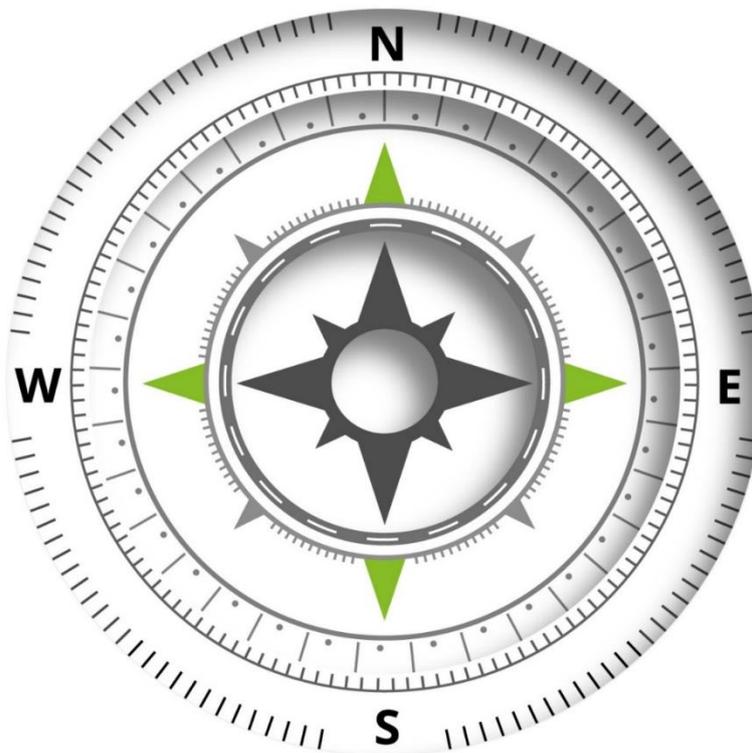


Impact Assessment Unified Patent Court Central Division The Hague



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25 March, 2022

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Executive summary

In 2022 the Unified Patent Court (UPC), a European entity that will speak justice in patent matters, is expected to commence. The UPC is one court consisting of a network of Local Divisions and a Central Division throughout Europe. Originally, the three seats of the Central Division would be located in Paris, Munich and London. Due to the Brexit, the seat of the Central Division in London needs reconsideration to comply with Union law. This assessment analyses the economic impact of a relocation of the London seat of the Central Division to The Hague (the Netherlands).

A relocation of the London seat of the UPC Central Division will have a two-fold economic impact: a spin-off to the ecosystem around a number of business sectors and impact linked to the primary process of the UPC Central Division.

Relocation of the seat of the UPC Central Division from London to The Hague would further strengthen the Dutch business ecosystem and lead to autonomous growth of a number of top sectors, e.g. Agriculture and food, Chemistry, Horticulture and Life sciences and health. Economic impact of the strengthened ecosystem is difficult to quantify but can be very significant: even a growth of 1%¹ of the top sectors, that closely relate to the focus area of this specific seat of the UPC Central Division, would result in 710 €m additional added value for the Netherlands per year.

A relocation of the UPC to The Hague would strengthen the position of The Hague as international 'city of peace and justice'. Furthermore, the local ecosystem (in The Hague region) would be further strengthened, specifically for the LSH and Horticulture sectors. Finally, part of the economic impact is expected to end up specifically in The Hague region, especially economic impact due to direct spending of the UPC on its facility and personnel and economic impact from business visitors that follow from a UPC Central Division in The Hague.

Economic impact linked to the primary process of the UPC Central Division is estimated at 191 €m per annum in its 14th year of operation. Economic impact is related to direct spending of the UPC on its facility and personnel, business visitors to the court and legal services. Due to a large ripple effect of these direct effects, other sectors such as suppliers to hotels or restaurants, will also grow in revenue directly as an effect of the operations of the UPC Central Division .

¹ A study on a relocation of the seat of the UPC Central Division to Dublin estimates 1% to 4% growth of related sectors; Ibec, The Unified Patent Court: The Irish Business Case, 2021

1 Introduction

The Unified Patent Court (UPC) is a new international court. It is a court common to the Contracting (EU) Member States, which shall have exclusive competence in respect of European patents and European patents with unitary effect (unitary patents), which are patents that shall be valid in the whole territory of all Contracting Member States, which have ratified the Unified Patent Court Agreement (UPC Agreement).² It is expected that the first patent cases can be filed at the UPC on October 1st 2022 or shortly thereafter. At its starting date, at least 17 EU member states will have ratified the UPC Agreement, and possibly more will follow.

The UPC comprises a Court of First Instance and a Court of Appeal. The Court of Appeal is located in Luxembourg. The Court of First Instance will have Local Divisions, which will primarily focus on infringement actions, and a Central Division which will primarily deal with validity actions, declarations of non-infringement and infringement actions which have transferred from Local or Regional Divisions and from countries where there is no Local or Regional Division. According to the UPC Agreement, the Central Division will have a central seat in Paris and two specialist seats in London and in Munich.

The UPC Agreement specifically states that the Central Division shall have a seat in London, which shall deal with all European patents and unitary patents in the fields of Human Necessities and Chemistry/Metallurgy (which includes e.g. life sciences: medical technology, biotechnology, pharmaceuticals and agri-food).³ However, due to Brexit, the United Kingdom has withdrawn its participation in the UPC.⁴ Therefore, this provision violates Union law, and must be amended. The Contracting Member States need to solve this violation of Union law before the UPC opens its doors. The Administrative Committee of the UPC is competent to amend the UPC Agreement to bring it into line with Union law on the basis of Article 87(2) UPC Agreement.

The municipality of The Hague, the Dutch Association for Intellectual Property⁵ and the Netherlands Institute of Patent Attorneys⁶ think that relocation of the London seat to The Hague will benefit the Dutch economy and at the same time serve the interests of the participating Member States and, above all, the users of UPC. To better understand the economic consequences of such a relocation, Monitor Deloitte is asked to assess the economic impact of this Central Division in The Hague.

This report starts with background information on the UPC to provide (or remind) the reader with a (basic) understanding of the UPC and its Central Division (chapter 1). Next, the economic impact analysis is provided (chapter 2). Finally, the results are discussed (chapter 3), comparing the results of this assessment to previous studies on the economic impact of a UPC Central Division.

1.1 Background of the UPC Central Division⁷

Currently, a European patent granted by the European Patent Office is, effectively, a bundle of national patents which can be disputed at national courts with national jurisdiction. Once the UPC Agreement enters into force, the European Patent Office may at the request of the applicant also grant a European patent with unitary effect (unitary patent), which provides uniform patent protection in all EU Member States that have ratified the UPC Agreement. On the basis of the current ratifications, unitary patents shall be valid in at least 17 EU member states (see map in Figure 1 below).

²The exclusive competence as regards to European patents will however be subject to exceptions during a transitional period of seven years, which may be prolonged by up to seven years

³ Article 7(2) and Annex II of the UPC Agreement

⁴ UPC website <https://www.unified-patent-court.org/> (26-1-2022)

⁵ The Dutch group of AIPPI, the International Association for the protection of Intellectual Property; Dutch: Vereniging voor intellectuele eigendom

⁶ Dutch: Orde van octrooigemachtigden

⁷ UPC website <https://www.unified-patent-court.org/> (26-1-2022) and UPC Agreement (16351/12)

However, it is expected that the entry into force of the UPC Agreement will create momentum and that more EU Member states will ratify the UPC Agreement in the (near) future. The Unified Patent Court (UPC) is a new, international court for patent litigation in Europe that aims to provide a single litigation forum for disputes based on unitary patents and traditional European patents, instead of multiple fora with practices that are different in each country. The UPC should stimulate innovation by unifying the current fragmented patent market and national court systems. The UPC will have exclusive competence over all unitary patents and all European patents (current and future) designating EU countries, which have ratified the UPC Agreement.⁸ Therefore, the impact of decisions of the UPC will be much larger than the impact of decisions of national courts.

So far, 24 EU countries have signed the UPC Agreement,⁹ of which at least 17 countries will have ratified it when the UPC opens its doors: Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, France, Germany, Italy, Lithuania, Luxembourg, Latvia, Malta, the Netherlands, Portugal, Slovenia and Sweden (see Figure 1).¹⁰ This is a market of almost 300 million persons.¹¹

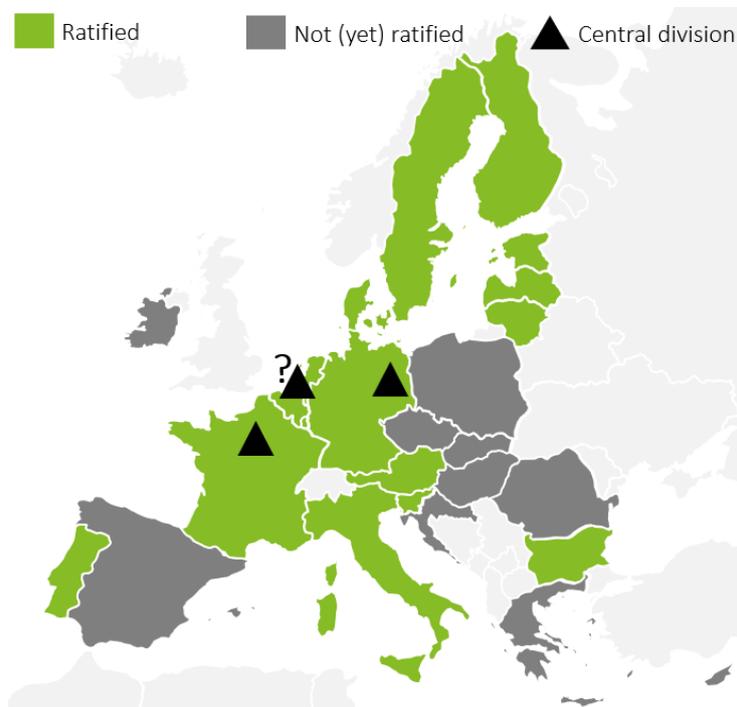


Figure 1: 17 countries have ratified the UPC Agreement; Central Divisions will be located in Paris, Munich and possibly The Hague.

As mentioned, the UPC comprises Courts of First Instance and a Court of Appeal (the latter is located in Luxembourg). The Court of First Instance will have Local Divisions in Austria, Belgium, Denmark, Finland, France, Germany (four), Italy, the Netherlands, Slovenia and Portugal and a Regional (Nordic-Baltic) Division in Sweden,¹² and will primarily focus on infringement actions. The Regional Division functions in a similar way as the Local Divisions: the Regional Division is established by multiple collaborating member states without a Local Division (currently, there will be only Regional Division,

⁸ During a transitional period of seven years, an actions for infringement or for revocation may still be brought before a national court. This transitional period may be prolonged by up to seven years.

⁹ Only 3 EU-countries have not (yet) signed the UPC Agreement: Spain, Poland and Croatia

¹⁰ <https://www.epo.org/law-practice/unitary/unitary-patent.html>

¹¹ Eurostat, EU population in 2020: almost 448 million, 2020

¹² <https://www.unified-patent-court.org/news/announcement-unified-patent-court-administrative-committees-inaugural-meeting>

viz. for Sweden and the three Baltic states). The Central Divisions act complementary to the Local and Regional Divisions (Figure 2).

The focus of Local/Regional and Central Divisions differs. Local/Regional Divisions primarily deal with infringement actions, with or without invalidity counterclaims. The Central Division will hear:

- Revocation actions
- Actions for declarations of non-infringement
- (Ex parte) actions against decisions of the European Patent Office (EPO)
- Actions which would have been brought before a Local or Regional Division, should a Member State neither have a Local Division nor participate in a Regional Division.
- Infringement actions in the following cases:
 - When a defendant is domiciled outside the Contracting Member States
 - When a revocation action is already pending at the Central Division
 - When the parties agree to bring actions before the Central Division

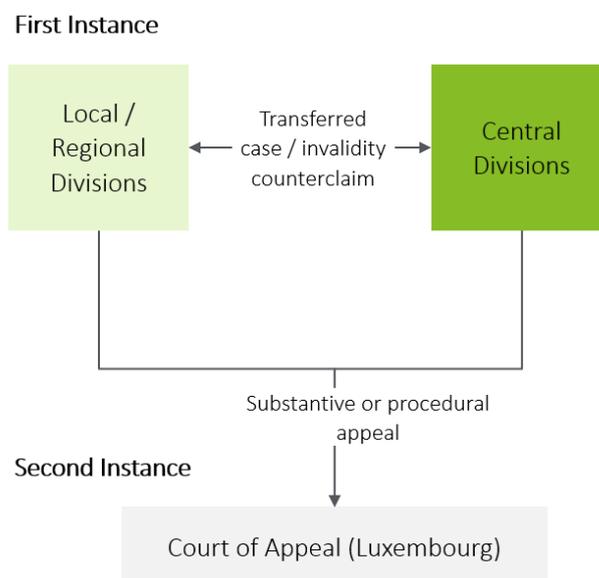


Figure 2 The UPC consists of a First and Second Instance; the First Instance consists of Local/Regional and Central Divisions.

Patent applications relate to all fields of technology; to cope with the vast amount of patent applications and information, each patent application is assigned to at least one patent class, indicating the subject to which the invention relates. The Central Division seat in Paris will deal with cases relating to patents in Classification Sections B (performing operations; transporting), D (textiles; paper), E (fixed constructions), G (physics) and H (electricity). The seat in London was allocated patents in Classification Sections A (Human Necessities, including agriculture, food, medical technology) and C (Chemistry/Metallurgy, including biotechnology and pharmaceuticals, see section 2.2.3). The seat in Munich will deal with patents in Classification Section F (mechanical engineering).¹³

Because the UK has withdrawn from the EU and thus from the UPC Agreement, Article 7(2) of the UPC Agreement must be amended so that it no longer violates Union law. The London seat could be relocated, possibly to The Hague. The Netherlands will establish a Local Division in The Hague. Hence,

¹³ Based on patent classes of International Patent Classification (IPC) published by WIPO

if the London seat of the central division would be relocated to The Hague, this could lead to synergies between the two Divisions in terms of shared talent, shared resources and/or using the same facilities.

This assessment analyses the economic impact of a relocation of the London seat of the Central Division, with its focus on Human Necessities and Chemistry, to The Hague.

1.2 Timeline of the UPC¹⁴

The UPC will gradually replace the role of national courts in patent litigation during a transitional period of 7 up to 14 years. Therefore, the time horizon of this economic impact assessment is set to 14 years, although it is noted that the UPC Central Division and its seats are likely to continue to grow after the transitional period. The Provisional Application Period during which preparations for the start of the UPC are made was initiated on January 19th 2022. If the UPC Agreement enters into force in October 2022, the transitional period is expected to run till October 2029 and may be prolonged till October 2036.

