



**Intellectual Property,
Jobs & Prosperity in the
Nordic Region
2026 Index**

Dr. Nima Sanandaji

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- Counterfeiting and piracy in the Nordic region is estimated to lead to a crowding out of 200,100 jobs - **77 700 jobs in Sweden**, 50 000 in Denmark, 34,900 in Norway, 33,600 in Finland and 3,800 in Iceland.
 - Value creation of 22.6 billion euros (SEK 246 billion) are crowded out of the Nordic economies by counterfeiting and piracy - **8.4 billion euros (SEK 93 billion) in Sweden**, 6.4 billion euros in Denmark, 4.2 billion euros in Norway, 3.2 billion euros in Finland and 470 million for Iceland.
 - Tax revenue loss is 6.0 billion euros in Nordics by crowding out effect of counterfeiting and piracy - **2.2 billion euros (SEK 24 billion) in Sweden**, 1.7 billion euros in Denmark, 1.1 billion euros in Norway, 840 million euros in Finland and 130 million in Iceland.

Förord

Syftet med denna rapport är att öka kunskapen och förståelsen för hur viktig immaterialrätten är för Sverige och Norden. I år märks det att frågan om en modern och välfungerande immaterialrätt är oerhört aktuell.

Vi har under senare tid sett flera positiva åtgärder i Sverige, såsom regeringens samlade inriktning för immaterialrätt samt mer resurser till information och kunskapshöjning. Immateriella rättigheter värderas högt och för att bibehålla värdet måste det finnas ett fungerande skydd och sanktionsmöjligheter när rättigheterna inte respekteras. Samtidigt finns en befogad oro för hur immaterialrätten ska skyddas vid användandet av generativ AI.

För egen del slås jag av hur en generation som lärt sig hur viktigt det är att källgranska utmanas. Nu kan vi snabbt och enkelt få ett AI-svar med information från många källor med liten möjlighet att gå tillbaka till ursprunget. För att AI-modellerna ska kunna ge bra och korrekta svar och resultat krävs att den data som modellerna tränas på har hög kvalitet. Inte sällan består träningsdata av upphovsrättsliga verk. Någons unika skapelse bidrar till AI-modellernas utdata.

När jag i höstas skulle förhöra ett av mina barn inför ett prov så hade barnet svarat på lärarens instuderingsfrågor genom att använda en AI-bot. När jag bad mitt barn om läromedlet i det aktuella ämnet säger barnet att det inte behövs utan att vi bara kan använda svaren som genererats av AI-boten i stället. AI-botar kan i många fall vara ett bra och snabbt sätt att få svar på frågor, men frågan är varifrån underlaget i svaren kommer och hur dessa källor kan granskas och värderas. Det kan få konsekvensen att den som lyckas dominera AI-svaret också styr vilken fakta som släpps fram. Det medför att framtagandet av bra läromedel och kurslitteratur blir grundläggande framöver för att säkerställa korrekta och faktagranskade källor. De aktörer som tar fram svensk kurslitteratur vittnar om hur intrång är ett hot mot möjligheterna att kunna få ersättning för det arbete som krävs för att ta fram ny kurslitteratur.

Trots att större fokus har riktats mot vikten av immateriella rättigheter så fortsätter immaterialrättsintrången inför öppen ridå och i mycket stor skala. En ny svensk offentlig utredning som syftar att motverka illegal iptv har presenterats under hösten. Den innehåller en palett av åtgärder vilka alla behövs och som, väl på plats, kommer att hjälpa Sverige i

arbetet för att motverka intrång och stävja brottslighet. Samverkan mellan olika aktörer, myndigheter och lagstiftare kommer att fortsätta vara avgörande för ett fungerande skydds- och sanktionssystem.

I årets rapport har det gjorts fördjupningsintervjuer inom fyra aktuella immaterialrättsområden: offentlig upphandling, olovlig konsumtion av svensk kurslitteratur, nyttjande av verk inom generativ AI samt idrottens värdekedjor.

Rapporten är möjlig tack vare Nätverket för en modern immaterialrätt, en bred grupp engagerade aktörer som har den gemensamma viljan att verka för en modern immaterialrätt. Årets fokusområden för Nätverket kommer att vara:

- Upphovsrätten måste respekteras vid nya teknikskiften. Frågan om hur upphovsrätten ska hanteras inom AI är därför av avgörande betydelse.
- Förbättra hanteringen av immaterialrätt inom det offentliga, såsom Patent- och registreringsverket (PRV), Post- och telestyrelsen (PTS), Kungliga biblioteket (KB) och andra myndigheter samt vid offentlig upphandling.
- Åtgärder mot intrång i live-sändningar behöver förbättras. Det måste bli enklare och mer effektivt att blockera illegala tjänster. Därför bör frågan om effektivare blockering utredas.
- Säkerställ tillräckliga resurser och kompetens i arbetet mot immaterialrättsbrott inom polis- och åklagarmyndigheterna.



Sara Lindbäck, Nätverket för en modern immaterialrätt.

Sammanfattning

- Denna studie undersöker hur många jobb och vilket ekonomiskt värde som företag med intensivt beroende av immateriella rättigheter bidrar med. Företag som är starkt beroende av varumärken, patent, upphovsrätt och design är i fokus för studien. Förfalskning och piratkopiering i Norden beräknas leda till utträngning av 200 000 jobb, 22,6 miljarder euro (246 miljarder svenska kronor) i värdeskapande samt 6,0 miljarder euro (65,4 miljarder kronor) i skatteintäkter.
- Antalet jobb som trängs ut av varumärkesförfalskning och piratkopiering uppskattas till 77 700 i Sverige, 50 000 i Danmark, 34 900 i Norge och 33 600 i Finland och 3 800 i Island. Det ekonomiska värdet som trängs undan uppgår till 8,4 miljarder euro (92 miljarder svenska kronor) i Sverige, 6,4 miljarder euro i Danmark, 4,2 miljarder euro i Norge och 3,1 miljarder euro i Finland och 470 miljoner euro i Island.
- Illegal användning av immateriella rättigheter leder även till att skatteintäkter motsvarande 2,2 miljarder euro (24 miljarder kronor) i Sverige trängs undan. Motsvarande summa är 1,7 miljarder euro i Danmark, 1,1 miljarder euro i Norge och 840 miljoner euro i Finland och 130 miljoner euro i Island.
- Aktuell analys visar att värdet av immateriella investeringar i utvecklade ekonomier ökade mer än tre gånger snabbare än materiella investeringar mellan 2008 och 2024. Särskilt Sveriges ekonomi är starkt beroende av immateriella investeringar, vilket skapar ett behov av att bättre skydda immateriella rättigheter.
- En statlig offentlig utredning föreslår ett flertal åtgärder för att komma till rätta med problemet med illegal iptv, bland annat genom att det blir tydligare att det är förbjudet för enskilda att olovligen konsumera innehåll på detta sätt. Detta är ett konstruktivt steg som behöver kompletteras med snabbare blockering av illegala tjänster online. Fortsatta reformer för att begränsa illegala sändningar behövs inte minst för att stärka idrottens värdekedjor. När sportsändningar konsumeras illegalt undermineras finansieringen till idrotten, vilket påverkar kanalerna som sänder idrotten, arenorna, idrottarna, tränarna, klubbarna och ungdomsaktiviteter.
- En stor del av ekonomisk aktivitet utgörs av offentlig upphandling av tjänster och varor från privat sektor. Det är viktigt att undvika att offentlig upphandling indirekt uppmuntrar till plagiat. Om en myndighet till exempel vill ha en viss möbel och beslutar att inte betala för originalet bör beställningen avse en annan befintlig produkt, inte efterfråga en nära kopia eftersom det kan uppmuntra till plagiat.

- Olaglig tillgång till kurslitteratur på högskolor tränger undan den lagliga marknaden. När studenter genomgår sin utbildning utan att konsumera kurslitteratur lagligt kan detta påverka deras kunskapsnivå samt normerna kring att följa samhällets regler. För de nordiska länderna som har små marknader på inhemska språk kan olaglig spridning leda till att kurslitteratur på de nordiska språken slutar produceras.
- AI-modeller spelar en allt viktigare roll i ekonomin, och det är viktigt att de bygger på respekt för immateriella rättigheter. Det är viktigt att utvecklare av AI-modeller betalar för de rättigheter som används i framtagande av modellerna.
- Enklare och mer kostnadseffektiva sätt att försvara immateriella rättigheter behövs; särskilt för mindre företag. Rättsväsendets resurser och kompetenser bör stärkas ytterligare. Förebyggande åtgärder, såsom informationskampanjer om piratkopiering i skolor, är också en viktig del av lösningen. Aktuell forskning finner samband mellan immateriella rättigheter, företags innovationsaktivitet och förmågan att uppnå grön tillväxt. Att främja immateriella rättigheter kan stimulera hållbar ekonomisk utveckling.

Om denna studie

Studien Intellectual Property, Jobs & Prosperity in the Nordic Region är ett återkommande index. Det mäter hur mycket av jobben och det ekonomiska värdet som skapas i de nordiska länderna som är kopplat till företag som är starkt beroende av immateriella rättigheter. I princip är alla företag i en modern ekonomi beroende av immateriella rättigheter i någon mån, till exempel för skydd av företagets varumärke. Vissa företag är dock starkt beroende, vilket innebär att deras verksamhet inte skulle kunna ske om de inte hade skydd för varumärken, patent, upphovsrätt och designrättigheter.¹

Det ekonomiska bidraget från företag med starkt beroende av immateriella rättigheter beräknas i Sverige, Danmark, Finland, Norge och Island – på både nationell och regional nivå. Därefter görs en uppskattning av hur många jobb och hur mycket värdeskapande som trängs undan i varje land och region på grund av intrång i immateriella rättigheter. Således kan den ekonomiska bördan av förfalskning och piratkopiering uppskattas. Denna studie inkluderar även resultat från semistrukturerade intervjuer med svenska branschrepresentanter om hur utmaningen med intrång i immateriella rättigheter har förändrats under det senaste året. Baserat på intervjuerna och den senaste utvecklingen presenteras konkreta lösningar för att minska förekomsten av intrång i immateriella rättigheter.

