

Protecting Value

The V. Intellectual Property Report of KPMG Law 2020/21



Contents

	Introduction	4
	Foreword	5
	Authors	6
	Members of the advisory board	7
	Management summary	8
ı	Demographics on participating companies	10
2	Development and trends in the IP department	20
3	Organization of IP work	28
1	IP department activities	56
5	Costs of IP work	90
6	Cooperation with law firms	112
7	Excursus: The qualitative angle	120
	List of abbreviations	129
	Table of figures	130
	Bibliography	132
	Questionnaire	133
	Contact	136

Introduction



Mathias Oberndörfer Managing Director **KPMG Law** Rechtsanwaltsgesellschaft mbH



Dr. Konstantin von Busekist Partner, Head of Compliance, Governance & Organisation **KPMG Law** Rechtsanwaltsgesellschaft mbH

Dear reader,

Intellectual property is at the heart of our evolving and increasingly digitized economic environment, in which many multinational firms operate. Not only is it of incredible value to many companies and enables them to maintain a thriving business, and without which immense losses could occur, it is also often a pillar that can bring in additional revenue through licensing activities. Protecting your value is therefore crucial in order to remain competitive.

Although intellectual property departments are central to this challenge, they are experiencing mounting pressure when it comes to costs, speed and quality. In fact, they increasingly find themselves in a situation where, with the same number of staff, a dominant budget and cost pressures, they become more deeply involved in strategic decisionmaking. Although this results in an increased workload, they are still expected to adopt a proactive approach. This situation is complicated by the ever-increasing speed of digital development and the challenges and risks posed by new areas such as artificial intelligence and the Internet of Things. It will therefore be essential to reorganize and optimize the IP department, to ensure long-term efficiency gains and cost savings.

To help you successfully meet these challenges, this report provides you with information on which measures have already proven effective in many of the world's largest IP departments. The many quantitative metrics that we present here introduce a more transparent picture of IP departments and can serve IP department heads as orientation parameters and objective benchmarks.

We look forward to discussing these issues with you.

Mathias Oberndörfer

Dr. Konstantin von Busekist



Foreword



Andreas Bong
Partner,
Head of Legal Operations
KPMG Law
Rechtsanwaltsgesellschaft mbH



Dr. Anna-Kristine WipperPartner,
Head of Intellectual Property Law
KPMG Law
Rechtsanwaltsgesellschaft mbH

Dear colleagues in IP department management,

We are proud to present "Protecting Value – The V. Intellectual Property Report of KPMG Law 2020/21" to our global audience.

For the fifth time, the report brings greater transparency to the general structure and best practices of the daily challenges encountered in staffing, cost reduction and outsourcing practices. As the database is able to distinguish between internal and external operations, it offers a broad set of adapted quantitative and qualitative key performance indicators to adequately compare your department's performance.

The again highly successful participation rate shows that we are constantly meeting the demands for truly reliable comparisons of performance and cost data in the IP environment.

We would like to express our gratitude to the entire Advisory Board for the valuable support during the past year. In particular, we would like to thank: Peter Berg, Infineon; Dr. Roman Bonn, Continental; Jean-Marc Brunel, Safran; Filip de Corte, Syngenta; Michael Gollwitzer, Siemens; Frank Heldens, Philips; Dr. Jürgen Koch, Bosch; Arne Lang, Evonik Industries; Klaus Mannsperger, Daimler; Dr. Uwe Over, Henkel; Norbert Schwenk, Clariant Produkte; Dr. Jörg Thomaier, Bayer; Dr. Stephan Wolke, Thyssenkrupp; and Alissa Zeller, BASF.

In addition, we would like to thank LexisNexis PatentSight for this years' cooperation and their expertise which enabled us to analyze additional valuable findings.

Our thanks also go to our colleague Chloé Lybaert, as well as the entire KPMG Law team for their support in preparing this report.

Düsseldorf, May 2021

Andreas Bong

Dr. Anna-Kristine Wipper

Authors



Andreas Bong is a partner and Head of Legal Operations at KPMG Law. For 14 years he has been advising legal and intellectual property departments on the (digital) transformation to a faster, more efficient and even more risk-conscious set-up. He is the contact person for all questions concerning legal and IP operations, in particular strategy, organization and process optimization as well as benchmarks.



Chloé Lybaert, LL.M., is active in the area of Legal Operations and, together with Andreas Bong, is responsible for KPMG Law's regularly published benchmark reports in the area of law and intellectual property. In addition, she advises legal and IP departments of globally operating companies on benchmarking in the context of process analysis and optimization as well as on other organizational and operational issues.

Members of the advisory board



Peter Berg Head of IP Infineon Technologies AG



Dr. Roman Bonn Vice President Intellectual Property Continental AG



Jean-Marc Brunel Global Head of Intellectual Property Management Safran Group



Filip de Corte Head of Intellectual Property Crop Protection Syngenta International AG



Michael Gollwitzer Head of IP Support Siemens AG



Frank Heldens Head of Finance, Philips Intellectual Property & Standards Koninklijke Philips N.V.



Dr. Jürgen Koch Head of IP Robert Bosch GmbH



Arne Lang Head of IP Management Evonik Industries AG



Klaus Mannsperger Director Intellectual Property, Trends & Innovation Daimler AG



Dr. Uwe Over Head of IP Henkel AG & Co. KGaA



Norbert Schwenk Global Head of IP Management Clariant Produkte GmbH



Dr. Jörg Thomaier Managing Director Bayer Intellectual Property GmbH



Dr. Stephan Wolke Head of Intellectual Property & Services Thyssenkrupp AG



Alissa Zeller Senior Vice President Global Intellectual Property BASF SE



Andreas Bong Partner, Legal Process & Technology KPMG Law Rechtsanwaltsgesellschaft mbH

Management summary

Patents

285

Number of R&D employees per patent professional

213

Number of patent families per patent professional

Internal full costs per hour per patent professional (in EUR)

241

Internal

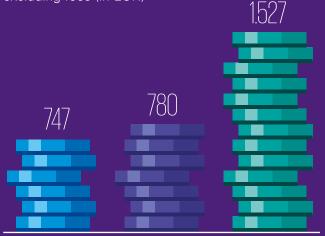
67

Number of patents per patent professional (granted patents, pending property rights and design patents)

284

Number of pending property rights per patent professional

Internal, external and total costs per patent – excluding fees (in EUR)



Insourcing/outsourcing ratio - excluding fees

49%

51%

All values reflect the average of the entire participant group.

Interested in finding out more about the report? Please scan the QR code here.



Trademarks

Number of marketing employees per trademark professional

Number of trademarks per trademark professional (existing trademarks)

Number of trademark families

per trademark professional

Number of new trademarks per trademark professional

Internal full costs per hour per trademark professional (in EUR) Internal, external and total costs per trademark – excluding fees (in EUR)





Insourcing/outsourcing ratio - excluding fees

54%

All values reflect the average of the entire participant group.

1 Demographics on participating companies



Demographics on participating companies	
Allocation of participants per country and industry sector	12
Size of participating companies	14
Patent and trademark portfolio of participants	16
Patent and trademark family portfolio of participants	18
Development and trends in the IP department Organization of IP work	
IP department activities	
Costs of IP work	
Cooperation with law firms	
Excursus: The qualitative angle	

1.1 Allocation of participants per country and industry sector

This Intellectual Property Survey started in 2012 in Germany, continuing to grow over the last years in Europe and reaching for the first time the United States of America with this year's evaluation. Conducted between July and August of 2020, the database now consists of more than 160 IP departments from international enterprises. The evaluated cost and performance data cover the calendar year 2019 and provide a final picture of the pre COVID-19 situation.

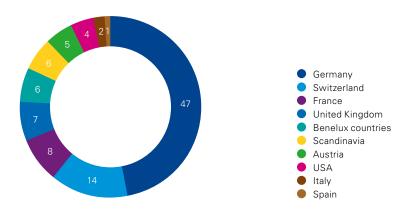
This year's report includes enterprises based in Austria, Belgium, Finland, France, Germany, the Netherlands, Italy, Spain, Sweden, Switzerland, the United Kingdom and the United States. Hereinafter, Belgium and the Netherlands are collectively referred to as the "Benelux countries" and Sweden and Finland as "Scandinavia".

German participants represent the majority of all respondents (47 percent), followed by those from Switzerland (14 percent), France (8 percent), the United Kingdom (7 percent), Benelux countries (6 percent), Scandinavian countries (6 percent), Austria (5 percent), the United States (4 percent), Italy (2 percent) and Spain (1 percent).

In order to provide a plausible assessment of the different structures and performance across industry sectors, it was essential to achieve industry diversity. The majority of participants from all countries operate in five dominant sectors (multiple answers were possible): "Automotive" (26 percent), "Chemicals, plastics and pharmaceuticals" (21 percent), "Machinery and equipment" (12 percent), "Consumer goods" (11 percent), "Electrical engineering and electronics assembly" (8 percent).

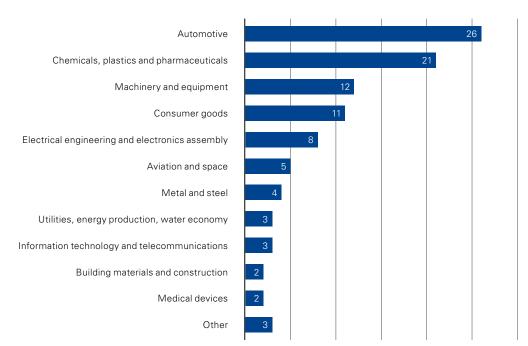
The report differentiates between selected results and also reveals various differences between the countries on specific topics.

Figure 01: Allocation of participants per country (in percent)



Source: KPMG Law, 2021

Figure 02: Allocation of participants per industry (in percent)



1.2 Size of participating companies

A look at some of the largest companies around the globe reveals that the majority of patent and trademark applications are held by only a few study participants, followed by at least the same number of companies with medium-sized or smaller IP portfolios.

This distribution is also reflected in this study's findings on employee figures worldwide and annual turnover, as illustrated in figures 03 and 04, page 15.

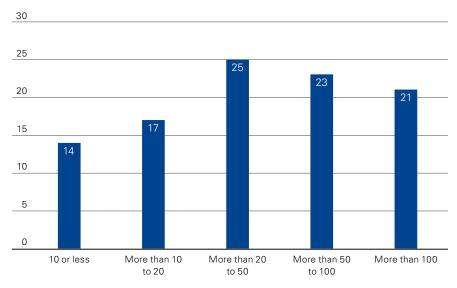
69 percent of all participating companies have more than 20,000 employees worldwide; 31 percent of the participants employ a workforce comprising fewer than 20,000 employees (average of 67,447 employees; median of 41,680 employees).

The five largest participating companies in terms of employees worldwide each have a workforce of more than 160,000 employees, whereas the five companies with the smallest workforce each have fewer than 3,200 employees.

52 percent of all participants generated revenues of more than EUR 10 billion, while 19 percent of participants reported revenues between EUR 5 and 10 billion. 29 percent of participants generated EUR 5 billion or less in revenues in 2019 (average: EUR 25.2 billion; median: EUR 11.2 billion).

Figure 03: Number of employees in thousands, 2019

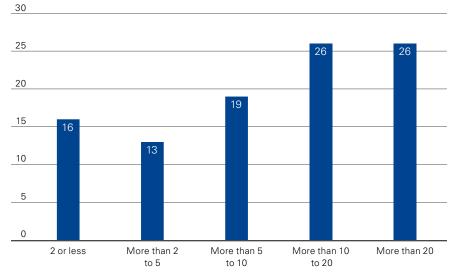
(in percent)



Source: KPMG Law, 2021

Figure 04: Revenue in billion EUR, 2019

(in percent)



1.3 Patent and trademark portfolio of participants

This report addresses a target group of firms with numerous IP activities, since the challenges – such as capacity forecasting and allocation of staff, performance elevation, cost optimization, measures for raising efficiency, and collaboration with law firms – are more extensive and complex for a certain number of recurring processes.

21 percent of participants have a portfolio of more than 10,000 granted patents and pending property rights; for 26 percent, this figure lies between 5,000 and 10,000; and 53 percent of respondents hold 5,000 or fewer granted patents and pending property rights in 2019 (average: 16,939; median: 6,630).

The five largest participants in terms of patent portfolios have 64,500 or more patents, while the five smallest participants hold fewer than 1,400 patents.

The breakdown of the trademark portfolio shows a similar trend to 2018/19: 59 percent of all participants hold a trademark portfolio with 5,000 or fewer positions and 30 percent have more than 10,000 trademarks, which means only 11 percent have a portfolio consisting of between 5,000 and 10,000 trademarks (average: 13,470; median: 3,850).

In terms of their trademark portfolios, the five largest participants hold more than 43,000 trademarks, and mainly operate in the chemicals/plastics/ pharmaceutical industries or produce consumer goods.

The five smallest participants have less than 260 trademarks, and mainly operate in the automotive supply industry.

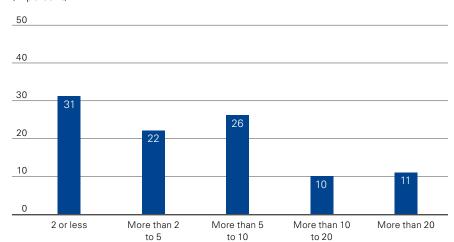
90 percent of all participants hold a design patent portfolio with 5,000 or fewer positions, and 5 percent have more than 10,000 design patents, which means only 5 percent have a portfolio consisting of between 5,000 and 10,000 design patents (average: 2,453; median: 148).

The report's diversity offers the option of creating additional targeted benchmarks concerning economies of scale for patent processes, such as the number of processed invention disclosures or first filings per internal professional, as well as for trademark processes, such as the number of trademark applications per internal professional. Please contact us with any further questions you may have, regarding individualized benchmarking with a dedicated peer group.



Figure 05: Number of patents in thousands, 2019

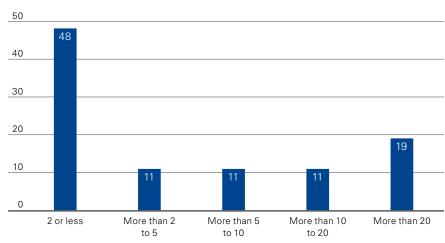




Source: KPMG Law, 2021

Figure 06: Number of trademarks in thousands, 2019

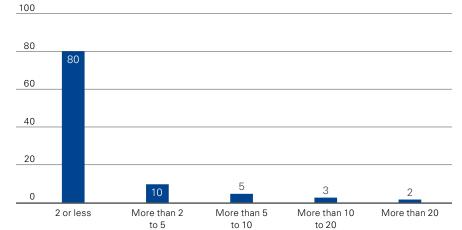
(in percent)



Source: KPMG Law, 2021

Figure 07: Number of designs in thousands, 2019

(in percent)



1.4 Patent and trademark family portfolio of participants

Participants were also asked to indicate the number of their patent families, trademark families and design patent families.

71 percent of participants had a portfolio of 5,000 or fewer patent families, 10 percent held between 5,000 and 10,000, and only 19 percent held over 10,000 patent families in 2019 (average: 5,317; median: 2,335).

In terms of their patent family portfolio, the five largest participants account for 12,800 plus patent families and mainly operate in the automotive and electronics industries.

The five smallest participants account for less than 250 patent families and operate in highly diverse industries such as pharmaceuticals, information technology/telecommunications, or electronics.

In terms of trademark family portfolios, the distribution is even more defined: 80 percent of all participants hold a trademark family portfolio of 2,000 or less, 10 percent between 2,000 and 5,000 trademark families, and 4 percent between 5,000 and 10,000, which means that only 6 percent have a portfolio of more than 10,000 trademark families (average: 2,353; median: 400).

In terms of their trademark family portfolio, the five largest participants account for more than 6,500 trademark families and mainly operate in the chemicals/ plastics/pharmaceutical, consumer goods or electronics industries.

The five smallest participants account for less than 72 trademark families and operate in the automotive supply, metal/steel or electronics industries.

The distribution of design patent family portfolios is even more defined: 96 percent of all participants hold a design patent family portfolio of 2,000 or less and the remaining 4 percent hold between 2,000 and 5,000 design patent families (average: 418; median: 76).

In terms of their design patent family portfolio, the five largest participants account for more than 1,000 design patent families and mainly operate in the automotive, machines/devices or electronics industries.

The five smallest participants account for less than 5 design patent families and operate in the automotive supply, metal/steel, pharmaceutical or electronics industries.



Figure 08: Number of patent families in thousands, 2019







5 0 2 or less More than 2 More than 5 More than 10 More than 20 to 10 to 20 Source: KPMG Law, 2021

Figure 09: Number of trademark families in thousands, 2019

(in percent)

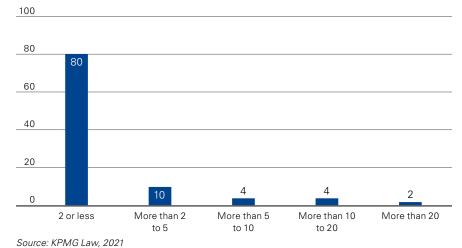
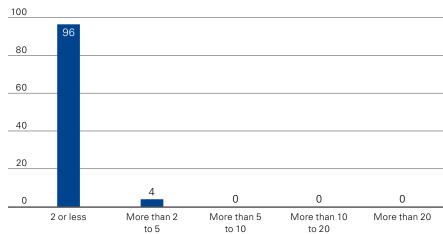


Figure 10: Number of design families in thousands, 2019

(in percent)



Development and trends in the IP department



Demographics on participating companies			
Development and trends in the IP department			
IP department priorities for 2020/21	22		
IT support in the IP department	26		
Organization of IP work			
IP department activities			
Costs of IP work			
Cooperation with law firms			
Excursus: The qualitative angle			

2.1 IP department priorities for 2020/21

In order to identify the current priorities of IP department heads, participants were asked to prioritize 30 challenges taken from seven different major thematic areas: "Handling cost and budget restrictions", "Improving cooperation with internal clients", "IT", "Improving work processes and organization", "Human resources", "Handling external effects" and "Collaboration with law firms".

Tied at 55 percent are the top two overarching categoric priorities of "Handling cost and budget restrictions" and "Improving cooperation with internal clients". In comparison to our previous report, it is clear that the first priority has increased in importance, with a gain of 6 percentage points, whereas the latter has declined (2019: 59 percent). Still, the single highest priority for the coming year in all participating countries remains the challenge presented by improving the advising and management of clients (R&D/marketing department) with an astounding 74 percent. Optimizing internal and external advisory activities and promoting greater collaboration are also clearly reflected in the prioritization of the topics.