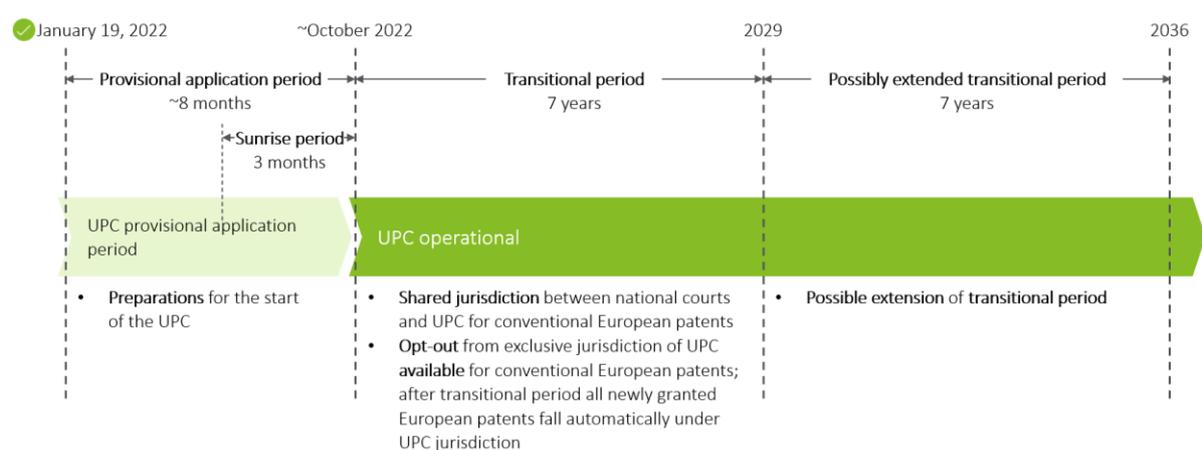


Figure 3 The UPC provisional application period initiated on January 19th 2022. In October 2022, the UPC may become operational, starting a transitional period of 7 up to 14 years.

1.3 European patent harmonization – EU-27 Internal Market

The commencement of the Unitary Patent (UP) and the Unified Patent Court (UPC) is the natural next step in European patent harmonization and is set up to further strengthen the EU-27 Internal Market.

In the current pre-Unitary Patent situation, European patents are in fact a bundle of national patents that have to be validated in the individual nations where the patentee needs patent protection. Typically, patentees chose the largest markets. Therefore, when a European patent was granted many patentees selected the countries with the highest population first, irrespective of their economic and innovations activities.

Once the Unitary Patent commences, a single patent for the whole EU area can be obtained at a relatively modest fee. While applicants will gradually change from the current approach to the new Unitary Patent, eventually fewer and fewer patentees are expected to choose to validate European (bundle) patents in a few individual EU countries, and more and more to apply for the single Unitary Patent.

¹⁴ UPC website <https://www.unified-patent-court.org/> (9-2-2022) and UPC Agreement (16351/12)

This has a twofold consequence for patent litigation. First, in the current situation, litigation is more likely to take place in countries with high numbers of inhabitants. In the future, the UPC Central Division will increasingly handle litigation regarding Unitary Patents for the whole EU-27 Internal Market, irrespective of the country where the court is located. Secondly, the impact of a ruling of the UPC is much larger than the impact of the ruling of a national court, given that the UPC has jurisdiction over a large number of EU countries (see section 1.1). The economic consequences of the jurisdiction of the UPC over multiple countries are further investigated in section 2.3.3.

2 Economic impact analysis

This chapter first describes the methodology to assess economic impact of the UPC Central Division in The Hague, followed by the results and underlying key assumptions.

2.1 Methodology economic impact analysis

A relocation of the London seat of the UPC Central Division to The Hague will have a two-fold economic impact: a spin-off to the ecosystem around a number of business sectors and impact linked to the primary process of the UPC Central Division.

A relocation of the London seat of the UPC Central Division to The Hague will have spin-off to the ecosystem around a number of business sectors. Its focus on Human Necessities and Chemistry would further strengthen the existing ecosystems of the top sectors¹⁵ agri-food, chemistry, energy, horticulture and propagation materials, life sciences and health (including pharma), and water. These strengthened ecosystems are likely to lead to a stronger autonomous growth of the current existing business. Additionally, a relocation to The Hague would strengthen the legal services ecosystem around the International City of Peace and Justice and a branch of the European Patent Office.

Apart from driving growth of existing business in The Hague region and the Netherlands, economic impact is created through activities directly linked to the primary process of the UPC Central Division. Therein, three elements are defined in this assessment: (1) direct spending of the UPC, (2) business visitors and (3) patent services due to the UPC, see Figure 4.

In the current assessment the economic impact of effects linked to the primary process of the UPC Central Division in The Hague is quantified using the input-output model, see Figure 5. Growth of the top sectors due to strengthening of the ecosystem by the presence of the UPC Central Division is discussed in the section hereafter.

¹⁵ Dutch: 'top sectoren'; <https://www.government.nl/topics/enterprise-and-innovation/encouraging-innovation> (17-2-2022)

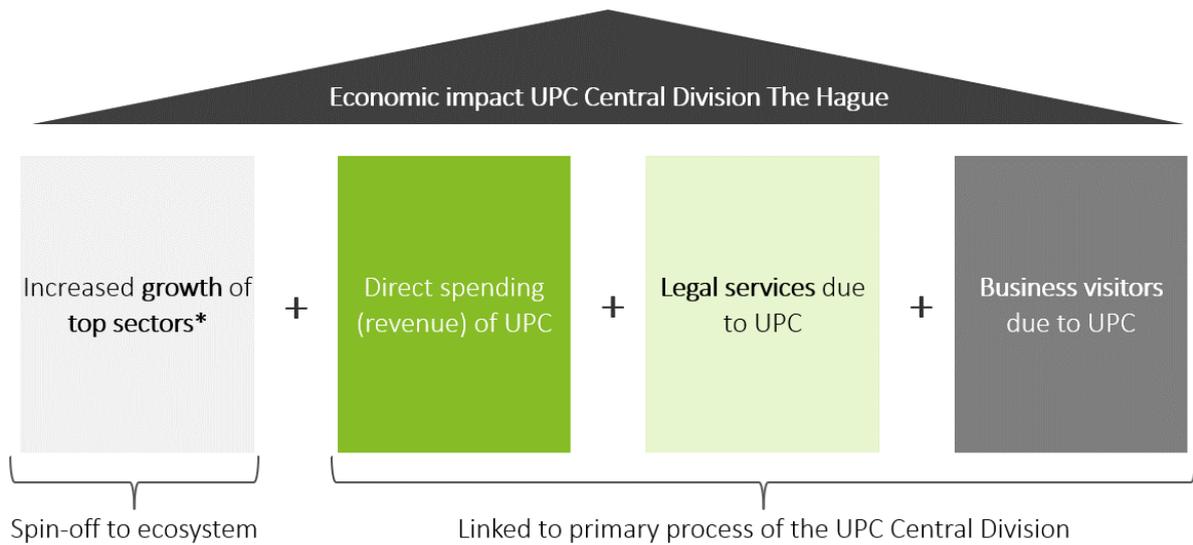


Figure 4 Economic impact consists of spin-off to the ecosystem and impact linked to the primary process of the UPC Central Division. *Growth of top sectors is not quantifiable within the scope of this research.

Quantification of economic impact – Input-output model

In this assessment the economic impact is taken as the increase in GDP (Gross domestic product) in the Netherlands, i.e. the increased production in the Netherlands. Economic impact is related to direct spending in specific sectors but also the economic spin-off through indirect and induced effects. Note that economic impact is not similar to a cost-benefit analysis. Cost-benefit analyses study the net result for a specific entity, e.g. the investment costs and tax benefits for the government for a specific scenario.

Effects linked to the primary process of the UPC Central Division are quantified by calculating the direct effects and using multiplier coefficients to calculate indirect and induced effects. Appendix C provides the coefficients used in this assessment and details on the methodology to use and calculate these coefficients. Direct effects are calculated by multiplying revenue with the direct coefficient for the respective sector. Indirect and induced effects are calculated similarly, multiplying revenue with the indirect and induced coefficient and subtracting direct and indirect effects respectively.



Figure 5 Economic impact is determined by calculating direct effects, and then using multipliers to calculate indirect and induced effects.

2.2 Economic impact | Increased growth of relevant clusters and national top sectors

A relocation of the London seat of the UPC Central Division to The Hague would strengthen the Dutch ecosystem around a number of 'top sectors', the legal sector and the patent sector. Strengthening the ecosystem could lead to the growth of the current existing business. It is beyond the scope of this study to quantify the impact of the establishment of this court on various parts of the Dutch economy in detail and related to the ecosystems, but it is possible to describe qualitatively what the landscape looks like and to what extent a relocation can be of added value.

In the following, the impact of the UPC on these ecosystems is described:

- The Hague, International City of Peace and Justice (section 2.2.1)
- The European Patent Office and Dutch Patent Ecosystem (section 2.2.2)
- The Dutch national 'top sectors' (section 2.2.3)

2.2.1 The Hague, International City of Peace and Justice

Relocation of the UPC central division to The Hague will strengthen the reputation and profile of The Hague as international city of peace and justice. The Hague hosts many international legal organizations, such as the International Court of Justice, Europol and the Permanent Court of Arbitration.¹⁶ The almost 500 international non-profit organizations based in The Hague (in)directly provide more than 40.000 jobs in the region and have a direct yearly spending of 2.9 €b.¹⁷ The number of international organizations based in The Hague is steadily growing¹⁷ and will include the Dutch Local Division of the UPC (section 1.1).

2.2.2 The European Patent Office and Dutch Patent Ecosystem

The number of patent applications in Europe increases, with strongest growth for patents related to Human Necessities and Chemistry which is the focus of the Central Division discussed in this report. The Netherlands has a strong position in terms of European patent applications, ranking 3rd of all 27 EU states.¹⁸ European patent applications are filed at the European Patent Office (EPO), which has its headquarters in Munich, with a significant branch (2,624 employees) in The Hague.¹⁹ The large and internationally oriented community of legal service providers and intellectual property (IP) specialists that has evolved in the proximity of the European Patent Office and (the companies active in) the relevant top sectors, will be further strengthened with a relocation of the seat of the UPC Central Division to The Hague.

Close to half of all patent applications filed at the EPO are filed by EPO states.²⁰ The total number of patents filed at the European Patent Office increases at approximately 3% per year (Figure 6), of which 25% is in Chemistry (Figure 7).²¹

¹⁶ Municipality The Hague, brochure The Hague city of peace and justice; <https://thehague.com> (10-2-2022)

¹⁷ Decisio, Een economische impactanalyse van de internationale non-profit sector, 2019

¹⁸ EPO, annual report 2020, <https://www.epo.org/about-us/annual-reports-statistics/statistics.html#data>

¹⁹ Article 6 of the European Patent Convention "Headquarters": (1) The Organisation shall have its headquarters in Munich. (2) The European Patent Office shall be located in Munich. It shall have a branch at The Hague.

²⁰ EPO, annual report 2020; EPO states are the 38 member states of the EPO including the 27 states of the EU

²¹ EPO, annual report 2020

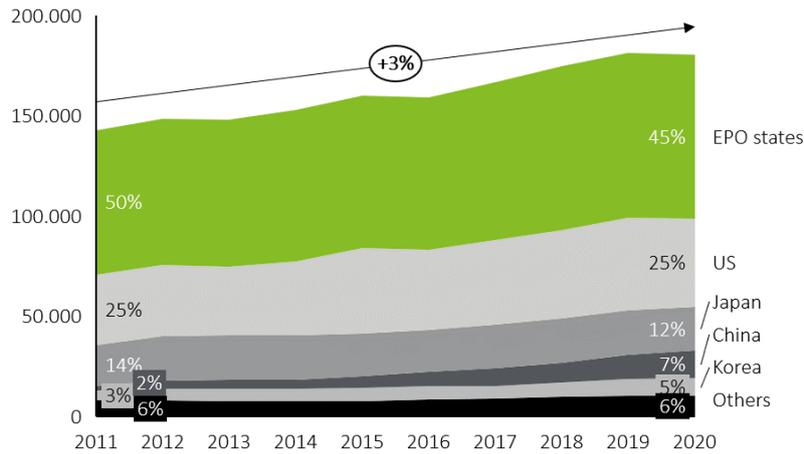


Figure 6 The number of patent applications filed at the EPO grows with approximately 3% per year.

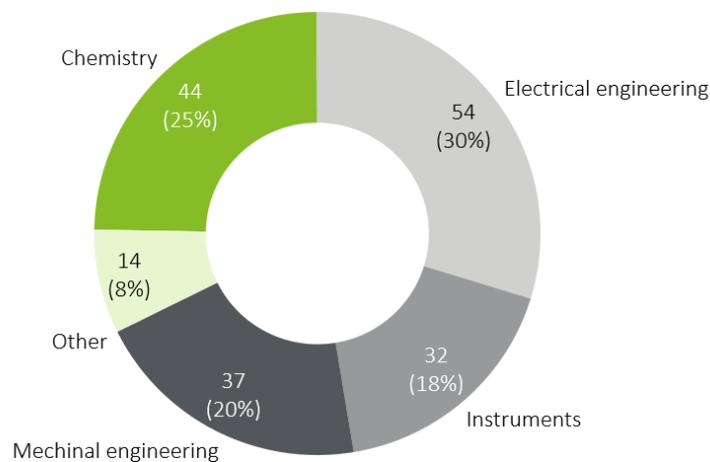


Figure 7 25% of patent applications filed at the EPO in 2020 is related to chemistry.

Dutch top sectors in terms of number of patent applications filed at the EPO are listed in Figure 8. Between 2019 and 2020, sectors related to Human Necessities and Chemistry (the focus of Central Division discussed) grew strongest of the major sectors in terms of number of patent applications.

Sector	Number of Applications	'20 w.r.t. '19	NL 1 st applicant
Medical technology	14,295	2.6 %	5 %
Digital communication	14,122	1.0 %	2 %
Computer technology	13,097	1.9 %	3 %
Electrical machinery, apparatus, energy	11,346	0.4 %	5 %
Transport	9,020	- 5.5 %	<2 %
Pharmaceuticals	8,589	10.2 %	3 %
Measurement	8,582	-5.2 %	4 %
Biotechnology	7,246	6.3 %	4 %
Other	93,953	- 2.4 %	

Figure 8 Between 2019 and 2020, medical technology, pharmaceuticals and biotechnology had strongest growth in number of patent applications; the Netherlands is on average for 4% of the patent applications the country of origin.

The Netherlands has a strong position in the European patent sector. The Netherlands is the 3rd EU Member state (after Germany and France) in terms of country of origin of European patent applications filed at the EPO, before the UK and Italy.²² Regarding the number of patents per inhabitant, the Netherlands is at a global 4th place.²³ For the EPO states, the Netherlands is at a 4th place after Germany, France and Switzerland, but before the UK, Italy and Sweden.²⁴

2.2.3 The Dutch national 'top sectors'

The Dutch government identified nine top sectors which contribute to solving (global) challenges and in which the national economy is particularly strong.²⁵ A relocation of the seat of the UPC Central Division to The Hague would further strengthen the ecosystem around a number of these 'top sectors'. In the following, these top sectors and the impact of the UPC Central Division are described.

