements (n = 287)



Number of New Collaborative Research Agreements (n = 141)



Number of New Contract Research Agreements (n = 330)

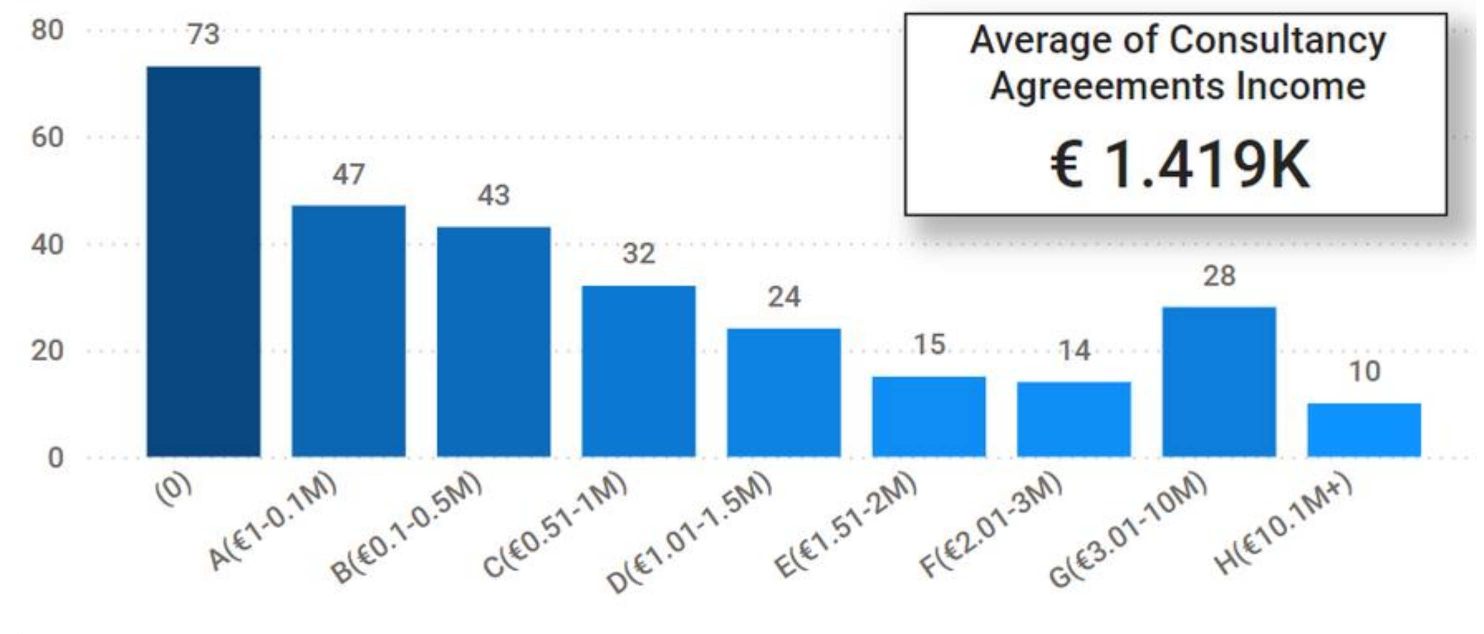


Income from Agreements by Type

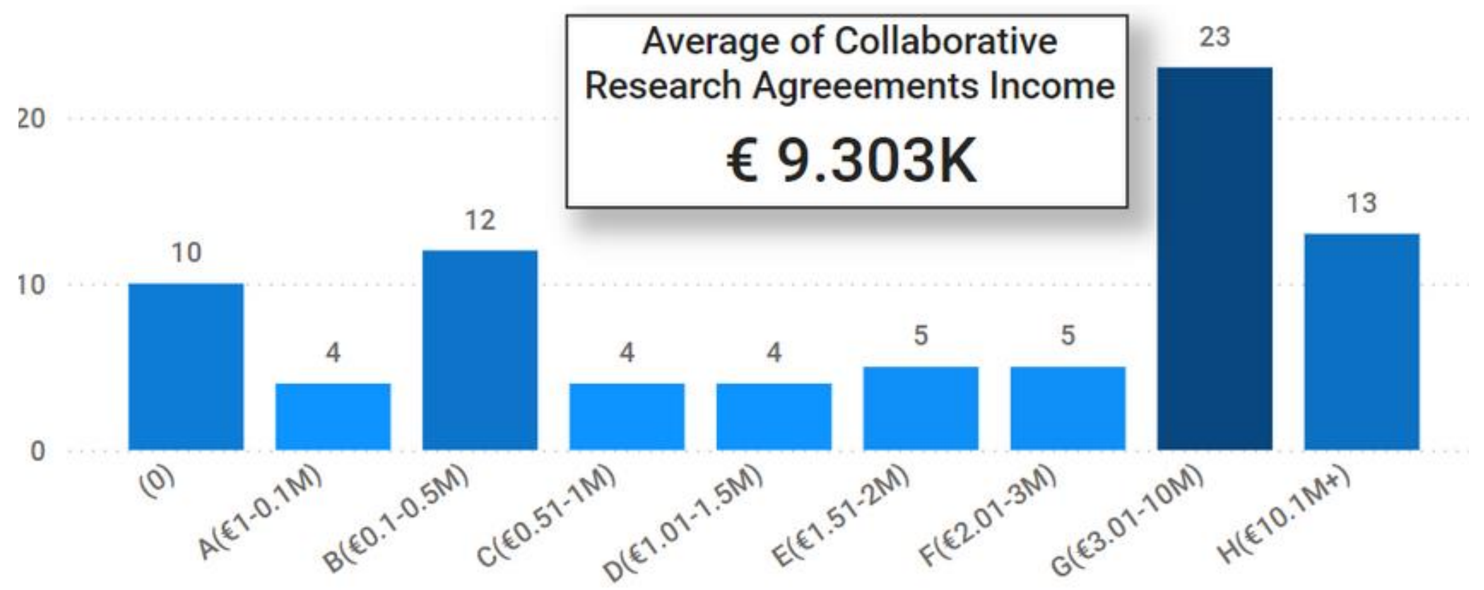
This page gives an overview of the distribution of income per KTO for each type of industry agreement.

The distribution shows that for the KTOs responding to the different questions, the higher revenue from the industry is generated by Collaborative Research agreements (51% of the KTOs generate a revenue over 2M€) and from Contract Research agreements (29% of the KTOs generate a revenue over 2M€), while rather 18% of KTOs generate more than 2M€ from consultancy.