Denna rapport skrevs av Dr Nima Sanandaji, ordförande för tankesmedjan European Centre for Entrepreneurship and Policy Reform (ECEPR), med stöd från följande aktörer genom Nätverket för en modern immaterialrätt:

- Dataspelsbranschen
- Film & TV-Producenterna
- Föreningen Svensk Elitfotboll (SEF)
- IFPI Sverige
- Läromedelsförfattarna
- Medieföretagen
- Musikförläggarna
- Nordic Content Protection
- Rättighetsalliansen
- SHL (Svenska Hockeyligan)
- Stim
- Svenska Förläggareföreningen
- Sveriges Filmuthyrareförening
- Sveriges Författarförbund
- Swedish Film
- Trä- och Möbelföretagen
- TV4
- Viaplay

¹ EUIPO (2013, 2016).

Foreword

The purpose of this report is to increase knowledge and understanding of how important intellectual property rights are for Sweden and the Nordic region. This year, it is noticeable that the issue of modern and well-functioning intellectual property rights is extremely relevant.

We have recently seen several positive measures in Sweden, such as the government's comprehensive direction on intellectual property rights in its different ministries, and more resources to information and knowledge raising in the budget. Intellectual property rights are highly valued and to maintain their value, there must be effective protection and sanctions when rights are not respected. At the same time, there is a legitimate concern about how intellectual property rights should be protected when using generative AI.

For my part, I am struck by how a generation that has learned how important it is to check sources is being challenged. Now we can quickly and easily get an AI answer with information from many sources with little possibility to go back to the origin. For AI models to be able to provide good and correct answers and results, the data on which the models are trained must be of high quality. Training data often consists of copyrighted works. Someone's unique creation contributes to the output of AI models.

When I was going to question one of my children before an exam last fall, the child answered the teacher's study questions using an AI bot. When I asked my child for the textbook in the subject, the child said that it was not needed and that we could just use the answers generated by the AI bot instead. AI bots can in many cases be an effective way to get answers to questions, but the question is what the source for the answers was and how these sources can be reviewed and evaluated. This can have the consequence that whoever manages to dominate the AI answer also controls which facts are presented. This means that the production of good textbooks and course literature will be fundamental in the future to ensure correct and fact-checked sources. The publishers who produce Swedish course literature testify to how infringement is a threat to the possibilities of being able to receive compensation for the work required to produce new course literature.

Despite a stronger emphasis on the importance of intellectual property rights, infringements continue to occur openly and on a large scale. A new Swedish public inquiry aimed at

combating illegal IPTV was presented last fall. It contains a range of measures, all of which are needed and which, once in place, will help Sweden in its work to combat infringements and curb crime. Collaboration between various actors, authorities and legislators will continue to be crucial for a functioning IP-protection and sanction system.

This year's report includes in-depth interviews in four current intellectual property rights areas: public procurement, unlawful consumption of Swedish course literature, use of works in generative AI and sports value chains.

The report is made possible by the Network for modern IP legislation, a broad group of committed actors who share the common desire to work for a modern intellectual property law. This year's focus areas for the Network will be:

- Copyright must be respected in new technological shifts. The question of how copyright should be managed in AI is therefore of crucial importance.
- Improve the handling of intellectual property law in the public sector, such as the Swedish Intellectual Property Office (PRV), The Swedish Post and Telecom Authority (PST), the National Library of Sweden (KB) and other authorities, as well as in public procurement.
- Measures against infringement of live broadcasts need to be improved. It must become easier and more effective to block illegal services. Therefore, the issue of more effective blocking should be investigated.
- Ensure sufficient resources and expertise in the work against intellectual property law violations within the police and prosecutor's offices.



Sara Lindbäck, Network for a modern IP legislation.

Summary

- This study examines the number of jobs and economic values that companies with intensive dependence on intellectual property rights contribute to. Companies that are intensely dependent on trademarks, patents, copyrights and design rights are in focus for the study. Counterfeiting and piracy in the Nordic region is estimated to lead to a crowding out of 200,000 jobs, 22.6 billion euros (SEK 246 billion) in value creation and 6.0 billion euros (SEK 65.4 billion) in tax revenues.
- The number of jobs that are crowded out by counterfeiting and piracy is estimated at 77,700 in Sweden, 50,000 in Denmark, 34,900 in Norway and 33,600 in Finland and 3,800 in Iceland. The economic value displaced amounts to 8.4 billion euros (SEK 93 billion) in Sweden, 6.4 billion euros in Denmark, 4.2 billion euros in Norway, 3.2 billion euros in Finland and 470 million euros in Iceland.
- Illegal use of intellectual property rights also leads to tax revenue losses of 2.2 billion euros (SEK 24 billion) in Sweden. The corresponding amount is 1.7 billion euros in Denmark, 1.1 billion euros in Norway and 840 million euros in Finland and 130 million euros in Iceland.
- According to recent analysis, across developed economies intangible investment grew well over three times faster than tangible investment between 2008–2024. Particularly Sweden is strongly dependent on IP investments, which creates a need to better protect intellectual property rights.
- A Swedish government public inquiry proposes several measures to address the problem of illegal IPTV, including by making it clearer that it is prohibited for individuals to illegally consume content in this way. This is a constructive step that needs to be complemented by faster blocking illegal online streaming. Continued reforms to limit illegal broadcasts are needed, not least to strengthen the value chains of sports. When sports broadcasts are consumed illegally, funding for sports is undermined and it affects channels that broadcast sports, stadiums, athletes, trainers, clubs and youth activities.
- A large part of economic activity is public procurement of services or goods from private actors. It is important to avoid public procurement indirectly encouraging plagiarism. For example, if a public agency wants a particular piece of furniture and decides not to pay for the original, the order should be for another existing product, not a close copy, since the latter practice could encourage plagiarism.
- Illegal access to course literature at universities displaces the legal market. When students complete their education without consuming course literature legally, this can

affect their level of knowledge and the norms around following society's rules. For the Nordic countries that have small markets in their native languages, illegal distribution can lead to the cessation of production of course literature in the Nordic languages.

- AI models play an increasingly important role in the economy, and it is important that they are built on respect for intellectual property rights. Data scraping is currently a common method of obtaining data for AI models. This form of information collection undermines property rights and leads to a higher risk of incorrect information input.
- Simpler and more cost-effective ways of defending intellectual property rights are needed, especially for smaller companies. The resources and skills of the judiciary should be further strengthened. Preventive measures, such as information campaigns about piracy in schools, are also an important part of the solution. Current research shows links between intellectual property rights, companies' innovation activity and the ability to achieve green growth. Promoting intellectual property rights can stimulate sustainable economic development.

About this study

The study *Intellectual Property, Jobs & Prosperity in the Nordic Region* is a recurring index. It measures how much of the jobs, and economic value created, in the Nordic nations, are linked to businesses that are intensely dependent on intellectual property rights. Essentially all law-abiding businesses in a modern economy are dependent on intellectual property rights to some degree, for example protection of the trademark of the business. Some businesses are however intensely dependent, which means that their operations could not happen if they did not have protection for trademarks, patents, copyright, and design rights.²

The economic contribution of businesses with intense dependence on intellectual property rights is calculated in Sweden, Denmark, Finland, Norway and Iceland – on a national as well as regional level. Following this, an estimate is made on how many jobs and how much value creation is crowded out in each country and region, due to intellectual property rights infringements. Thus, the economic burden of counterfeiting and piracy can be estimated. This study also includes results from semi-structured interviews from Swedish industry representatives, on how the challenge of intellectual properties violations have changed during the last year. Based on the interviews and recent developments, concrete solutions are presented to reduce intellectual property infringements.

This report was written by Dr Nima Sanandaji, President of the think tank European Centre for Entrepreneurship and Policy Reform (ECEPR), with support from the following actors through the network A Modern Intellectual Property Law:

- IFPI Sweden
- Media Industries Association
- Nordic Content Protection
- SHL (Svenska Hockeyligan)
- Stim
- Swedish Film
- Swedish Film Distribution Association
- Swedish Games Industry
- Swedish Professional Football Leagues (SEF)
- Swedish Publishers Association
- The Rights Alliance
- The Swedish Association of Educational Writers
- The Swedish Federation of Wood and Furniture Industry
- The Swedish Film & TV Producers
- The Swedish Music Publishers Association
- The Swedish Writers' Union
- TV4
- Viaplay

² EUIPO (2013, 2016).

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Jobs and value creation in intellectual property rights intensive businesses

Significant parts of the Nordic economies are intensely dependent on intellectual property rights. This includes media companies, knowledge intensive industries, knowledge intensive services, IT companies, the fashion industry and trademark dependent trade.

The media companies in the Nordics contribute 187,000 jobs and 16 billion euros in value creation

Media companies operate with the publication and production of books, newspapers, films, computer games, TV and radio. As in other industries, media companies rely heavily on protection for their content and their trademarks. Since production is focused on intangible value, in the form of music for example, the companies in these industries are also intensely dependent on copyright. There is a total of 187,000 people in the Nordics who work in media companies, of which 77,900 in Sweden, 42,500 in Denmark, 31,700 in Finland, 32,200 in Norway and 2,600 in Iceland. In total, the media companies contribute with an economic value creation of 16 billion euros.

Nordic knowledge intensive industries contribute 938,800 jobs and 121 billion euros in value creation

Knowledge intensive industries are companies in the manufacturing industry that are intensely dependent on various forms of intellectual property rights, especially trademarks, design rights and patents. The group includes many different industrial companies, which operate in the production of everything from pharmaceuticals to motor vehicles, furniture, and food. All the industries are intensely dependent on trademarks. Most also have an intense dependence on patents, to protect various product innovations, as well as process innovations. Many are also intensely dependent on design protection for their products. Knowledge intensive industries are, on the other hand, not intensely dependent on copyright, since the value created in the industries takes place in the form of physical products. There is a total of 938,800 people in the Nordics who work in knowledge intensive industries, of which approximately 369,600 in Sweden, 250,300 in Denmark, 167,400 in Finland, 134,600 in Norway and 16,900 in Iceland. In total, the Nordic companies within knowledge intensive industries contribute with an economic value creation of 121 billion euros.