Relevant top sectors

The Dutch government specifically focuses on a number of 'top sectors' to support companies in developing innovative solutions to major (global) issues such as food security or life-threatening diseases.²⁶ Additionally, the development of these top sectors should further strengthen the international position of the Netherlands. The top sectors already significantly contribute to the Dutch economy, with a total production value of 488 €b (in 2017) which is more than 34% of the total Dutch economy.²⁷

Six of the nine top sectors are closely linked to the focus of the seat of the UPC Central Division discussed in this impact assessment. The seat will primarily deal with patents belonging to classes A (Human Necessities) and C (Chemistry and Metallurgy) of the International Patent Classification system of the World Intellectual Property Organization (WIPO).²⁸ These technical areas are directly related to the following Dutch top sectors:

- Life sciences and health
- Agriculture and food
- Horticulture and propagation materials
- Water and maritime
- Chemistry
- Energy

These top sectors contribute significantly to the Dutch economy, with for instance 88 €b production value of the Agriculture and food sector in 2017 (Table 1). In total, the six top sectors listed above directly provide more than 550,000 FTE of employment in the Netherlands. The relation between the top sectors and the patent classes is summarized in Table 1 and further detailed in Appendix A. The top sectors do not only contribute economically to the Dutch society, but also have a societal relevance. For instance, the water and maritime industry contributes both nationally and internationally to providing drinking water for a growing world population and plays a vital role in increasing water safety (delta works).

²² EPO, annual report 2020; when multiple applicants are mentioned on a patent application form, the EPO takes the country of the first applicant listed

²³ EPO, annual report 2020

²⁴ EPO, annual report 2020

²⁵ <https://www.government.nl/topics/enterprise-and-innovation/encouraging-innovation> (17-2-2022)

²⁶ <https://www.government.nl/topics/enterprise-and-innovation/encouraging-innovation> (17-2-2022)

²⁷ CBS, Monitor topsectoren, 2018; production and employment data for 2017

²⁸ <https://www.cooperativepatentclassification.org/cpcSchemeAndDefinitions/table> (21-3-2022)

Table 1 Dutch top sectors related to Human Necessities and Chemistry are both of economic and societal relevance.

Top sector in Netherlands	Production value and direct employment ²⁹	Description and relation to patent classes (details in Appendix A)	Societal relevance (not exhaustive) ³⁰
Agriculture and food	<ul style="list-style-type: none"> • 88 €b (6.1%) • 208,000 FTE 	<ul style="list-style-type: none"> • Production and processing of materials in the food chain • Relevant patent classes: agriculture, food or foodstuffs, fertilizers, meat/fish industry, ... 	<ul style="list-style-type: none"> • Contributes to (global) societal challenges in sustainability, climate and health in the food chain for a growing world population
Chemistry	<ul style="list-style-type: none"> • 81 €b (5.6%) • 77,000 FTE 	<ul style="list-style-type: none"> • Production of raw materials and products³¹ • Relevant patent classes: (in)organic chemistry, biochemistry, metallurgy, ... 	<ul style="list-style-type: none"> • Contributes in multiple sectors (e.g. energy or transport) towards a more sustainable future, e.g. through 'green' chemistry and energy reduction in chemical processes
Energy	<ul style="list-style-type: none"> • 35 €b (2.4%) • 78,000 FTE 	<ul style="list-style-type: none"> • (Renewable) energy production, supply and trade • Relevant patent classes: organic chemistry, petroleum/gas industry, ... 	<ul style="list-style-type: none"> • Contributes to the transition to a safe, reliable, affordable and sustainable (renewable) energy system
Horticulture and propagation materials	<ul style="list-style-type: none"> • 20 €b (1.4%) • 105,000 FTE 	<ul style="list-style-type: none"> • Production of seeds, vegetables, plants or flowers and related activities such as construction of greenhouses • Relevant patent classes: agriculture, fertilizers, ... 	<ul style="list-style-type: none"> • Contributes to sustainable food production for a growing world population
Life sciences and health	<ul style="list-style-type: none"> • 12 €b (0.9%) • 37,000 FTE 	<ul style="list-style-type: none"> • Focused on health of humans and animals, including pharmacy, medical instruments and research and development • Relevant patent classes: medical science, organic chemistry, bio chemistry, ... 	<ul style="list-style-type: none"> • Contributes to health for a growing world population and for societies dealing with increasing health cost
Water and maritime	<ul style="list-style-type: none"> • 15 €b (1.0%) • 52,000 FTE 	<ul style="list-style-type: none"> • Maritime manufacturing (e.g. ship building), drinking water technology and supply and protection against water (delta works) • Relevant patent classes: treatment of water, ... 	<ul style="list-style-type: none"> • Contributes both nationally and internationally to the challenges of supplying (drinking) water and increasing water safety (delta works)
Total	251 €b (17.4%)		

²⁹ CBS, Monitor topsectoren, 2018; production and employment data for 2017

³⁰ <https://www.rvo.nl/onderwerpen/innovatief-ondernemen/topsectoren> (23-3-2022)

³¹ Pharmaceutical companies are considered part of the Life sciences and health sector

Impact of a strengthened ecosystem on the top sectors

A balanced and robust ecosystem consists of multiple key elements, including government and agencies, research/knowledge institutes and big companies (Figure 9).³² A relocation of the seat of the UPC Central Division with focus on Human Necessities and Chemistry to the Netherlands is likely to further strengthen the LSH, Agriculture and Food, Chemistry and Horticulture sectors and broader ecosystem in the country. For companies active in this ecosystem, a strengthened ecosystem by a relocation of the UPC could increase synergies and hence productivity and knowledge development.

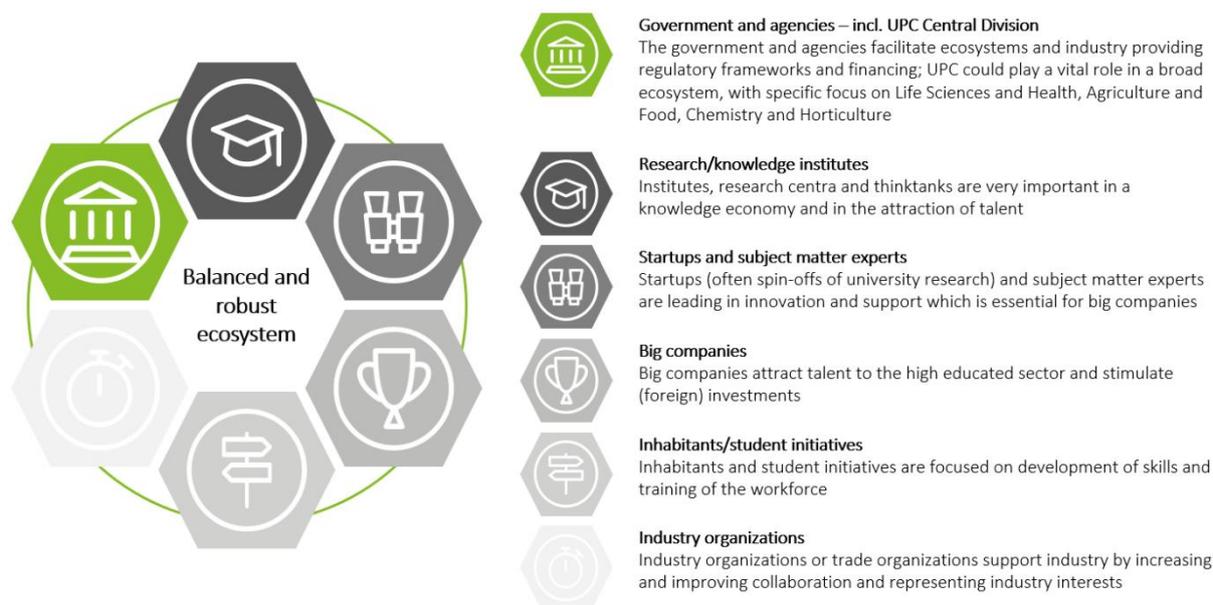


Figure 9 The UPC Central Division could further strengthen a balanced and robust ecosystem in the Netherlands, particularly for the Life Sciences and Health, Agriculture and Food, Chemistry and Horticulture sectors.

The economic impact of a strengthened ecosystem is difficult to quantify, but can be very large. For example, the relocation of the EMA to Amsterdam provides an indication of such an economic impact. Short-term economic impact of the EMA relocation is estimated at 135 €m per year, whereas long-term effects such as the stronger ecosystem are estimated to contribute to growth of the Dutch LSH-sector resulting in 33 €m to 165 €m additional GVA per year.³³ The Dutch government recognizes the potential the EMA relocation could have³⁴, which led to the initiation of the 'Action program new chances for top sector Life Sciences & Health'³⁵. This joint action program by the Dutch LSH-sector aims to further strengthen the ecosystem to contribute to health, wellbeing and knowledge and to continuously develop the LSH ecosystem into one of the strongest international LSH-hubs.³⁶

An Irish study on hosting the UPC Central Division estimates a long-term growth of 1% to 4% per annum for chemical, pharmaceutical, medical technology and life science sectors.³⁷ Even a growth of 1% of sectors related to the Central Division of the UPC would have large economic impact for the Netherlands. The total added value of the six national top sectors related to the seat of the Central Division of the UPC is 71 €b (Table 1). Therefore, even a growth of these sectors of 1% would result in 710 €m additional added value for the Dutch economy per year.

³² Deloitte analysis

³³ Details and source provided in the highlighted box 'Quantified impact of EMA relocation'

³⁴ Ministerie van Economische Zaken en Klimaat, Kamerstuk 'Aanbiedingsbrief Actieprogramma en advies Future Affordable Sustainable Therapies', 18-2-2020

³⁵ Dutch: Actieprogramma Nieuwe kansen voor topsector Life Sciences & Health'

³⁶ <https://www.rijksoverheid.nl/documenten/rapporten/2020/12/18/nieuwe-kansen-voor-topsector-life-sciences--health> (9-2-2022)

³⁷ Ibec, The Unified Patent Court: The Irish Business Case, 2021

Quantified impact of EMA relocation³⁸

In 2017, ICF studied the effects of the EMA relocation to the Netherlands for the Dutch Ministry of Health, Welfare and Sports. The study quantifies long-term impact by the EMA relocation on the LSH sector in the Netherlands. However, the study notes that it is difficult to quantify this long-term impact such that its results are indicative. Based on stakeholder consultations³⁹ the impact of the EMA on the growth of the LSH-sector is assumed to be 1-5% per year. This would result in 33 €m to 165 €m additional GVA per year; total impact of these direct effects on the LSH-sector would be 70 €m to 350 €m per year. 'Short-term' economic impact quantified by the EMA relocation analysis has a similar order of magnitude with 135 €m per year.

2.3 Economic impact | Linked to the primary process of the UPC Central Division

Besides the economic impact of a strengthened ecosystem discussed in section 2.2, a relocation of the London seat of the UPC Central Division to The Hague will have economic impact directly linked to the primary process of the court.



The economic impact assessed in this section is the economic impact that is directly linked to the primary process (the handling of court cases) of the UPC Central Division. This does not include the economic impact due to spin-off effects to the ecosystem which will probably result in an additional significant economic impact on the longer term (710 €m additional added value to the Dutch economy when related 'top sectors' grow with an additional 1%) as discussed in section 2.2.

The impact linked to the primary process of the UPC Central Division is dependent on the future performance of the court, e.g. the number of cases, or developments in the field of patent litigation services (e.g. legal costs per case). To take into account those uncertainties, various scenarios are assessed. Key assumptions that are the prime drivers for the (total) economic impact are:

- **Number of cases** – directly related to almost all aspects of the economic impact of the UPC
- **Legal costs per case** – driving the impact of the UPC on legal services

The three modelled scenarios (presented in Table 2) are a combination of high and low values for these key variables; the low and high scenario are 'lowest economic impact' and 'highest economic impact' scenarios, respectively. Note that for the other variables used in this analysis an expected medium value is selected and that high and low values for these variables provided throughout this assessment solely serve as a reference and to provide context to the selected medium value.

³⁸ ICF, Analysis of effects in case of relocation of the European Medicines Agency (EMA) to the Netherlands, 2017

³⁹ Interviews with "private companies, industry representative bodies, investors, advisors and regulators from the UK and the Netherlands"

Table 2 A high, medium and low scenario are defined in terms of the number of cases and the average legal costs per case per party. Details on the selected high to low values for variables are provided in Figure 10 and Table 4.

		Number of cases		
		Low Year 14: 280 cases	Average Year 14: 351 cases	High Year 14: 422 cases
Average legal costs per case per party	300 €k	Low scenario		
	500 €k		Medium scenario	
	800 €k			High scenario



Throughout this assessment, the detailed results of the medium scenario are shown; the results of the low and high scenario are included in Appendix D. All prices in this assessment are in the absolute price level of end of 2021 and where applicable prices are adjusted for inflation based on the yearly inflation (CBS).

2.3.1 Number of cases handled by Central Division The Hague

The number of cases is directly related to the economic impact linked to the primary process of the UPC, as three key elements in this assessment, required staff, business visitors and (legal) services, all scale with the number of cases.

The number of cases handled by the UPC Central Division in The Hague follows from a study by DG Internal Market and Services⁴⁰ and is further validated and refined in interviews with market experts during this study. The number of cases depends on the use of the opt-out scheme⁴¹, the pace of transition of litigation to the UPC and the number of opposition cases migrating from the EPO to the UPC. The study by DG Internal Market and Services identifies a high and low scenario. Based on market expert interviews, the high scenario has been slightly altered to include a higher expected uptake in the early years of the UPC and increased migration of cases from the EPO to the UPC. As such, three scenarios are defined:

- **High:** high scenario of DG UPC study with doubled number of cases migrating from the EPO to the UPC compared to DG UPC study and linear growth in number of cases during first 5 years
- **Low:** low scenario of DG UPC study
- **Medium:** average of the high and low scenario



The **economic impact linked to the primary process of the UPC is directly related to the number of cases** through the revenue of the UPC, number of business visitors and litigation services

⁴⁰ DG Internal Market and Services, Study on the Caseload and financing of the Unified Patent Court, 2011

⁴¹ The opt-out scheme allows to opt-out patents from the exclusive jurisdiction of the UPC; after this period all newly granted European patents fall automatically under exclusive jurisdiction of the UPC

All scenarios assume that 50% of all the UPC cases are being handled by the Central Divisions with equal share per Central Division. Market experts note that the share of Human Necessities and Chemistry cases might be higher with up to 40% of all cases, which aligns with earlier research finding that the pharmaceutical sector is the most litigious of all sectors.⁴² This validates the definition of a high scenario with an increased number of cases compared to previous estimates. Hence, the high scenario, the upper bandwidth in this assessment, is considered a distinct possibility.