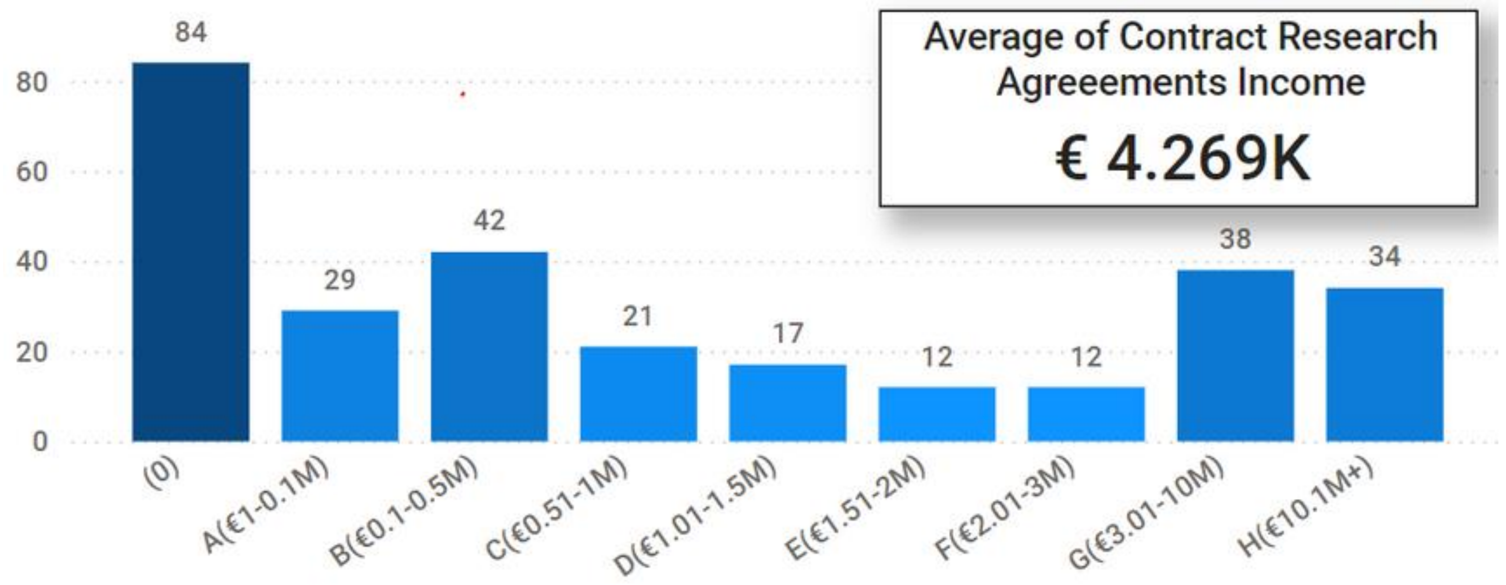
Income from Consultancy Agreements (n = 286)



Income from Collaborative Research Agreements (n = 80)



Income from Contract Research Agreements (n = 289)