Knowledge intensive services contribute 431,200 jobs and 34 billion euros in value creation

Knowledge intensive services include information services, scientific research and development, advertising and market research, travel agencies, leasing, and office administration. These businesses are intensely dependent on trademarks, and to a lesser extent also on design rights, patents, and copyright. Copyright is, for example, important for companies in information services as well as advertising and market research. Patents are important for knowledge intensive companies in scientific research and development. Design rights are important for companies in advertising and market research, as well as those involved in scientific research and development. There is a total of 431,200 people in the Nordics who work in this part of the economy, of which approximately 181,200 in Sweden, 99,500 in Denmark, 65,600 in Finland, 74,500 in Norway and 10,400 in Iceland. In total, the Nordic companies within knowledge intensive services contribute with an economic value creation of 34 billion euros.

Nordic IT companies contribute 514,100 jobs and 60 billion euros in value created

Information technology (IT) businesses operate in telecommunications, creation of various programs and computer games, related consulting activities, as well as in the manufacture of computers, electronics, and optical products. These companies are intensely dependent on trademarks, design rights, patents, and copyrights. They all rely heavily on trademarks in their operations. The companies that manufacture computers, electronics and optical products are intensely dependent on design rights, as well as on patents and copyrights. Companies in telecommunications have an intense dependence on patents and copyrights. There is a total of 506,500 people in the Nordics who work in IT companies, of which approximately 206,800 in Sweden, 106,100 in Denmark, 103,900 in Finland, 89,700 in Norway and 7,600 in Iceland. In total, the companies within IT contribute with an economic value creation of 60 billion euros, in the Nordic region.

Nordic companies in the fashion industry contribute 21,800 jobs and 1.8 billion euros in value creation

Fashion companies include manufacture of textiles, clothing, leather, and leather products. In addition to heavy reliance on protection for their trademarks, companies also rely heavily on the design of the clothing, fabrics and other fashion products that are developed. The companies that manufacture textiles are also intensely dependent on patents to protect their production techniques. On the other hand, this part of business life is not intensely dependent on copyright, as the value creation takes place in the form of physical products. There is a total of 21,400 people in the Nordics who work in this part of business life, of

which approximately 6,200 in Sweden, 4,900 in Denmark, 5,700 in Finland, 4,600 in Norway and 430 in Iceland. In total, the Nordic companies in fashion contributed with an economic value creation of 1.8 billion euro.

The companies in trademark dependent trade contribute 950,400 jobs and 109 billion euros in value creation

Trademark dependent trade businesses include businesses in wholesale and retail trade, as well as water transport and air transport. The companies in this area of business are intensely dependent on trademarks, and to a lesser extent also on patent rights for the various goods that are sold. There is a total of 950,400 people in the Nordics who work in this part of business economy, of which approximately 340,400 in Sweden, 258,000 in Denmark, 137,700 in Finland, 194,700 in Norway and 19,600 in Iceland. In total, the companies within trademark dependent trade contribute an economic value creation of 109 billion euros, in the Nordic region.

A review of all industries that have an intense dependence on intellectual property rights shows that they contribute a total of 3.0 million jobs in the Nordics.

In total, companies with intense dependence on intellectual property rights contribute 343 billion euros in value creation in the Nordics, and with 3.0 million jobs

A review of all industries that have an intense dependence on intellectual property rights shows that they contribute a total of 3.0 million jobs in the Nordics, of which 1.2 million in Sweden, 761,000 in Denmark, 512,000 in Finland, 530,000 in Norway and 57,000 in Iceland (table 1). In total, the companies contribute with an economic value creation of 343 billion euros in the Nordics, of which 127 billion in Sweden, 97 billion in Denmark, 47 billion in Finland, 64 billion in Norway and 7 billion in Iceland (table 2).

Table 1. Number of employees in industries with intense dependence on intellectual property rights

	Sweden	Denmark	Finland	Norway	Iceland	All Nordics
Information technology	206,800	106,100	103,900	89,700	7,600	514,100
Knowledge intense industries	369,600	250,300	167,400	134,600	16,900	938,800
Media	77,900	42,500	31,700	32,200	2,600	187,000
Fashion	6,200	4,900	5,700	4,600	400	21,800
Trademark dependent trade	340,400	258,000	137,800	194,700	19,600	950,400
Knowledge intense services	181,200	99,500	65,600	74,500	10,400	431,200
Sum	1,182,200	761,300	512,100	530,400	57,400	3,043,400

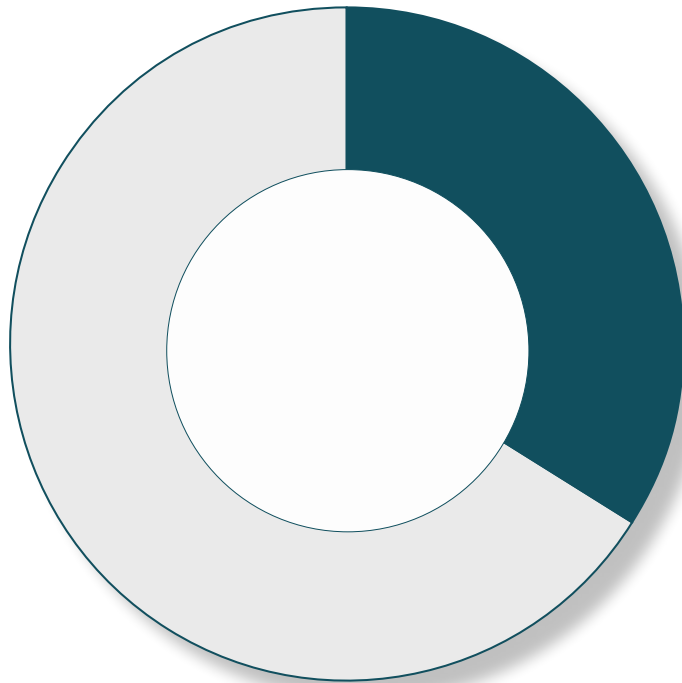
Source: Eurostat, and own calculations.

Table 2. Value creation (millions of euros) in industries with intense dependence on intellectual property rights

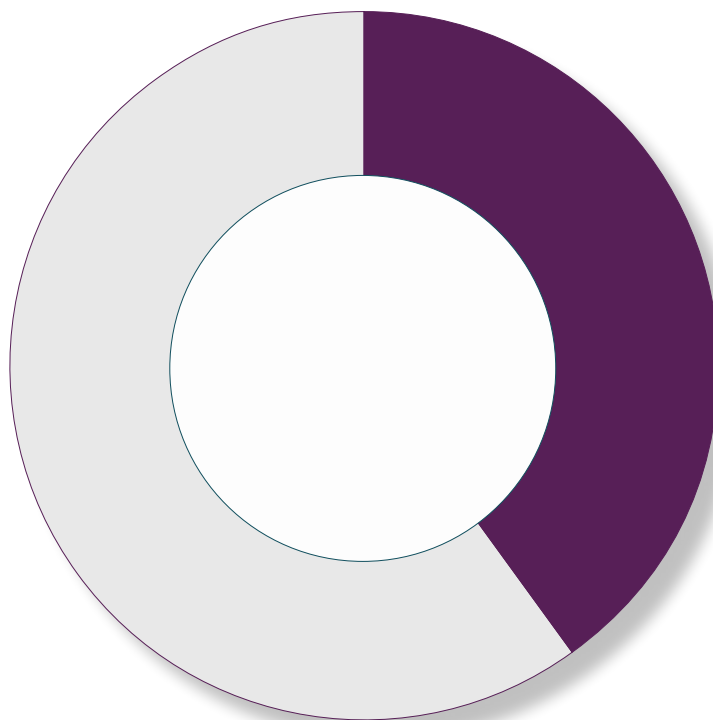
	Sweden	Denmark	Finland	Norway	Iceland	All Nordics
Information technology	24,000	13,200	10,500	12,200	970	60,400
Knowledge intense industries	46,200	34,200	17,600	15,400	2,200	121,400
Media	6,800	3,200	3,700	3,100	150	16,000
Fashion	500	440	430	390	30	1,800
Trademark dependent trade	34,300	36,700	11,500	25,500	2,500	109,500
Knowledge intense services	11,200	8,900	4,100	7,900	1,300	34,100
<u>Sum</u>	123,000	96,700	47,700	64,500	7,200	343,200

Source: Eurostat, and own calculations.

Figure 1. Societal benefits of intellectual property value creation



31% of the private sector jobs of Sweden, Denmark, Finland and Iceland exist in businesses with intense dependency on intellectual property rights.



The same businesses create 40% of the value added in the private sector economy, excluding finance of Sweden, Denmark, Finland and Iceland.

Figure 2. Number of employees in intellectual property-rights intensive businesses across the Nordics



Illegal use of intellectual property crowds out economic activity

This study includes an estimate of the crowding out effect of illegal use of intellectual property. There are numerous ways in which illegal use of intellectual property harms law-abiding businesses: Counterfeiters undermine the investments that businesses make in research, development, and for meeting production and safety standards, while using a company's reputation to compete against it. Businesses and other institutions can also be unwitting purchasers of counterfeit goods and suffer harm from the poor performance of such goods; this has included military contractors who purchased counterfeit goods from suppliers.³ Governments suffer loss of tax revenue and must spend to thwart counterfeiting and related crimes. Economies are deprived of jobs and innovation when legitimate manufacturers are unable to overcome the losses they suffer from counterfeiting. Societies may suffer risks to public safety and national security through the links of counterfeiting to transnational organized crime, extremism, human trafficking, supply chain infiltration, and still other crimes.⁴

Businesses that are intensely dependent on intellectual property rights, are also more sensitive to intellectual property rights violations, such as counterfeiting and piracy. Globally counterfeiting and piracy represents a multi-billion-dollar illegal industry, which creates a significant drain on the real economy. Counterfeiting and piracy crowds out legitimate economic activity and facilitate an underground economy, depriving public tax revenues and limiting legitimate private sector growth and job creation.⁵ In 2019 the OECD in co-operation with the Swedish Patent and Registration Office (PRV) published a report, that estimates the total global trade of counterfeit goods, based on violating the intellectual property rights of Swedish enterprises, amounting to two percent of the international sales of goods manufactured in Sweden. It is further estimated that counterfeit and piracy reduced public tax revenues in Sweden by 7.54 billion SEK in 2016.⁶

The above estimate is about measuring the direct cost of counterfeiting and piracy, but there are also indirect costs to consider. As an OECD study concluded already in 2005, there are numerous ways through which counterfeiting and piracy disturb the economy:

³ Sullivan et al. (2017), Wilson (2022).