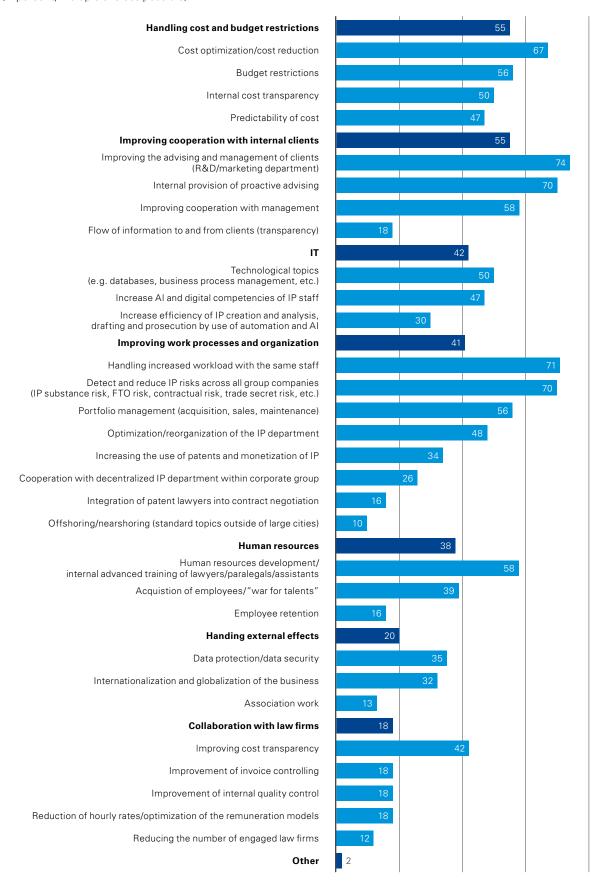
Furthermore, the top 5 individual challenges according to participants are topics related to advisory services, managing workload, identifying and reducing IP risks and reducing costs. IP heads also named "Human resources" as another top priority for 2020/21, thus providing a clear signal that the quality of their in-house work and work optimization strategies will dominate the IP department's strategy in the coming years.

"Handling external effects" and "Collaboration with law firms" were not identified as top priorities in any country/industry.

The importance of the issue of "offshoring" has decreased compared to the last report from 16 percent to 10 percent (figure 11, page 23).

Figure 11: Priorities for 2020/21

(in percent, multiple choices possible)



The top thematic area that is seen as completed is the "Collaboration with law firms" (10 percent) showing that there is already a well-integrated process for the management of external service providers in many of the top IP-valued firms. In addition, this might be an indication of the decreasing focus on external consultants.

Interestingly, human resource topics again rank very last at 0 percent, showing that other challenges remain dominant, even in times of a growing shortage of qualified candidates – at least until today.

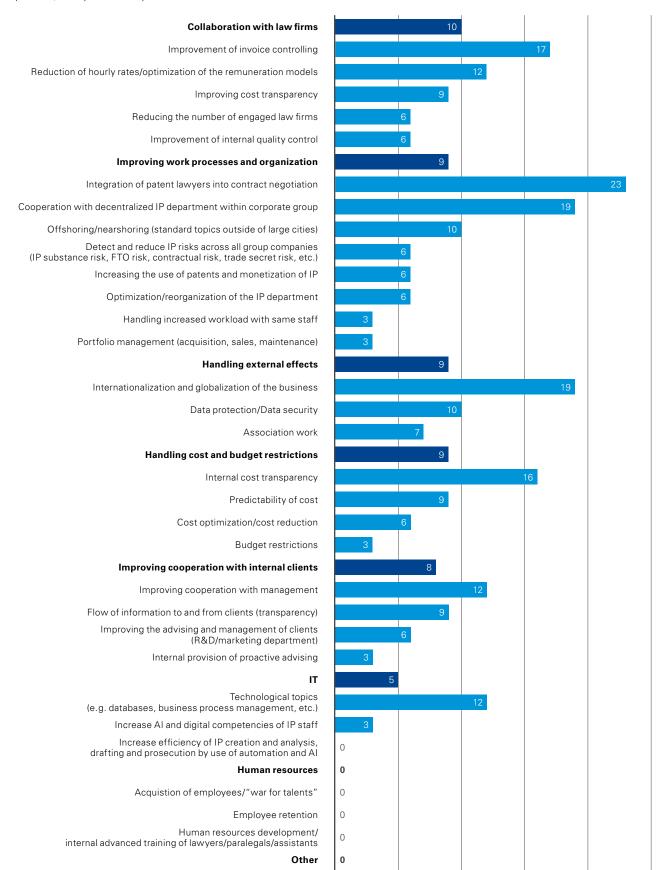
The top 5 challenges, which have been identified as already completed, are mainly related to transparency and collaboration/cooperation.

The topic with the highest completion rate among all participants is the "Integration of patent lawyers into contract negotiation" at 23 percent, showing that a large number of IP heads consider their professionals to be sufficiently involved and integrated in the process.

Interestingly, handling cost and budget restrictions as well as improving cooperation with internal clients has declined in being perceived as completed since the previous survey, respectively from 17 percent (2018/19) to 9 percent and 25 percent (2018/19) to 8 percent. This shows that the constant need for optimizing and developing the IP department never comes to a halt and may as well be a first indication of the impact and new impositions that COVID-19 may have on the future of IP departments.

Figure 12: Already completed topics

(in percent, multiple choices possible)



2.2 IT support in the IP department

IT support for the various daily tasks and processes is perceived as one of the key methods of increasing efficiency.

The experience of IP department heads shows that almost twice the amount of work can be handled and/or administrative staff can be reduced if a suitable IT system has been successfully implemented and integrated in their processes.

Experts agree that the common goal is to implement one system that comprehensively meets the needs of the IP department, whereby the major challenge is to ensure that all necessary security issues are dealt with.

In order to provide an up-to-date overview of the IT environment and its use in IP departments, participants were asked which IT systems they have already installed and how they benefit from their use. In this context, nine standard IT systems were listed.

"Interfaces to patent and/or trademark offices" are used by the majority of respondents (86 percent), followed by "Competitor observation" (77 percent) and "Reporting system between departments" (60 percent). These tools are clearly linked to the daily patent and trademark portfolio management processes, as they enable keeping track of and following up on both internal and external processes.

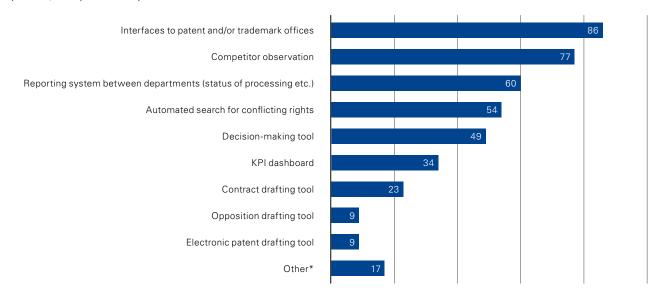
Tools that support the more daily administrative tasks, such as "Contract drafting tool" (23 percent), "Opposition drafting tool" (9 percent) and "Electronic patent drafting tool" (9 percent) are less well-integrated and have yet to become a priority for IP departments.

When respondents were asked about their satisfaction with the tools implemented, "Opposition drafting tool" and "Competitor observation" scored highest at 98 percent, followed by a "KPI dashboard" and "Interfaces to patent and/or trademark offices" with 95 percent.



Figure 13: IT systems in use

(in percent; multiple choices possible)

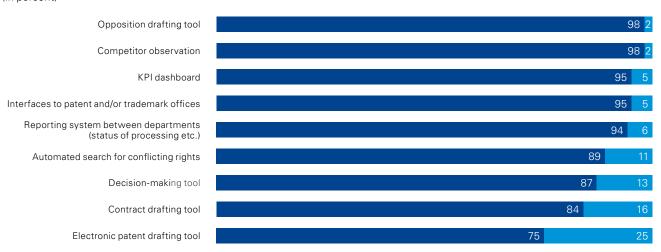


"Other" includes IP management systems, opposition management tools, reporting and infringement tools, cost forecasting, invoice handling and document management tools.

Source: KPMG Law, 2021

Figure 14: Satisfaction with IT systems in use

(in percent)



High satisfaction

Low satisfaction



1	Demogra	phics on	participa	ting con	npanies
				J	

Development and trends in the IP department 2

3	Organization of IP work	
3.1	IP structure and integration in the company	30
3.2	Organization of the IP department	32
3.3	Role of the IP department	34
3.4	Responsibility for licensing topics	36
3.5	Use of patent coordinators	38
3.6	Management sphere of the head of IP	40
3.7	Financing of IP costs	42
3.8	Regional allocation of employees	44
3.9	Allocation of employee levels within the IP department	46
3.10	Ratio of the IP department to total company employees	48
3.11	Ratio of the patent department to R&D	50
3.12	Ratio of the trademark department to marketing	52
3.13	Trends in IP department resources	54

- IP department activities 4
- **Costs of IP work** 5
- **Cooperation with law firms** 6
- **Excursus: The qualitative angle** 7

3.1 IP structure and integration in the company

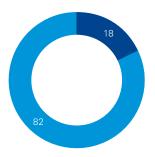
This report evaluates data collected on the patent and trademark business, regardless of whether the departments have a unified management structure (i.e. one head of IP) or if they are based in two different units with no consistent overall management (separate head of patent department and head of trademark department).

In order to learn more about the situation in the top IP companies, participants were asked about the organizational structure of the IP department in their company.

82 percent of all participants have unified intellectual property management with one head of IP, whereas the remaining 18 percent have separate patent and trademark departments.

The companies of more than half of all participants that have two separate departments, are companies active in the chemicals/plastics/pharmaceutical, building materials and construction and consumer goods industries, and operate mainly on the B2C market.

Figure 15: Organizational set-up of IP (in percent)



- Patents, designs and trademarks fall under consistent overall management (Head of IP)
- Patents, designs and trademarks do not fall under consistent overall management (Head of Patent Department, etc.)



The IP department should be deeply involved in the company's forward-looking decision-making processes, as this ensures - among other things freedom of action in supporting the development and launch of new products, or when entering new domestic or international markets.

Given the steady increase in the importance of IP within the context of a highly globalized economy, critics often claim that its organizational integration is not consistent with its relevance.

Against this background, the management level of IP heads and their position in the reporting line were analyzed (the head of the patent/trademark department, respectively).

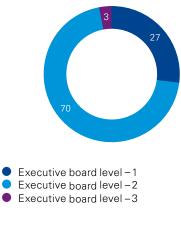
The participants' positions in the company were mostly ranked at executive board level -2 (70 percent of all participants), i.e. one management level exists between the head of IP and the company's executive board; 27 percent of all participants are at executive board level – 1 and 3 percent at executive board level -3.

53 percent of the participating heads of IP (the head of the patent/trademark department, respectively) report to the Chief Legal Officer (CLO)/General Counsel and another 17 percent who report to the Head of R&D (in the case of patents) or Head of Marketing Department (in the case of trademarks), followed by 14 percent to the Chief Technical Officer (CTO), and 8 percent to the Chief Financial Officer (CFO).

This increasing focus on reporting to the Chief Legal Officer (CLO)/General Counsel could be due to a shift in focus of the patent department. In recent years, it has increasingly used its expertise in different areas, supporting the legal department in IP-related disputes. In order to overcome silo thinking and gain the highest efficiency from this cooperation, this reporting line may have been a logical consequence.

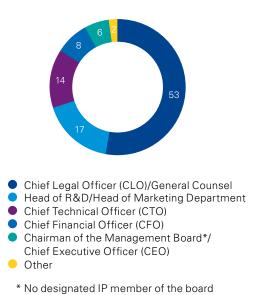
In addition, it is interesting to observe the governance structures of centralized and decentralized departments and the extent to which the decentralized departments have acquired autonomous decision-making power - this analysis is presented in detail on the following page.

Figure 16: Management level of the head of IP (in percent)



Source: KPMG Law, 2021

Figure 17: Reporting line of the head of IP (in percent)



3.2 Organization of the IP department

Based on the report's selected peer group, a broad range of companies with centralized IP departments can be expected. This is due to the size of the participating companies, their patent and trademark portfolios, and the scope of IP-related challenges that require activities to be bundled. Considering the international nature of the activities, numerous participants also have several decentralized IP departments, which - to a certain extent - are controlled by one main department.

In order to gain an overview of the organizational structure of the IP departments in the top 400 companies, participants were asked to provide information on IP staff allocation within the organization and the structure established by the company.

While 89 percent of all participants stated that the global IP staff is assigned to the parent company, only 8 percent are partially organized as a separate IP legal entity.

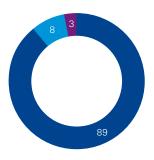
Participants who are partially organized in their own IP legal entity operate in the machines and equipment industry and chemicals/plastics/pharmaceutical industries.

97 percent of the participants from this year's report have a centralized IP department with at least one functional management system in place for decentralized units.

43 percent have a central IP department with no local units; if local units are involved, they are mostly managed with a "solid line" approach (29 percent) or a "dotted line" approach (19 percent). 6 percent of all participants use a mixed approach and the last 3 percent involve only local units without functional management.

Figure 18: Organization of IP staff

(in percent)

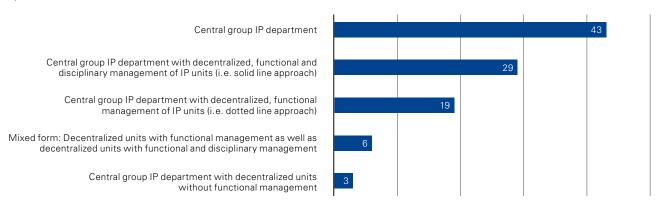


- Worldwide IP staff assigned to the parent company/ respective country subsidiaries
- IP staff is partialy organized in an own IP legal entity
- IP staff is fully organized in an own IP legal entity

Source: KPMG Law, 2021

Figure 19: Forms of IP department organization

(in percent)



3.3 Role of the IP department

In order to better understand the reputation and integration process of top IP departments, respondents were asked to evaluate their role within the global IP decision-making process.

The two dominant factors used to evaluate the role of the IP department in this context are the IP department's decision-making authority (including veto power) and budget authority.

Three categories prove to have little influence on processes, while the other three categories have high to very high influence, including power of veto and budget authority.

62 percent of all participants are actively engaged in the decision-making process and hold limited to high influence on a targeted IP strategy, while 29 percent even have budget authority and veto power.

Only 9 percent of participants are not or only irreqularly involved in the decision-making process.

A comparison of how IP departments across the relevant industries perceive their role shows that IP departments in the automotive and electronics industries reported having more influence on the IP decision-making process than their counterparts in the chemicals/plastics/pharmaceutical and consumer goods industries.

As in previous years, an analysis of the role of the IP department in relation to the size of the companies' patent and trademark portfolio confirms the hypothesis that the larger the portfolio, the more responsibility and influence the IP department has on the strategic decision-making process.

Figure 20: Role of IP department in the global IP decision process

(in percent)

The IP department ...



Increasing responsibility of the IP department within the company

3.4 Responsibility for licensing topics

Licensing activities can be approached from two different angles: licensing in to use an available property right for a company product, and licensing out, e.g. as a market entry strategy.

Regardless of the reasons, licensing should be seen as an opportunity to generate revenue that companies may adopt as one of their key intellectual property rights objectives.

The report's participants were asked: Who is responsible for making the decision to license in and/or out?

The responsibility for licensing in lies primarily with the business unit (53 percent), followed by the IP department (37 percent), while the legal department accounts for only 8 percent. Interestingly, this responsibility seems to have shifted since the previous survey in 2018/19, where the main responsibility was with the IP department at 46 percent, followed immediately by the business units with 40 percent.

In the electronics industry, licensing in is one of the IP department's key responsibilities, while in the chemicals/plastics/pharmaceutical, consumer goods, machines/devices and electronics industries, the tendency is to shift responsibility to the business unit. In the automotive industry, the licensing in responsibility is equally divided between the IP department and the business units.

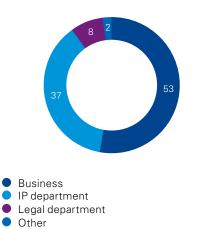
The smaller the portfolio size, the less the IP department handles licensing in activities; the larger the portfolio size, the more this task is performed by the IP department.

This shift in responsibility from the IP department to the business unit can also be observed for the licensing-out decision. At 50 percent (2018/19: 36 percent), this responsibility is mainly shouldered by the business unit, followed by the IP department (40 percent) and the legal department (8 percent). Across all industries, it was found that there is a tendency to assign the responsibility for licensing out to the business unit, whereas only the electrical engineering industry tends to assign the responsibility to the IP department.

This shift from the IP department to the business units might be due to the increasing importance in reviewing IP operating models and the subsequent increase in business-driven IP decision-making, which leaves the final vote with the business units. However, with an overwhelming 93 percent, it is clear that the IP department remains highly involved in the decision-making process and can act as a filter along the way.



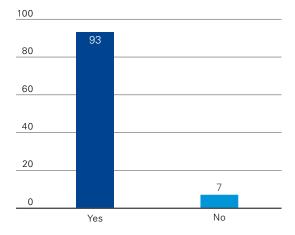
Figure 21: Responsibilities for licensing in (in percent)



Source: KPMG Law, 2021

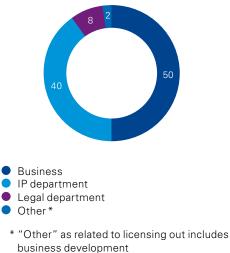
Figure 23: Required approvement of IP department

In the event that the IP department is not responsible, does it have to approve relevant patent/design/trademark details?



Source: KPMG Law, 2021

Figure 22: Responsibilities for licensing out (in percent)



business development

3.5 Use of patent coordinators

Patent coordinators are not part of the IP department but are assigned to business or R&D units. They are considered the interface between the patent and the R&D department and filter ideas and invention disclosures. They not only ensure uniformity of correspondence but, most importantly, that research activities remain in line with the company's IP strategy.

Participants were asked if there are dedicated patent coordinators in other departments who are formally part of the business organization, and if so, how many coordinators the company has worldwide.

Just as in the previous survey of 2018/19, 61 percent of all participants responded that they have dedicated patent coordinators.

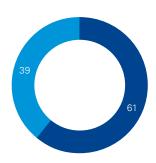
But there is a significant difference among the countries: While 64 percent of German participants replied in the affirmative, only 50 percent of the other European countries benefit from having patent coordinators.

The number of patent coordinators is somewhat unevenly distributed: 46 percent of participants have fewer than 10 and 23 percent have more than 20 patent coordinators (in FTE); if patent coordinators are in place, the average number is 13 FTE (median: 10 FTE).