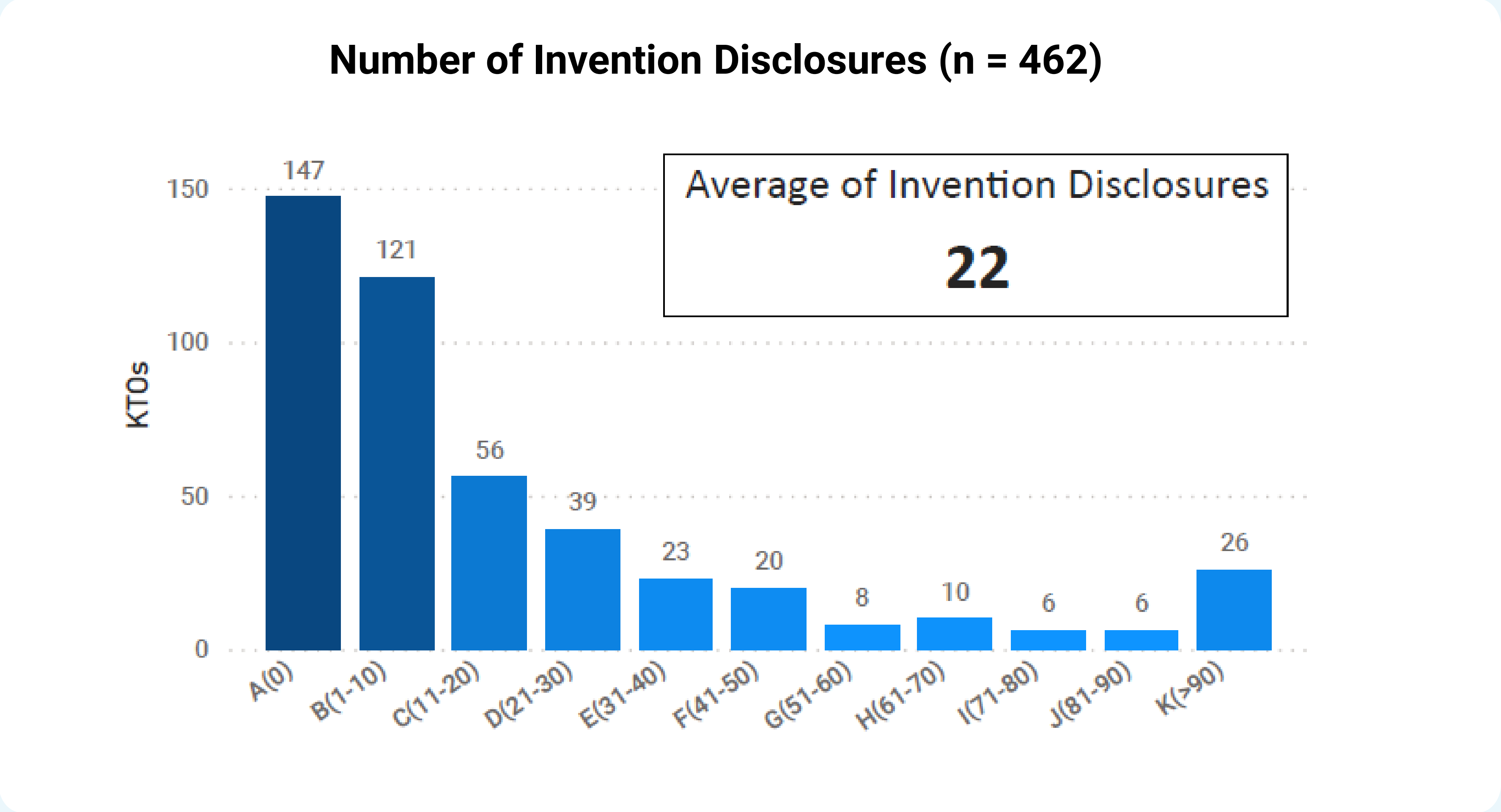


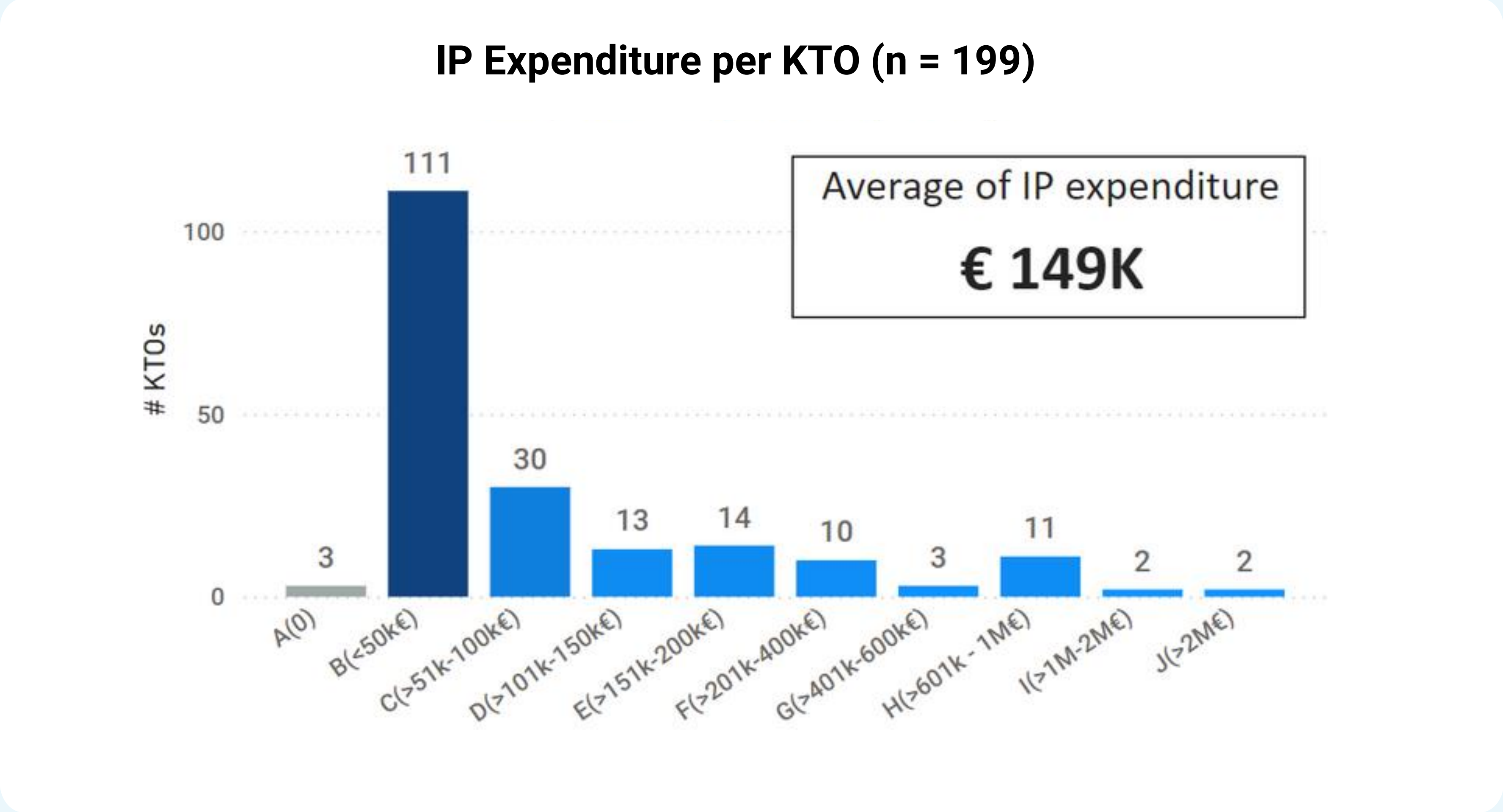
IP Management and Commercialisation

IP Resources

Intellectual Property (IP) management is a core activity of KTOs, as it provides the basis for the commercialisation of research results. The first step of the commercialisation journey is to detect potential results to valorise. This is referred to as “invention disclosures” which are the “raw material” for KTOs to produce valorised assets. Considering the number of answers different from zero (n=315), we observe a value of 33 Invention Disclosures on average per KTO.

The amount spent by the KTO (and/or the PRO) on IP protection also gives an overview of KTOs’ IP management activities. The graph below shows that 56% of offices have spent a minimal amount of up to 50K€ on IP protection in FY2021, and a small minority did not spend any budget (1.5%). Comparing the KTO staff FTE with the amount of the invention disclosures, we observe an average of three invention disclosures per FTE.