⁴ Sullivan et al. (2017).

⁵ Frontier economics, ICC Bascap, International Trademark Association, and TECXIPIO (2016).

⁶ OECD and PRV (2019).

“In addition to the direct impact, counterfeiting and piracy can have significant indirect effects. These would include effects on GDP, employment, tax revenues, foreign investment, trade, and innovation. Most of the work that has been on this has focused on analysing the dynamic effects of reduced investments (caused by profit losses) on GDP, employment, and tax revenues. Other research has focused on the effect of the strength of IPR on economic performance (i.e., economic growth, foreign direct investment, trade, and innovation). Although evidence is mixed, the studies show that strong IPR regimes generally tend to be associated with positive effects in all areas.”⁷

Jeff Hardy, former director of the International Chamber of Commerce, has in a 2017 article published in *World Trademark Review*, presented an estimate of how the total economic loss from counterfeiting and piracy relates to the direct trade loss. According to his estimates, each euro loss in international trade corresponds to total loss of 1.73 euro. The reason is that one also needs to account for domestic counterfeiting and piracy, for counterfeiting and piracy of film, music, and software (which are not included in direct trade loss measurements), since private sector activity in intellectual property rights dependent sectors is undermined, jobs are lost, and international investments are limited by counterfeiting and piracy.⁸

For the entire Nordic region, counterfeiting and piracy lead to the crowding out of 200,100 jobs. The loss in the form of value creation corresponds to 22.1 billion euros, while it is approximately 5.9 billion euros in tax revenue that is lost.

By factoring in the changes in international trade volume during the period and utilizing the multiplier 1.73 to account for the overall economic impact, the previous OECD and PRV estimates from 2016 can be used to calculate the total economic impact of piracy and counterfeiting on the Swedish economy. The result is as follows: Sweden lost 91.4 billion SEK by piracy and counterfeiting in 2025, mainly through direct trade loss, but also digital piracy and undermining of private sector activity. With the same method, the total loss of tax revenues amounts to 24.4 billion SEK. These sums amount to circa 8.09 billion euros of lost economic value, and a tax loss of 2.16 billion euros.

⁷ Olsen (2005), quote p. 6.

⁸ Hardy (2017).

The economic loss of counterfeiting and piracy amounts to circa 6.57% of the total value created, in Sweden. This study assumes that the same share is true for the other Nordic countries and the regions within the countries. It is further assumed that same share of jobs as economic activity is lost due to piracy. Based on these assumptions, the total loss of jobs and economic activity due to piracy and counterfeiting is calculated for each country and region. For Sweden, the tax loss due to piracy and counterfeiting is estimated to 1.75% of total economic value created by intellectual property rights intensive businesses. This share is assumed to be same in the different countries and regions of the Nordic region.

The calculations are used, to estimate the crowding out of jobs and value added in businesses with intense reliance on intellectual property rights, based on the 2025 data presented in this study. The results are shown in table 3.

Table 3. Economic loss due to counterfeiting and piracy (millions of Euros), estimates for 2025!!!

	Sverige	Denmark	Finland	Norway	Iceland	All Nordics
Crowding out number of jobs	77,700	50,000	33,600	34,900	3,800	200,100
Crowding out value creation (millions of euros)	8,400	6,400	3,200	4,200	470	22,600
Crowding out tax revenues (millions of euros)	2,200	1,700	840	1,100	130	6,000

Source: Eurostat, SCB and own calculations.

Counterfeiting and piracy in the Nordics crowds out 200,100 jobs, 22.6 billion euros in value creation, and 6.0 billion euros in tax revenue

In Sweden, counterfeiting and piracy are estimated to lead to reduced value creation of 8.4 billion euros annually and the displacement of 77,700 jobs in industries with intense dependence on intellectual property rights (table 3). Tax revenues are also affected, with 2.2 billion euros in tax revenue lost due to legal businesses being crowded out by counterfeiting

and piracy. For Denmark, counterfeiting and piracy are estimated to lead to reduced value creation of 6.4 billion euros annually and to crowd out of 50,000 jobs from industries that are intensely dependent on intellectual property rights. The loss of tax revenue amounts to around 1.7 billion euros annually in Denmark.

Value creation in Finland is reduced by approximately 3.2 billion euros due to counterfeiting and piracy. In addition, close to 33,600 jobs are crowded out, while the tax revenue that is lost corresponds to 840 million euros. In Norway, counterfeiting and piracy lead to the crowding out of 34,900 jobs, an economic value creation loss of 4,2 billion euros, and to a tax loss of 1.1 billion euros. For the entire Nordic region, counterfeiting and piracy lead to the crowding out of 200,100 jobs. The loss in the form of value creation corresponds to 22,6 billion euros, while it is approximately 6,0 billion euros in tax revenue that is lost. In Iceland, the value creation loss is 470 million Euros, while 3,800 jobs, and 130 million Euros are crowded out.

Intellectual property rights play a key role in investments, innovation and growth

A strong relationship exists between intellectual property rights protection, innovation and economic progress. Intellectual property rights foster investments in innovation activity and promote spreading of innovations. Economic activity driven by value creation in intellectual properties, is particularly relevant for green growth, as it involves value creation with relatively limited environmental impact.

Economic activity driven by value creation in intellectual properties, is particularly relevant for green growth, as it involves value creation with relatively limited environmental impact.

Knowledge-based capital is a driver for productivity

Knowledge-based capital is a term for business investments in assets that are non-physical, such as research and development, software and other data, patents, new organizational processes, designs, and company-specific skills. In a study from 2021, Mattia Di Ubaldo and Iulia Siedschlag examine investments in knowledge-based capital in Ireland, during the period 2006-2012. It is shown that investments in knowledge-based capital are positively associated with company productivity, with a ten percent increase in investments in knowledge-based capital being associated with a three percent productivity gain on average.⁹ Qiuqin He, Maria Guijarro-Garcia, and Juan Costa-Climent, examine, in a study from 2022, the productivity effect of knowledge-based capital in China, with data from a panel of Chinese companies during the period 2013-2018. Knowledge-based capital, particularly computerised information, and economic competency, is shown to contribute significantly to company productivity.¹⁰ Marie Le Mouel and Alexander Schiersch further show in a study published in 2020, that frontier businesses that lead economic development within their industries, rely strongly on knowledge-based capital.¹¹

⁹ Di Ubaldo & Siedschlag.

¹⁰ He, Guijarro-Garcia, & Costa-Climent.

¹¹ Le Mouel & Schiersch (2020).

Intellectual property rights create incentives for innovation

While knowledge-based capital is a driver for growth, intellectual property rights are important to protect the knowledge-based capital, creating incentives for innovation activity. In a study, Dong Chen and Shi Chen show with data from China that juridical protection of intellectual property rights fosters business innovation. Establishment of intellectual property courts in Chinese cities is shown to be followed by enhancement of the independent innovation capacity of companies. According to the study, legal protection of intellectual property rights increases the generation of patents and trade secrets.¹² Fang, Lerner & Wu use difference-in-difference approach to study how privatizations of state-owned businesses relate to business innovation, in cities with stronger intellectual property rights protection, compared to cities with weaker protection. Their finding is that innovation increases after privatizations, in particular in cities with strong intellectual property right protection. These results support theoretical arguments that intellectual property rights protection strengthen the incentive of businesses to innovate.¹³

Protection of intellectual property allows for the spread of innovation

A key point is that if intellectual property is respected, then this incentivises legal spread of innovation. When incentives exist for innovation as well as for innovation spreading, the preconditions for successful knowledge intensive economies are created. The pathways through which intellectual property rights foster economic progress has been studied by Gold, Morin and Shadeed, based on evaluating the link between intellectual property rights and economic progress in 124 developing economies between 1995 and 2011. The finding is that intellectual property rights led to greater level of technology transfer, and to increased domestic innovative activity.¹⁴ It is well established that profit-seeking investment in knowledge plays a critical role in the long-run growth process.¹⁵ Intellectual property rights protection allows for greater incentives for knowledge creation and the spread of the formalized knowledge. This explains why intellectual property rights have an overall positive effect on innovation, as well as on economic growth.¹⁶

12 Chen & Chen (2024).

13 Fang, Lerner & Wu (2017).

14 Gold, Morin & Shadeed (2019).

15 Grossman & Helpman (1994). The quality of knowledge also matters. Hasan & Tucci (2010) find that countries with higher quality patents also have higher economic growth.

16 Neves et al. (2021).

Cracking down on intellectual rights infringement fosters innovation

China is a country where many actors that infringe intellectual property rights exist. This is creating a limitation on economic progress in China itself. In a recent 2023 paper, Chinese economists Jianqiang Chen, Pei-Fang Hsieh, and Kun Wang, utilize a quasi-natural experiment to investigate the effects of government crackdown on intellectual rights infringement and counterfeiting. They found that patent counts and citations increased significantly for companies in industries with a high risk of intellectual property violations, following the government crackdowns. The result was more research and development investments, and businesses focusing more on innovation patents.¹⁷ Recent research thus confirms that businesses with strong reliance on intellectual property rights play a key role in economic development. Protecting intellectual property rights is an essential ingredient in economic policy, not least for fostering growth of knowledge intensive jobs high up in the value chain, which drive economic progress and exports.