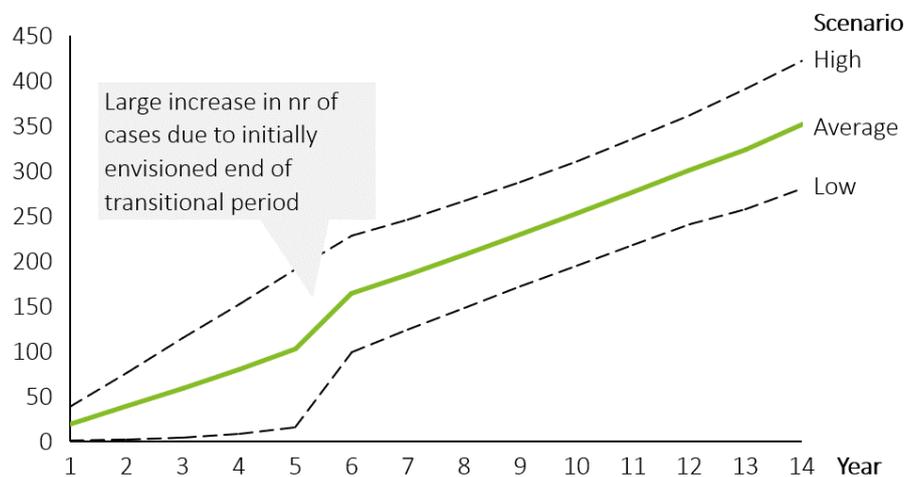


Figure 10 The number of cases handled at the UPC Central Division in The Hague gradually increases towards 300-400 cases after the maximum transitional period of 14 years.

2.3.2 Revenue UPC

The basis for quantifying the economic impact due to revenue of the UPC is formed by the expected direct effects, i.e. spending related to the facility and spending due to personnel, see Figure 11. By applying the relevant sector-bound multipliers⁴³ the indirect and induced effects are calculated from the direct effects. The three components together determine the total economic impact.

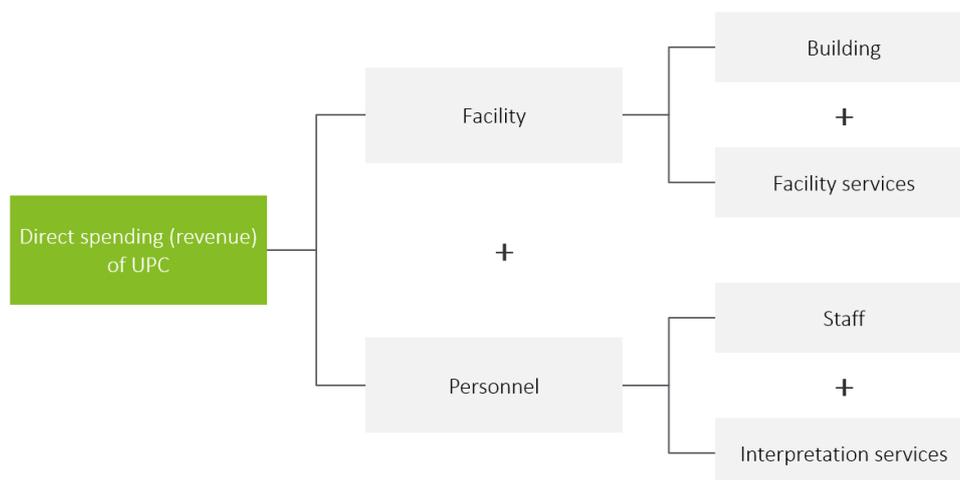


Figure 11 The economic impact of UPC Central Division revenue consists of the effects due to the facility and due to personnel.

The assumptions on variables to analyze the economic impact of the UPC revenue are provided in Table 3. The number of judges per case is used to calculate the number of judges required by the

⁴² Graham and Van Zeebroeck, Comparing Patent Litigation Across Europe: A First Look, 2014

⁴³ Multipliers are included in Appendix C

court. The total staff size is assumed to be directly related to the number of judges. Multiplying the staff size by their respective costs and including interpretation services results in the total personnel cost.

Not all economic indirect and induced effects due to UPC personnel's household spending will affect the Netherlands, since these (international) employees are expected to spend part of their salaries in other countries. As such, these indirect and induced effects are multiplied with an attribution factor.

Economic effects due to the facility of the UPC consists of building rent and renovation and additional facility costs such as security and cleaning services. Part of the economic impact due to the facility costs is expected to end up in different countries, e.g. due to international firms providing facility services. Therefore, economic effects due to facility services are multiplied by an attribution factor.

Table 3 Key assumptions in the analysis of the economic impact of the UPC Central Division revenue.

	Variable	Low	Expected medium	High	Notes
Personnel	Judge FTE per case		0.08		This is an estimate by a study on the UPC caseload and financing ⁴⁴ <ul style="list-style-type: none"> This estimate corresponds with the estimate by the ministry of EZK on the total staff size⁴⁵
	Judge cost per FTE per year		162 €k		This is an estimate by a study on the UPC caseload and financing ⁴⁴ <ul style="list-style-type: none"> CEPEJ notes that the average Dutch judge salary is 76 k€ - 141 k€⁴⁶, validating the selected medium of 162 €k
	Staff (legal assistants, clerks, secretary, ...) FTE per judge FTE		1.35		This is an estimate by a study on the UPC caseload and financing ⁴⁴ <ul style="list-style-type: none"> Dutch ministry of EZK estimates staff FTE to judge FTE ratio to be 2.0⁴⁵ The UPC estimation of 1.35 is selected since some UPC functions are centralized, such that the staff of the Central Division in The Hague could be smaller Staff size could possibly be relatively low due to possible synergies with the Local Division of the UPC in The Hague
	Staff cost per FTE per year		84 €k		This is an estimate by a study on the UPC caseload and financing ⁴⁴
	Interpretation services per case		500 €		The selected medium is based on the average UPC budget for interpretation services in steady-state operation of the UPC (after the large ramp-up in the number of cases during the first 5 years) ⁴⁴ <ul style="list-style-type: none"> Interpretation services at the EPO are approximately 652€ per day (which is ~€770 when corrected for inflation)⁴⁴ Based on the cost of interpretation services at the EPO this would mean that for every case at the UPC less than one interpretation day would be available,

⁴⁴ DG Internal Market and Services, Study on the Caseload and financing of the Unified Patent Court, 2011

⁴⁵ Ministerie van Economische Zaken en Klimaat, Maatschappelijke kosten-batenanalyse voor het verwerven van de Londense afdeling van de centrale divisie van het Unified Patent Court, 2021

⁴⁶ European Commission for the Efficiency of Justice, European judicial systems CEPEJ Evaluation Report, 2020

	Variable	Low	Expected medium	High	Notes
					which is considered plausible since not all cases need interpretation services ⁴⁷
	Attribution factor ⁴⁸ personnel spending to NL	60%	72%	100%	The selected medium of 72% is based on a Decisio survey on expats for international organizations in The Hague ⁴⁹ <ul style="list-style-type: none"> The low value of 60% is based on the Dutch ministry of EZK⁵⁰ The attribution could be higher for the non-judge staff which are expected to be less often expats
	Training of judges		-		Training of judges will take place in Budapest ⁵¹ and is therefore not included in this assessment
Facility	Building – rent per year	0.6 €m	0.9 €m	1.2 €m	The selected medium is based on the Dutch ministry of EZK ⁵⁰ <ul style="list-style-type: none"> The ministry of EZK deems new construction not feasible such that rental costs are included in this assessment Building rental costs for all 14 years studied in this impact assessment are assumed equal
	Building – initial investment	2.2 €m	2.9 €m	3.7 €m	The selected medium is based on the Dutch ministry of EZK ⁵⁰ <ul style="list-style-type: none"> Cost to renovate/adapt a rented building The ministry of EZK deems new construction not feasible such that rental costs are included in this assessment
	Facility costs per staff FTE per year		64 €k		The selected medium is based on the budget of the EPO ⁵² <ul style="list-style-type: none"> Examples of facility costs are costs of security, parking, ICT and cleaning services
	Attribution ⁵³ facility costs to NL		80%		This is an estimate by the Dutch ministry of EZK ⁵⁰

The economic impact due to the revenue of the UPC is 17.9 €m in year 14. Note the relatively high economic impact (4.4 €m) in the first year of the UPC due to the estimated costs for the renovation of its facility. The economic impact due to the UPC revenue is largely driven by staff wages and facility services that make up 94% of the total economic impact (16.8 €m) in year 14. Building rental and Interpretation services account for 5% and 1% of the total economic impact in year 14, respectively, see Figure 12.

⁴⁷ DG Internal Market and Services, Study on the Caseload and financing of the Unified Patent Court, 2011

⁴⁸ The attribution factor represents the share of spending that goes to the Netherlands

⁴⁹ Decisio, Een economische impactanalyse van de internationale non-profit sector, 2019

⁵⁰ Ministerie van Economische Zaken en Klimaat, Maatschappelijke kosten-batenanalyse voor het verwerven van de Londense afdeling van de centrale divisie van het Unified Patent Court, 2021

⁵¹ UPC website <https://www.unified-patent-court.org/> (23-3-2022)

⁵² DG Internal Market and Services, Study on the Caseload and financing of the Unified Patent Court, 2011

⁵³ The attribution factor represents the share of spending that goes to the Netherlands

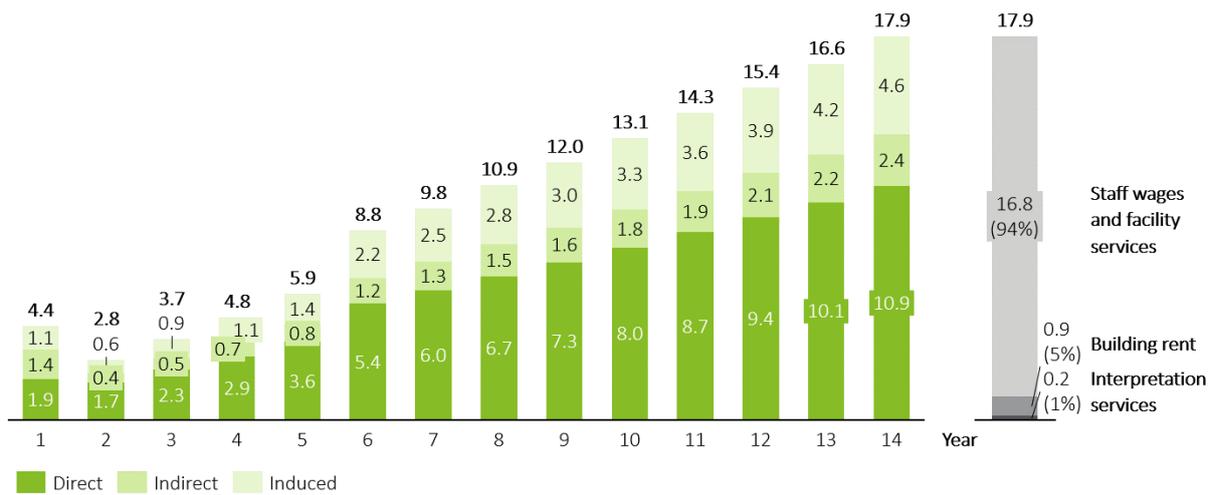


Figure 12 The economic impact due to the revenue of the UPC Central Division is 17.9 €m in year 14, of which 94% is due to staff wages and facility services.

2.3.3 Legal services

The basis for quantifying the economic impact of legal services due to the UPC is formed by the expected direct effects, i.e. spending related to legal services in the Netherlands, see Figure 13. By applying the relevant sector-bound multipliers⁵⁴ the indirect and induced effects are calculated from the direct effects. The three components together determine the total economic impact.

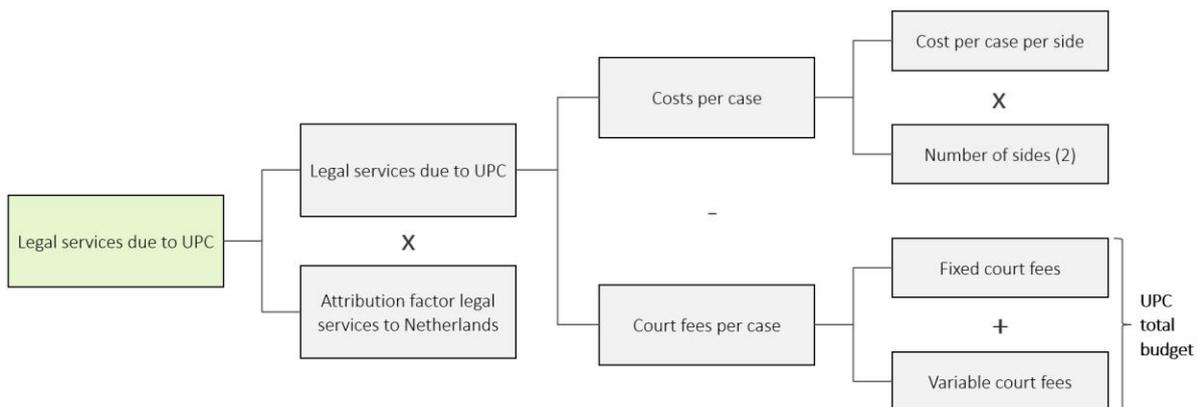


Figure 13 The economic impact of legal services due to the UPC Central Division is calculated using the average legal services costs per case multiplied by the attribution factor of these services to the Netherlands.

The average costs per case per party and the attribution of legal services to the Netherlands drive the economic impact of legal services due to the UPC.

Table 4 provides assumptions for the key variables and includes the rationale underpinning these assumptions. The UPC revenue is subtracted from the legal costs to avoid double-counting the UPC revenue which is included separately in this impact assessment.

⁵⁴ Multipliers are included in Appendix C

Table 4 Key assumptions in the analysis of the economic impact of legal services due to the UPC Central Division.

Variable	Low	Expected medium	High	Notes
Average costs per case per party	300 €k	500 €k	800 €k	<p>The selected medium is based on interviews with market experts; the average costs per case per party are related to multiple factors:</p> <ul style="list-style-type: none"> The higher impact of winning/losing a case at the UPC with jurisdiction over 17 or more EU countries than at a national court with national jurisdiction The focus of the UPC Central Division analyzed in this assessment is on Human Necessities and Chemistry, which is a sector with high values of action and corresponding high legal costs⁵⁵ The average process costs of cases in the Netherlands is at least 198 €k per party based on claimed process costs in court cases⁵⁶, market experts note that the actual legal costs are higher than the claimed process costs. This, in combination with the larger jurisdiction of the UPC and therefore larger impact, the lower bound is set at 300 €k The upper bound is set at 800 €k based on market experts, note that a study on the economic impact of the UPC Central Division in London assumes legal costs of 750 €k to 1500 €k per party⁵⁷ such that this upper bound is considered plausible
UPC Court fees		= UPC revenue		<p>The UPC court fees are assumed to be equal to the UPC revenue since the court is expected to become self-financing⁵⁸. Hence, the UPC court fees are taken to be equal to the UPC revenue determined in the previous section</p>
Attribution factor legal services to Netherlands	30%	40%	50%	<p>The selected medium is based on market expert interviews</p> <ul style="list-style-type: none"> For a large number of cases parties are expected to be represented by foreign legal service providers, given that cases at the UPC Central Division are complex and handled by international judges Due to Brexit, UK firms can no longer directly compete in providing legal services around the UPC given that lawyers are only authorized to practice before a court when “authorized to practice before a court of a contracting member state” of the UPC⁵⁹, increasing the chances of firms based in the Netherlands to represent parties at the UPC Central Division Given the strong position of the Netherlands in Human Necessities and Chemistry (life sciences and health, agriculture, biotech, pharmaceuticals, ...) firms based in the Netherlands is expected to have a strong position to represent parties at the UPC Central Division which is specifically focused on these sectors

The economic impact of legal services due to the UPC is ~162 €m in year 14. Almost half of the economic impact consists of indirect and induced effects due to the relatively large ripple effect of

⁵⁵ Interviews with market experts

⁵⁶ Based on claimed process costs for patent court cases in the Netherlands in 2021, excluding cases with claimed process costs lower than 10 €k since for these cases actual legal costs are clearly not fully claimed; <https://www.rechtspraak.nl/>, (27-1-2022)

⁵⁷ Economic Impact of Alternative Locations for the Central Division of the Unified Patent Court, IPLA, 2012; note that this is a 2012 study such that due to inflation current costs and benefits could have increased

⁵⁸ Article 37 of UPC Agreement (16351/12), after transitional period of 7 years “the Court is expected to have become self-financing”

⁵⁹ Article 48 of UPC Agreement (16351/12), note that “Parties may alternatively be represented by European Patent Attorneys who are entitled to act as professional representatives before the European Patent Office (...) and who have appropriate qualifications such as a European Patent Litigation Certificate.”

legal services to other sectors. The indirect effects due to increased legal services are expected to be largest in the consultancy, building exploitation and employment agency sectors.^{60,61} The induced effects, e.g. the household spending of employees working in various sectors, will be spread out to even more sectors. Calculations are based on Input-Output tables, which also provides insights into the sectors which benefit most from a direct impact in legal services.