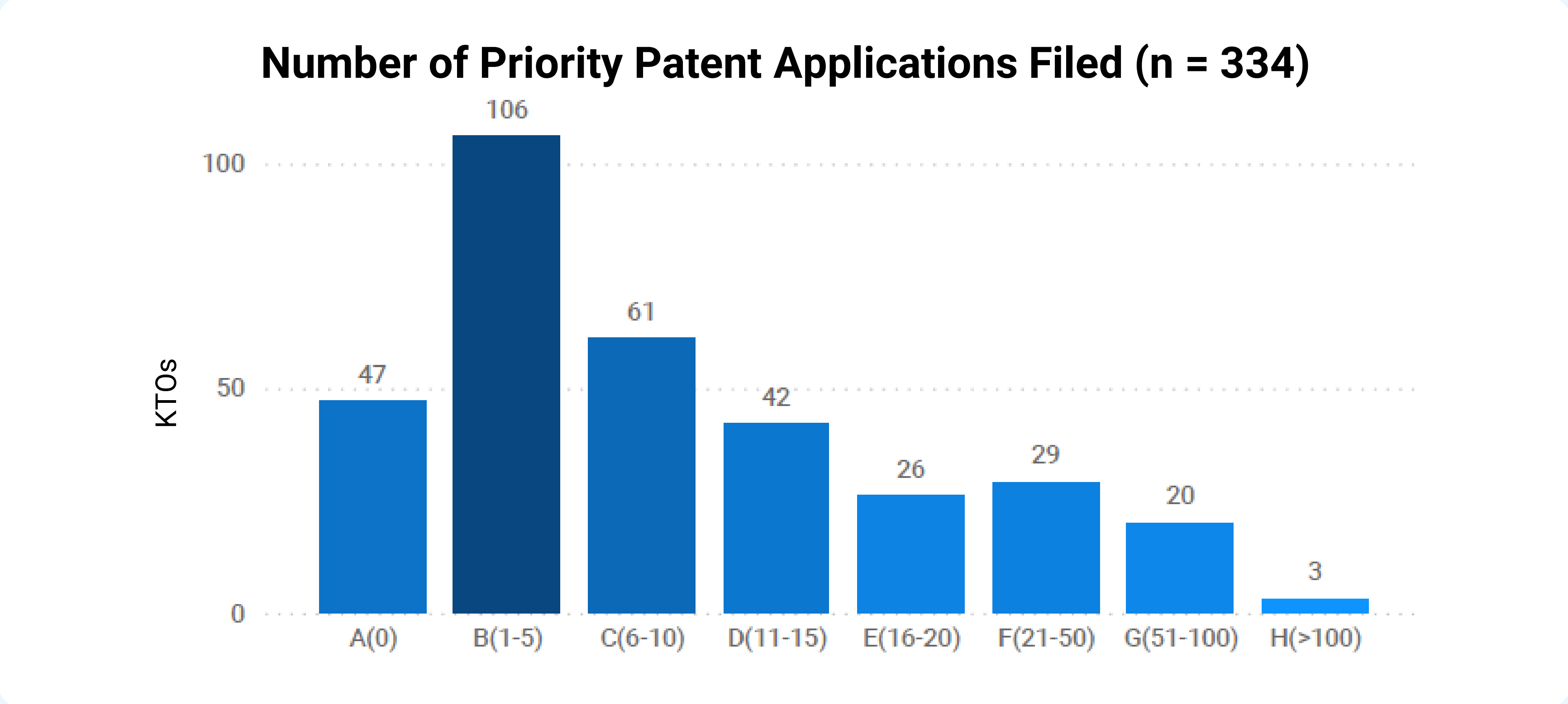


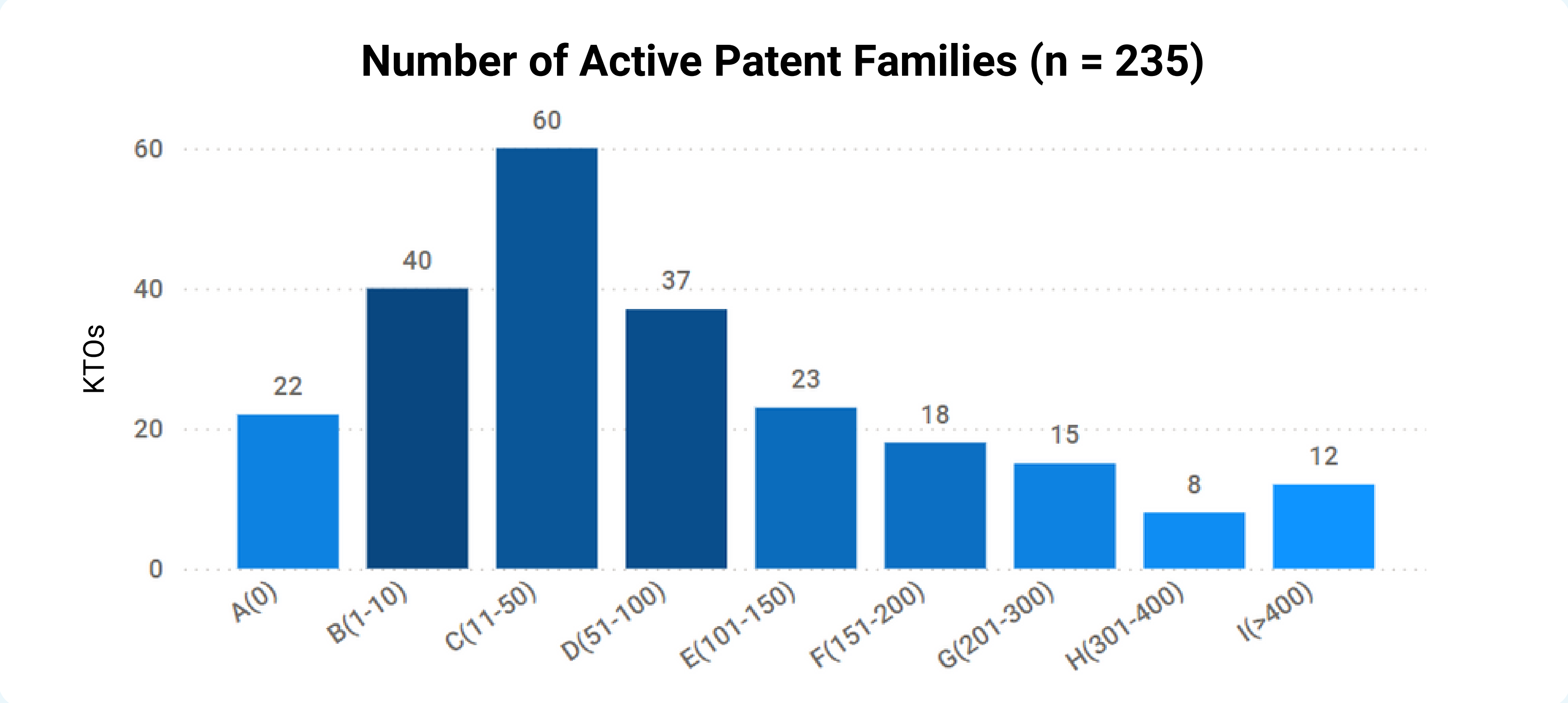


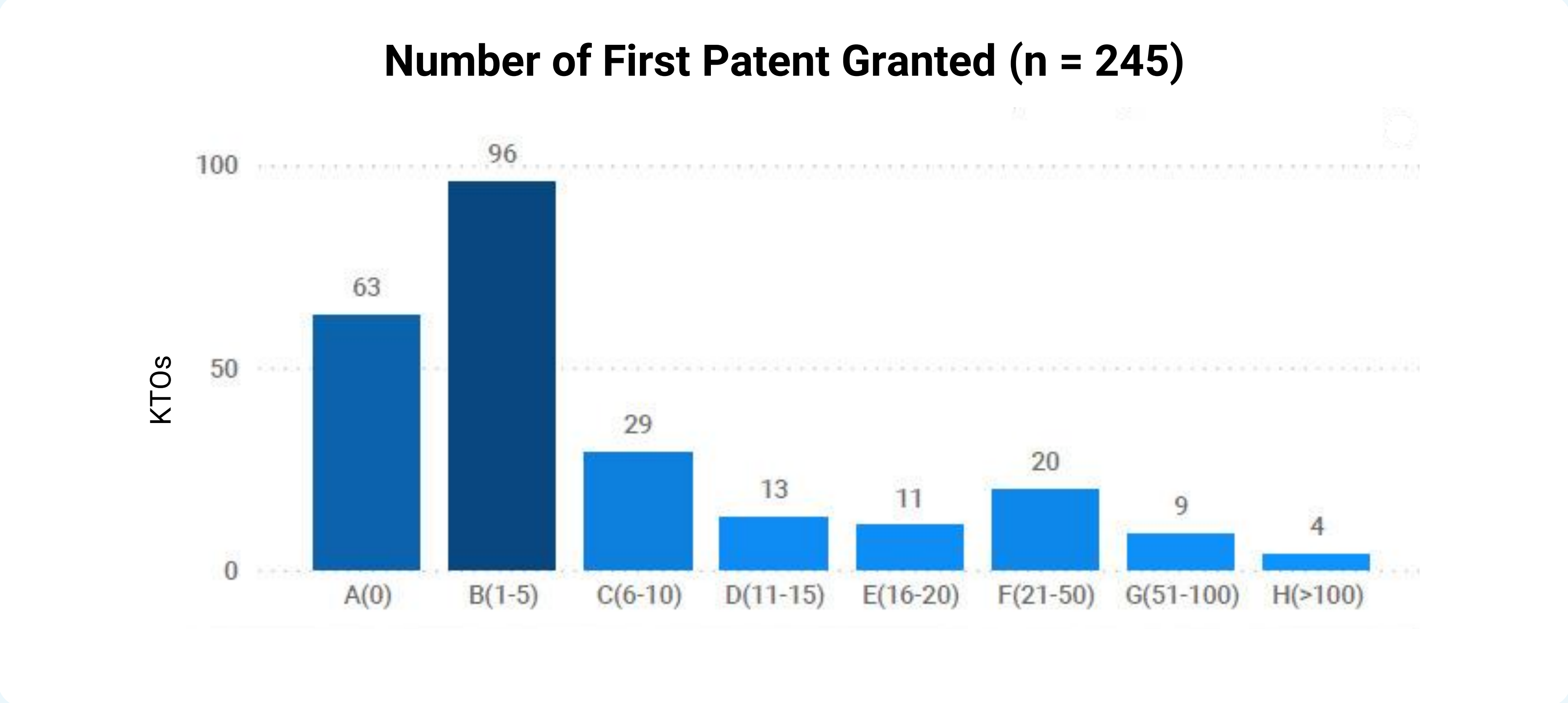
IP Portfolio

To avoid redundancy and give a complete view of the IP patent portfolio, three metrics are used, besides the number of invention disclosures: the number of priority patent applications, of first patents granted, and of active patent families.

The biggest group of responding KTOs has 1-5 new priority applications filed and 1-5 first patents granted in 2021 and 11-50 active patent families.







IP Commercialisation Agreements | LOA

A license agreement is the most common form of IP commercialisation, as shown in the tables. In addition to this, agreements on the transfer of ownership (assignment) and option agreements are two other forms of commercialisation, that seem less frequently used. The ASTP survey allows to gather data on these forms of IP commercialization both on a combined manner (all LOAs, shown in the figure page 2), and detailed manner (analysis provided here), through two different questions.