A comparison of the IP departments' portfolio size revealed that there are no clear differences between the IP departments, resulting in the conclusion that the presence of patent coordinators likely depends on the actual processes rather than on industry sector or portfolio size.

Figure 24: Use of patent coordinators outside the IP Department

(in percent)

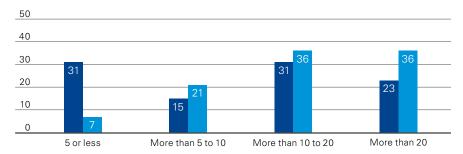


Yes No

Source: KPMG Law, 2021

Figure 25: Number of patent coordinators

(in percent)



Full Time Equivalent (FTE)

Headcounts

3.6 Management sphere of head of IP

The criteria for adequate decision-making in relation to the right number of direct reports are: the required functional support, the homogeneity of tasks, the size of the required staff and their qualifications as well as the complexity of the internal clients.

First, the IP department must determine the organizational and operational IP set-up, such as according to a regional cluster, client groups, diversity of the field of activity, or according to defined hybrid forms.

Organizational theory assumes an average number of direct reports to be between 6 and 10, depending on the above-mentioned criteria. The smaller the size of a department, the flatter the organization, while larger departments usually incorporate additional layers of management in order to reduce the number of direct reports.

70 percent of the participating heads of IP have the optimal number of no more than 10 direct reports (20 percent less than 5, 50 percent 5 to 10 direct reports). 23 percent of participants have between 10 and 20 direct reports, while 7 percent have more than 20 direct reports; there could be room for improvement here by flattening the organizational structure. Typically, however, the complex functional requirements make it less possible to reduce the management sphere.

The average management sphere is 9.4 (median: 8). The minimum number of direct reports of all participants is 1 and the maximum is 66.

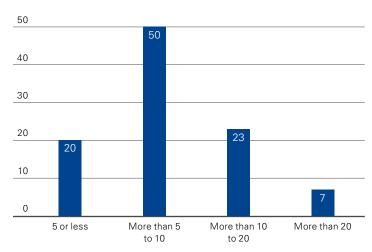
The survey also asked about the number of management layers within the IP department.

The majority of participants have 2 layers (46 percent), 27 percent of participants have 1 layer, 24 percent of participants have 3 layers, while only 3 percent have 4 or more layers.

Taking into account the number of direct reports and the number of management layers, no clear trend emerges among the participants.

Figure 26: Management sphere of head of IP

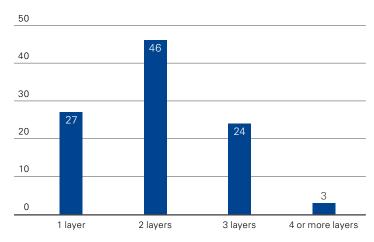
(in percent)



Source: KPMG Law, 2021

Figure 27: Management layers within the IP department

(in percent)



3.7 Financing of IP costs

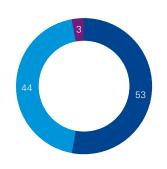
The participants were asked who finances the internal and external IP costs. Reasons in favor of centralized budget allocation could include less controlling effort, higher transparency and stronger decision-making autonomy for the IP department. On the other hand, assigning budget allocation to the business units while increasing their decisionmaking authority could result in a reluctance to request consulting services from the IP department.

With regard to internal costs, 53 percent are financed centrally and 44 percent by business units. The same applies to IT costs, where 55 percent are financed centrally and 32 percent are sourced by the business units. This situation is reversed for external costs, where 63 percent of financing is provided by the business units and 34 percent centrally. This could be due to the need to allocate official fees to the place where they are incurred.

Taking portfolio size into account, smaller IP departments mainly finance internal and IT costs centrally and external costs via the business unit; for larger IP departments, internal, external and IT costs are primarily financed by the business unit.

With regard to cost allocation, the majority of participants use the fixed basis/flat rate/key model (70 percent), because a payment model for different service items requires an enhanced controlling system that usually entails greater effort.

Figure 28: Financing internal costs (in percent)

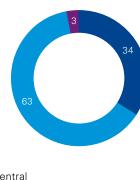


Central Business unit Other*

Source: KPMG Law, 2021

* "Other" includes R&D

Figure 29: Financing external costs (in percent)

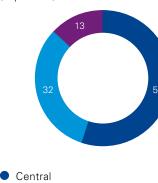


Central Business unit Other*

Source: KPMG Law, 2021

Figure 30: Financing costs of intellectual property IT

(in percent)



Other*

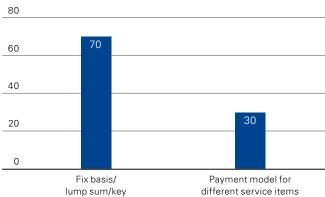
Business unit

Source: KPMG Law, 2021

Figure 31: Allocation of costs

(in percent)

100



3.8 Regional allocation of employees

In order to understand the relevance of crossdivisional coordination and knowledge transfer, the global allocation of employees must be examined. The analysis focuses on the work location of employees, not on the assignment of regional tasks in day-to-day business.

Participants were asked to divide their global workforce into four regions: home country (country of headquarters), EMEA (Europe/Middle East/Africa) excluding home country, APAC (Asia Pacific), and the Americas (North and South).

If the patent department is composed of centralized and decentralized units, participants allocate 69 percent of their patent staff to the home country, followed by EMEA (12 percent), the Americas (10 percent) and APAC (9 percent).

The global distribution of personnel for the trademark department shows a higher degree of centralization: In locations where the trademark department consists of centralized and decentralized units, participants allocate as much as 87 percent of their trademark workforce to the home country, followed by APAC (11 percent), the Americas (2 percent), and EMEA (0 percent).

The global allocation of staff for the design department shows an even higher degree of centralization than the trademark department: in locations where the design department consists of centralized and decentralized units, participants allocate as much as 92 percent of their design patent staff to their home country, followed by APAC (8 percent).

This allocation in the trademark department shows that there is no need for enhanced geographical distribution. Since the trademark strategy is centrally managed by the parent company, the majority of the workforce is assigned to the home country.

The patent department is more widely dispersed, as it has research locations and filing activities worldwide that require local patent expertise.



Figure 32: Employee distribution per region (in percent)



3.9 Allocation of employee levels within the IP department

The performance of patent and trademark attorneys is essentially determined by their efficiency, which is supported by information professionals, paralegals, assistants and an administrative staff over the course of the entire year and not only in times of high workloads. These qualified employees relieve attorneys of any additional work that is not related to their core responsibilities and provide the necessary services in a more cost-efficient way for the entire IP department.

In order to obtain clarity on the support ratio in the top IP departments, the number of attorneys was considered in relation to the number of administrative staff and assistants; the figures are given as full-time equivalents (FTE).

In participating patent departments, attorneys account for more than half of all FTEs (58 percent), followed by paralegals/administrative staff (31 percent), information professionals (6 percent) and assistants (6 percent). In recent years, there has been an ongoing trend toward employing administrative staff instead of assistants, and this is reflected again in this year's responses, with a decrease of 2 percentage points as compared to 2019 (8 percent).

The allocation of employees varies across industries: while findings from the chemicals/plastics, machinery/equipment, metal/steel and automotive industries are in line with the overall results, the pharmaceutical industry has a higher share of attorneys at more than 58 percent. The consumer goods industry shows a lower proportion of support functions than the overall results, and the construction industry has a higher share of support functions than attorneys. The electrical industry, on the other hand, has a high share of assistants.

The results on trademark departments show a similar ratio with 50 percent attorneys, 40 percent paralegals/administrative staff, 7 percent assistants and 3 percent information professionals.

German participants have a similar breakdown of patent FTEs in relation to the overall results, while other non-German participants show a higher share of paralegals compared to assistants at 28 percent and 5 percent, respectively.

There are also clear differences in trademark departments across the various industries: the chemicals/ plastics/pharmaceutical, construction, consumer goods and metal/steel industries have a much higher ratio of support functions. The aviation/ aerospace, machinery/equipment industries have a significantly higher ratio of professionals at 93 percent and 81 percent, respectively. The electrical engineering industry shows a similar ratio compared to the overall results.

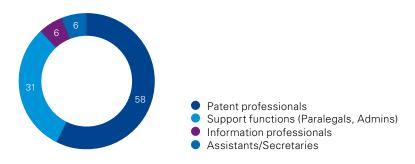
The results on design departments show a similar split to the trademark department with 51 percent design professionals, 43 percent paralegals, 3 percent information professionals and 3 percent assistants.

The automotive industry shows an equal split between attorneys (47 percent) and support function (53 percent), while chemicals/plastics/ pharmaceutical industries have a higher ratio of professionals.

The resulting questions, i.e. if and how this diverse distribution of patent and trademark FTEs across industries affects the performance and cost of service delivery, will be answered in sections 4 -IP department activities (page 56) and 5 - Cost of IP work (page 90).



Figure 33: Distribution of FTE within the patent department (in percent)



Source: KPMG Law, 2021

Figure 34: Distribution of FTE within the trademark department (in percent)



Source: KPMG Law, 2021

Figure 35: Distribution of FTE within the design department (in percent)



3.10 Ratio of the IP department to total company employees

There are several ways to benchmark the ratio of the entire IP department to the total size of the company. If the focus is not on additional cost or performance figures, the most dominant KPI is the size of the IP department compared to the company's total workforce.

This report focuses on this KPI first, to provide an approximate overview before breaking down the IP department into patent and trademark departments.

68 percent of all respondents report that the IP department is below the 0.10 percent mark compared to the company's total workforce. The average for this KPI is 0.13 percent, the median 0.05 percent. This value was lower for German participants (average: 0.1 percent, median 0.05 percent) than for other countries (average: 0.2 percent, median 0.07 percent).

This overall situation varies across the industry sectors. The trend for the automotive, aviation/ aerospace, machinery/equipment and consumer goods industries persists: they appear to have fewer IP staff than average, while participants from the chemicals/plastics/pharmaceutical and electronics industries exceed the overall assessment.

When breaking down the IP department into patent and trademark departments, the ratio of each department to the total number of company employees shows a clear difference in the set-up of the departments: while the patent department mostly ranks between 0.02 percent and 0.05 percent (average: 0.12 percent, median 0.05 percent), 75 percent of the trademark departments account for less than 0.02 percent of the total company workforce (average: 0.015 percent, median 0.008 percent).

Figure 36: IP FTEs to total company employees (in percent)

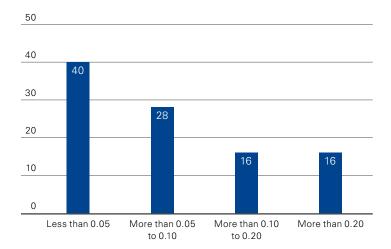
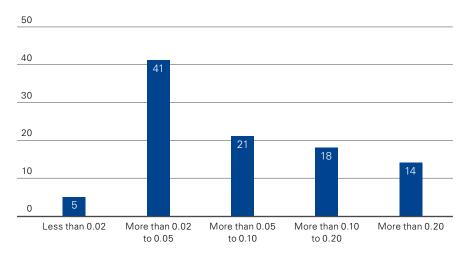


Figure 37: FTE patents to company employees total

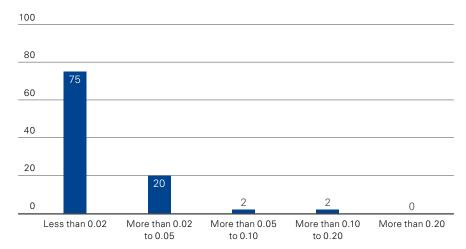
(in percent)



Source: KPMG Law, 2021

Figure 38: FTE trademarks to company employees total

(in percent)



3.11 Ratio of the patent department to R&D

The R&D department has greater influence on the organizational and operational structure of the patent department than any other internal client. The ratio of the number of R&D employees conducting research that results in invention disclosures to the FTEs of a patent department is therefore one of the most important KPIs for determining a transparent personnel benchmark, without taking into account other criteria such as the number of inventions or internal costs.

Participants were asked to provide the number of R&D and patent employees in order to gain an accurate overview of the current status quo and any developments since the last report on this particular KPI in Europe.

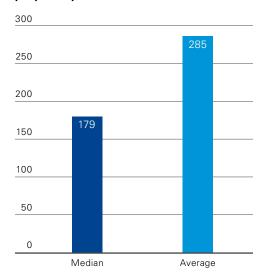
On average, one internal patent attorney serves a workforce of 285 R&D employees, with a median of 179 R&D employees, whereas one internal patent employee (professionals, administrative staff and assistants) serves 165 R&D employees, with a median of 133 R&D employees. Compared to the last report, both KPIs have increased slightly.

Considering the participants' different industry sectors, this KPI appears to be dominated by the apparent complexity of the patent portfolio. Regardless of the country of origin, participants with a focus on one industry sector, e.g. the automotive industry, increase the ratio of R&D employees to FTE patent attorneys; companies operating in numerous industry sectors or which have more complex portfolios, e.g. in the chemicals/plastics/ pharmaceutical industries, decrease this ratio.

What effect this FTE ratio has on the efficiency within the IP department will be examined in section 5.4 – R&D costs per invention disclosure and first filing (page 98).



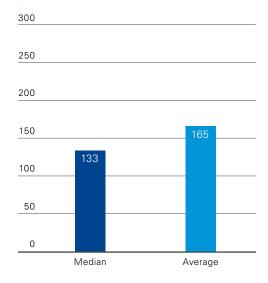
Figure 39: Number of R&D employees per patent professional FTE



Figures not adjusted for outsourcing ratio

Source: KPMG Law, 2021

Figure 40: Number of R&D employees per total FTE patents



Figures not adjusted for outsourcing ratio

3.12 Ratio of the trademark department to marketing

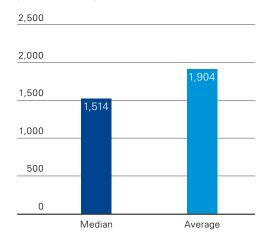
Since the R&D department has great influence on the organizational and operational set-up of the patent department as a key client, the trademark department is strongly associated with a company's marketing department. The ratio of the number of marketing staff responsible for inventing or renaming trademarks, to the total number of FTEs in the trademark department is therefore one of the most important KPIs needed to establish an accurate workforce benchmark, without taking into account the amount of activities, such as the number of new trademarks or internal costs.

Participants were asked about the size of their marketing and trademark staff in order to gain an accurate overview of the current status quo for this particular KPI in Europe.

On average, one internal trademark attorney serves a workforce of 1,904 marketing employees, with a median of 1,514 marketing employees, while one internal trademark employee (professionals, administrative staff, information professionals and assistants) serves 952 marketing employees, with a median of 573 marketing employees.

The number of marketing staff in companies includes all staff involved in the entire marketing supply chain, from layout and advertising to sales.

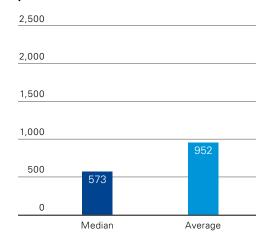
Figure 41: Number of marketing employees per trademark professional FTE



Figures not adjusted for outsourcing ratio

Source: KPMG Law, 2021

Figure 42: Number of marketing employees per total FTE trademarks



Figures not adjusted for outsourcing ratio

3.13 **Trends in IP department resources**

In addition to the overall allocation of staff in the IP department, participants were also asked to anticipate resource trends for 2020/21.

For the patent department, 31 percent of participants stated that they expect an increase in professional staff, whereas the trend concerning the administrative staff and assistants is expected to remain mostly neutral.

The results reveal an interesting divergence in terms of portfolio sizes: medium-sized and large IP departments (according to their FTE numbers) expect an increase in professionals, while small IP departments anticipate no change in their staffing levels, which will clearly widen the already existing gap.

It can be assumed that IP departments with a large number of employees tend to increase their workforce in order to support their company's expansion and research activities. Another reason may be to increase the insourcing ratio.

Taking the regional allocation of employees into account, the results show that the increase in workforce is mainly focused on the home country (14 percent), followed APAC (11 percent) and EMEA (6 percent). In the Americas outside the home country, however, a mere 3 percent expect an increase in staff.

In contrast to the patent departments, the trademark departments generally do not expect a change in their staff headcount, but perhaps a slight increase in professionals and paralegals/administrative staff.

Figure 43: Trends for the patent department

(in percent)



Increase Neutral

Decrease

Source: KPMG Law, 2021

Figure 44: Trends for the trademark department

(in percent)



Increase Neutral

Decrease

4 IP department activities



Demographics on participating companies		
Development and trends in the IP department		
Organization of IP work		
IP department activities		
Actions to protect trade secrets		
Functions and councils to protect trade secrets		
Measures to combat product piracy		
Tools against product piracy		
Cycle time for patent completion		
Patent application strategy		
Number of patents per patent FTE		
Number of tasks per patent FTE		
Allocation of internal work time in the patent department		
Outsourcing patent department practices		
Theoretical patent portfolio renewal rate		
Trademark registration strategy		
Number of tasks per trademark FTE		
Allocation of internal work time in the trademark department		
Outsourcing trademark department practices		
Theoretical trademark portfolio growth rate		

Excursus: The qualitative angle

7

4.1 Actions to protect trade secrets

In the process of intellectual property management, the appropriate choice between what to patent versus what to maintain as a trade secret is a delicate balance. On the one hand, patents offer more sound legal protection, but are limited in time and territory and come at their own cost. Trade secrets, on the other hand, operate without delay or cost, but come at higher risk if not managed appropriately, as they only protect against industrial espionage and theft.

In order to ensure their trade secrets remain within the company, the majority of respondents have a set of collective and documented actions in place. The most integrated actions to protect trade secrets is through the use of IT security with 76 percent of all participants using this solution. The implementation of IT security ensures measures to control access, transfer and input.

Nearly three-quarters have collective and documented contractual and organizational policies in place to protect trade secrets. This set of actions includes e.g. checking contracts with all relevant peer groups, prohibiting reverse engineering, harmonizing contracts within business units, defining responsibilities and designating individuals, defining best practices and/or implementing the "need-to-know" principle.

Identifying and cataloging all information deemed to be a trade secret is used by 65 percent of participants and physical measures are the less implemented actions at 56 percent.

Considering the different industry sectors of the participants, IT security measures are less implemented in the automotive and consumer goods industries, while the chemicals/plastics/ pharmaceutical, electrical engineering and machinery/equipment industries are significantly above the overall average.

Altogether, there are more collective and documented measures to protect trade secrets in the chemicals/plastics and pharmaceutical industries. This is to be expected, due to the nature of the chemical industry, where the end product may not be able to be reverse-engineered or copied and can consequently remain a company's competitive advantage even indefinitely.