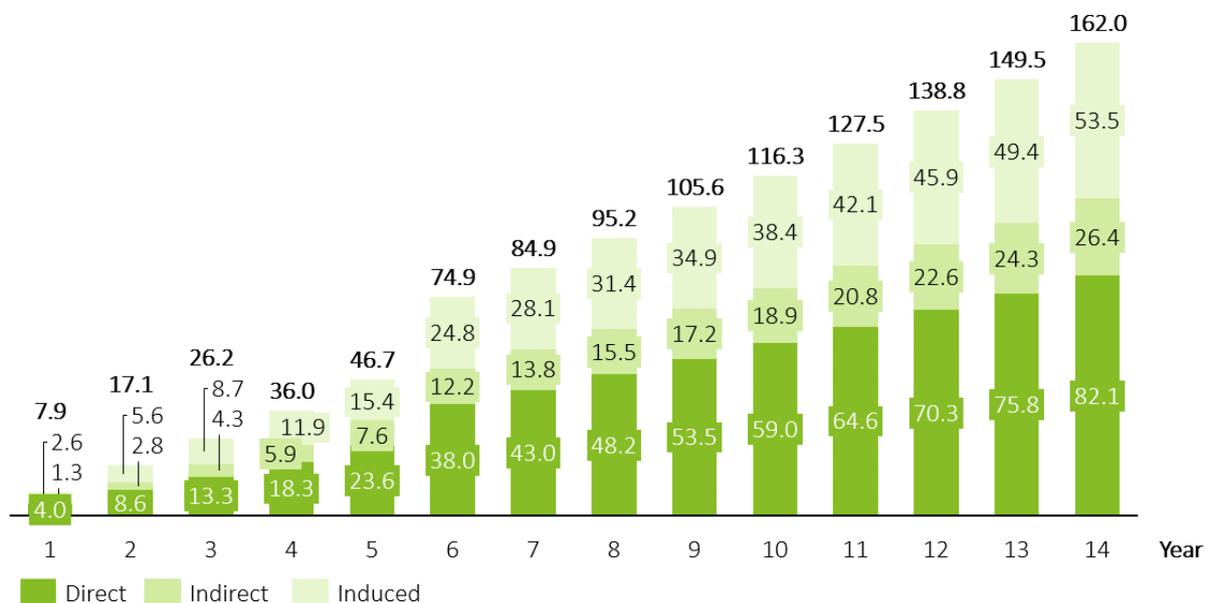


Figure 14 The economic impact through legal services is 161.9 €m in year 14.

2.3.4 Business visitors

The basis for quantifying the economic impact due to business visitors due to the UPC is formed by the expected direct effects, i.e. spending by these visitors in different sectors, see Figure 15. By applying the relevant sector-bound multipliers⁶² the indirect and induced effects are calculated from the direct effects. The three components together determine the total economic impact.

⁶⁰ Dutch: Holdings en managementadviesbureaus, exploitatie onroerend goed excl. eigen woningbezit, uitzendbureaus en arbeidsbemiddeling

⁶¹ Based on inputs required by the legal services sector (Dutch: Juridische diensten en administratie), CBS, <https://www.cbs.nl/nl-nl/maatwerk/2020/29/aanbod-en-gebruiktabellen-en-input-outputtabellen>, (26-1-2022); note that 2019 values are selected to omit the effect of Covid-19 on the economy

⁶² Multipliers are included in Appendix C

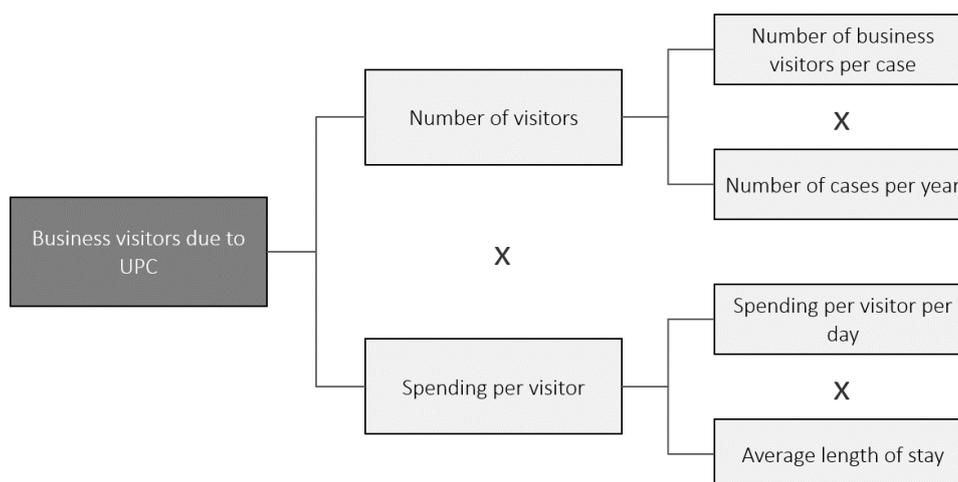


Figure 15 The economic impact of business visitors due to the UPC Central Division is calculated by multiplying the number of visitors by the average spending per visitor.

The number of business visitors per case per party is assumed to be 10, with an average length of stay of 3 days. The average spending of these business visitors is assumed to be 470 € per day, of which more than half is spent in the lodging sector, see Table 5.

Table 5 Key assumptions in the analysis of the economic impact of business visitors due to the UPC Central Division.

Variable	Low	Expected medium	High	Notes
Number of business visitors per case per party	5	10	25	The selected medium and high and low values are based on studies by SEO ⁶³ , by the Dutch ministry of EZK ⁶⁴ and based on interviews with market experts
Average length of stay in days		3		The selected medium is based on the Dutch ministry of EZK ⁶⁴ and interviews with market experts <ul style="list-style-type: none"> One day for the oral hearing at the UPC and two days in preparation of the hearing are assumed
Spending per visitor per day		470 €		The selected medium is based on a study by the municipality of The Hague ⁶⁵ and based on market expert interviews <ul style="list-style-type: none"> Selected medium of 470 € consists of 320 € per day as estimated by the municipality of The Hague⁶⁶, and an additional 150 € for extra lodging costs above the 100 € lodging costs already included in the 320 € per day Hence, the total lodging costs are 250 € which accounts for the lodging and meeting room requirements of UPC visitors⁶⁷
Share of visitor spending per day to the catering sector		23%		Based on Toerisme werk(t) voor Den Haag 2020 ⁶⁸ and including the additional lodging costs of 150 €
Share of visitor spending per day to the lodging sector		53%		Based on Toerisme werk(t) voor Den Haag 2020 ⁶⁸ and including the additional lodging costs of 150 €

⁶³ SEO economisch onderzoek, Een lokale divisie van het eengemaakt octrooirecht, 2014

⁶⁴ Ministerie van Economische Zaken en Klimaat, Maatschappelijke kosten-batenanalyse voor het verwerven van de Londense afdeling van de centrale divisie van het Unified Patent Court, 2021

⁶⁵ Gemeente Den Haag, Monitor toerisme 2019

⁶⁶ Gemeente Den Haag, Monitor toerisme 2019

⁶⁷ Based on market expert interviews and average prices at premium hotels

⁶⁸ Bureau voor Economische Argumentatie (BEA), Toerisme werk(t) voor Den Haag, 2020

Share of visitor spending per day to the retail sector	10%	Based on Toerisme werk(t) voor Den Haag 2020 ⁶⁹ and including the additional lodging costs of 150 €
Share of visitor spending per day to the culture sector	4%	Based on Toerisme werk(t) voor Den Haag 2020 ⁶⁹ and including the additional lodging costs of 150 €
Share of visitor spending per day to the transport sector	10%	Based on Toerisme werk(t) voor Den Haag 2020 ⁶⁹ and including the additional lodging costs of 150 €

The total economic impact of business visitors is 10.7 €m in year 14, of which 53% due to lodging. The direct effects are expected to largely end up in The Hague region since business visitors will mostly spend locally. Approximately half of the economic impact consists of indirect and induced effects due to inputs required by e.g. hotels and restaurants. Therefore, suppliers to these sectors (e.g. the wholesale sector) will benefit from these indirect and induced effects.

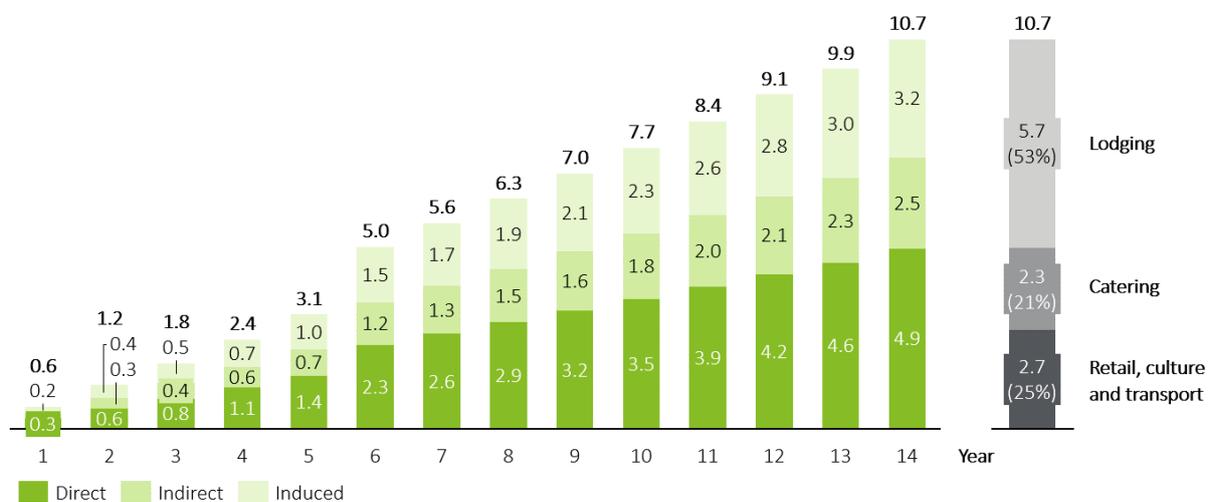


Figure 16 The economic impact due to business visitors is 10.7 €m in year 14 of which 53% due to lodging and 21% due to catering.

2.4 Total economic impact of the UPC Central Division in The Hague

The total economic impact of the UPC Central Division in The Hague is the strengthened ecosystem resulting in growth of top sectors and the economic impact linked to the primary process increasing towards 191 €m in year 14 (see Figure 17), with an accumulated economic impact of 1.4 €b in year 14 (see Figure 18).

⁶⁹ Bureau voor Economische Argumentatie (BEA), Toerisme werk(t) voor Den Haag, 2020

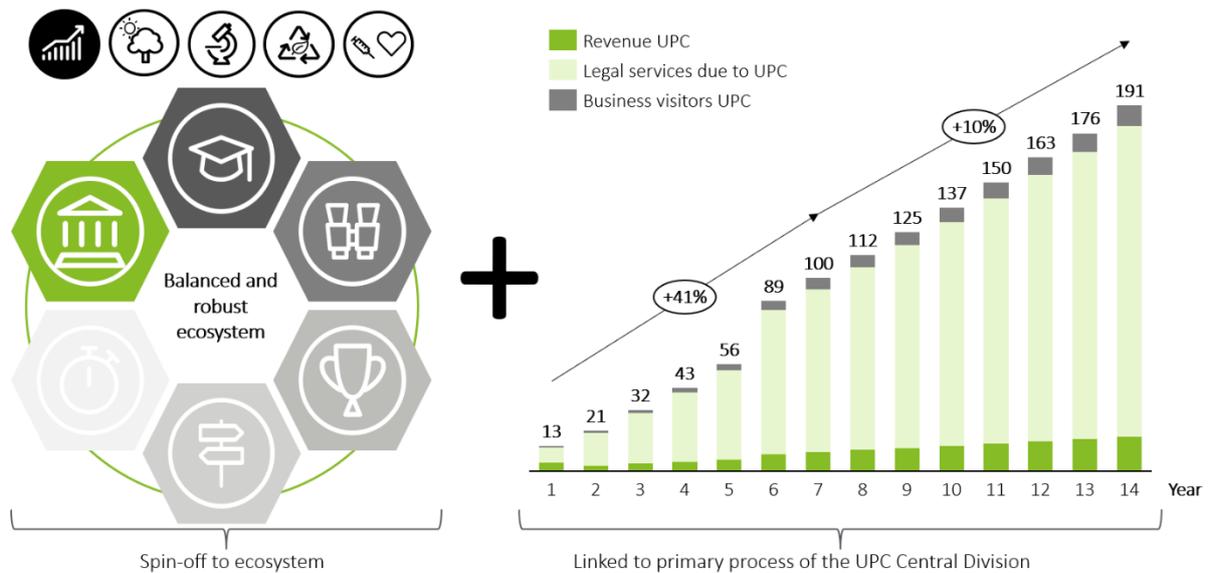


Figure 17 Total economic impact of the UPC Central Division in The Hague is the strengthened ecosystem and impact linked to the primary process of the Central Division of 191 €m after the maximum transitional period of 14 years. The impact linked to the primary process shows a Year on Year (YoY) growth of 41% in the first 7 years, followed by a 10% YoY growth in the final 7 years of the transitional period.

The Netherlands is strong in a number of top sectors related to Human Necessities and Chemistry, including Agriculture and food, Chemistry, Energy, Horticulture and propagation materials, Life sciences and health (LSH) and Water.⁷⁰ Growth of these regional and national top sectors is expected due to a relocation of the UPC Central Division with focus on Human Necessities and Chemistry to The Hague.