The survey collects detailed data on licenses: the number of licenses for software and for research material besides the more classical licenses for patented IP. The research material licenses enable the use of IP, without a direct lead to new products under development or on the market. The relatively high number of software licenses is linked to the nature of software which is easily licensed to multiple licensees since it is often commercialised through non-exclusive end-users licensees.

The two graphs below show the total number and percentage of patent families per KTO licensed or optioned by the end of FY2021, showing the cumulative licensing activity until the end of 2021 (and not only the activity that took place in 2021).

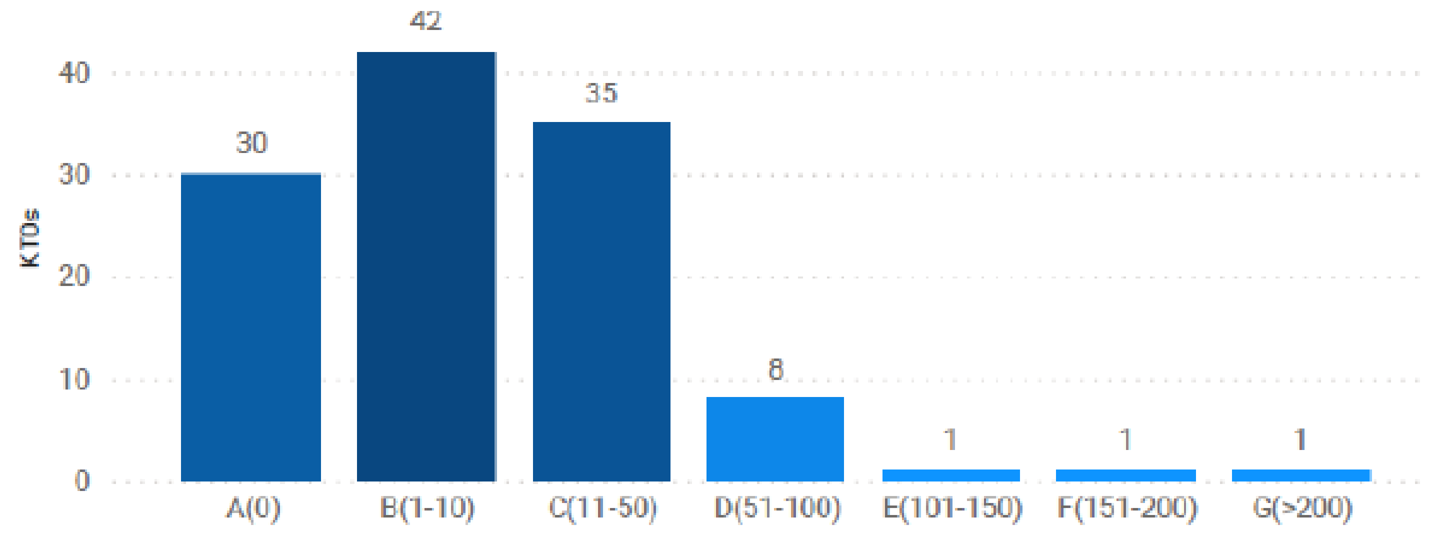
Commercial Contracts

Year	Options (n=89)	Assignments (n=91)	Licenses (n=103)	Total of Contracts
2021	146	139	857	1142

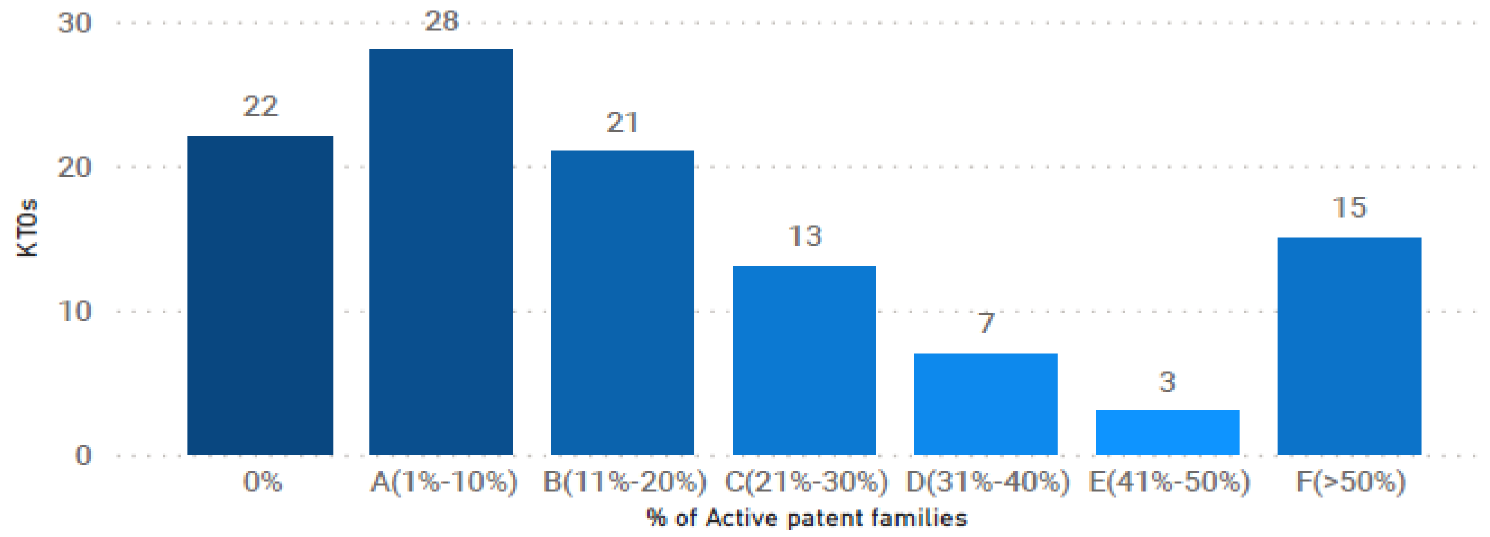
License Agreements

Year	Patent Licenses (n=97)	Material Licenses (n=78)	Software Licenses (n= 93)	Other Licenses (n=84)	Total License Agreements
2021	323	128	226	180	857