Figure 45: Collective and documented set of actions in order to protect trade secrets (in percent)

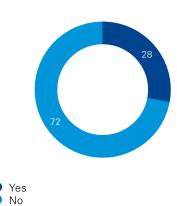


Yes No

Source: KPMG Law, 2021

Figure 46: Presence of trade secret officers

(in percent)



4.2 Functions and councils to protect trade secrets

In this fifth edition of "The V. Intellectual Property Report of KPMG Law 2020/21", we asked participants if councils or functions pertaining to trade secrets have been established within the IP department.

As explained in the previous section, trade secret officers, who ensure the implementation and documentation of these measures to manage the protection of trade secrets, are also more commonly installed as a function in the chemicals/plastics industries, at an average of 60 percent, compared to the overall average of 28 percent. The role of the trade secret officer is to ensure the implementation and documentation of measures to protect trade secrets.

The level of responsibility within these functions can greatly differ. The least implemented and least likely to be installed in the future is the role of trade secret officer or committee, which merely determines the level of secrecy without any further responsibilities. With merely 4 percent of respondents having had implemented this role and 86 percent responding that they do not plan to do so in the future, it is unlikely that we will see an increase in the coming years.

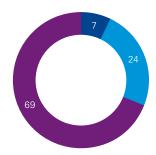
In comparison, trade secret officers or trade secret committees, which only determine the level of secrecy but are also responsible for other confidential information such as business figures in addition to technologies and processes, are more often implemented in the IP department of 11 percent of participants. Another 21 percent of all participants have taken steps for implementation.

The function that is increasingly being installed in respondents' IP departments is strategic trade secret councils, which determine whether a technology or process is classified as a trade secret or should rather be patented. If it is classified a trade secret, the council decides on the level of secrecy. On average, 7 percent have fully implemented this function and 24 percent are taking steps to implement it. On average, 14 percent of the automotive industry have this function already fully implemented and 14 percent have taken measures for implementation, while the chemicals/plastics and consumer goods industries are planning on an average of 40 and 50 percent to take measures for implementation. In the machinery/equipment industry, 20 percent of participants have already implemented this function and 20 percent have taken measures for implementation. The electrics industry has the highest ratings, with one in three IP departments already having implemented this function.

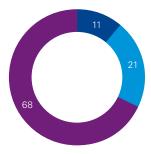


Figure 47: Functions regarding trade secrets in the IP department (in percent)

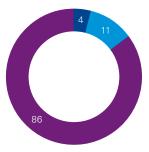
Strategic trade secret council, which determines whether a technology or process is classified as a trade secret or should rather be patented. When concerning a trade secret, it decides on the level of secrecy.



Trade secret officer/committee that merely determines the level of secrecy but, in addition to technologies, is also responsible for other confidential information such as business figures.



Trade secret officer/committee which merely determines the level of secrecy (no further responsibilities)



- Fully implemented
- Measures for implementation taken
- Not planned

4.3 Measures to combat product piracy

With the increasing trend of globalization and digitization, more and more information is being released. This leads to a higher risk for intellectual property assets and a rise in product piracy. Not only can this lead to significant revenue losses for the product developer and manufacturer, but also has a detrimental effect on the economy. Without any risk or investment required on their part, product pirates simply reap the benefits of the costly and time-intensive investments of those before them. Without adequate protection to prevent this, the incentive for R&D would be absent and innovation would come to a halt.

We were interested in finding out the extent to which our respondents are subject to counterfeiting and which measures they have installed to combat this. On average, the products of 88 percent of all participants are at risk of counterfeiting, mainly products issued from aviation/aerospace, automotive, machinery/equipment and pharmaceutical industries. In fact, as little as 20 percent of the products of the pharmaceutical industry are not at risk of being counterfeited.

Conversely, those 12 percent do not have any measures in place to combat product piracy, whereas the necessary precautions have been introduced for the entire 88 percent.

Most commonly, online measures are introduced with an average of 71 percent of all participants.

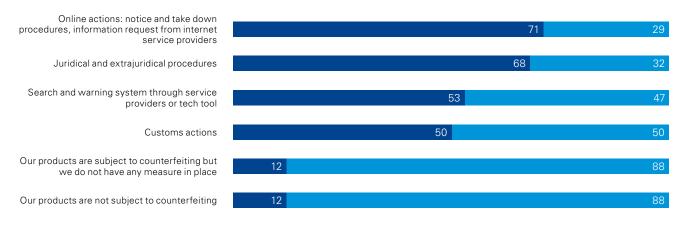
Here again, the consumer goods and chemicals/ plastics industries are far ahead, with all participants having put online measures in place.

When considering the digitization trend, more than half of participants are already looking for a warning system via a service provider or tech tools.

As for online actions, the consumer goods and chemicals/plastics industries are actively looking for warning systems.

Figure 48: Measures to combat product piracy

(in percent)



Yes No

4.4 Tools against product piracy

In our highly and increasingly digitized world, tracking and identifying counterfeited products is becoming more and more challenging as online trading can be done quickly and anonymously. Using technology to effectively combat product piracy can be one of the most effective ways to tackle this challenge.

However, even though the use of IT support to detect and combat product piracy has been proven to be one of the highest value options, it is used by only 43 percent of all participants. More than half perform these tasks without IT support (figure 49, page 65).

In addition, 44 percent of participants use internal resources to fight against product piracy, while 56 percent use external resources for this purpose. (figure 50, page 65) The majority of IP departments tend to outsource this task.



Copy crawler

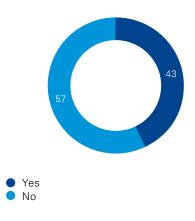
Want to know how we can support you with anti-counterfeiting measures? Scan the QR code.





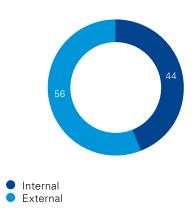
Figure 49: Use of IT tools to detect and combat product piracy

(in percent)



Source: KPMG Law, 2021

Figure 50: Use of resources to fight product piracy (in percent)



4.5 Cycle time for patent completion

For this year's report, participants were asked to name the number of active inventors, meaning those who were involved in an invention in 2019, in relation to the absolute number of inventors.

The average of this ratio shows that overall, only 31 inventors out of 100 inventors were involved in invention disclosures in 2019 (figure 51).

The automotive industry shows a clear lead in the share of active inventors to absolute inventors, while the aviation/aerospace, chemicals/plastics, electronics industries and pharmaceutical industries have fewer active inventors in relation to absolute inventors. The machinery/equipment industry is average overall.

In order to have a better understanding of the patent completion process, we have split the process into two steps: firstly, the completion of the invention disclosure to patent application, then the patent application to patent completion. On average it takes 119 days (median: 110 days) to obtain a patent application from a signed invention disclosure (figure 52, page 67). The second step lasts for 1,402 (median: 1,433) days on average (figure 53, page 67).

The process of a patent completion lasts in total 1,521 days (median: 1,563), meaning that the share of the first step contributes on average 15 percent to the entire process duration (figures 54 and 55, page 67).

Considering the different industries of the participants, the automotive and aviation/aerospace industries are slightly below average, with the chemicals/plastics and pharmaceutical industries well below average. On the other hand, the electronics industry is above average.

Figure 51: Ratio of active inventors to absolute inventors (in percent)

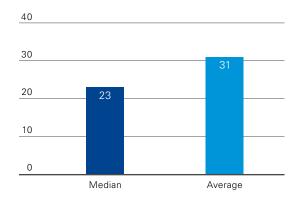




Figure 52: Completed signed invention disclosure to patent filing

(in days) 1,500 1,250 1,000 750 500 250

Average

Source: KPMG Law, 2021

Figure 54: Patent application process (in days)

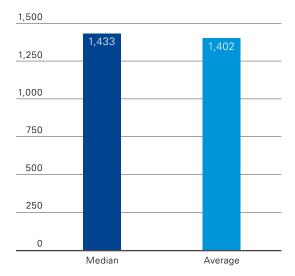
Median

1,500 1,250 1,000 750 500 250 0 Median Average

Source: KPMG Law, 2021

Figure 53: Patent filing to patent completion

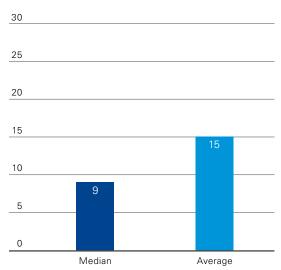
(in days)



Source: KPMG Law, 2021

Figure 55: Invention disclosure to first filing within the patent application process

(in percent)



4.6 Patent application strategy

To learn more about the allocation of submissions, participants were asked to indicate the channel of submission for each of their first and subsequent applications, i.e. national, Patent Cooperation Treaty (PCT) or European Patent Office (EPO).

73 percent of all first filings were submitted via the respective national patent offices, 7 percent via PCT and 20 percent via EPO, which gives a very clear idea about the application strategies of the participating companies.

Most industries file their first filings (over 81 percent) via the national patent office; only the chemicals/ plastics/pharmaceutical industries divide their first filings more or less equally between the national patent office and EPO.

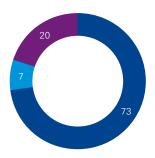
For a deeper understanding of the filing strategy or in order to assess the efficiency of the research process, it is necessary to evaluate the number of first filings in relation to invention disclosures.

On average, 71 percent of the invention disclosures of all participants are being filed (median: 72 percent), but the industries clearly differ in their results: fastmoving industries, such as automotive, consumer goods and electronics, have a lower ratio (average: 64 percent, median 57 percent) while the other industries like chemicals/plastics/pharmaceutical, steel/metal, aviation/aerospace and machinery/ equipment lie well above the overall average (average: 81 percent, median 76 percent). The reasons for this may be found in the work, the time horizon of research and the possible coordination time – the longer the life cycle of a product, the more precise the coordination and planning process.

Regarding the filing of subsequent applications, the results are similar across countries. The majority of participants file subsequent applications via PCT (46 percent), followed by national patent offices (40 percent) and EPO (14 percent); the overall results differ slightly from the 2018 results.

Figure 56: Distribution of first filings

(in percent)

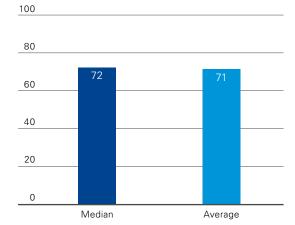


- National
- Patent Cooperation Treaty (PCT)
- European Patent Office (EPO)

Source: KPMG Law, 2021

Figure 58: First filing per invention disclosure

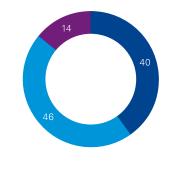
(in percent)



Source: KPMG Law, 2021

Figure 57: Distribution of subsequent filings

(in percent)



- National
- Patent Cooperation Treaty (PCT)
- European Patent Office (EPO)

4.7 Number of patents per patent FTE

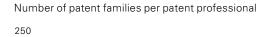
One aim of the IP report is to measure performance in order to obtain an accurate sense of how IP patent departments are staffed. The following pages therefore contain an analysis of FTE efficiency, separated into professionals and support staff (including information professionals, paralegals/ administrative staff and assistants).

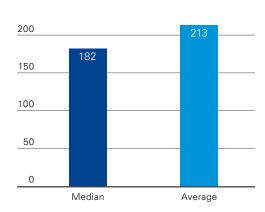
One patent professional managed 213 patent families (median: 182), while the total patent FTE managed 124 patent families (median: 102). In comparison, 671 patents (granted patents, pending patents and design patents) are managed by one patent professional (median: 595) and 390 patents (median: 334) are managed by the total patent FTE.

Correlating the number of total patents per patent attorney with the number of patent families per patent attorney, yields an average of about 3 country applications per participant.

However, focusing solely on existing patents does not allow for a meaningful assessment of the performance of the patent department, as existing patents hardly require any work. Therefore, the following pages will focus on more precise performance indicators in order to better analyze FTE efficiency within the patent department.

Figure 59: Number of patent families per patent workforce





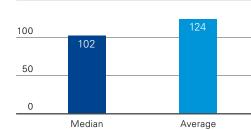
Source: KPMG Law, 2021

Number of patent families per patent FTE total

250

200

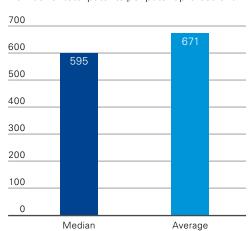
150



Source: KPMG Law, 2021

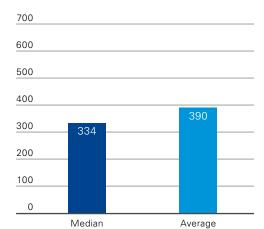
Figure 60: Number of total patents per patent workforce

Number of total patents per patent professional



Source: KPMG Law, 2021

Number of total patents per patent FTE total



Source: KPMG Law, 2021

Total patents included the granted patents, pending property rights and design patents Figures not adjusted for outsourcing ratio

4.8 Number of tasks per patent FTE

In addition to the observations made in section 3.12 (Ratio of the trademark department to marketing, page 52) and 3.13 (Trends in IP department resources, page 54), which focused on the relative size of the IP department, the report will now examine the performance of the IP FTEs in terms of the amount of work processed. Figures 61 through 64 on pages 72 and 73 depict the performance of participants in relation to the number of processed "Invention disclosures" (figure 61), "First filings" (figure 62), "Subsequent filings" (figure 63) and overall "Pending property rights" (figure 64) per patent attorney and per total internal patent FTE.

On average, a patent attorney processed 38 invention disclosures within one year and 24 first filings. A patent support function processed 68 subsequent filings.

A comparison of the industry sectors shows that the automotive, machinery/equipment and consumer goods industries are above average, while the chemicals/plastics/pharmaceutical and electronics industries clearly lie below the average.

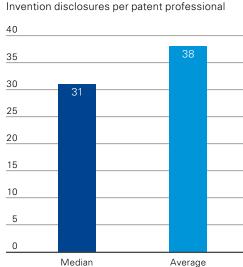
Furthermore, a patent attorney processed 284 pending property rights (median: 250) per year, while the total patent FTEs processed an average of 165 pending property rights (median: 133).

The automotive and aviation/aerospace industries rank above the overall average, whereas the chemicals/plastics/pharmaceutical, electronics industries, machinery/equipment and consumer goods industries are clearly below the average.

Those numbers are, of course, influenced by the outsourcing practices of the participants. The more the department outsources to law firms, the higher the number of tasks per patent attorney. Participating departments vary widely in the type and number of tasks they perform, from exclusive in-house processing of the entire "IP value chain" (processing invention disclosures, first filings, subsequent filings, portfolio care, abandonment of property rights, etc.) to the partial outsourcing of dedicated process steps to the outsourcing of the entire process chain for dedicated products.

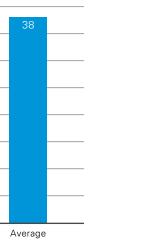
Only when these external work hours are adjusted, is it possible to make reliable comparisons of the actual performance. This provides a more resilient basis for comparing internal work. The figures on the following pages include internal daily work time and outsourcing quotas.

Figure 61: Number of invention disclosures per patent workforce



Source: KPMG Law, 2021

All figures not adjusted for outsourcing ratio

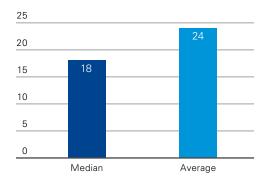


Invention disclosures per patent FTE total

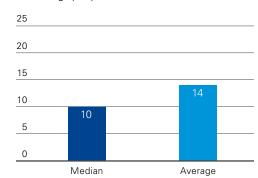


Figure 62: Number of first filings per patent workforce





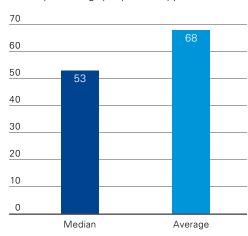
First filings per patent FTE total



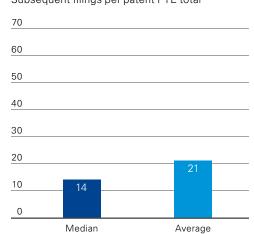
Source: KPMG Law, 2021

Figure 63: Number of subsequent filings per patent workforce

Subsequent filings per patent support



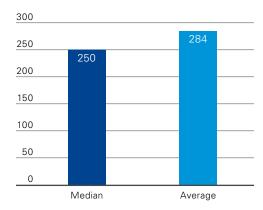
Subsequent filings per patent FTE total



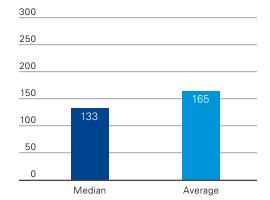
Source: KPMG Law, 2021

Figure 64: Number of pending property rights per patent workforce

Pending property rights per patent professional



Pending property rights per patent FTE total



Source: KPMG Law, 2021

All figures not adjusted for outsourcing ratio

4.9 Allocation of internal work time in the patent department

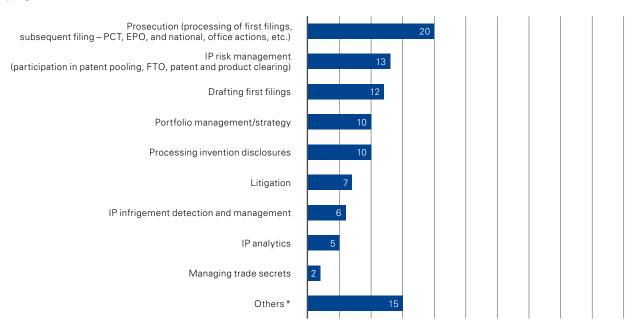
The participants were asked to allocate a percentage of the internal daily working time for the defined collective patent tasks, divided among professionals and administrative staff.

When the effort required for the tasks is broken down into the daily working time of professionals and administrative staff, a clear distribution of tasks emerges: the professional invests most of their time on the three major tasks, i.e. prosecution of violations, IP risk management and drafting first filings. The administrative staff, on the other hand, spend their time mostly on prosecution, processing invention disclosures and portfolio management/ strategy.

Comparing the tasks performed by professionals and administrative staff and their daily working time clearly reveals that tasks with high value creation are not only mostly handled internally (see section 4.10: Outsourcing patent department practices, page 76), but also under the supervision of a professional, while tasks with lower value creation tend to be handled by the administrative staff or are even outsourced.