Key to green growth

While knowledge-based capital plays a key role in economic growth, it typically involves only a small environmental footprint. If for example an industry company shifts production to a new patent, the value produced can increase significantly, while production based on the new patent does not need to lead to a higher environmental footprint. New organizational processes, computer code used for a new popular computer game, and implementations of new designs, similarly have limited environmental footprint, while contributing to economic progress. Fostering knowledge-based capital thus is not only central for economic progress, but also to achieve the goal of green growth.

According to a 2025 study by WIPO, across developed economies, intangible investment grew well over three times faster than tangible investment between 2008–2024. In Sweden, intangible investments have risen from 11.8 percent of total GDP in 1995, to fully 16 percent in 2024, which is the highest share in the world.

¹⁷ Chen, Hsieh, & Wang (2023).

Intangible investments are increasingly important for economic progress

A long-term trend is that intellectual properties which are intangible are increasingly gaining in relative economic relevance, compared to tangible physical assets. According to a 2025 study by WIPO, across developed economies, intangible investment grew well over three times faster than tangible investment between 2008–2024. In Sweden, intangible investments increased from 11.8 percent of total GDP in 1995, to fully 16 percent in 2024, which is the highest share in the world. Finland has the fourth highest rate of intangible investments as share of economic output (15.6 percent), after the US and France, while Denmark (13.3 percent) ranks sixth behind the UK.¹⁸ It is in relation to this large and increasingly important role of intangible assets, that intellectual property rights infringements and the challenges that this creates for society must be understood. As shown in this study, many different societal challenges arise from intellectual property rights infringements, including the undermining of sports value chains, reduced efficiency in public procurement, challenges in the higher education system, and the lack of compensation for authors, music makers, and computer-game creators when AI models use their works. This study gives insight into how these challenges are forming in Sweden particularly, and how smart policy design can be the way forward.

¹⁸ WIPO (2025).

Intellectual property rights infringements undermine the value chains of sports

Sports are influenced by intellectual property rights in numerous ways. The main form of infringement comes from illegal IPTV and other forms of illegal streaming. For major sports such as football and hockey, illegal streaming represents a significant loss of revenues. For smaller sports such as volleyball, bandy, and kickboxing, the loss of legal streaming customers can even lead to the sports being crowded out of major outlets. A perspective that arises in the interviews of industry representatives for this report is that sports with smaller audiences might be even more sensitive to illegal streaming. As the legal market for broadcasting shrinks with infringements, for smaller sports, it may not be economically sustainable to broadcast the sports activities. Everyone in the value chain of sports, from sports broadcasters to stadiums, to sports clubs, athletes and others employees in the sports sector, is affected by this loss of significant sports revenue.

**For major sports such as football and hockey, illegal streaming represents a significant loss of revenues.
For smaller sports such as volleyball, bandy, and kickboxing, the loss of legal streaming customers can even lead to the sports being crowded out of major outlets.**

Various intellectual property rights challenges in the value chains of sports

Illegal streaming is not the sole form of intellectual property rights infringement that affects the value chains of sports. Copyright and trademark infringements are common when supporters buy merchandise with logos of their favorite teams. Criminal actors sell products that display team logos without permission and without paying to represent the teams. Significant revenues that would otherwise have gone to sports teams' revenues, instead go to criminal organizations operating illegal sales, often involving lower-quality products that do not follow environmental safety rules or labor laws. Broadcasters sometimes base the name of their pods on sports teams, without permission, gaining sponsorship deals from

companies aiming to gain attraction from the fans of the team, without the sports team gaining any financial rewards.

Illegal broadcasting drains revenues

A study by EUIPO (European Union Intellectual Property Office) looks at intellectual property rights infringements in films, music, publications, programs and TV during the period between 2017 and 2023, in the EU-countries. TV piracy in the EU accounts for on average 5.1 accesses per internet user per month, out of this 0.53 accesses are of sports and other live events piracy. Film piracy accounts for on average 0.9 accesses per internet user per month, the same level is found for software piracy. Publication piracy amounts to 2.7 accesses per internet user per month, while music piracy amounts to 0.6 accesses per internet user per month.¹⁹ Significant revenues are created by TV-piracy for criminal organizations.²⁰ According to Mediavision 2025, 640 000 households in Sweden subscribe to illegal IPTV services, which creates 1.4 billion Swedish kroners (130 million Euros) in revenues for criminal organizations.²¹ On January 24th 2025, the Swedish government initiated an inquiry about how to combat illegal IPTV.²² The inquiry was published in September, and, amongst others, includes policy change, so legislation will clarify that those who uses illegal IPTV services are indeed committing a criminal offence.²³

Youth programs and social outreach suffer

A key driver for subscribing to illegal streaming instead of legal streaming, is to gain access to sports without paying for it. A survey by the Athletic, published in the end of 2025, for example asked subscribers from around the world how they watch football. The anonymous survey found that 47 percent, nearly half, admitted to watching the sport via illegal streams.²⁴ This drains the revenues of the value chains of sports, including local sports teams. Since a major revenue source of sports shrinks due to illegal streaming, this can influence the competitiveness of sports teams. Interviews carried out with representatives of the Swedish hockey league, for this study, point out that when piracy drains resources, often youth activities and outreach programs suffer. Sports clubs play a key role in society, in activating communities, and engaging particularly the youth into healthy habits. By draining the revenues of sports, intellectual property rights infringements reduce the potential of sports to contribute positively to economic and social values.

¹⁹ EUIPO (2024).

²⁰ Swedish Tax Authority (2023), Dagens Juridik (2023).

²¹ Mediavision (2025).

²² Kulturdepartementet & Socialdepartementet (2025).

²³ SOU 2025:100.

²⁴ The Athletic (2025).

Majority of Swedish youth watch some live sports events illegally

There is an important social factor to consider, namely the socialization of young people into either law abiding or criminal behavior. An EUIPO study of 22 000 youth in the EU-member states found that 32 percent of youth (15-24 years old) rely on illegal sourcing of live sports events. While 15 percent explained that they only or mainly accessed the content through illegal sources, a further 17 percent said that they relied on a mix of legal and illegal content. Merely 39 percent of youth in answer that they only or mainly have legal sourcing of live sports events – compared to 32 percent who admit to streaming illegally.²⁵ When it becomes common practice to consume sports broadcasts illegally, the value chains of sports are eroded, while fans including the youth are socialized into a normalization of criminal consumption behavior. This is likely to have spillover effects on other behavior. On the one hand the illegal broadcasts undermine sports team revenues, leading to less resources for youth sports, while on the other hand the youth are socialized into consuming sports broadcasting illegally, which affects their norms relating to law abiding consumption. Sports are a good illustration of how important respect for intellectual property rights are, for social as well as economic development.

Quicker blocking of illegal streaming is needed

Sports events and other live events such as shows are sometimes hacked. Criminal networks currently have the techniques needed for routinely being active to hack into broadcasts, circumvent the protection measures, and stream the content illegally. What would otherwise have been revenues created in the legal ecosystem, instead turns into revenues for criminal groups. Administrative blocking, which means that an authority with the right expertise is given the mandate to make decisions regarding the blocking of websites, is a valuable tool for strengthening blocking. The alternative is dynamic blocking injunctions, however the court processes involving them are time consuming and resource consuming. Even though court already can make the decision to block sites that illegally stream, this process takes time and might not be enough to stop illegal streaming of live events. The possibility to block such sites rapidly already exists in other European countries, and is relevant also in Sweden.²⁶

²⁵ EUIPO (2022b).

²⁶ SOU 2025:100.

Procurement competency allows for better respect for intellectual property rights

A significant part of total economic output is public procurement of private goods and services. Around the world a relevant policy challenge is to get public procurement to work better, since challenges relating to inefficiencies and limited competition amongst businesses engaging in public procurement are common. The key is greater knowledge about intellectual property in procurement competency.²⁷ The actors in the public sector that procure need to have clear focus on the aims, and how to achieve them. Confederation of Swedish Enterprise notes that those who work with public procurement need more knowledge about intellectual property. Often during public procurement significant sums are paid for intellectual property, which is not needed, while other times the opposite is true and intellectual properties that are needed are not included in public procurement.²⁸

The challenge of effective public procurement

According to interviews with industry representatives, public procurements sometimes focus on the lowest immediate cost, crowding out quality that gives better cost over time. It is important that public procurement is based on better understanding of intellectual property rights, and it is vital that it does not encourage plagiarism. Those individuals who are responsible for public procurement, in municipalities, regional governments, and central government agencies, need significant skills necessary for optimal procurement. It is important to have legal expertise to carry out public procurement correctly, but also knowledge of economics.²⁹ Decision makers need to base procurement on transparent, fair, and straightforward competition. However, choosing the right parameters is key for goal-oriented public procurement. Often procurements focus on the immediately lowest cost for a product or service, with not enough emphasis on quality aspects that affect the life-cycle cost. Too much focus on immediate lowest cost might lead to higher costs and lower quality in the long term. There is a risk that businesses offering quality services and products at competitive prices will be crowded out by those who offer substandard products and services at lowest price.

²⁷ OECD (2025a).

²⁸ Confederation of Swedish Enterprise (2020).

²⁹ Swedish Competition Authority (2023).

Quality and cost over time need to be in focus

One relevant example of the challenges in public procurement is procurement of furniture for a public entity, such as a municipal bathhouse. One way to make the procurement is to make detailed lists of what furniture is needed, and ask for the lowest price. This is likely to lead to low quality products that might need to be replaced soon after. A perspective that arises in the interviews of industry representatives for this report is that higher quality manufacturers whose products are made to last tend to have quality standards, environmental standards, and intellectual property rights for their design rights. Products from higher-quality manufacturers may be a better deal when lifespan is considered, since they last longer. It is vital to have procurement competency, rather than procuring the cheapest immediate solutions without focusing on quality and cost over time. One alternative way is to ask for a complete solution for furnishing the bathhouse with furniture. Rather than the municipality specifying in detail which furniture should go in each room, local businesses can compete by proposing full furnishing solutions. This again allows quality businesses to win on price, by using their innovative ability to find smart solutions. In the example of the bathhouse that is in process of public procurement of furniture, it may be that design furniture are requested in the offer. The original plan for the bathhouse might have the design products of a local manufacturer as part of the solution. Price might deter the public procurement of the specific design furniture, but it is important not to encourage another actor to create a cheaper copy of a particular design, since that would be encouraging plagiarism. If a public agency wants to procure a particular brand of furniture and decides that it does not want to pay for the original, the order should go for another pre-existing product, not for a close copy of the original furniture. If the latter occurs, then the public procurement is indirectly encouraging the counterfeiting industry to grow.