Number of Active Patent Families Licensed or Optioned (n = 118)



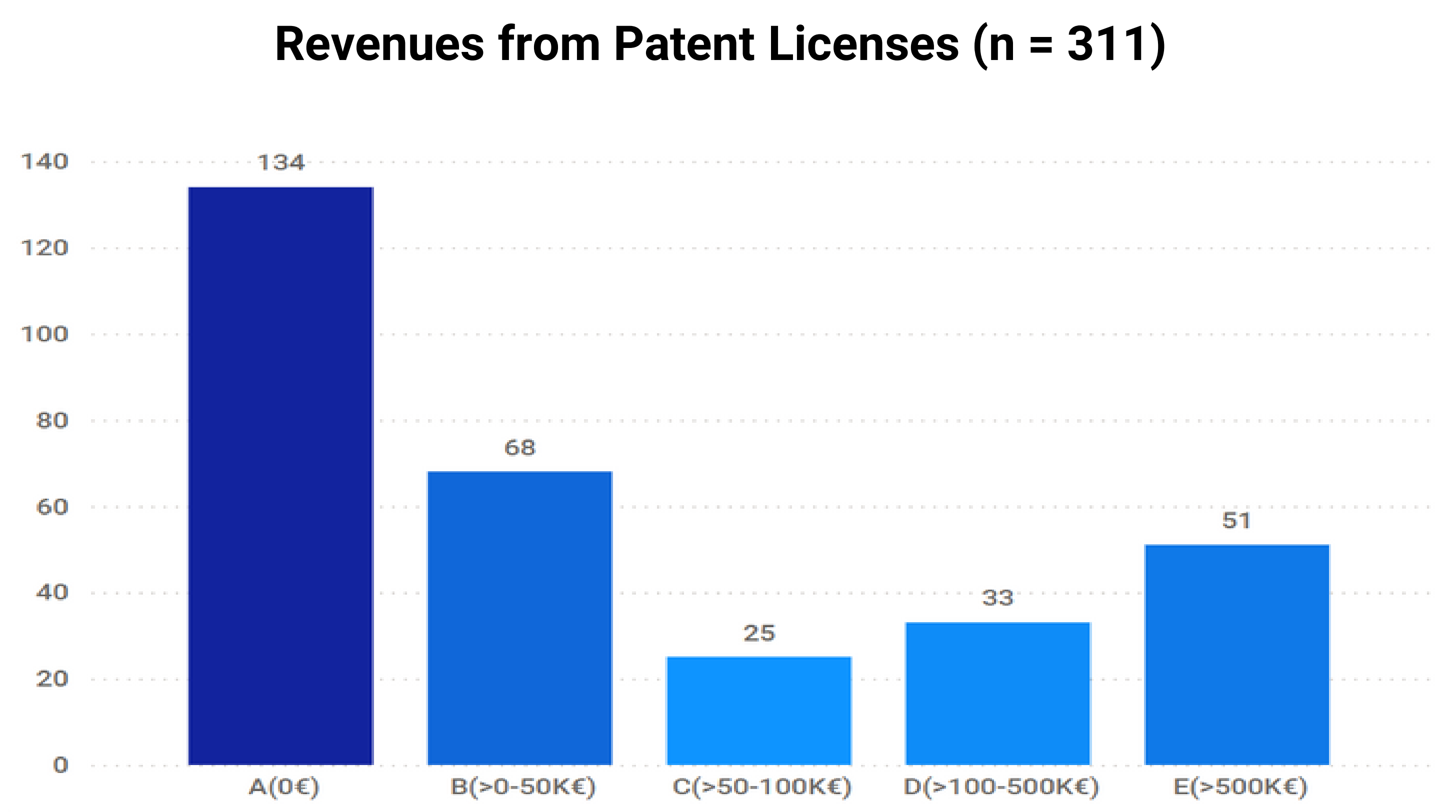
Percentage of Licensed or Optioned Active Families per KTO (n = 109)