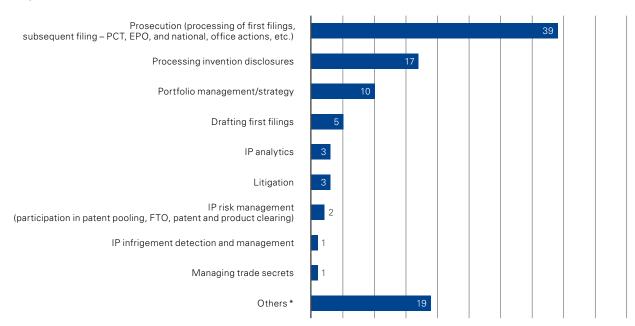
Looking at the portfolio size of the participants, no real difference can be observed in terms of time spent on the task types. But when observing the different industries, the consumer goods industry clearly spends significantly more time on IP infringement detection than all other industries, while the automotive industry, as well as machinery/ equipment tend to prioritize IP risk management. By looking at the difference in how the industries involve their administrative staff, it is clear that the machinery/equipment industry is more likely to prioritize their support for IP analytics in comparison to all other industries. The automotive industry shows a completely opposite trend, showing involvement in IP analytics support, but which also includes strong support in prosecution matters.

Figure 65: Allocation of internal daily work time - professionals (in percent)



Source: KPMG Law, 2021

Figure 66: Allocation of internal daily work time - administration (in percent)



^{* &}quot;Others" include contract work, training and awareness, inventor compensation, payments such as fees, outside vendors etc., other business counseling such as M&A, licensing, etc.

4.10 **Outsourcing patent department practices**

A patent department that executes all incoming tasks without any external support is extremely rare. Given the wide range of daily challenges, it is simply uneconomical to keep all potential expertise available in-house, especially for smaller patent departments. They will more likely opt for a lighter set-up and assign some specific tasks to outside counsel, while keeping most of the tasks with the highest value creation in-house.

In order to test this hypothesis and obtain an up-todate view on which tasks are outsourced and which are more likely to be performed in-house, study participants were asked about their external contracting practices, i.e. for which specific tasks they use external support and to what extent.

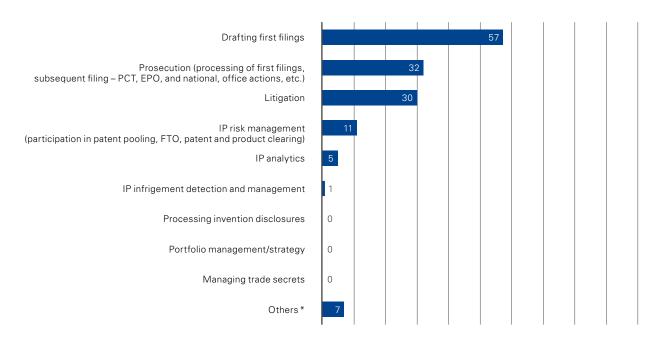
The questionnaire addressed the same most common patent department tasks as in section 4.9 (Allocation of internal work time in the patent department, page 74), such as quantifiable activities like "Processing invention disclosures", "Prosecution" including processing of first filings, subsequent filing and office actions, but also tasks such as "Portfolio management/strategy", "IP risk management" or "Others".

The processing of "Drafting first filings", "Prosecution" and "Litigation" has the highest outsourcing rate. In contrast, tasks such as managing trade secrets, processing invention disclosures and portfolio management are mostly handled internally with a very low outsourcing rate.

Prosecution, which includes the processing of first and subsequent filings, is in fact not a top priority for the internal service provision in all participating countries, which puts the amount of first filings per patent workforce (figure 62, page 73), and the amount of subsequent filings per patent workforce (figure 63, page 73), into perspective.

Figure 67: Outsourcing rate of patent activities

(in percent; multiple choices possible)



* "Others" include contract work, training and awareness, inventor compensation, payments such as fees, outside vendors, etc.; other business counseling such as M&A, licensing, etc.

4.11 Theoretical patent portfolio renewal rate

Data on how many first-time filings are submitted per year and their share of the total patent portfolio can help to assess the innovative strength of a company or even of an entire industry sector. It goes without saying that the number of first filings submitted nationally, via EPO or via PCT, also depends on the filing strategy of the company. In addition, the actual lifetime of a patent, especially when less than 20 years, can create a certain variance in the numbers as well as in how many patent families are represented in the number of existing patents and first filings. This theoretical renewal rate assesses neither the quality of the patent portfolio nor whether it is advantageous to submit more first filings.

However, in order to develop a sense of the differences between industry sectors and ultimately their innovative capacity, it was estimated how fast each company's patent portfolio theoretically revolves by determining the number of submitted first filings per year.

If we measure initial filings by the number of patent families, the picture changes significantly. All industries then show a similar theoretical renewal rate of the patent family portfolio (average: 13 percent and median 10 percent). Under the hypothesis that the patent portfolio has a lifetime of 20 years, a theoretical renewal rate of 2.5 percent would imply that it would take the respective participant approximately 40 years to revolve its entire patent portfolio, while a theoretical renewal rate of 10 percent would allow the portfolio to revolve within 10 years.

The results show clear differences in the theoretical renewal rate among industries that are not only derived from the topics previously mentioned: participants from the automotive industry revolve their patent portfolio strongly. These participants show the highest average renewal rate of 6 percent, and some automotive participants even had renewal rates of over 28 percent. The electronics and machinery/equipment industries also revolve their patent portfolios heavily.

If the first filings are measured against the number of patent families, the picture changes significantly. All industries then show a similar theoretical renewal rate of the patent family portfolio (average 13 percent and median 10 percent).



Figure 68: Theoretical patent portfolio growth rate





100

80

60

40 38 20 28

More than 5.0

to 7.5

More than 7.5

Electrical engineering and electronic assembly

More than 2.5

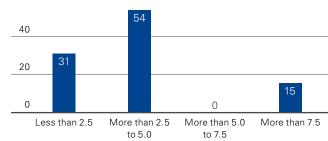
to 5.0

100

Less than 2.5

80

60

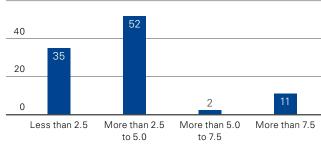


Consumer goods

100

80

60



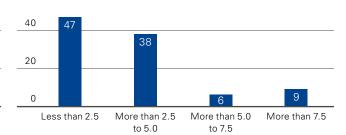
Source: KPMG Law, 2021

Chemicals, plastics and pharmaceuticals

100

80

60

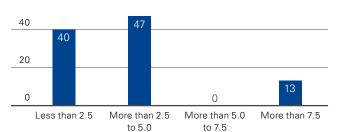


Machinery and equipment

100

80

60



4.12 **Trademark registration strategy**

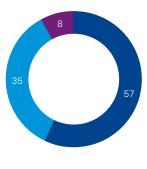
Companies can register trademarks through their local trademark office. Alternatively, they can seek a community trademark in the EU, which guarantees uniform protection in all member states of the European Union, by filing a single application at the Office for Harmonization in the Internal Market (OHIM) in Alicante (Spain). As a third option, companies can apply for international registration (IR), which must be presented to the World Intellectual Property Organization (WIPO) through the national IP office.

The questionnaire addressed the topic of registration strategy by asking participants to indicate which channels they use for their existing and newly registered trademarks: national, European or international.

Both existing and new trademarks were predominantly registered through the national trademark offices (existing trademarks 57 percent, new trademarks 54 percent), which has some advantages over the EU or IR procedure. Apart from the fact that registering at local offices is faster and cheaper, the likelihood of interference with a competitor's existing trademarks is considered rather low. The IR procedure ranks second for both existing and new trademarks (35 and 33 percent, respectively), presumably because it can be handled much more individually than with the community registration process, which does not allow the geographic scope of protection to be limited to certain member states.

A difference in the registration practices of the countries can be observed for both existing and new registration practices: both French and German participants distributed only half of their existing and new trademarks nationally, while the other European participants seem to clearly prefer the national option, registering more than 54 percent of their existing and new trademarks nationally.

Figure 69: Distribution of existing trademarks (in percent)

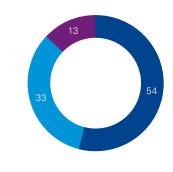


National International Registration

Source: KPMG Law, 2021

European Union

Figure 70: Distribution of new trademarks (in percent)



National International Registration European Union

4.13 Number of tasks per trademark FTE

In addition to the observations made in section 3.13 (Trends in IP department resources, page 54), where the focus was on the relative size of the trademark department, the report now evaluates the performance of trademark FTEs in terms of the amount of work handled. Figures 71 through 73 (page 83) display the number of trademark families, existing trademarks and new trademarks processed per trademark attorney and per total internal trademark FTE.

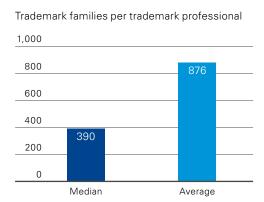
On average, a trademark attorney processed 876 trademark families (median: 390) (figure 71, page 83), 6,104 existing trademarks (median: 3,781) (figure 72, page 83) as well as 225 new trademark registrations (median: 110) in one year (figure 73, page 83). In comparison, total trademark FTEs (professionals plus information professionals, paralegals and assistants) handled 438 trademark families (median: 177), an average of 3,052 existing trademarks (median: 2,142) and 113 new trademarks (median: 65) annually (figure 73, page 83).

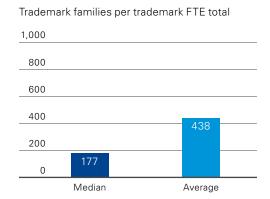
There are also notable differences between industries: while the consumer goods and chemicals/ plastics/pharmaceutical industries have clearly increased their numbers of tasks per FTE, the machinery/equipment, automotive and electronics industries are well below average.

Comparing the number of trademark families and existing trademarks, it can be stated that participants submitted about seven country applications on average.

Those numbers are, of course, influenced by the company's outsourcing practices. The more the department outsources to law firms, the higher the possible number of tasks per trademark attorney. The outsourcing ratios for filing new trademark applications range from 50 percent to 100 percent.

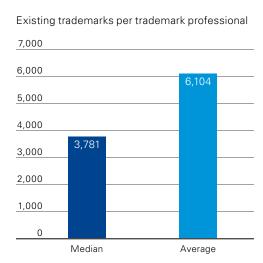
Figure 71: Number of trademark families per trademark workforce

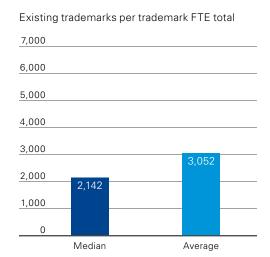




Source: KPMG Law, 2021

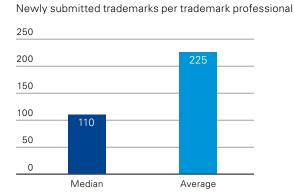
Figure 72: Number of existing trademarks per trademark workforce

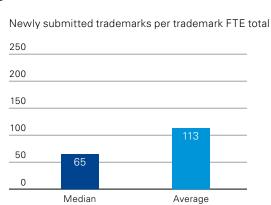




Source: KPMG Law, 2021

Figure 73: Number of new trademarks per trademark workforce





Source: KPMG Law, 2021

Figures not adjusted for outsourcing ratio

4.14 Allocation of internal work time in the trademark department

Participants were asked to allocate a percentage of the internal daily work time spent on the defined nine common tasks in the trademark department, distinguishing between professionals and administrative staff.

The results for the entire trademark department (both professionals and administrative staff) show that portfolio maintenance, conflict management and prosecution require the most internal daily work time, while clearance requires the most internal daily work time for professionals and filing applications for trademarks is more time-consuming for administrative staff. Tasks like domain disputes and copyright-related work require very little time per day.

If the portfolio sizes of the participants are taken into account, it can be stated that the smaller trademark departments invest more time in conflict management, disputes and portfolio maintenance than the larger trademark departments – but spend less time on trademarks applications, advising management on strategic and other issues.

When evaluating the daily work time spent by professionals and administrative staff on the various tasks, a clear distribution pattern is evident: while professionals invest most of their time on the three major tasks of conflict management, counseling internal customers and advising marketing on trademark projects, administrative staff spend most of their time on trademark applications and portfolio maintenance.

In addition, a closer look at the tasks and daily work time of both professionals and administrative staff clearly shows that tasks with high value creation are not only mostly handled internally (see section 4.15: Outsourcing trademark department practices, page 86), but also under the supervision of a professional, while tasks with lower value creation are handled by the administrative staff or even outsourced.



Figure 74: Allocation of internal daily work time - professionals (in percent)



Source: KPMG Law, 2021

Figure 75: Allocation of internal daily work time - administration (in percent)



4.15 **Outsourcing trademark department practices**

In addition to the patent departments, participants were also asked about outsourcing practices in their trademark departments. This made it possible to determine which tasks tend to be performed inhouse. The questionnaire addressed the nine most common trademark department tasks, including quantifiable tasks like "Advising marketing on trademark projects" and "Application of trademarks", but also "Portfolio maintenance" and "Conflict management".

Tasks related to conflict management, application and assignment of trademarks, as well as responding to rejections and administrative activities, have the highest outsourcing rates. Tasks related to anticounterfeiting or copyright-related work are mostly handled internally with a very low outsourcing rate.

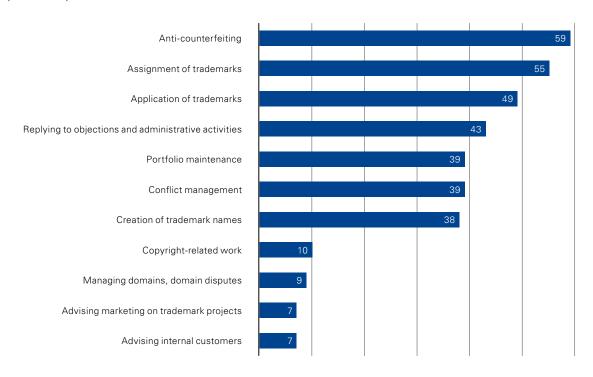
Taking into account the size of the portfolio, smaller IP departments have a higher outsourcing rate for conflict management than larger IP departments.

The individual countries, however, show no relevant differences in their outsourcing ratios.

Filing trademark applications is not a top priority for the provision of internal services in any countries surveyed, which puts the numbers of new trademarks "per attorney" and "per total trademark FTE" from figure 76 (page 87) into perspective.

Figure 76: Outsourcing ratio of trademark activities

(in percent; multiple choices possible)



4.16 Theoretical trademark portfolio growth rate

The number of new trademarks registered per year and their share relative to the total trademark portfolio is useful for assessing a company's - or even and entire industry sector's - capacity of trademark innovation. Of course, the number of new trademark applications filed nationally, via EU or via IR, also depends on the company's trademark application strategy; the number of trademark families represented in the trademark portfolio also plays a role. The growth rate, of course, does not indicate the quality of the trademark portfolio or whether it is advantageous to continuously increase the number of global trademarks. This analysis also excludes the assessment of the economic value of the trademark portfolio.

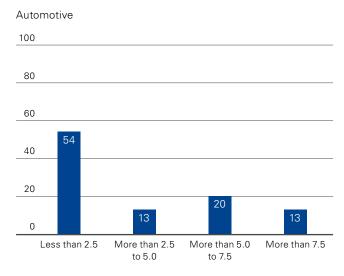
However, in order to identify any possible differences between industry sectors - comparable to the theoretical patent portfolio renewal rate in section 4.6 (Patent application strategy, page 68) – it was necessary to evaluate how rapidly the trademark portfolio of each company could theoretically grow each year.

Under the hypothesis that the trademark portfolio will not decrease due to trademark annulation, a theoretical growth rate of 2.5 percent would imply that the respective participant would need approximately 40 years to double its total trademark portfolio, while a theoretical growth rate of 10 percent would allow a company to double its portfolio within 10 years.

As in the last report, the results do not show obvious differences between industry sectors; the strategy of each individual company and the requirements of the business (e.g. fast-moving consumer goods versus B2B products, which could both be part of a company's portfolio) play a decisive role. Nevertheless, there is a clear trend that - with the exception of the consumer goods sector participants either submit a small number of new trademarks relative to the portfolio (less than 5 percent) or a high number relative to the portfolio (more than 7.5 percent), which strengthens the theory that each company has a different trademark strategy.

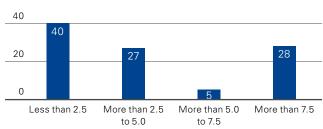


Figure 77: Theoretical trademark portfolio growth rate (in percent)



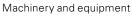
Chemicals, plastics and pharmaceuticals



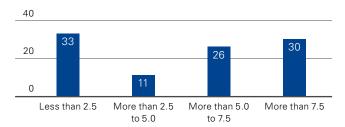


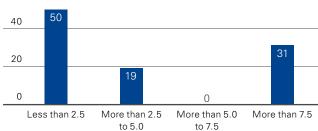




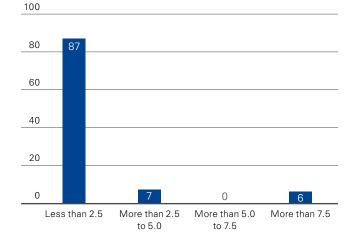








Consumer goods



Costs of IP work



1	Demographics on participating companies
2	Development and trends in the IP department
3	Organization of IP work
4	IP department activities
5	Costs of IP work

5.1	Cost allocation of the patent department	92
5.2	Ratio of patent costs to company turnover and R&D costs	94
5.3	Costs per patent	96
5.4	R&D costs per invention disclosure and first filing	98
5.5	Total internal costs per patent attorney	100
5.6	Cost allocation of the trademark department	102
5.7	Ratio of trademark costs to company turnover and	
	marketing costs	104
5.8	Costs per trademark	106
5.9	Collaboration with the marketing department	108
5.10	Total internal costs per trademark professional	109
5.11	Expected IP budget changes in 2020/21	110

6 Cooperation with law firms

7 Excursus: The qualitative angle

5.1 Cost allocation of the patent department

The size of the internal patent department mainly depends on the number of requests from the internal client, the depth and diversity of knowledge required to carry out these requests and the expected variation between the two topics. The head of the patent department will optimize human resources in terms of quantity and quality in order to meet the requests in the most cost-efficient manner. Nevertheless, there will always be reasons to outsource some tasks e.g. due to lack of internal resources (quantity and/or quality) or the fact that certain country-specific topics are not covered internally.

On average, the share of internal and external costs in the cost distribution for all participants is 49 percent and 51 percent, respectively (median: 47 percent/53 percent), excluding annual fees.

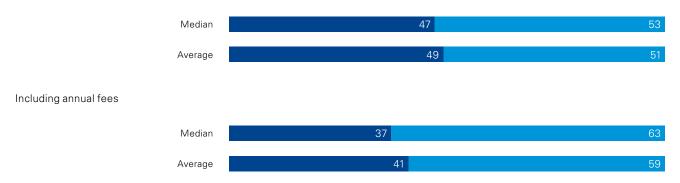
The share of external costs increases, of course, when annual fees for patents are added. The internal costs then amount to 41 percent versus 59 percent external costs (median: 37 percent/63 percent).