The strengthened ecosystem is expected to drive growth of multiple top sectors, but this effect is not in detail quantifiable within the scope of this research. Based on a comparison with previous studies, the growth could be in the order of 1% to 4%. Due to the size of the respective top sectors, even a small growth has a significant economic impact. A growth of 1% of the aforementioned top sectors with 71 €b added value per year would amount to a significant effect of 710 €m additional added value per year (see section 2.2.3).

The total economic impact linked to the primary process of the UPC Central Division in The Hague increases over time due to the increasing number of cases handled over time. Legal services due to the UPC Central Division largely drive economic impact linked to the primary process of the UPC Central Division with 85% (162 €m) of the total impact in year 14. The revenue of the UPC Central Division and business visitors contribute with 9% (18 €m) and 6% (11 €m) to the total economic impact in year 14, respectively. Note that the legal services sector is not the only sector to benefit: the direct impact ends up in this sector, but this will cause a large ripple effect to other sectors. Almost half of the economic impact by legal services is due to indirect and induced effects. Based on CBS data, the indirect effects due to increased legal services are largest in the consultancy, building exploitation and employment agency sectors.^{71,72} The induced effects, e.g. the household spending of employees working in various sectors, will be spread out to even more sectors. The economic impact of the UPC

⁷⁰ Dutch: 'top sectoren' - <https://www.government.nl/topics/enterprise-and-innovation/encouraging-innovation> (17-2-2022)

⁷¹ Dutch: Holdings en managementadviesbureaus, exploitatie onroerend goed excl. eigen woningbezit, uitzendbureaus en arbeidsbemiddeling

⁷² Based on inputs required by the legal services sector (Dutch: Juridische diensten en administratie), CBS, <https://www.cbs.nl/nl-nl/maatwerk/2020/29/aanbod-en-gebruiktabelen-en-input-outputtabelen>, (26-1-2022); note that 2019 values are selected to omit the effect of Covid-19 on the economy

Central Division is projected to grow year-over-year with 10% for years 6-14 after the initially envisioned transitional period of 5 years. Cumulative economic impact linked to the primary process of the UPC Central Division in The Hague is 1.4 €b after 14 years. This does not include the increased growth of top sectors due to the strengthened ecosystem of which a robust quantification is beyond the scope of this assessment.

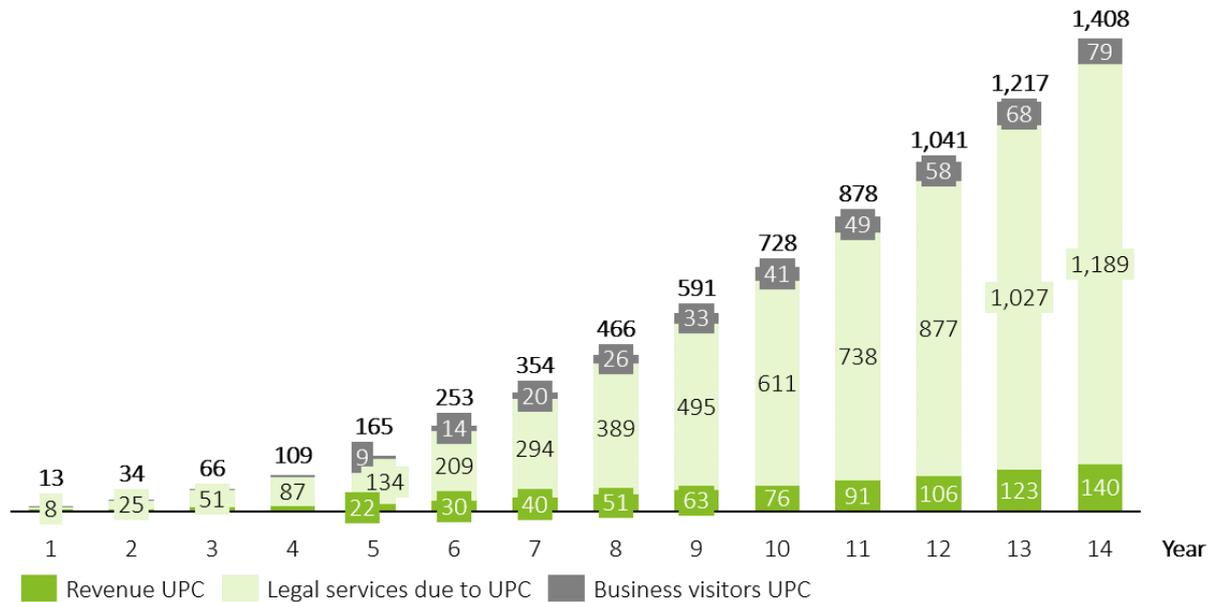


Figure 18 The cumulative economic impact linked to the primary process of the UPC Central Division in The Hague is 1.4 €b after the maximum transitional period of 14 years.

2.5 Economic impact on The Hague region

In previous sections the economic impact of a relocation of the UPC Central Division to The Hague for the Netherlands of as a whole is assessed. Since the intention is that the Central Division would be located in The Hague, the economic impact on The Hague region specifically is of interest. Quantification of the economic impact for The Hague region is beyond the scope of this impact assessment, but it is plausible that specific elements that make up the total economic impact are more likely to affect The Hague.

The Hague region already has a strong position in the patent and legislation sectors, hosting the EPO in Rijswijk and being positioned as international ‘city of peace and justice’.⁷³ Besides, The Hague has the intention to host the Local Division of the UPC.⁷⁴ Furthermore, The Hague has a strong LSH and Horticulture ecosystem.⁷⁵ The regional ecosystem would be further strengthened when hosting the UPC Central Division with focus on Human Necessities and Chemistry. The strengthened regional ecosystem could lead to increased economic impact due to autonomous growth of these sectors. For instance, the international non-profit organizations based in The Hague (in)directly provide more than 40.000 jobs in the region and have a direct yearly spending of 2.9 €b (see section 2.2.1). Therefore, even a small growth of this ecosystem could lead to significant impact on The Hague region.

Direct spending by the UPC (10.9 €m in year 14) is expected to have mostly a direct effect on The Hague region in terms of facility rent and services. The impact of indirect and induced effects (2.4 €m

⁷³ Municipality The Hague, brochure The Hague city of peace and justice, <https://thehague.com> (10-2-2022)

⁷⁴ Letter to Dutch ministers of EZK and foreign affairs by Municipality The Hague and other parties concerning relocation of the UPC Central Division to The Hague, December 10th 2021

⁷⁵ <https://www.innovationquarter.nl/> (16-2-2022)

and 4.6 €m in year 14 respectively) is expected to be more spread out over the Netherlands dependent on where employees spend their wages and where facility services obtain their inputs.

Part of the direct impact of legal services due to the UPC (82.1 €m in year 14) is expected to end up in The Hague region, dependent on where legal firms are located. Given the position of The Hague as international 'city of peace and justice' hosting many international organizations in the legal sector⁷⁶ and its strong local ecosystem in the LSH and Horticulture sectors⁷⁷, the region has everything to attract part of the additional legal services. The impact of indirect and induced effects (26.4 €m and 53.5 €m in year 14 respectively) is expected to be more spread out over the Netherlands dependent on where legal services obtain their inputs.

Direct effect of business visitors (4.9 €m in year 14) is expected to end up mostly in The Hague since most of visitors' spending will be done regionally. The impact of indirect and induced effects (2.5 €m and 3.2 €m in year 14 respectively) depends on where services (e.g. restaurants) obtain their inputs.

⁷⁶ Municipality The Hague, brochure The Hague city of peace and justice, <https://thehague.com> (10-2-2022)

⁷⁷ <https://www.innovationquarter.nl/> (16-2-2022)

3 Conclusion and discussion

Relocation of the UPC Central Division from London to The Hague would (1) further strengthen the business ecosystem and lead to autonomous growth of a number of top sectors, (2) strengthen the position of The Hague as international 'city of peace and justice' and (3) lead to a economic impact directly linked to the primary process of the UPC of 191 €m per annum in its 14th year of operation.

Relocation of the UPC Central Division from London to The Hague would strengthen the Agriculture and food, Chemistry, Energy, Horticulture and propagation materials, Life sciences and health and Water sectors and broader ecosystem in the Netherlands. Following the relocation of the EMA to the Netherlands, the UPC Central Division would be a major next step in building this internationally strong ecosystem. Economic impact of the strengthened ecosystem can be significant; even a growth of 1% of the top sectors closely related to the focus area of the seat of the UCP Central Division would result in 710 €m additional added value to the Dutch economy per year.

A relocation of the UPC Central Division to The Hague would strengthen the position of The Hague as international 'city of peace and justice'. Furthermore, the local ecosystem would be further strengthened, specifically for the Life sciences and health and Horticulture sectors. Finally, part of the economic impact linked to the primary process of the UPC Central Division is expected to end up in The Hague region, especially concerning direct spending of the UPC in terms of facility and personnel and business visitors.

Besides strengthening the ecosystem, a relocation of the UPC Central Division to The Hague has economic impact directly linked to the primary process of the UPC. This economic impact grows with the number of cases handled at the court towards 191 €m in year 14 when the UPC transitional period will have ended. 85% (162 €m) of the economic impact directly linked to the primary process of the UPC Central Division is projected to be related to legal services. Economic impact related to legal services will be partly captured by legal service providers, mainly due to the direct effects of 82.1 €m in year 14. Due to a large ripple effect of legal service providers, indirect and induced effects of 79.9 €m in year 14 will be mainly captured by other sectors such as the consultancy and employment agency sectors. Previous studies have assessed the economic impact of a UPC Central Division – one of the more extensive studies has been carried out for the previously envisioned Central Division in London.⁷⁸ The study found a much higher economic impact which is explained by differences in some key assumptions that would be overestimates for a Central Division in The Hague. When these differences are corrected, see Appendix B, the results from the London study and this assessments are comparable. A study on a Central Division in Ireland results in a similar economic impact as this assessment, see Appendix B. Hence, both comparisons serve as a validation of this assessment.

⁷⁸ Economic Impact of Alternative Locations for the Central Division of the Unified Patent Court, IPLA, 2012

Appendix A | IPC classes

Table 6 and Table 7 provide IPC classes A (Human Necessities) and C (Chemistry and metallurgy) and their relation to the Dutch national top sectors⁷⁹:

- Agriculture and food (A)
- Chemistry (C)
- Energy (E)
- Horticulture and propagation materials (H)
- Life sciences and health (L)
- Water (W)

Table 6 IPC classes A (Human Necessities) and their relation to the Dutch top sectors Agriculture and food (A), Chemistry (C), Energy (E), Horticulture and propagation materials (H), Life sciences and health (L) and Water (W).

		Class	Relevant top sectors					
			A	C	E	H	L	W
Agri- culture	A01	AGRICULTURE; FORESTRY; ANIMAL HUSBANDRY; HUNTING; TRAPPING; FISHING	V			V		
	A21	BAKING; EDIBLE DOUGHS	V					
Food- stuffs; tobacco	A22	BUTCHERING; MEAT TREATMENT; PROCESSING POULTRY OR FISH	V					
	A23	FOODS OR FOODSTUFFS; TREATMENT THEREOF, NOT COVERED BY OTHER CLASSES	V					
	A24	TOBACCO; CIGARS; CIGARETTES; SIMULATED SMOKING DEVICES; SMOKERS' REQUISITES						
	A41	WEARING APPAREL						
Personal or domestic articles	A42	HEADWEAR						
	A43	FOOTWEAR						
	A44	HABERDASHERY; JEWELLERY						
	A45	HAND OR TRAVELLING ARTICLES						
	A46	BRUSHWARE						
	A47	FURNITURE; DOMESTIC ARTICLES OR APPLIANCES; COFFEE MILLS; SPICE MILLS; SUCTION CLEANERS IN GENERAL						
	A61	MEDICAL OR VETERINARY SCIENCE; HYGIENE	V	V			V	
	A62	LIFE-SAVING; FIRE-FIGHTING						
	A63	SPORTS; GAMES; AMUSEMENTS						
	A99	SUBJECT MATTER NOT OTHERWISE PROVIDED FOR IN THIS SECTION						

⁷⁹ Analysis by The Netherlands Institute of Patent Attorneys (Dutch: Orde van octrooigemachtigden)

Table 7 IPC classes C (Chemistry and metallurgy) and their relation to the Dutch top sectors Agriculture and food (A), Chemistry (C), Energy (E), Horticulture and propagation materials (H), Life sciences and health (L) and Water (W).

Class		Relevant top sectors					
		A	C	E	H	L	W
Chemistry	C01	INORGANIC CHEMISTRY	V				
	C02	TREATMENT OF WATER, WASTE WATER, SEWAGE, OR SLUDGE	V				V
	C03	GLASS; MINERAL OR SLAG WOOL	V				
	C04	CEMENTS; CONCRETE; ARTIFICIAL STONE; CERAMICS; REFRACTORIES	V				
	C05	FERTILISERS; MANUFACTURE THEREOF	V	V		V	
	C06	EXPLOSIVES; MATCHES	V				
	C07	ORGANIC CHEMISTRY	V	V			V
	C08	ORGANIC MACROMOLECULAR COMPOUNDS; THEIR PREPARATION OR CHEMICAL WORKING-UP; COMPOSITIONS BASED THEREON	V				
	C09	DYES; PAINTS; POLISHES; NATURAL RESINS; ADHESIVES; COMPOSITIONS NOT OTHERWISE PROVIDED FOR; APPLICATIONS OF MATERIALS NOT OTHERWISE PROVIDED FOR	V				
	C10	PETROLEUM, GAS OR COKE INDUSTRIES; TECHNICAL GASES CONTAINING CARBON MONOXIDE; FUELS; LUBRICANTS; PEAT	V	V			
	C11	ANIMAL OR VEGETABLE OILS, FATS, FATTY SUBSTANCES OR WAXES; FATTY ACIDS THEREFROM; DETERGENTS; CANDLES	V				
	C12	BIOCHEMISTRY; BEER; SPIRITS; WINE; VINEGAR; MICROBIOLOGY; ENZYMOLOGY; MUTATION OR GENETIC ENGINEERING	V				V
	C13	SUGAR INDUSTRY	V				
	Metallurgy	C14	SKINS; HIDES; PELTS; LEATHER				
C21		METALLURGY OF IRON	V				
C22		METALLURGY; FERROUS OR NON-FERROUS ALLOYS; TREATMENT OF ALLOYS OR NON-FERROUS METALS	V				
C23		COATING METALLIC MATERIAL; COATING MATERIAL WITH METALLIC MATERIAL; CHEMICAL SURFACE TREATMENT; DIFFUSION TREATMENT OF METALLIC MATERIAL; COATING BY VACUUM EVAPORATION, BY SPUTTERING, BY ION IMPLANTATION OR BY CHEMICAL VAPOUR DEPOSITION, IN GENERAL; INHIBITING CORROSION OF METALLIC MATERIAL OR INCRUSTATION IN GENERAL	V				
C25		ELECTROLYTIC OR ELECTROPHORETIC PROCESSES; APPARATUS THEREFOR	V	V			
C30		CRYSTAL GROWTH	V				
Combinatorial technology	C40	COMBINATORIAL TECHNOLOGY	V				
	C99	SUBJECT MATTER NOT OTHERWISE PROVIDED FOR IN THIS SECTION	V				

Appendix B | Comparison with reference impact assessments

Table 8 compares economic impact and underlying key assumptions between this assessment and an impact assessment (done by IPLA) on the London Central Division. Economic impact differs significantly, which can be mainly explained by differences in the assumed number of cases per year, average legal costs per case per party and the attribution of these services for the hosting country.