If a public agency wants to procure a particular brand of furniture and decides that it does not want to pay for the original, the order should go for another pre-existing product, not for a close copy of the original furniture.

Public procurement need to focus on function

Another challenge relates to the demand in public procurements to own intellectual property rights, instead of procuring functions. During 2022, the Confederation of Swedish Enterprise carried out an analysis of 197 randomly selected public procurements advertised by Swedish

municipalities and government agencies, based on procurements containing the heading “intellectual property rights”. It was found that the municipalities and government agencies asked for the ownership of the intellectual property rights in 94 percent of the cases.³⁰ An example in interviews with industry representatives is that when IT-solutions are procured, the public sector actors often demand to own the software, significantly increasing costs and reducing the spread of the same solution to others, compared to procuring the function. While in some circumstances this can be a relevant request, overall, it is the function that needs to be procured, not the intellectual property. Routinely asking for the intellectual property rights to be transferred during public procurements signals that municipalities and government agencies are engaging in central planning with limited understanding of the complexities of the marketplace. Private companies tend more to be more focused on procurement of solutions. Interviews with industry representatives point to two relevant issues in this regard. The first issue is that procurement also of intellectual property rights of for example a software raises the costs, relative to the alternative to procuring the function. The second issue is that when a public entity acquires the intellectual property rights to a procured solution, the supplying company is prevented from marketing the same solution to other actors. An inefficient economic outcome is often produced when public procurement includes demands on owning the intellectual property rights, without specific reasons to why this is needed.

Efficient public procurement is an important small business issue

Particularly many small businesses around Europe find it difficult to engage in public procurement.³¹ It is important that public procurements are straightforward, simplified and focused on quality and outcome, to be in line with the societal need for quality at best price, and the ability of smaller businesses to contribute to their solutions. Overly complex procurement will crowd out smaller businesses, while too much focus on lowest immediate price without factoring in quality and long-term costs crowds out serious quality businesses. Simplified procurements that focus on function and respect intellectual property rights benefit all companies, in particular smaller ones, which struggle more with the complexities of procurement.

³⁰ Confederation of Swedish Enterprise (2022).

³¹ OECD (2018).

Illegally obtained course literature is a challenge for higher education

The course literature used in schools and universities is a key foundation of education, and thus vital for a competitive knowledge intensive society. In the school system of Sweden up to and including high school, the role of course literature including paper books has been strengthened lately. However, in higher education where students rather than universities pay for course literature significant problems exists, according to interviews with industry representatives. Many students access student literature through various illegal means, rather than paying for it. This behavior is today commonplace. This behavior also affects norms of the youth in a negative way. Those students who access all course literature through illegal digital media, can avoid reading physical books and use artificial intelligence to do the work for them and thus avoid reading physical books. This can result in students not developing their cognitive abilities as they are expected to during their education. Studying with illegally accessed information teaches students to be rule-breakers, which according to the interviews with industry representatives can be problematic in itself.

The market for course literature in Sweden is undermined

Students in Swedish universities have increasingly turned to alternative ways of attaining course literature, rather than buying them. Some students who do not pay for new course literature still obey the law and the requirements of the university courses, by obtaining used course literature on the secondhand market. Illegal spreading of digital course books has also become commonplace in Sweden. Around four out of ten students, according to a study that Strategirådet by Läromedelsförfattarna, access course literature illegally online without paying for it. Legimus, a system created by a government agency to aid students who have difficulties reading, might also be utilized by students who are able to read but want to utilize free access to all course literature. Between 2014 and 2023 the market for course literature was in nominal terms reduced by some 40 percent in Sweden.³² The market should have expanded not only in nominal but also real terms during this period, with more pupils studying. A nominal reduction of the market by 40 percent between 2014 and 2023 corresponds to a reduction of circa 53.5 percent when accounting for the effect of inflation.³³ Illegal spreading of course literature has thus undermined around half of the market of course literature in Swedish in the higher education in Sweden. The market for education material in Nordic languages is limited, due to small population size. If the current trends

³² Strategirådet (2025).

³³ SCB Prisomräknaren shows that the inflation factor was 1.287 between 2014 and 2023.

continue, it will become increasingly difficult to produce course literature in Nordic languages, since the already limited markets shrink significantly due to many students illegally obtaining course literature. Nordic languages therefore risk being undermined as academic languages.

Illegal spreading of digital course books has also become commonplace in Sweden. Around four out of ten students, according to a study by Strategirådet, access course literature illegally online without paying for it.

Similar challenges with illegally obtained course literature in Denmark

This problem is not unique for Sweden, but also relevant in the other Nordic nations. In Denmark around half of the students in higher education attain access to course literature illegally, according to a study by Epinion and RettighedsAlliancen. The study finds that students often organize in networks and share the course literature on Facebook, Messenger, Google Drive, Dropbox, Instagram, and other social media and file sharing systems. It tends to be friends who socialize each other into this behavior of illegal spreading. Most students are, according to the study, aware of the digital spreading being illegal, but somewhat over one quarter respond that they are not even aware of this being an illegal activity. Less than half of students are informed in Denmark during their education, of the fact that spreading of course books digitally without the consent of the publisher is illegal. Merely 22 percent of higher education students in Denmark report that all the course literature that they have accessed the latest year was accessed legally.³⁴

³⁴ Epinion & RettighedsAlliancen (2024).

AI-models need to respect intellectual property rights

Generative Artificial intelligence (AI) solutions are becoming increasingly popular. They are often built upon language models. These programs are trained in knowledge through texts, books, movies, pictures, music and program code. The technological companies that developed these solutions have in many cases used copyrighted material without either approval from or compensation to the rights holders who produced the material.

AI-models must be built on respect for intellectual property rights

AI-models are increasingly important in research, education, and business, and therefore need to respect intellectual property rights. Saliltorn Thongmeensuk notes the following in a study published in *The Journal of World Intellectual Property*: “The inherent reliance of AI on large quantities of data, often encompassing copyrighted materials, results in multifaceted legal quandaries. Issues surface from the unfeasible task of securing permission from each copyright holder for AI training, further muddled by ambiguities in interpreting copyright laws and fair use provisions.” The author explains that the practice of data collection is clandestine, which obstructs copyright owners from detecting when their materials are used without authorization³⁵ There is also a risk that artificial intelligence can be used as a tool to willingly undermine the intellectual rights of creators.³⁶ Jiahao Ni, a UK sociology researcher, notes in a recent study: “It is crucial to ensure that the legal framework stimulates innovation in the field of AI while also safeguarding the legitimate rights of creators and inventors, taking into account public interests and societal well-being.” In order to address the challenges created by generative AI to the intellectual property legal system, efforts of legal drafters and practitioners needs to be combined with international cooperation, and interdisciplinary collaboration.³⁷

Data scraping activities can undermine various forms of intellectual property rights, including copyright, trademarks, trade secrets, publicity and database rights.

³⁵ Thongmeensuk (2024), p. 278.

³⁶ Saleh Farag & Azzab Moussa (2024).

³⁷ Ni. (2024), p. 858.

Data scraping undermines intellectual property rights

A method which is widely used for the development of AI-models is “data scraping”, which refers to automated extraction of information from third-party databases, websites, or social media platforms. Data scraping directly affects creators and owners of IP-protected works. It is typically conducted without consent or payment to rights holders. Data scraping activities can undermine various forms of intellectual property rights, including copyright, trademarks, trade secrets, publicity and database rights. A recent OECD study suggests that numerous solutions are needed to address the issue. To begin with a voluntary data scraping code of conduct could be established, with a system for adherence monitoring, and include standard contract terms. These standard terms could address legal and operational issues related to data scraping, and serve as a starting point of negotiation between intellectual property rights holders and AI-model developers.³⁸

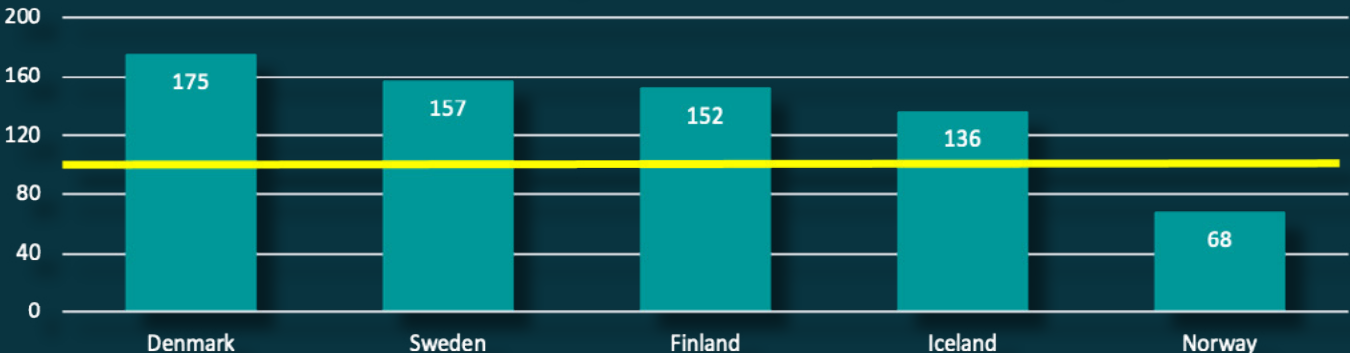
Various ways to compensate intellectual property rights in AI-models

It is alarming that generative AI development has been largely based on data that has been collected without respecting intellectual property rights. Change is needed so that the development of AI does not undermine intellectual property rights. There are already various license solutions to pay for intellectual property rights. For example, hotels which play music in their lobbies pay for music rights, even though the hotels are not specifically recording each song they play. License solutions can be based on similar or other practices for AI-models. AI-models tend to be clandestine, so that it is difficult to see exactly what literature, films or music they are trained on. There are numerous ways for AI companies to respect intellectual property rights, the unsustainable solution is to continue building AI models without compensating the creators of their works.