The question is whether there is a correlation between patent portfolio size and external costs. The results suggest an interesting trend: although the numbers do not develop in a linear way, it is evident that the larger the patent portfolio, the higher the volume of external costs. Departments with fewer than 10,000 patents have the lowest percentage of external costs (48 percent without annual patent fees and 55 percent including fees), while departments with more than 10,000 patents have the highest percentage (54 percent without annual patent fees and 63 percent including fees). This means that larger departments actually suffer negative scale effects in terms of cost. The reasons for this may lie in the complexity and international nature of the portfolio and the subsequent need to outsource selected tasks.

Figure 78: Cost allocation of patent department

(in percent)

Excluding annual fees



Internal costs External costs

Calculation based on financial allocation, not on tasks covered External costs including application costs, without litigation and official fees

5.2 Ratio of patent costs to company turnover and R&D costs

Figures 79 and 80 (page 95), show the total costs for patents and their percentual share of the company's revenue and R&D costs. These figures must not, however, be overemphasized or allowed to eclipse the value added by the patent departments. Instead, it is advisable to install a controlling system that would identify the added value for the business, such as the freedom to operate or even the amount of turnover that could only be realized by having the respective patents available. This is all the more important given that patent department heads are often required to disclose (and possibly even defend) the costs incurred as a result of their activities. Indeed, the management board will often want to see how those costs stack up against the total revenue or R&D costs.

On average, participants stated that patent costs amount to 0.22 percent of the company's revenue, excluding annual fees. When fees are included, average costs amount to 0.26 percent. The median of both KPIs is lower: 0.11 percent and 0.15 percent, respectively.

The second KPI evaluated is the share of costs for patents relative to total R&D costs. Excluding fees, participants state that average costs represent 3.2 percent of the company's R&D costs – and 3.8 percent when including annual patent fees (median: 2.7 and 3.3 percent, respectively).

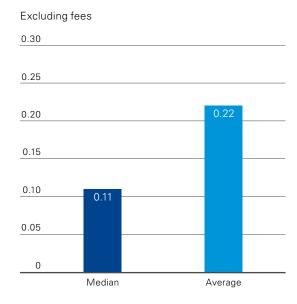
The average totals costs for patents decreased by 1.1 percentage points compared to both company revenue and R&D costs.

Further considerations should be made by using the KPIs without annual fees, as they can only be influenced to a very limited extent by the management of the patent department.

Figure 79: Total costs patents to company revenue

(in percent; external costs including application costs, without litigation and official fees)

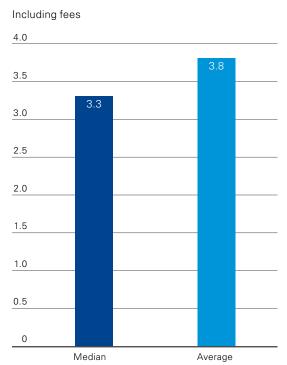


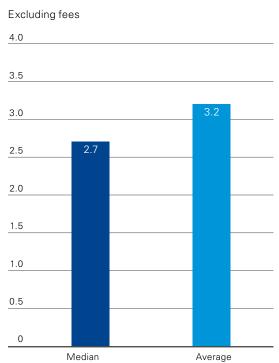


Source: KPMG Law, 2021

Figure 80: Total costs patents to R&D costs

(in percent; external costs including application costs, without litigation and official fees)





5.3 Costs per patent

Section 4.15 of the report (Outsourcing trademark department practices, page 86) addresses the outsourcing practices of participants in relation to typical patent department tasks, such as quantifiable tasks like "Processing invention disclosures", "Prosecution" including processing "First filings", "Subsequent filings" and "Administrative tasks", but also work such as "Portfolio management", "IP risk management: opinion work (FTO)/patent and product clearing" or "Other business counseling". The degree of outsourcing has a major impact on the total cost of providing patent services, which is assessed by looking at the internal, external and total costs per patent (in this case: granted patents, pending property rights and design patents), as shown in figure 81 (page 96) and figures 82 and 83 (page 97).

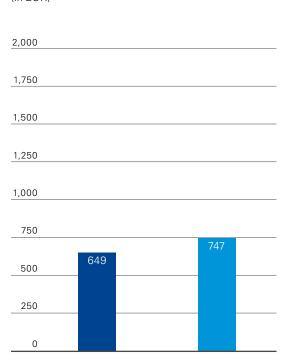
The average internal costs per patent amount to EUR 747 (median: EUR 649). External costs per patent amount to an average of EUR 780 (excluding fees). On average, the total costs per patent remained quite stable compared to last evaluation. However, many companies significantly reduced their total costs as a result of increased insourcing.

Previous studies have already shown that total costs per patent increase with greater provision of external services. The automotive, electronics, machinery/equipment and steel/metal industries have lower external costs, aviation/aerospace and machinery/ equipment industries have similar external costs relative to the overall results, whereas the consumer goods industry is well above average.

Furthermore, as mentioned in section 5.1 (Cost allocation of the patent department, page 92), the size of the patent portfolio greatly impacts the volume of external costs and drives up the average costs in the respective countries depending on the size of the portfolio.

The average total costs per patent of the participating companies amount to EUR 1,527 (median: EUR 1,315) excluding fees.

Figure 81: Internal costs per patent (in FUR)



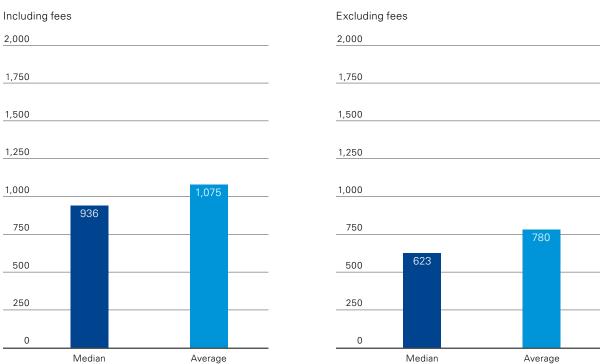
Average

Source: KPMG Law, 2021

Median



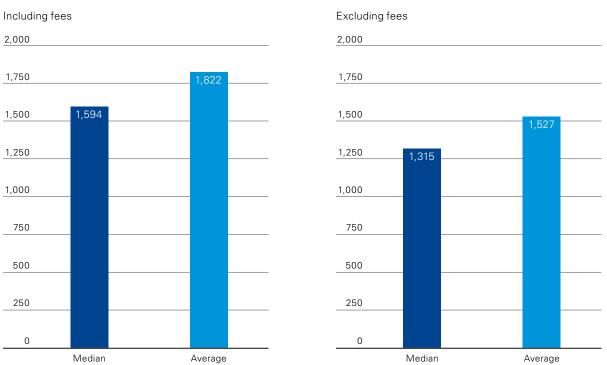
(in EUR; external costs including application costs, without litigation and official fees)



Source: KPMG Law, 2021

Figure 83: Total costs per patent

(in EUR; external costs including application costs, without litigation and official fees)



5.4 R&D costs per invention disclosure and first filing

R&D costs, time frames and R&D personnel vary considerably between industries.

On average, R&D costs of EUR 1.51 million (median: EUR 1.13 million) were required to generate one invention disclosure, while participants spent an average of EUR 2.07 million on R&D (median: EUR 1.83 million) for a first filing.

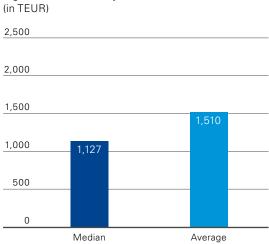
Taking into account that on average, only 72 percent of invention disclosures are filed (see figure 46, page 59), 28 percent of R&D costs were spent without any IP-relevant output.

Apart from that, it takes an average of 12 R&D FTEs (median: 9) to generate one invention disclosure and 16 R&D FTEs (median: 13) were required for one first filing.

A closer look at the relevant industries reveals significant differences: while the automotive and aviation/aerospace industries are similar to the overall average, the chemicals/plastics/pharmaceutical industries require more than the average R&D costs and FTEs for one invention disclosure/first filing. Interestingly, these industries demonstrate a much higher rate of first filings per invention disclosure than average (94 percent average). The machinery/ equipment industry, on the other hand, requires significantly lower R&D expenditures and requires a higher number of FTEs for one invention disclosure/ first filing, resulting in a lower rate of first filings than average (65 percent).

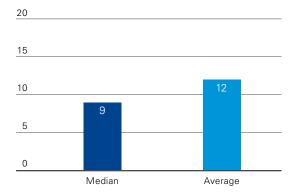
By putting this KPI in relation to the respondent's R&D FTEs per patent professional, we observe that those IP departments belonging to the participant group with a higher amount of R&D FTEs per professional, have a higher rejection rate (proportion of unfiled invention disclosures). Conversely, those with a low number of R&D FTEs, have a substantially lower rejection rate. This could be explained by the increased opportunity for greater and earlier involvement in strategic decision-making. Having more time for each R&D officer could lead to better integration into strategy and risk processes and for managing R&D activities earlier and more comprehensively, thereby avoiding unnecessary resource investments.

Figure 84: R&D costs per invention disclosure



Source: KPMG Law, 2021

Figure 86: R&D FTE per invention disclosure

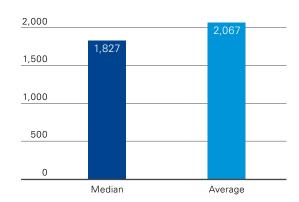


Source: KPMG Law, 2021

Figure 85: R&D costs per first filings

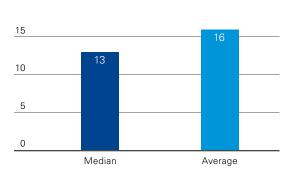
(in TEUR)

2,500



Source: KPMG Law, 2021

Figure 87: R&D FTE per first filings



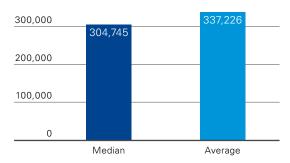
Particularly when making a strategic decision on how to allocate patent tasks – either by in-house processing or outsourcing – the department head must assess the full costs of in-house attorneys versus the costs that would be incurred by hiring an external service provider. It is generally recognized that using in-house attorneys usually has the cost advantage of not incurring acquisition costs or sales and marketing costs, whereas these costs can be significant when using external providers. The full costs for personnel, infrastructure and administration generally do not differ much. For the purpose of comparison, the total internal costs of participants – including personnel costs for administration and assistants as well as internal non-personnel costs have been divided by the total number of attorneys. The annual work time was calculated based on the following assumption: 220 working days of 8 hours each and a capacity utilization of 80 percent, resulting in approximately 1,400 productive billable hours per year.

The median full cost per in-house attorney is EUR 304,745 (average: EUR 337,226), which means that the median hourly rate of an internal patent attorney is EUR 218 (average: EUR 241).

It should be noted that this number is influenced by the remuneration for each employee, although by allocating all internal costs to the number of attorneys, it is mainly influenced by the support ratio within the department.

Figure 88: Internal full costs per patent professional (in EUR) 500,000





Source: KPMG Law, 2021

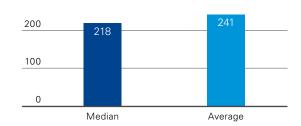
Figure 89: Hourly rate per patent professional

(in EUR)

500

400

300



5.6 Cost allocation of the trademark department

As with the patent department, the size of the internal trademark department depends primarily on the number of requests from the internal client, the depth and diversity of the knowledge required to carry out these requests and the expected variation between the two. The head of the trademark department will optimize the workforce, in terms of both quantity and quality, in order to fulfill the requests in the most cost-efficient manner. Nevertheless, there will always be reasons to outsource some tasks, due to e.g. a lack of internal resources (quantity and/or quality) or the fact that certain country-specific topics are not covered internally.

On average, the share of internally and externally allocated costs for all participants is 54 percent and 46 percent, respectively (median: 56 percent/ 44 percent), excluding renewal costs. Compared to the patent department, the share of internal costs is higher for the trademark department (see figure 78, page 93).

The percentage of external costs increases, of course, when the trademark renewal costs are added. Participants then show an average share of 45 percent (internal) to 55 percent (external) costs (median: 42 percent internal versus 58 percent external).

Compared to last year's report results, the proportion of internal and external costs has shifted sharply toward higher internal costs, indicating that this year's participants tend to have greater overall insourcing activity.

The question is whether there is a correlation between the trademark portfolio size and external costs. As with the patent department (figure 78, page 93), it can be stated that the larger the trademark portfolio, the higher the volume of external costs. Departments with less than 5,000 trademarks have a lower percentage of external costs (45 percent), while departments with more than 5,000 trademarks exhibit a slightly higher share (49 percent). This means that, as with the patent department, larger departments actually suffer negative scale effects in terms of costs. The reasons for this may lie in the complexity and international nature of the portfolio and the subsequent need to outsource some tasks.



(in percent)

Excluding renewal costs



Internal costs External costs

External costs including application costs, without litigation and official fees

5.7 Ratio of trademark costs to company turnover and marketing costs

Figures 91 and 92 (page 105) show the total costs for trademarks and their percentual share of the company's revenue and marketing costs. As in section 5.2 (Ratio of patent costs to company turnover and R&D costs, page 94), these figures must also not be overemphasized or allowed to eclipse the value added by trademark departments. As mentioned for the patent department, it is also highly advisable for the trademark department to install a controlling system that would identify the added value for the company. This is even more important since heads of trademark departments are often required to disclose (and possibly even defend) the costs incurred by their activities. In fact, the management board will often want to see how those costs stack up against the total revenue or marketing costs.

On average, the total trademark costs of participants amount to 0.029 percent of the company's revenue when excluding the renewal costs. When the renewal costs are included, the average for participants amounts to 0.034 percent. The value of both KPIs is lower when the median (0.006 percent and 0.007 percent, respectively) is taken into account.

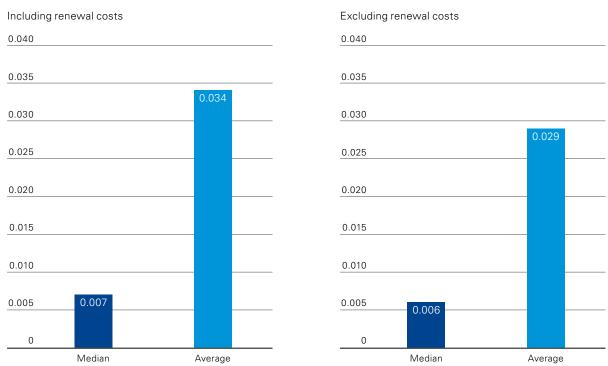
The second KPI evaluated is the percentage of the total trademark costs relative to the total marketing costs. Excluding renewal costs, the average value of trademark costs for the participants represents 0.18 percent of the company's marketing costs, and 0.23 percent when the renewal costs (median: 0.15 percent and 0.16 percent) are taken into account.

Due to the low geographical dispersion and the fact that applications for new trademarks are mostly handled internally, participants with large portfolios can benefit from economies of scale.

Further considerations should be made by using the KPI without renewal costs, as they can only be influenced to a very limited extent by the trademark department management.

Figure 91: Total costs trademarks to company revenue

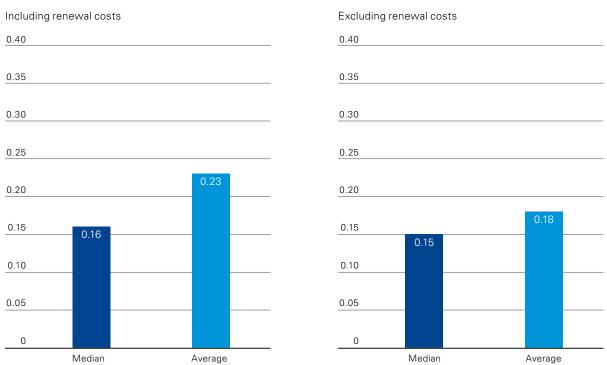
(in percent; external costs including application costs, without litigation and official fees)



Source: KPMG Law, 2021

Figure 92: Total costs trademarks to marketing costs

(in percent; external costs including application costs, without litigation and official fees)



5.8 Costs per trademark

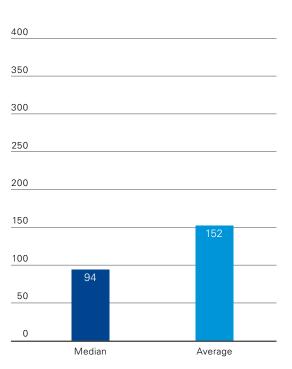
Section 4.15 of the report (Outsourcing trademark department practices, page 86) focused on the outsourcing practices of the participants in relation to typical trademark department tasks, such as quantifiable activities like "Advising marketing on trademark projects" and "Application of trademarks", but also "Portfolio maintenance" and "Conflict management". The degree of outsourcing has a major impact on the total cost of providing trademark services, which can be seen by looking at the internal, external and total costs per trademark in figure 93 (page 106) and figures 94 and 95 (page 107).

On average, the internal costs per trademark amount to EUR 152 (median: EUR 94) (figure 93).

In addition, the degree of outsourcing greatly impacts the total cost of providing trademark services, which can be seen by looking at the external costs per trademark in figure 94. The average external costs per trademark amount to EUR 130 (median: EUR 116). External costs that include renewal costs amount to EUR 186 (median: EUR 139) (see figure 94, page 107).

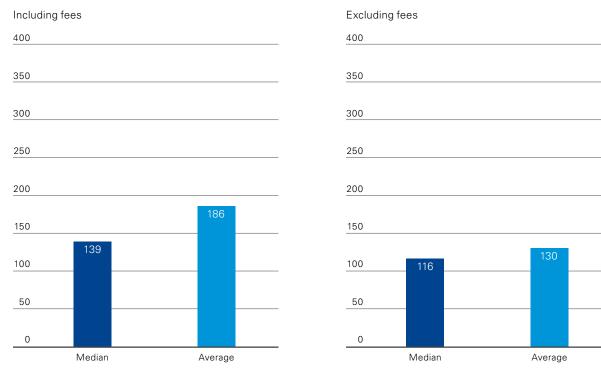
The average total costs per trademark amount to EUR 282 (median: EUR 202), including renewal costs EUR 338 (median: EUR 236) (figure 95, page 107).