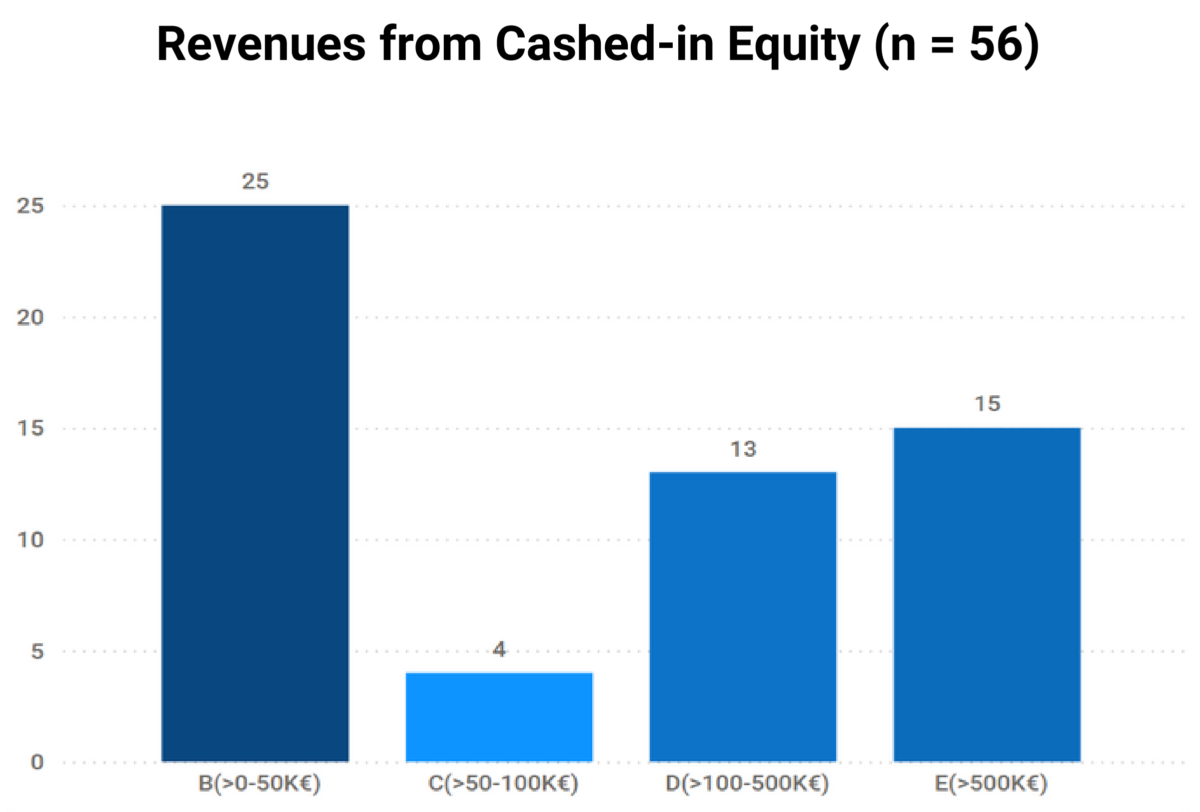


Commercial Revenue from IP

An impressive aggregate total of 822M€ in commercial revenues from IP has been reported for FY2021 by a total of 477 respondents. Of 344 KTOs that provided data for cash-in equity, 56 reported any revenues. Of 311 KTOs providing data for revenues from patent licenses, only 177 have reported revenues from this activity.

Year	Commercial revenue from IP (n=477)	Gross revenues from patent licenses (n=311)	Gross revenues from cash-in equity (n=344)
2021	€ 822 076 105	€ 378 572 259	€ 108 145 470