³⁸ OECD (2025a).

Intellectual property intensive sectors tend to have higher output per employee than other parts of the business sector. In Denmark, the average employee in intellectual property rights intensive occupation creates 75 percent higher economic value compared to the average employee in the rest of the business sector. In Sweden the number is 57 percent higher, and in Finland 52 percent higher and in Iceland 36 percent higher. Only in Norway, where much of national wealth is created in the oil and natural gas sectors, this relationship is the inverse. The relative value creation in businesses with intense intellectual property rights dependency has increased over time in Denmark, Sweden, and Finland.

Figure 3. Value created per job in businesses with intense dependence on immaterial rights, compared to rest of business sector (rest of business sector = 100)



Strengthening intellectual property rights

Infringement of intellectual property rights creates risks as well as uncertainty for businesses. The combination of risk and uncertainty is difficult to manage, especially for smaller and growing companies. The result is that piracy and counterfeits create not only direct costs but also indirect, dynamic, loss in the form of limiting novel entrepreneurship and the growth of existing businesses. Therefore, it is important that policymakers on municipal, national, and EU level all strive towards making it easier for businesses to protect their intellectual property rights.

Threshold for defending intellectual property rights needs to be lowered

The key challenge for reformers is to lower the threshold for defending intellectual property rights, making it easier for the law-abiding creators to claim their rights. Often the smaller companies are hit hardest because they do not have the same opportunities to defend their intellectual property rights, and because the larger players rely on multiple sources of income. Individual smaller companies exposed to intellectual property infringement can have their entire business undermined, leading to fewer people engaging in the creative process. According to the Intellectual Property SME Scoreboard 2022, a significant share of SMEs in the EU that have various forms of intellectual property rights are exposed to infringements of intellectual property rights, especially trademark infringements are widespread.³⁹

The EU plays a key role in intellectual property rights protection

Legislation on intellectual property rights is largely harmonized in the EU nations, and EU legislation is therefore the main driver for long-term change. EU legislation needs to focus on improving the protection for intellectual property rights, since this is a relevant issue for many businesses across EU nations. In a time when economic activity is increasingly focused on immaterial rather than material value creation, this is a strategic economic policy issue. International cooperation and consensus are further needed to reduce the occurrence of intellectual property infringements. The EU is one of the world's leading economies and should act jointly to put pressure on countries with widespread occurrences of infringement and the spread of material protected by intellectual property rights. The issue needs to be high on the agenda for international trade talks, so that efforts are made together with the EU's important trading partners.

³⁹ EUIPO (2022a), p. 83-4.

Increased resources to the legal system

For national governments, allocating resources in the legal system is an important part of intellectual property rights policy. Resources need to be allocated to the legal system to fight intellectual property infringements. This includes more resources for law enforcements. The national law enforcement authorities must have resources and competence to investigate intellectual property crimes and to bring criminals to justice. Specialized courts and prosecutors who work with intellectual property rights infringements in particular need more resources. Specialized knowledge is needed for courts to handle the often complex issues that arise in intellectual property rights infringements. The aim should be to make it easier and associated with lower financial risk to defend against infringements. If the process is too costly and too time-consuming, due to limited resources to specialized courts and prosecutors, it will be more lucrative to infringe on immaterial rights, and more rights holders might opt for not even pursuing the matters legally. Particularly smaller businesses find it challenging to pursue long court cases, which distract them from their business operations. More resources to law enforcement who work with intellectual property rights infringements is therefore an important small business issue.

Municipal office support to local businesses on intellectual property rights

Various stakeholders in the public and private sector need to cooperate in creating a stronger protection for intellectual property rights in the Nordics, and Europe. This is vital for strengthening the competitiveness of Europe. Helping local businesses better understand their intellectual property rights, and how to protect it, is a step in the right direction. Besides government agencies, also municipal offices can play a vital role in this regard. Municipal offices can support by helping local businesses better navigate the complex issues relating to intellectual property rights protection. It is often the municipal business office that are the contact points of local businesses with governance. Particularly smaller businesses often have a need to increase their knowledge on intellectual property rights protection.

Legal value chains which create legal incomes for athletes, trainers, stadiums, arrangers, production companies, sponsors, and broadcasters, are crowded out by illegal broadcasts. Instead, criminal value chains grow, including more people gambling illegally.

Greater opportunities to block illegal sites

Sport is a good example of how the economy in the entire value chain is affected by infringement of intellectual property rights. Substantial income for the athletes, the sports organizations and the media that broadcast the sporting events comes from intellectual property rights. The problem of accessing sports broadcasting through illegal streaming sites is a topical issue also in the USA, particularly amongst the young generation.⁴⁰ It is important to be aware that illegal sports broadcasters are criminal actors, who often engage in or promote other criminal activities, such as illegal sports gambling. Bora Jeong, Gunwoong Lee and Keongtae Kim have shown in a study that as viewers of sport shift to illegal broadcasts, illegal sports-betting also rises.⁴¹ Legal value chains which create legal incomes for athletes, trainers, stadiums, arrangers, production companies, sponsors, and broadcasters, are crowded out by illegal broadcasts. Instead, criminal value chains grow, including more people gambling illegally. Illegal gambling in turn creates more revenue for criminal organisations, leads to gambling addiction and crowds out tax revenues from the legal alternative. Effective blocking measures are needed to address the issue. It must become easier, faster and more cost-effective for rights holders to be able to stop ongoing infringements online. Reducing infringements is important for sports, films, TV-programs, and music events. In particular, stronger measures are needed to rapidly respond to infringement in live events.

Anti-piracy information to the public

Preventive measures such as information campaigns about infringements in schools and universities are an important part of the solution. Students should be made aware of the long-term problems for society and for themselves in their career paths, if they become dependent on illegal rather than legal sources of information. An increased understanding needs to be created amongst the public that intellectual property crime undermines societal progress. Information campaigns that inform the public on the effect that shoplifting has on the local business community, has been shown to change attitudes by explaining that shop lifting is not a small crime, but adds up to a major societal challenge.⁴² Information campaigns also signal to the individual that society is acting to reduce crime, which might impact the behaviour of the individual. Together with actions from the police and law authorities, information campaigns can lead to positive results in terms of crime prevention.⁴³ Anti-piracy educational deterrence efforts similarly can reach a positive result, by increasing awareness of the problems caused to society by individuals engaging

⁴⁰ BNN Bloomberg (2024).

⁴¹ Jeong, Lee & Kim (2024).

⁴² McGuire et.al. (2021).

⁴³ Ibid.

in piracy.⁴⁴ Previously, Swedish schools had anti-piracy lectures. Reintroducing similar programs can further a societal understanding of the problems caused by intellectual property infringement. Through an integrated approach, policy decision makers in the EU and the national level can push for greater awareness of how intellectual property rights infringement undermines societal progress.

Regulation risk impeding market solutions for intellectual property rights

Besides strengthening protection of intellectual property rights, it is also important that policy does not limit market solutions that have evolved to avoid intellectual property infringement. Computer games are a good example of a business that has adopted to significant piracy challenges. One solution is to shift to games that are free to play but include the option to make in-game purchases. Players can experience entire games without spending any money, giving them the opportunity to try out games without any upfront costs or commitments. Interviews with representatives for the Swedish computer game industry for this report point to the importance of avoiding over-regulation of in-game purchases from the European Union. Strict regulation by the European Union on consumer rights for in-game purchases might lead to European game developers being severely limited to set up in-game purchases in relation to international competitors. The result of such a shift would be that European computer game developers fall behind internationally, without necessarily creating any social welfare benefits.⁴⁵ It is conceptually important that market solutions that have been created in part to avoid intellectual property rights infringements, are allowed and not limited by overregulation. Overregulation in Europe could lead to economic activity shifting to other parts of the world, leading to less market share for European businesses, although they already tend to be leading internationally in social responsibility.

⁴⁴ Jeong, Yoon, & Khan (2020).

⁴⁵ Dagens Industri (2025).

Jobs and value creation in Sweden

In Sweden, businesses with an intense dependency on intellectual property rights during 2025 created an added value of 127 billion euros in total and employed 1,2 million persons. Tables 4 and 5 show the breakdown of these jobs, and economic value creation, in the different regions of the country. The tables also show estimates of how illegal use of intellectual property crowds out jobs and economic value. In the Stockholm capital region, for example, approximately 23,700 jobs and an economic value of 2.4 billion euros is crowded out due to violations of intellectual property rights.