Table 8 The difference between economic impact resulting from this impact assessment and a study by IPLA for the UK (London) is mainly explained by a difference in the number of cases per year, the average legal costs per case per party and the attribution factor of legal costs in the hosting country of the UPC Central Division.

Variable	UK impact assessment (2012) ⁸⁰	NL impact assessment (2022)	Difference factor	Notes
Cases per year	750-1000	300-400	2,5	UK impact assessment was performed for originally envisioned singular central division, NL impact assessment for one of the three central divisions
Average legal costs per case per party	750-1500 €k	300 - 800 €k	2-2,5	UK assessment based on anecdotal evidence that 'low cost' jurisdictions have average costs of over 500 €k per side, and assumes that due to higher importance of European-wide jurisdiction at the UPC compared to national courts the litigation costs per party could be much higher
Attribution legal costs in country hosting the Central Division	60-80 %	30-50 %	1,5-2	UK assessment assumes high attribution of legal activities to the hosting country without clear arguments
Economic impact (year 14)	569 – 1968 £m	93-362 €m	5-6	Direct result of differences in key assumptions

An analysis by Ibec on the Central Division moving to Ireland results in a total economic impact in year 14 of 112 €m to 170 €m with a comparable number of cases per year, but does not provide insight in other assumptions.⁸¹

Both comparisons validate the order of magnitude of this assessment and underline the importance of proper assumptions on key variables.

⁸⁰ Economic Impact of Alternative Locations for the Central Division of the Unified Patent Court, IPLA, 2012

⁸¹ Ibec, The Unified Patent Court: The Irish Business Case, 2021

Appendix C | Economic impact assessment coefficients

Table 9 shows the coefficients used in this impact analysis to translate direct effects to indirect and induced effects based on CBS data.⁸² The CBS data shows how revenue in one sector leads to revenue in other sectors. To calculate economic impact, the relation between added value in different sectors is required. Added value is the difference between revenue and costs for a product or service. The direct coefficient is calculated by dividing the added value with the revenue for a given sector. Indirect and induced coefficients are determined using the model first described by Wassily Leontief.⁸³

Table 9 UPC impact assessment components mapped to CBS sectors and coefficients.

UPC impact assessment	CBS sector	Direct coefficient	Indirect coefficient	Induced coefficient
Building exploitation	Exploitatie onroerend goed excl. eigen woningbezit	0,66	0,85	1,00
Legal services	Juridische diensten en administratie	0,66	0,88	1,31
Other business services	Overige zakelijke dienstverlening	0,47	0,77	1,17
Lodging	Logiesverstrekking	0,50	0,77	1,09
Catering	Restaurants en cafés	0,49	0,68	1,00
Retail	Detailhandel (niet in auto's)	0,62	0,87	1,25
Culture	Creatieve diensten, kunst en amusement	0,49	0,82	1,12
Transport	Vervoer over land	0,40	0,67	1,03
Building renovation	Algemene bouw en projectontwikkeling	0,24	0,61	0,86
Facility services	Schoonmaakbedrijven, hoveniers e.d.	0,63	0,81	1,17
Interpretation services	Design, fotografie, vertaalbureaus	0,49	0,75	1,06

⁸² CBS, <https://www.cbs.nl/nl-nl/maatwerk/2020/29/aanbod-en-gebruiktabellen-en-input-outputtabellen>, (26-1-2022); note that 2019 values are selected to omit the effect of Covid-19 on the economy

⁸³ Wassily Leontief, Input-Output Economics, 1986

Appendix D | Economic impact in high and low scenario

In the main body of this report, the results of the medium scenario are shown and discussed for the economic impact directly linked to the primary process of the UPC Central Division. In the following appendix, the results of the high and low scenario are presented.

3.1.1 High scenario

In the high scenario, a high number of cases and high legal costs per case per party (800 €k) are assumed.

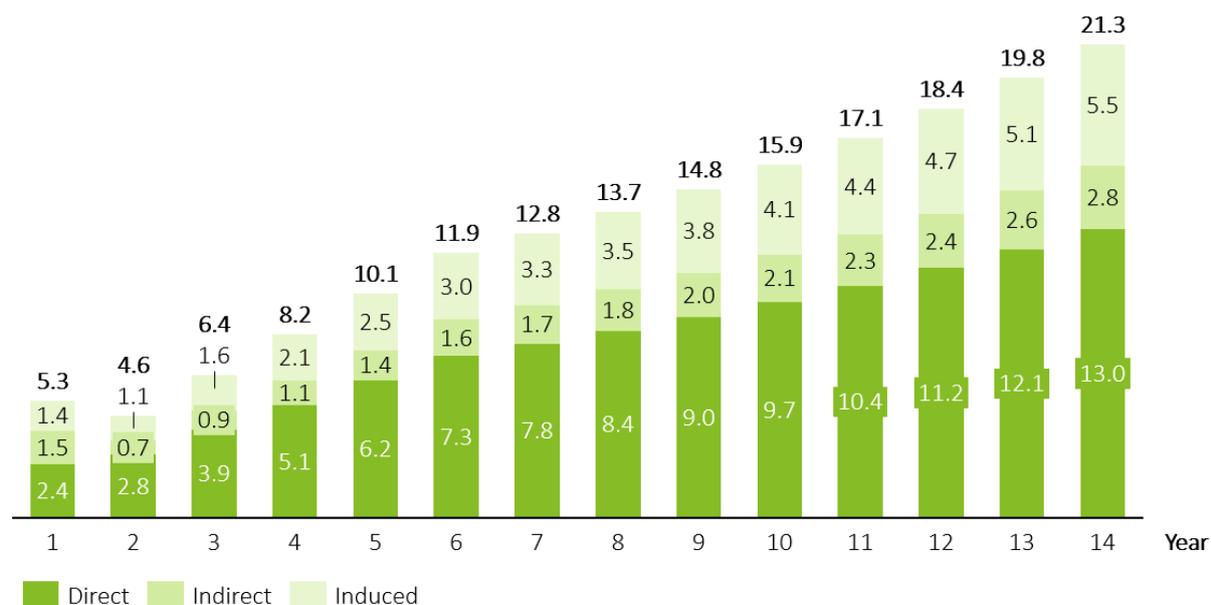


Figure 19 Economic impact due to revenue of the UPC Central Division increases to 21.3 €m in year 14 in the high scenario.

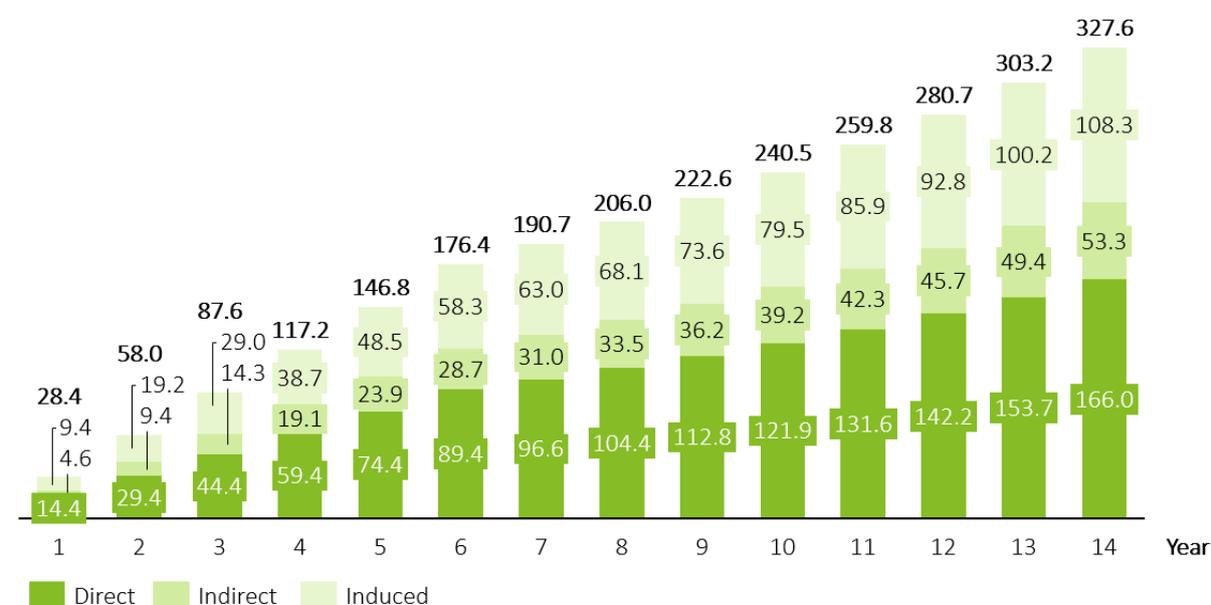


Figure 20 Economic impact through legal services due to the UPC Central Division increases to 327.6 €m in year 14 in the high scenario.

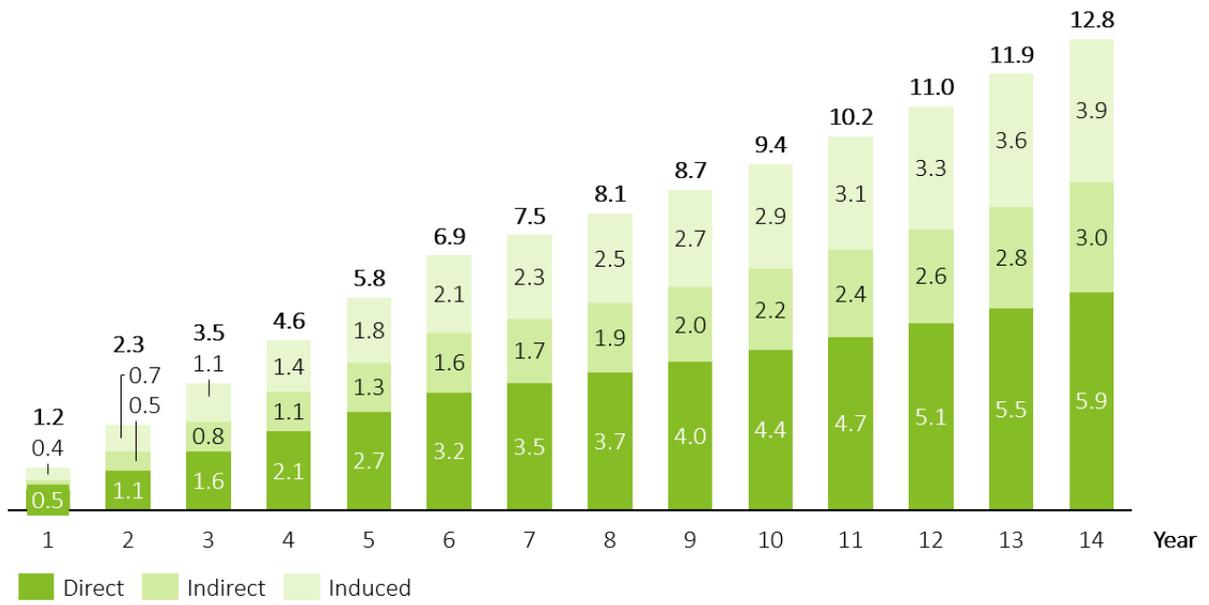


Figure 21 Economic impact through business visitors due to the UPC Central Division increases to 12.8 €m in year 14 in the high scenario.

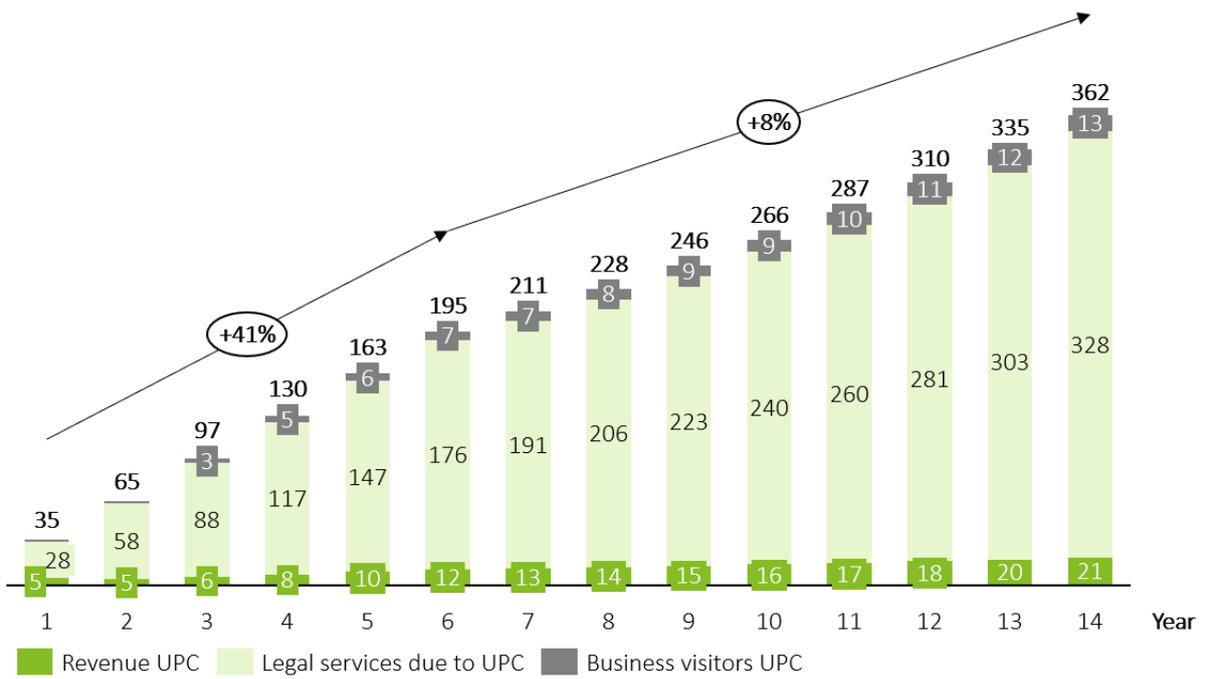


Figure 22 Total economic impact linked to the primary process of the UPC Central Division increases to 362 €m in year 14 in the high scenario.