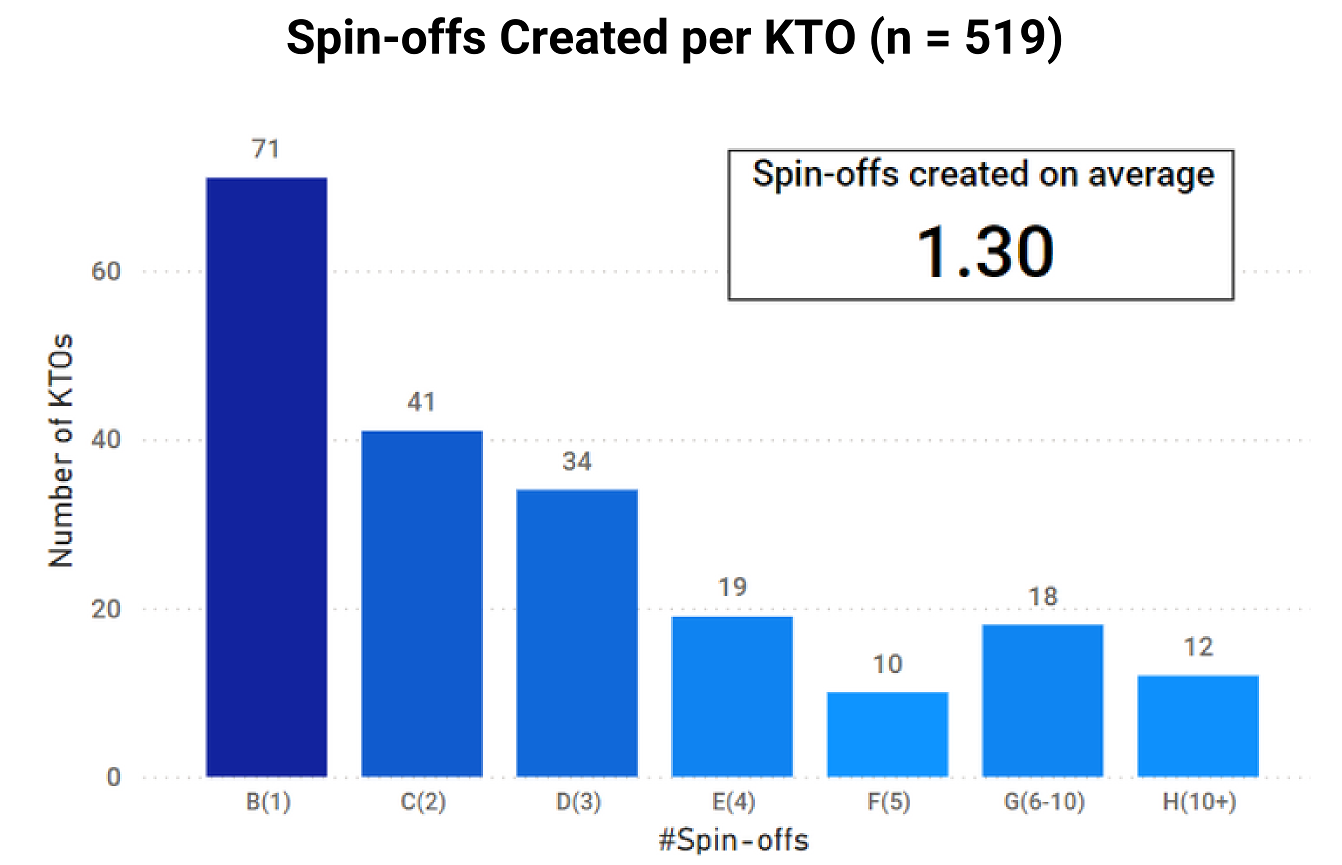
New Business Creation

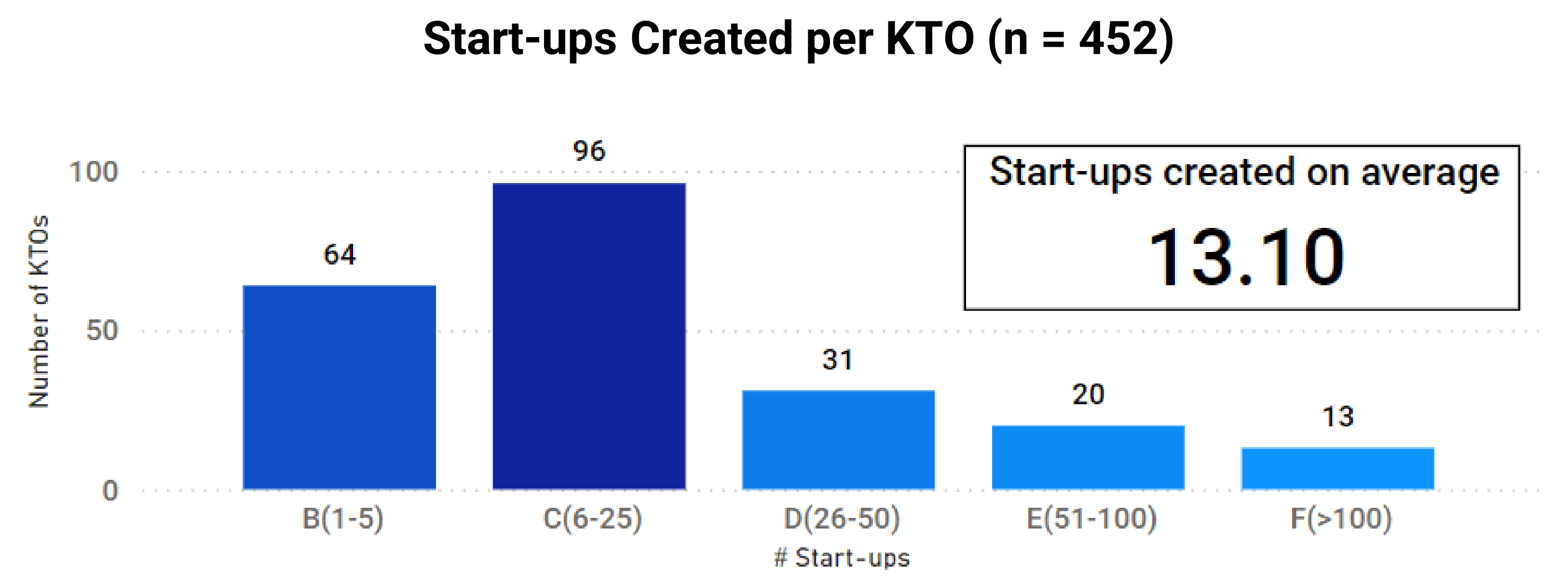
Spin-offs and Start-ups

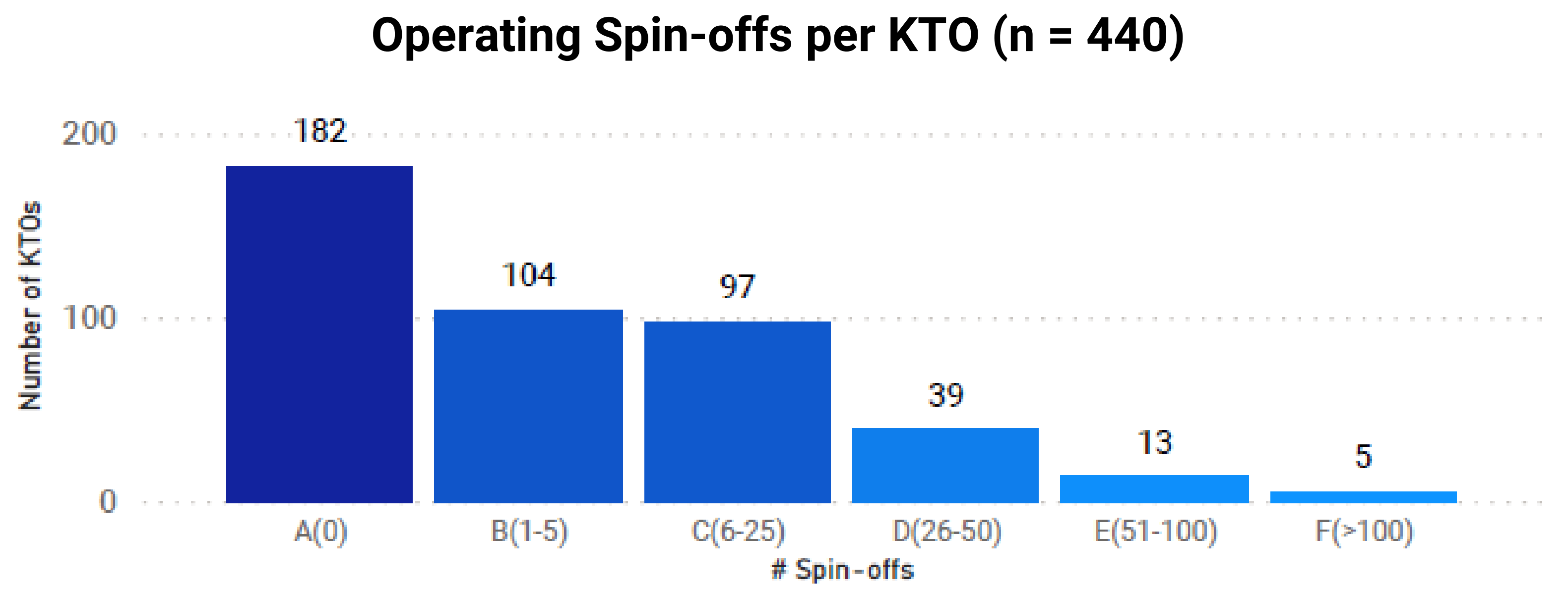
The responses show that the creation of new start-ups was more popular than spin-offs. On average, KTOs created 13.1 start-ups in FY2021 compared to 1.3 spin-offs in the same year. In addition, a majority of responding KTOs (61%) did not create any spin-off while 50% created at least one start-up. Gathering data around the legacy of earlier spin-off creation, such as how many are currently still operating (third graph), is an attempt to take a snapshot of the potential impact on the local economy. There can often be challenges for KTOs to gather these data, especially for companies that may have been relocated, or whose connections with the PRO have expired.

(In the graphs, the difference between the n-value (total number of answers) and the sum of the number displayed on the top of the bars corresponds to the number of 0 value answers).

Year	Spin-offs created (n=519)	Operating spin-offs (n=440)	Staff (FTE) in operating spin-offs (n=273)	Start-ups created (n=452)
2021	677	4606	53 124	5 921







References

List of abbreviations

Abbreviation	Meaning
FTE	Full Time Equivalent
FY	Fiscal Year
IP	Intellectual Property
LOA	Licenses, Options, Assignments
KT	Knowledge Transfer
KTO	Knowledge Transfer Office
PRO	Public Research Organisation

KT Metrics Data

KT Metrics 2014 - 2022:
https://bit.ly/astpktmetrics

The questionnaire that enables the collection of data presented in this report is present on this page:
https://bit.ly/KTsurveyFY2021

References

Glossary

Term	Definition
Collaborative Research	Research performed by at least one PRO and at least one non-academic party, where all parties contribute to the design of the research project, its implementation and share the project outputs. Include all collaboration agreements involving non-academic organisation, including those under which the non-academic party does not make any cash payment to the PRO directly (e.g. in case the project is fully subsidised).
Consultancy	The provision of expert advice in a specific field by academics working in a PRO for the benefit of an external, non-academic organisation. Exclude consultancy agreements concluded by individual staff members directly with third parties (i.e. not through the PRO) or those that relate to research or technical services, testing of equipment and the like.
Contract Research	Research performed by a PRO at the request of and paid for by a non-academic organisation, using existing knowledge, know-how, materials, equipment and other resources available at the PRO.
Spin-off	A company expressly established to develop or exploit IP created by a PRO and with a formal contractual relationship. Include, but do not limit to, spin-offs established by PRO staff. Exclude companies that have no formal agreement for commercially developing IP or know-how created by the institution.
Start-up	A newly registered company that is founded by PRO students or employees but that is not directly involved with the exploitation of intellectual property generated within that PRO.

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Respond here: https://survey.alchemer.com/s3/7599231/ASTP-KT-Survey-FY2022