Figure 93: Internal costs per trademark (in FUR)





(in EUR; external costs including application costs, without litigation and official fees)



Source: KPMG Law, 2021

Source: KPMG Law, 2021

Figure 95: Total costs per trademark

(in EUR; external costs including application costs, without litigation and official fees)



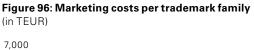
Source: KPMG Law, 2021

5.9 Collaboration with the marketing department

Having examined the activities in the trademark department, the next step is to undertake a comprehensive analysis of the collaboration between the trademark department and the marketing department. Since the R&D department influences the organizational and operational set-up of the patent department as a key client, the trademark department is strongly linked with the company's marketing department, as described in section 3.12 (Ratio of the trademark department to marketing, page 52).

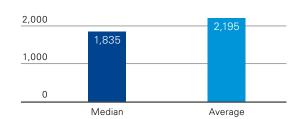
On average, marketing costs per trademark family amounted to EUR 2.2 million (median: EUR 1.8 million), while EUR 6.1 million in marketing costs (median: EUR 4.2 million) were spent per new trademark.

Due to the low geographical distribution and the fact that applications for new trademarks are mostly handled internally, participants with large portfolios showed enormous economies of scale.



6,000 5,000

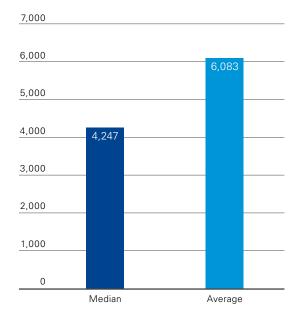
3,000



Source: KPMG Law. 2021

4,000

Figure 97: Marketing costs per new trademark (in TEUR)





5.10 Total internal costs per trademark professional

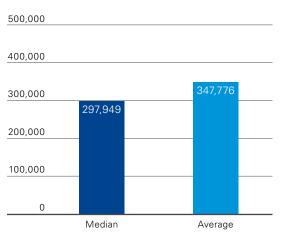
Previous analyses have shown that total costs increase with greater provision of external services. Particularly when deciding on how to allocate trademark tasks – either by handling them internally or outsourcing them – the head of the department must assess the full cost of in-house counsel versus the costs that would be incurred by engaging an external service provider. It is generally recognized that using in-house attorneys usually has a cost advantage since no acquisition costs or sales and marketing costs are incurred, while otherwise these costs can be significant if external providers are used. There is generally not much difference in costs for personnel, infrastructure and administration.

For the purpose of comparison, the total internal costs of participants have been divided by the total number of professionals. The annual working time was calculated based on the following assumption: 220 working days of 8 hours per day and capacity utilization of 80 percent, resulting in approximately 1,400 productive billable hours per year. As with the patent department, the billable hours have been decreased from 1,800 to 1,400 hours in this year's report.

The total median cost per in-house trademark attorney is EUR 297,949 (average: EUR 347,776) and the average hourly rate of an in-house trademark attorney is therefore EUR 248 (median: EUR 213). As previously evaluated (figure 34, page 47), there is one additional full-time employee for every professional covered by this hourly rate.

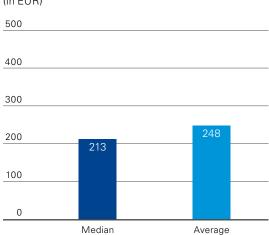
It should be noted that although this number is influenced by the remuneration of each staff member, by allocating all internal costs to the number of attorneys, it is mainly influenced by the support ratio within the department.

Figure 98: Total internal costs per trademark professional (in EUR)



Source: KPMG Law, 2021

Figure 99: Hourly rate per trademark professional (in EUR)



Source: KPMG Law, 2021

5.11 **Expected IP budget changes in 2020/21**

The omnipresent cost pressure is having an evergreater impact on all industry sectors. For economic reasons, such rationalizations focus primarily on labor-intensive but low-skilled work. Levels and functions with high value creation are less affected by this tendency – or are even allowed to increase their budgets. This undoubtedly includes the IP department, which secures the company's freedom to operate with its highly qualified staff. Outsourcing to the greatest possible extent is only acceptable in exceptional cases, because relevant competencies are to be kept in-house.

Participants were asked about their expectations regarding budget changes for intellectual property for 2020/21. This response is interesting, as about 67 percent of participants mentioned "Cost optimization/reduction", while 71 percent of participants mentioned "Handling an increased workload with the same number of staff" (see figure 11, page 23) as challenges that arise again in 2020/21.

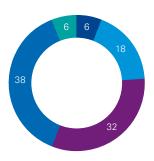
The bottom line is that only 24 percent of heads of IP expect a budget increase, of which 6 percent expect an increase of more than 10 percent and 18 percent anticipate an increase below 10 percent. In contrast, 44 percent expect a budget decrease, of which 38 percent think the decrease will be under 10 percent and 6 percent believe it will be over 10 percent. However, 32 percent of participants expect no budget changes at all.

This paints a different picture compared to the 2018/19 results: almost half of participants have a negative expectation for the 2020/21 budget, while expectations for 2018/19 were clearly more optimistic – this may be related to the COVID-19 crisis.

Across industries, the expectations are concise: a budget decrease is anticipated for the automotive (55 percent), chemicals/plastics (60 percent), electronics (33 percent), machinery/equipment (50 percent) and pharmaceutical (40 percent) industries. Moreover, the electronics industry also holds a neutral position on the issue with 67 percent and the pharmaceutical industry even has a positive outlook with an anticipated budget increase of 40 percent.

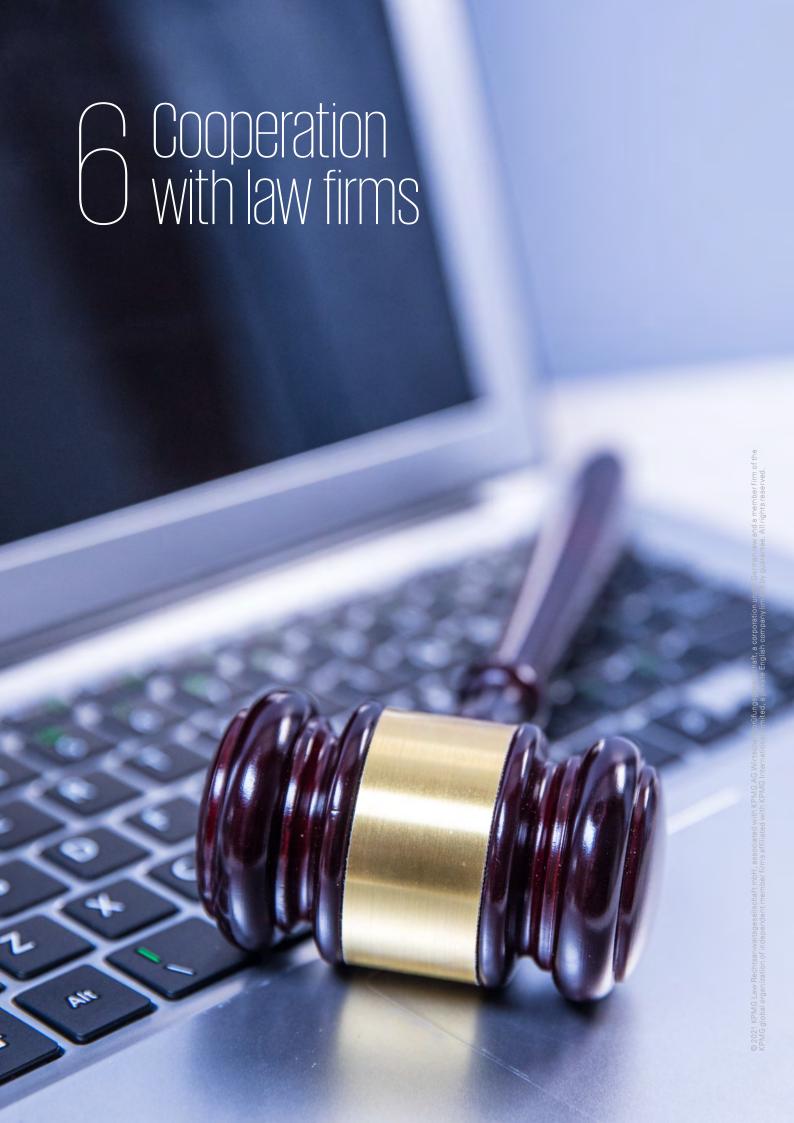


Figure 100: Expected IP budget in the year 2020/21 (in percent)



- More than 10 percent increase0 to 10 percent increase
- Neutral
- 0 to 10 percent decrease
- More than 10 percent decrease

Source: KPMG Law, 2021



9	
=	
0	ved.
	9
10	Serv
_	reser
Ξ	S
Ĕ	Ξ
Œ	.2
þ	ntee. All I
v an	
a	9
- L	rante
ē	a
Ĕ	
g	>
<u>_</u>	9
der	ĕ
5	Ē
ž	2
20	ра
ĕ	E O
00	
Œ	S
Ŧ,	=
na i	
ngsgesellsch	0
	ate
Se	.≧
dsdes	0
	, 0
	9
- 12	mite
tspr	Ė
£	
B	
Wirtsch	=
E	erna
\leq	ē
g	
Ø	U
ž	Š
6	\$
×	£
with	
	6
9	ate
a	
	Ť.
, associated	S
Ö	
	Ξ
	ij
H	oer firr
t mbH	mberfirr
aft mbH	9
aft mbH	t men
aft mbH	t men
sellschaft mbH	dent men
gesellschaft mbH	endent men
tsgesellschaft mbH	ependent men
valtsgesellschaft mbH	endent men
valtsgesellschaft mbH	ependent men
anwaltsgesellschaft mbH	of independent men
valtsgesellschaft mbH	on of independent men
echtsanwaltsgesellschaft mbH	tion of independent men
anwaltsgesellschaft mbH	on of independent men
aw Rechtsanwaltsgesellschaft mbH	tion of independent men
Law Rechtsanwaltsgesellschaft mbH	tion of independent men
Law Rechtsanwaltsgesellschaft mbH	tion of independent men
aw Rechtsanwaltsgesellschaft mbH	tion of independent men
KPMG Law Rechtsanwaltsgesellschaft mbH	global organization of independent men
KPMG Law Rechtsanwaltsgesellschaft mbH	tion of independent men
2021 KPMG Law Rechtsanwaltsgesellschaft mbH	MG global organization of independent men
KPMG Law Rechtsanwaltsgesellschaft mbH	global organization of independent men

Demographics on participating companies	
Development and trends in the IP department	
Organization of IP work	
IP department activities	
Costs of IP work	
Cooperation with law firms	
Procurement and evaluation of service quality	114
Number of law firms in use	116
Reasons for outsourcing	118
Expected changes in the engagement of law firms	119

Excursus: The qualitative angle

7

Reducing spending for external providers is certainly a task that all participants have been trying to achieve by employing sophisticated methods for supplier management throughout their companies. The IP department therefore must also apply comparable standards. Procurement should be executed in cooperation between the procurement department and the IP department due to the complex requirements of IP work and the diversity of IP law firms.

In order to obtain an idea of the procurement standards that are currently being applied in IP departments, participants were asked whether they enter into framework agreements in cooperation with law firms. Those master agreements bundle the volume of and aim to standardize services provided, which are intended to apply not only to some local offices but to the entire law firm. However, as master agreements usually only cover standardized topics, their effect on reducing total external costs is moderate at best in some cases.

75 percent of all participants have concluded master agreements with law firms, 24 percent of them for all their offices worldwide, and 51 percent only for specific topics/law firms or regions; 25 percent have not yet applied master agreements. The picture is similar compared to the 2018 results.

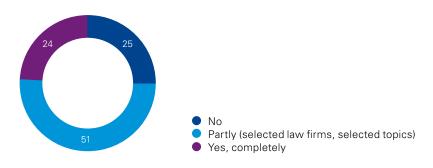
The secondary question in regard to whether the performance of law firms is evaluated and documented for future assignments is also important, because it empowers the IP department to continuously review law firm performance in terms of cost and quality in order to evaluate the cooperation as needed.

Only 34 percent of all participants evaluate and document the service quality of all law firms they cooperate with for future engagements, while 29 percent do so from time to time.

Furthermore, it was observed that most companies already using master agreements also evaluate the performance of law firms - at least from time to time (80 percent).

Figure 101: Application of master agreements with law firms

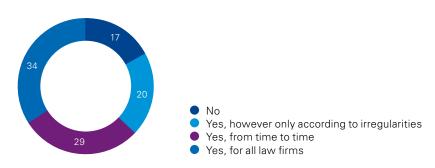
(in percent)



Source: KPMG Law, 2021

Figure 102: Measurement of service provision of law firms

(in percent)



Source: KPMG Law, 2021

Large international IP departments cooperate with many law firms worldwide, especially in the context of cross-border issues or those in countries that are not covered internally. However, if a certain threshold is exceeded with regard to the number of law firms, the time and effort required for information exchange, management, controlling and coordination is counterproductive for cost efficiency, especially in the absence of master agreements.

Participants were asked to assess the number of law firms worldwide with which they cooperate for their patent and trademark activities. Law firms with master agreements were only to be counted once, since coordination is usually less complex in this case; participants were also instructed to distinguish between domestic/local and international law firms.

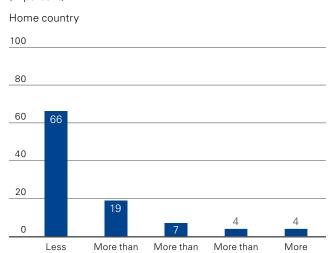
The majority of participating patent and trademark departments cooperate with fewer than 10 law firms in their respective home countries (66 percent and 96 percent, respectively).

Looking at the number of international law firms, the distribution is nearly the same for the patent and trademark departments; however, the majority of participants use up to 60 international law firms (72 percent for the patent department, 64 percent for the trademark department).

These results reinforce some of the hypotheses made in the previous sections: due to the low geographic distribution of trademark departments, most internal professionals are located in the home country, and therefore the use of law firms is very low.

Figure 103: Number of law firms of patent department





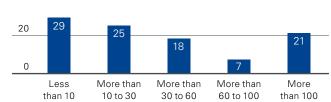
Abroad

100

80

60

40



Source: KPMG Law, 2021

10 to 30

than 10

Source: KPMG Law, 2021

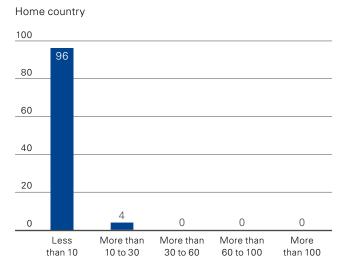
Figure 104: Number of law firms of trademark department

30 to 60

60 to 100

than 100

(in percent)



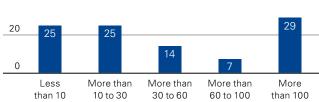
Abroad

100

80

60

40



Source: KPMG Law, 2021

Source: KPMG Law, 2021

than 10

6.3 Reasons for outsourcing

The reasons for outsourcing patent and trademark tasks to law firms vary from company to company. It may be driven by a lack of local representatives, internal resources in terms of quantity or quality, or by economic reasons when it comes to standardized issues, as those can sometimes be handled even more cheaply or quickly by outside attorneys. Outsourcing with the aim of obtaining a second opinion, or due to a client request, should be treated with caution, since this could have a serious impact on the reputation of the in-house IP department.

In order to assess the current reasons for outsourcing, participants were asked to indicate the extent to which seven given reasons for outsourcing played a role in their make-or-buy decision.

The principal reason for outsourcing is the need for a local representative for prosecution/litigation (52 percent), followed by the quantitative lack of internal resources (27 percent). The high percentage for the first category correlates with the hypothesis from section 5.1 (Cost allocation of the patent department, page 92), which anticipates that the more countries the company is active in, the higher the external costs tend to be, due to the inevitable need for a local representative in regions without internal coverage.

The remaining five categories trail far behind. The third-ranked reason for outsourcing, a lack of qualitative expertise in the IP department, is 7 percent. Respondents indicated that they outsource an average of 4 percent tasks due to the need for an independent perspective. It can be assumed that even when the process is outsourced, the internal department was most likely already heavily involved in the request. Taking into account the median of total IP external costs (without litigation, application costs and fees/renewal costs) of participants at EUR 3.8 million (average: EUR 6.07 million), this means that approximately EUR 150,351 (average: EUR 242,863) is spent on securing an internal assessment.

10 percent of respondents indicated that they outsource certain tasks because doing so is quicker (at an average rate of 4 percent) or cheaper (6 percent). No respondents mentioned that tasks are outsourced due to a client request.

Figure 105: Reasons for outsourcing to law firms (in percent)



Source: KPMG Law. 2021



6.4 Expected changes in the engagement of law firms

Participants were asked about their expectations regarding changes in the engagement of law firms in 2020/21.

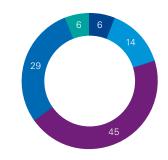
The bottom line is that only 20 percent of heads of IP expect engagement to increase, with 6 percent anticipating an increase of more than 10 percent, while 14 percent expect an increase of less than 10 percent. In contrast, 35 percent expect a decrease, with 29 percent anticipating an increase of less than 10 percent, while 6 percent think it will exceed 10 percent. 45 percent of participants expect no changes at all (figure 106).

Compared to the 2018 results, the picture is very similar: as in 2018, the majority of respondents expect no change in law firm engagement for 2020.

There are also some differences among the industries: while the automotive industry mainly expects a decrease in the engagement of law firms, expectations in the chemicals/plastics/pharmaceutical, consumer goods, electronics and machinery/ equipment industries mainly see no change at all. The construction and telecommunications industries expect to see an increase.

Figure 106: Expected changes in the engagement of law firms in 2020/21

(in percent)



- More than 10 percent increase
- 0 to 10 percent increase
- 0 to 10 percent decrease
- More than 10 percent decrease

Source: KPMG Law, 2021



Introduction

With the evaluation of "The V. Intellectual Property Report of KPMG Law", many insights can be gained with relevance to the development, structure, strategy and performance of the IP department. This allows for a quantitative analysis in terms of the impact that the organizational structure of an IP department, its sourcing strategy and many other elements have on its internal and external spend and performance. While this provides a foundation and deeper understanding for heads of IP to question and review the current structure and strategy of their IP department, a qualitative analysis regarding the impact of these decisions on the patent portfolio is currently missing. In order to fill in this gap, KPMG Law has teamed up with PatentSight GmbH - A LexisNexis Company. Combining our extensive database with their proprietary and transparent metrics to evaluate patent relevance provides the foundation for this qualitative review.

Within this detailed discussion, we present three preliminary results that we believe to be of interest, with relevance to growing the database further, looking at long-term effects and further verifying our proposed hypotheses. As can be seen in the following section, many of our tested hypotheses did not lead to conclusive and specific results. In the next few publications of the Intellectual Property Report, we will be able to explore these findings in greater detail, review their evolution over time and develop new theories.