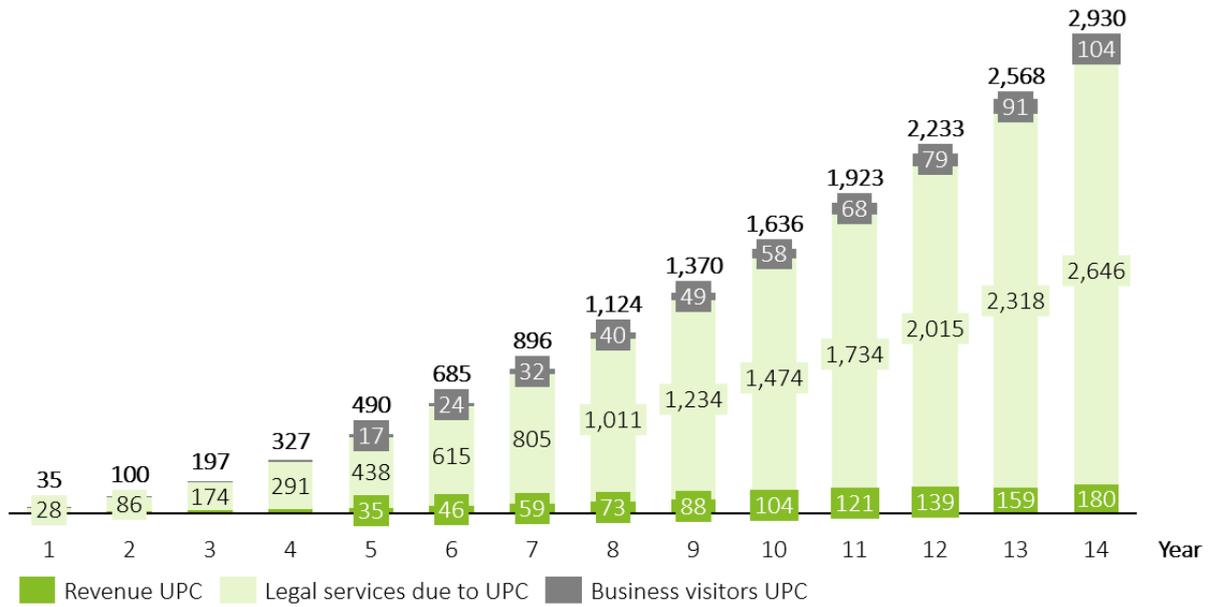


Figure 23 Cumulative economic impact linked to the primary process of the UPC Central Division increases to 2930 €m in year 14 in the high scenario.

3.1.2 Low scenario

In the low scenario, a low number of cases and low legal costs per case per party (300 €k) are assumed.

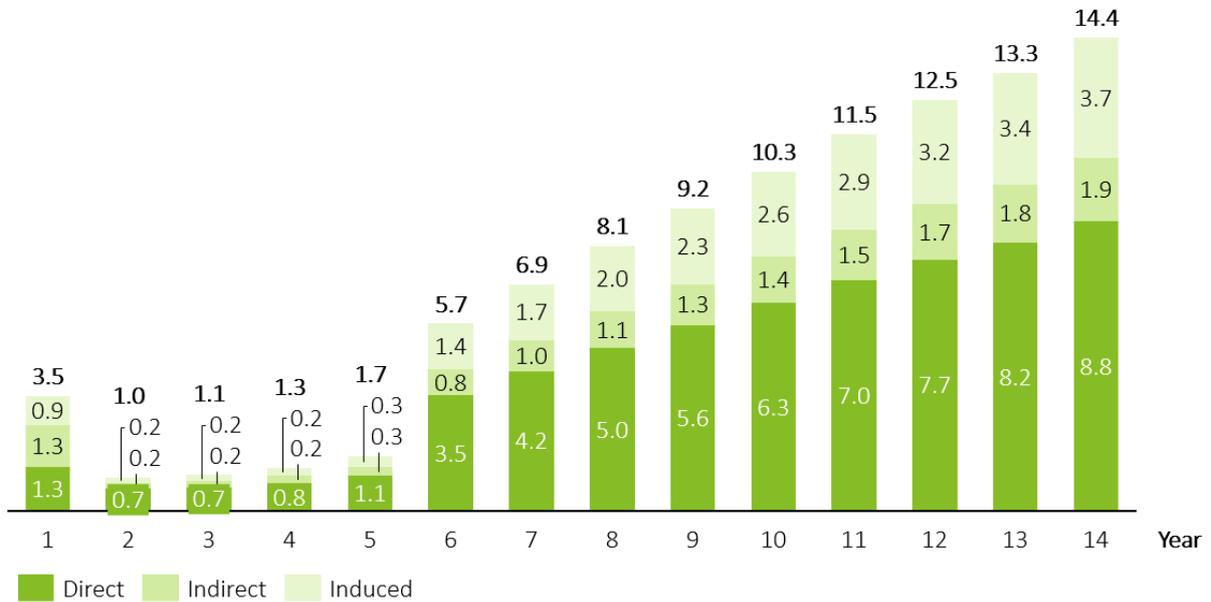


Figure 24 Economic impact due to revenue of the UPC Central Division increases to 14.4 €m in year 14 in the low scenario.

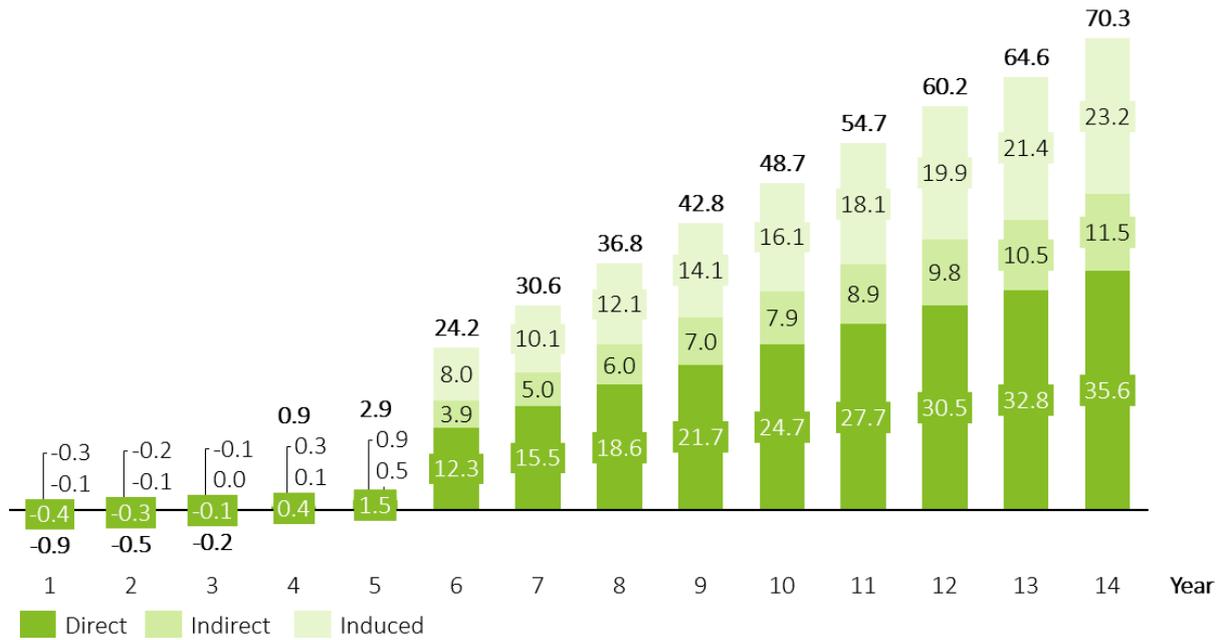


Figure 25 Economic impact through legal services due to the UPC Central Division increases to 70.3 €m in year 14 in the low scenario. Initial economic impact negative due to UPC revenue which is subtracted from legal services to account for court fees being higher than legal services provided by firms based in the Netherlands.

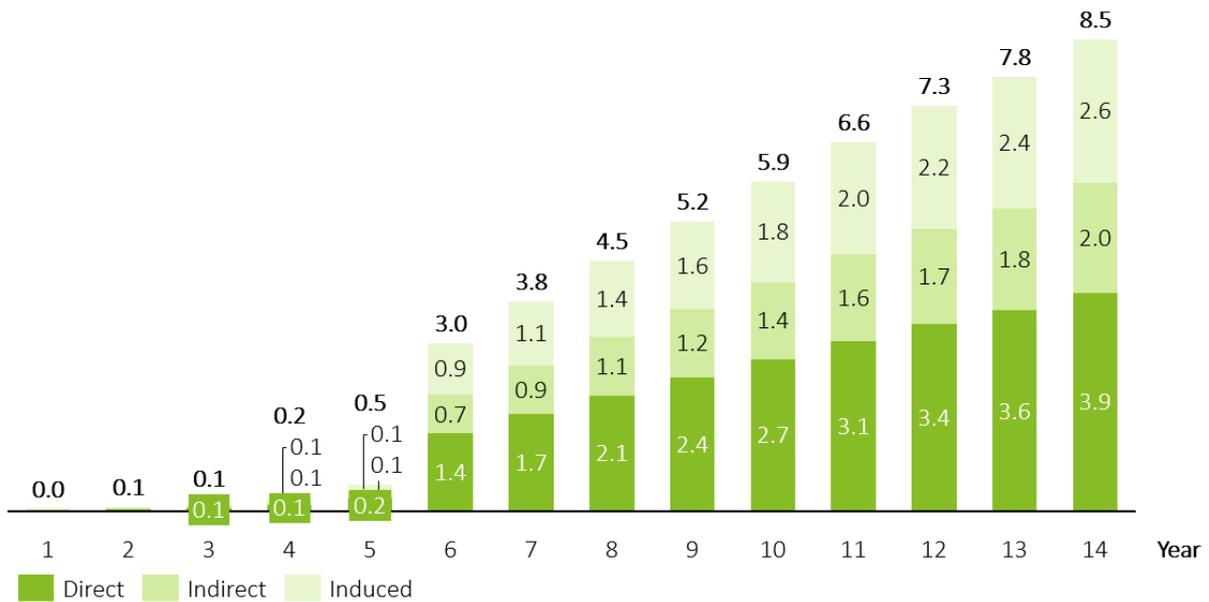


Figure 26 Economic impact through business visitors due to the UPC Central Division increases to 8.5 €m in year 14 in the low scenario.

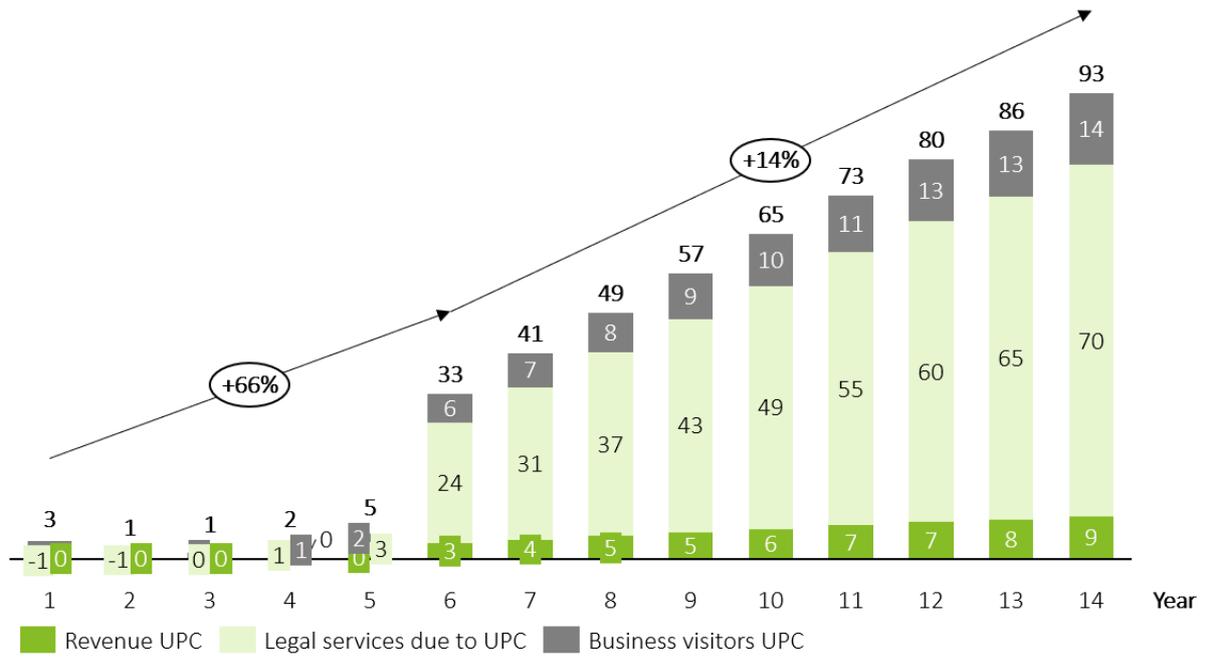


Figure 27 Total economic impact linked to the primary process of the UPC Central Division increases to 93 €m in year 14 in the low scenario.

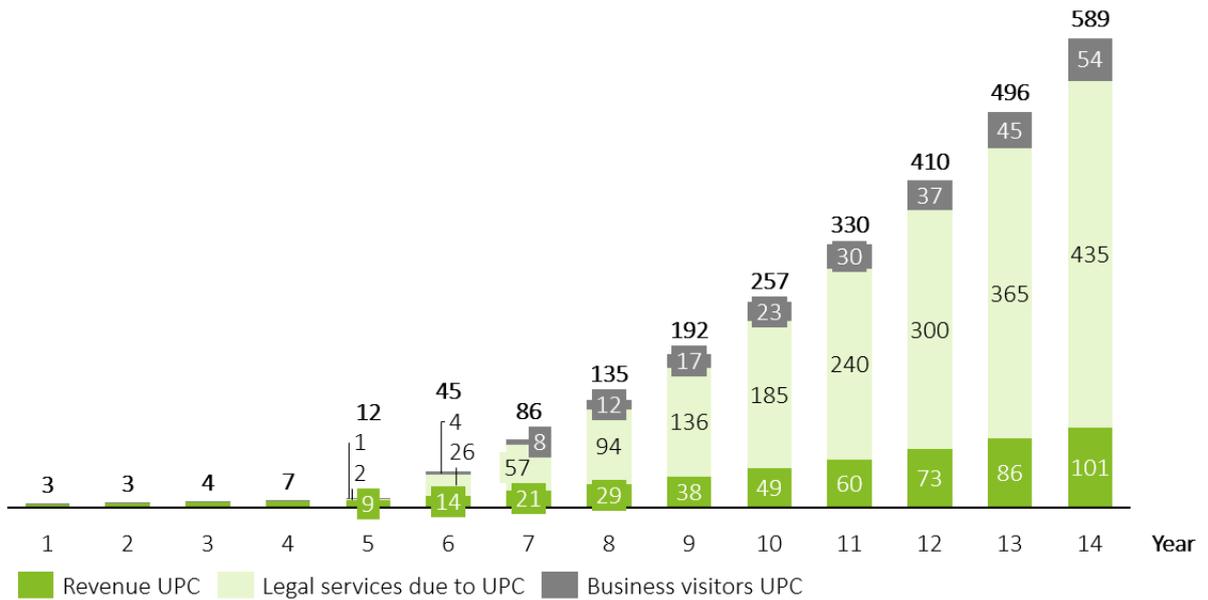


Figure 28 Cumulative economic impact linked to the primary process of the UPC Central Division increases to 589 €m in year 14 in the low scenario.