We are looking forward to discussing these findings with you.

7 **Excursus: The qualitative angle**

7.1	Development of the Competitive Impact of the patent portfolio	
	per country	122
7.2	Performance of the patent portfolio in relation to the share	
	of R&D FTE	124
7.3	Performance of the patent portfolio in relation to the	
	insourcing ratio	126
	Why LexisNexis PatentSight?	128

7.1 Development of the Competitive Impact of the patent portfolio per country

LexisNexis PatentSight has developed a set of patent indicators to more accurately measure the quality and strength of patents. The scientifically proven and published Patent Asset Index™ methodology indicates the aggregate portfolio strength of all patents contained in a portfolio. The quality of each individual patent is measured by its Competitive Impact, which consists of two dimensions: Technology Relevance and Market Coverage. Technology Relevance is based on forward citations. however it benchmarks these citation figures for common fallacies impeding the usability of forward citations. It adjusts forward citations as a result of variations in citation practices by different patent offices and in different fields of technology, as well as for varying patent ages. Technology Relevance identifies whether patents and the inventions and technologies protected by those patents will find application and use in the future. Market Coverage indicates the size of the global market that is protected by a patent family and its patent rights. An invention has greater business value if the patent rights cover more international markets. Market Coverage is measured as the size of the markets in which a patent family is protected when benchmarked against the world's largest national market the USA.1 Consolidating these two dimensions allows us to measure the Competitive Impact of each individual patent in relation to all other patents in the same field. A value of three means that the patent is three times more important than the average patent in the same field.² By combining the geographic scope of protection and impact of patents, it is ensured that high quality patents must be implementable in large markets and find a high level of future use.

To be able to assess how the various home bases of the respondents in our report have developed overall in terms of their national patent portfolio since 2005 and whether a clear trend can be seen, we observed the evolution of their Competitive Impact. Contrary to expectations and the strong lead of the USA in 2005, it is remarkable that all countries are converging and closing the gap.3

It is noteworthy that in terms of Competitive Impact, there is a decline for all countries⁴, with an average loss of 0.4. One of the largest declines can be seen in Switzerland, which went from a Competitive Impact of 2.3 in 2005, to 1.4 in 2020. Austria, Sweden and the United Kingdom have remained relatively constant since 2005.

All countries referring to countries of participating companies

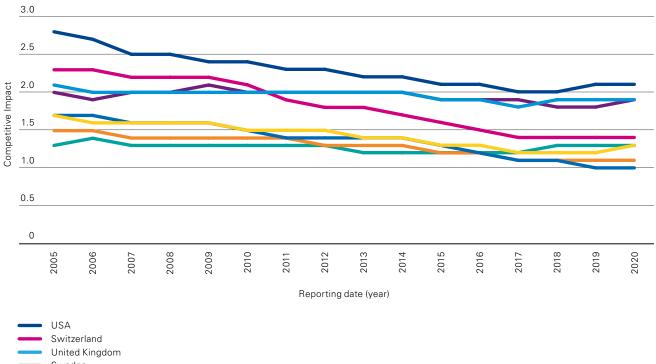


Ernst, H./Omland, N.: The Patent Asset Index - A new approach to benchmark patent portfolios. In: World Patent Information, 33(1)2011, pp. 34-41

For more information: ibid.

For all countries measured according to priority patent families

Figure 107: Development of Competitive Impact of the patent portfolio per country



Sweden Germany Netherlands France Austria

Source: LexisNexis PatentSight, 2021

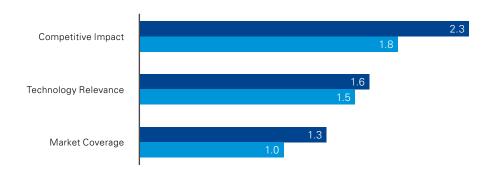
7.2 Performance of the patent portfolio in relation to the share of R&D FTE

In section 5.4, we proposed the hypothesis that a lower number of FTEs in R&D per patent professional leads to a decrease in the rejection rate (proportion of unfiled invention disclosures), which in turn reduces costs. The rationale behind it being that having more time for each R&D officer would lead to better integration in strategy and risk processes and allow better management of R&D activities at an earlier stage, thus avoiding unnecessary resource investments.

This is, however, merely from a cost perspective and does not lead to insights about the quality and relevance of the patent portfolio. In order to gain more clarity on this, we divided our participants into two groups: those with a low proportion of R&D FTEs in relation to their patent professionals and those with a high proportion. When looking at the Competitive Impact, which combines the dimensions Technology Relevance and Market Coverage (as described in section 7.1), it is remarkable that those with low R&D FTEs per patent professional have better overall performance than those with a high ratio. This may indicate that a lower ratio of research staff could not only reduce costs in R&D investments, but also increase the quality of the patent portfolio.5

Of course, it is of great importance to realize that these results may be strongly influenced by other criteria, such as divergent patenting strategies or the industries in which these companies operate. This will be examined in greater depth as the database grows and our analysis continues in future publications. This current outcome, however, provides us with a first indication toward the confirmation of our hypothesis. We are very interested in hearing your thoughts on this, so please let us know.

Figure 108: Performance indicators in relation to the R&D FTE ratio



 Low amount of R&D FTE in relation to lawyers High amount of R&D FTE in relation to lawyers

Source: LexisNexis PatentSight, 2021

7.3 Performance of the patent portfolio in relation to the insourcing ratio

Since the start of the Intellectual Property Report in 2012, we have observed a trend toward stronger insourcing, resulting this year in a rate of 49 percent, compared to 51 percent for outsourcing⁶. From a cost perspective, greater insourcing appears to reduce the overall cost per patents, as outlined in section 5.3. Just as in the previous section, we were interested in examining the qualitative impact of this insourcing trend.

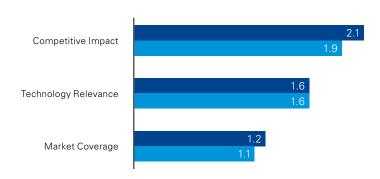
Those respondents with a low insourcing ratio show a slightly higher Competitive Impact, which can be attributed to greater Market Coverage. This can be interpreted as a conscious decision to file own technologies on a larger geographical scope. Furthermore, when considering the number of attacks in relation to the insourcing ratio, we observe an overall lower number of attacks among respondents with a tendency to keep many tasks in-house as compared to those who mandate a high percentage of external law firms. When setting this proportion of attacks in relation to the overall patent portfolio, as can be observed in figure 110 (page 127), it can be perceived that at 2.3 percent for those with a high insourcing ratio, a more moderate impact is present than in comparison to the 2.7 percent for those with a high outsourcing ratio.7

It must be emphasized that these results are liable to reflect other factors, such as company size: large multinational firms often have to outsource more tasks due to differences in local jurisdictions, as well as a higher number of litigation processes and failing rights of representation. Due to their size and international presence, is likely that they are more inclined to have higher Market Coverage and the results presented here are merely a reflection of these considerations. What other elements do you think play a role in these results? We look forward to discussing these findings with you and further developing this analysis.

nly patents that received a citation are considered in the analyses



Figure 109: Performance indicators in relation to insourcing ratio



 High amount of outsourcing High amount of insourcing

Source: LexisNexis PatentSight, 2021

Figure 110: Attacks in relation to insourcing ratio



 High amount of outsourcing High amount of insourcing

Source: LexisNexis PatentSight, 2021

Why LexisNexis PatentSight?

LexisNexis PatentSight has developed software as a service (SaaS) and data solutions to understand the innovation space, enabling its customers to benchmark their innovative strength, analyze individual patents or technologies – or even forecast trends and create what-if scenarios. Many Fortune 100, over half of the DAX and dozens of Nikkei companies work with LexisNexis PatentSight, often even utilizing the data in their investor communications or annual reports. LexisNexis PatentSight has not only solved the underlying problems of patent data, it also made it easily accessible, analyzable, and ultimately actionable.8

List of abbreviations

Americas North and South America

APAC Asia-Pacific Economic Cooperation

CEO Chief Executive Officer

CFO Chief Financial Officer

CLO Chief Legal Officer

CTO Chief Technical Officer

DAX Deutscher Aktienindex (German stock index)

EMEA Europe, Middle East, Africa

EPO European Patent Office

EU European Union

EUR Euro

FTE Full Time Equivalent

FTO Freedom to Operate

ΙP Intellectual Property

IR International Registration

ΙT Information Technology

KPI Key Performance Indicator

M&A Mergers and Acquisitions

OHIM Office for Harmonization in the Internal Market

PCT Patent Cooperation Treaty

R&D Research and Development

SaaS Software as a Service

Thousand Euro **TEUR**

Table of figures

Figure 01	Allocation of participants per country	13
Figure 02	Allocation of participants per industry	13
Figure 03	Number of employees in thousands, 2019	15
Figure 04	Revenue in billion EUR, 2019	15
Figure 05	Number of patents in thousands, 2019	17
Figure 06	Number of trademarks in thousands, 2019	17
Figure 07	Number of designs in thousands, 2019	17
Figure 08	Number of patent families in thousands, 2019	19
Figure 09	Number of trademark families in thousands, 2019	19
Figure 10	Number of design families in thousands, 2019	19
Figure 11	Priorities for 2020/21	23
Figure 12	Already completed topics	25
Figure 13	IT systems in use	27
Figure 14	Satisfaction with IT systems in use	27
Figure 15	Organizational set-up of IP	30
Figure 16	Management level of the head of IP	31
Figure 17	Reporting line of the head of IP	31
Figure 18	Organization of IP staff	33
Figure 19	Forms of IP department organization	33
Figure 20	Role of IP department in the global IP decision process	35
Figure 21	Responsibilities for licensing in	37
Figure 22	Responsibilities for licensing out	37
Figure 23	Required approvement of IP department	37
Figure 24	Use of patent coordinators outside the IP department	39
Figure 25	Number of patent coordinators	39
Figure 26	Management sphere of head of IP	41
Figure 27	Management layers within the IP department	41
Figure 28	Financing internal costs	43
Figure 29	Financing external costs	43
Figure 30	Financing costs of intellectual property IT	43
Figure 31	Allocation of costs	43
Figure 32	Employee distribution per region	45
Figure 33	Distribution of FTE within the patent department	47
Figure 34	Distribution of FTE within the trademark department	47
Figure 35	Distribution of FTE within the design department	47
Figure 36	IP FTEs to total company employees	48
Figure 37	FTE patents to company employees total	49
Figure 38	FTE trademarks to company employees total	49
Figure 39	Number of R&D employees per patent professional FTE	51
Figure 40	Number of R&D employees per total FTE patents	51
Figure 41	Number of marketing employees per trademark professional FTE	53
Figure 42	Number of marketing employees per total FTE trademarks	53
Figure 43	Trends for the patent department	55
Figure 44	Trends for the trademark department	55
Figure 45	Collective and documented set of actions in order to protect trade secrets	59
Figure 46	Presence of trade secret officers	59
Figure 47	Functions regarding trade secrets in the IP department	61
Figure 48	Measures to combat product piracy	63
Figure 49	Use of IT tools to detect and combat product piracy	65
Figure 50	Use of resources to fight product piracy	65
Figure 51	Ratio of active inventors to absolute inventors	66
Figure 52	Completed signed invention disclosure to patent filing	67
Figure 53	Patent filing to patent completion	67
Figure 54	Patent application process	67
Figure 55	Invention disclosure to first filing within the patent application process	67



F: F0		00
Figure 56	Distribution of first filings	69
Figure 57	Distribution of subsequent filings	69
Figure 58	First filing per invention disclosure	69
Figure 59	Number of patent families per patent workforce	71
Figure 60	Number of total patents per patent workforce	71
Figure 61	Number of invention disclosures per patent workforce	72
Figure 62	Number of first filings per patent workforce	73
Figure 63	Number of subsequent filings per patent workforce	73
Figure 64	Number of pending property rights per patent workforce	73
Figure 65		75 75
•	Allocation of internal daily work time – professionals	
Figure 66	Allocation of internal daily work time – administration	75 77
Figure 67	Outsourcing rate of patent activities	77
Figure 68	Theoretical patent portfolio growth rate	79
Figure 69	Distribution of existing trademarks	81
Figure 70	Distribution of new trademarks	81
Figure 71	Number of trademark families per trademark workforce	83
Figure 72	Number of existing trademarks per trademark workforce	83
Figure 73	Number of new trademarks per trademark workforce	83
Figure 74	Allocation of internal daily work time – professionals	85
Figure 75	Allocation of internal daily work time – administration	85
Figure 76	Outsourcing ratio of trademark activities	87
Figure 77	Theoretical trademark portfolio growth rate	89
Figure 78	Cost allocation of patent department	93
Figure 79	Total costs patents to company revenue	95
Figure 80	Total costs patents to R&D costs	95
Figure 81	·	96
_	Internal costs per patent	97
Figure 82	External costs per patent	
Figure 83	Total costs per patent	97
Figure 84	R&D costs per invention disclosure	99
Figure 85	R&D costs per first filings	99
Figure 86	R&D FTE per invention disclosure	99
Figure 87	R&D FTE per first filings	99
Figure 88	Internal full costs per patent professional	101
Figure 89	Hourly rate per patent professional	101
Figure 90	Cost allocation of the trademark department	103
Figure 91	Total costs trademarks to company revenue	105
Figure 92	Total costs trademarks to marketing costs	105
Figure 93	Internal costs per trademark	106
Figure 94	External costs per trademark	107
Figure 95	Total costs per trademark	107
Figure 96	Marketing costs per trademark family	108
Figure 97	Marketing costs per new trademark	108
Figure 98	Total internal costs per trademark professional	109
Figure 99	Hourly rate per trademark professional	109
Figure 100	Expected IP budget in the year 2020/21	111
Figure 101	Application of master agreements with law firms	115
_		115
Figure 102	Measurement of service provision of law firms	
Figure 103	Number of law firms of patent department	117
Figure 104	Number of law firms of trademark department	117
Figure 105	Reasons for outsourcing to law firms	118
Figure 106	Expected changes in the engagement of law firms in 2020/21	119
Figure 107	Development of Competitive Impact of the patent portfolio per country	123
Figure 108	Performance indicators in relation to the R&D FTE ratio	125
Figure 109	Performance indicators in relation to insourcing ratio	127
Figure 110	Attacks in relation to insourcing ratio	127

Bibliography

- Bong, Andreas/Ebersoll, Maik: IP Arbeit in Kennzahlen. In: Podium der Wirtschaft, Band 30/2014, pp. 87–138
- Bong, Andreas: IP Benchmarking Report: Insourcing Das selten genutzte Einsparpotential. In: unternehmensjurist, 2/2015, pp. 28 32
- Bong, Andreas: It is all about reorganizing and optimizing the IP Department, Protecting Value The Intellectual Property Report 2020/21. In: Intellectual Property: Das Online-Magazin für den gewerblichen Rechtsschutz, 20. November 2020, pp. 6–8
- Ehmann, Annick/Franzke, Amna/Tröger, Julius/Blickle, Paul: So viele Frauen wie noch nie. In: ZEIT Campus, 21. Oktober 2019
- Ernst, Holger/Omland, Nils: The Patent Asset Index A new approach to benchmark patent portfolios. In: World Patent Information, 33 (1) 2011, pp. 34–41
- Holst, Elke/Friedrich, Martin (Deutsches Institut für Wirtschaftsforschung): Führungskräfte-Monitor 2017: Update 1995–2015, Berlin 2017
- KPMG Law Rechtsanwaltsgesellschaft mbH: Recht auf Fortschritt. Der Rechtsabteilungsreport von KPMG Law 2019/20, Mai 2020
- Mehring, Andreas: So lief das M&A-Jahr 2018. In: FINANCE Das Magazin für Finanzchefs, 09.01.2019
- I. Otto Henning Compliance Report 2017/18
- VII. Otto Henning General Counsel Benchmarking-Report 2017/18: Organisation und Strategie der Rechtsabteilung im Fokus von Qualität und Effizienz
- VI. Otto Henning General Counsel Benchmarking-Report 2015/16:
 Organisation und Strategie der Rechtsabteilung im Fokus von Qualität und Effizienz
- V. Otto Henning General Counsel Benchmarking-Report 2013/14:
 Organisation und Strategie der Rechtsabteilung im Fokus von Qualität und Effizienz
- IV. Otto Henning General Counsel Benchmarking-Report 2011/12: Organisation und Strategie der Rechtsabteilung im Fokus von Qualität und Effizienz
- III. Otto Henning General Counsel Benchmarking-Report 2009/10: Organisation und Strategie der Rechtsabteilung im Fokus von Qualität und Effizienz
- II. Otto Henning General Counsel Benchmarking-Report 2007/08:
 Organisation und Strategie der Rechtsabteilung im Fokus von Qualität und Effizienz
- I. Otto Henning General Counsel Benchmarking-Report 2005/06:
 Organisation und Strategie der Rechtsabteilung im Fokus von Qualität und Effizienz
- IV. Otto · Henning Intellectual Property Report 2018/19
- III. Otto · Henning Intellectual Property Report 2016/17
- II. Otto · Henning Intellectual Property Report 2014/15
- I. Otto · Henning Intellectual Property Report 2012/13
- II. Otto · Henning IP Benchmarking Report 2014/15
- PatentSight GmbH A LexisNexis Company: A Handbook for Patent Data Quality. The Prerequisite for Reliable Patent Analytics, March 2021. https://www.patentsight.com/excellent-patent-data (last call: 27.04.2021)



Questionnaire

"Protecting Value - The Intellectual Property Report of KPMG Law" addresses IP departments of globally operating companies in the field of intellectual property and was evaluated in summer 2020. This global benchmarking initiative provides valuable insights into the most crucial aspects of managing an efficient and modern IP department. It includes questions on the organization of IP work, IP department activities, trends and development costs as well as cooperation with law firms. To ensure the reliability of the results, the questionnaire was developed in consultation with an advisory board of 14 IP experts from renowned companies.

Are you interested in learning more? Please scan the QR code below or contact us directly.

Would you like to take part in the next evaluation? Please scan the QR code below.



https://hub.kpmg.de/protecting-value

Notes

Contact

KPMG Law Rechtsanwaltsgesellschaft mbH

Tersteegenstrasse 19-23 40474 Düsseldorf

Andreas Bong

Partner, Head of Legal Operations T +49 211 4155597-160 andreasbong@kpmg-law.com

www.kpmg-law.de

KPMG Law on social media:







The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2021 KPMG Law Rechtsanwaltsgesellschaft mbH, associated with KPMG AG Wirtschaftsprüfungsgesellschaft, a corpora-tion under German law and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee. All rights reserved. The KPMG name and logo are trademarks used under license by the independent member firms of the KPMG global organization.