Table 4. Number of people employed in businesses with intense dependence intellectual property rights, regions of Sweden

	IT	Knowledge intensive industries	Knowledge intensive services	Media	Fashion	Trademark dependent trade	Total estimate crowded out by piracy & counterfeiting
Stockholm	92,800	58,400	67,900	37,400	750	102,900	23,700
Östra Mellansverige	22,800	62,600	21,700	8,100	1,100	43,600	10,500
Småland med öarna	8,500	46,200	11,900	4,100	580	26,700	6,400
Sydsverige	26,000	54,800	25,400	10,600	600	51,200	11,100
Västsverige	37,000	105,100	32,700	11,300	2,100	76,300	17,400
Norra Mellansverige	8,000	19,100	10,100	3,100	440	20,500	4,000
Mellersta Norrland	4,800	8,800	5,100	1,100	390	8,200	1,900
Övre Norrland	6,900	14,600	6,500	2,300	230	11,000	2,700

Table 5. Value added (millions of euros) in businesses with intense dependence intellectual property rights, regions of Sweden

	IT	Knowledge intensive industries	Knowledge intensive services	Media	Fashion	Trademark dependent trade	Total estimate crowded out by piracy & counterfeiting
Stockholm	10,600	8,200	4,500	2,800	60	10,000	2,400
Östra Mellansverige	2,600	8,800	1,400	600	90	4,300	1,200
Småland med öarna	980	6,500	780	300	45	2,600	740
Sydsverige	3,000	7,700	1,700	800	45	5,000	1,200
Västsverige	4,200	14,800	1,700	800	170	7,500	1,900
Norra Mellansverige	900	2,700	670	230	35	2,000	430
Mellersta Norrland	550	1,200	340	80	30	800	200
Övre Norrland	780	2,000	430	170	20	1,100	300

Jobs and value creation in Denmark

In Denmark, businesses with an intense dependency on intellectual property rights during 2025 created an added value of 97 billion euros in total and employed 761,300 persons. Tables 6 and 7 show the breakdown of these jobs, and economic value creation, in the different regions of the country. The tables also show estimates of how illegal use of intellectual property crowds out jobs and economic value. In the Copenhagen capital region, for example, approximately 20,600 jobs and an economic value of 2.5 billion euros is crowded out due to violations of intellectual property rights.

Table 6. Number of people employed in businesses with intense dependence intellectual property rights, regions of Denmark

	IT	Knowledge intensive industries	Knowledge intensive services	Media	Fashion	Trademark dependent trade	Total estimate crowded out by piracy & counterfeiting
Copenhagen	66,200	62,500	55,000	28,100	640	101,300	20,600
Sjælland	3,500	27,300	5,900	1,400	190	23,200	4,000
South Denmark	8,200	67,400	11,700	5,100	810	53,400	9,600
Midtjylland	21,400	66,800	20,900	5,800	2,400	59,700	11,600
Nordjylland	8,900	26,300	5,900	2,100	820	29,300	4,100

Table 7. Value added (millions of euros) in businesses with intense dependence intellectual property rights, regions of Denmark

	IT	Knowledge intensive industries	Knowledge intensive services	Media	Fashion	Trademark dependent trade	Total estimate crowded out by piracy & counterfeiting
Copenhagen	8,200	8,500	4,900	2,100	60	14,400	2,500
Sjælland	430	3,700	530	110	20	3,300	530
South Denmark	1,000	9,200	1,100	390	70	7,600	1,300
Midtjylland	2,700	9,100	1,900	450	220	8,500	1,500
Nordjylland	850	3,600	530	160	75	2,900	530

Jobs and value creation in Finland

In Finland, businesses with an intense dependency on intellectual property rights during 2025 created an added value of 48 billion euros in total and employed 512,100 persons. Tables 8 and 9 show the breakdown of these jobs, and economic value creation, in the different regions of the country. The tables also show estimates of how illegal use of intellectual property crowds out jobs and economic value. In the Helsinki capital region, for example, approximately 15,100 jobs and an economic value of 1.4 billion euros is crowded out due to violations of intellectual property rights.

Table 8. Number of people employed in businesses with intense dependence intellectual property rights, regions of Finland

	IT	Knowledge intensive industries	Knowledge intensive services	Media	Fashion	Trademark dependent trade	Total estimate crowded out by piracy & counterfeiting
Helsinki	58,800	42,500	35,100	20,300	2,400	70,800	15,100
Länsi-Suomi	19,200	57,000	11,600	4,600	1,200	25,400	7,800
Etelä-Suomi	8,400	43,800	8,800	3,100	350	23,400	5,800
Pohjois- ja Itä-Suomi	16,900	23,500	9,900	3,700	1,900	17,800	4,800
Åland	540	580	160	140	10	450	120

Table 9. Value added (millions of euros) in businesses with intense dependence intellectual property rights, regions of Finland

	IT	Knowledge intensive industries	Knowledge intensive services	Media	Fashion	Trademark dependent trade	Total estimate crowded out by piracy & counterfeiting
Helsinki	5,900	4,500	2,200	2,300	180	5,900	1,400
Länsi-Suomi	1,900	6,000	720	530	90	2,100	750
Etelä-Suomi	850	4,600	550	360	30	1,900	550
Pohjois- ja Itä-Suomi	1,700	2,500	620	420	140	1,500	450
Åland	50	60	10	20	1	40	12



Jobs and value creation in Norway

In Norway, businesses with an intense dependency on intellectual property rights during 2025 created an added value of 64 billion euros in total and employed 530,400 persons. Tables 10 and 11 show the breakdown of these jobs, and economic value creation, in the different regions of the country. The tables also show estimates of how illegal use of intellectual property crowds out jobs and economic value. In the Oslo capital region, for example, approximately 16,000 jobs and an economic value of 2.0 billion euros is crowded out due to violations of intellectual property rights.

Table 10. Number of people employed in businesses with intense dependence intellectual property rights, regions of Norway

	IT	Knowledge intensive industries	Knowledge intensive services	Media	Fashion	Trademark dependent trade	Total estimate crowded out by piracy & counterfeiting
Oslo	54,700	35,000	40,400	20,800	900	91,500	16,000
Innlandet	1,600	8,100	2,500	800	200	9,700	1,500
Trøndelag	7,000	13,300	7,600	2,500	400	12,700	2,900
North Norway	1,500	12,100	4,100	1,600	400	14,600	2,300
Agder og Sør-Østlandet	9,000	19,200	6,400	2,500	400	21,400	3,900
Vestlandet	15,900	47,000	13,300	4,000	2,200	44,600	8,300
Jan Mayen and Svalbard	70	20	200	20	2	100	25

Table 11. Value added (millions of euros) in businesses with intense dependence intellectual property rights, regions of Norway

	IT	Knowledge intensive industries	Knowledge intensive services	Media	Fashion	Trademark dependent trade	Total estimate crowded out by piracy & counterfeiting
Oslo	7,400	4,000	4,300	2,000	80	12,000	2,000
Innlandet	200	920	260	70	20	1,300	180
Trøndelag	950	1,500	800	240	40	1,700	340
North Norway	210	1,400	430	160	40	1,900	270
Agder og Sør-Østlandet	1,200	2,200	680	240	30	2,800	470
Vestlandet	2,200	5,400	1,400	380	190	5,900	1,000
Jan Mayen and Svalbard	10	2	20	1	0	13	3

Methodology

This study examines detailed structural business statistics, coupled with quarterly indicators of recent development, to estimate the role that industries with intense dependence on intellectual property right have in the Nordic economies. A study published by EUIPO, the *European Union Intellectual Property Office*, has concluded that essentially all business sectors utilize intellectual property to a certain extent and that some can be categorized as intensely dependent on intellectual property. The study by EUIPO, which was originally published in 2011 and later updated in 2016, divides the business sector in two groups: sectors that are intensely dependent on intellectual property and sectors that are not.⁴⁶ This study utilizes the EUIPO classification of business sectors, together with the latest available structural business information coupled with short-term business statistics for recent years, in order to examine the size of the share of the business sector in the Nordic countries and their regions that are intensely dependent on intellectual property.⁴⁷

Table 12 shows the division of the private sector in businesses that are intensely dependent on various forms of intellectual property rights and those that are not. Structural business information has been gathered from the European Union's statistical agency Eurostat. An analysis of what share of economic activity occurs in businesses with intense dependency on intellectual property rights has been conducted for the business sector of each Nordic country excluding agriculture, forestry, fishing, and welfare services. On regional basis the same analysis has been carried out with regards to employment. The value added regionally is calculated based on the assumption that the value added per job is the same for the different regions that make up the various countries. Table 13 shows the division of economic activity, in six different intellectual property rights intensive group of industries, used in this study.

⁴⁶ m See EUIPO (2013, 2016).

⁴⁷ The analysis has been limited to four forms of intellectual property: trademarks, patents, design rights and copy right. The other two intellectual property in the EUIPO studies, geographical indicators, and plant rights, are specific cases whose importance mainly concerns parts of the food industry and are not included in this study.

Table 12. Intense dependency on various forms of intellectual property rights

	Trademark	Design	Patents	Copyright	No intense intellectual property rights dependency
Manufacture of textiles	X	X	X		
Manufacture of basic pharmaceutical products & preparations	X	X	X		
Manufacture of rubber & plastic products	X	X	X		
Manufacture of other non-metallic mineral products	X	X	X		
Manufacture of computer, electronic & optical products	X	X	X	X	
Manufacture of motor vehicles	X	X	X		
Manufacture of other transport equipment	X	X	X		

	Trademark	Design	Patents	Copyright	No intense intellectual property rights dependency
Manufacture of electrical equipment	X	X	X		
Manufacture of machinery & equipment	X	X	X		
Manufacture of furniture	X	X	X		
Manufacture of tobacco products	X	X	X		
Other manufacturing	X	X	X		
Scientific research and development	X	X	X		
Manufacture of wearing apparel	X	X			
Manufacture of leather & related products	X	X			

	Trademark	Design	Patents	Copyright	No intense intellectual property rights dependency
Advertising and market research	X	X		X	
Other professional, scientific and technical activities	X	X	X		
Telecommunications	X		X	X	
Wholesale trade, except of motor vehicles and motorcycles	X		X		
Manufacture of chemicals & chemical products	X		X		
Manufacture of food products	X		X		
Motion picture, video and television programme production, sound recording and music publishing activities	X			X	
Computer programming & consultancy	X			X	

	Trademark	Design	Patents	Copyright	No intense intellectual property rights dependency
Renting and leasing	X			X	
Information services	X			X	
Programming & broadcasting	X			X	
Printing and reproduction of recorded media	X			X	
Publishing	X			X	
Manufacture of beverages	X				
Office administrative, office support and other business support activities	X				
Air transport	X				

	Trademark	Design	Patents	Copyright	No intense intellectual property rights dependency
Wholesale and retail trade and repair of motor vehicles and motorcycles	X				
Travel agency, tour operator reservation service & related activity	X				
Water transport	X				
Remediation activities & other waste management services					X
Employment activities					X
Architectural and engineering activities; technical testing and analysis					X
Waste collection, treatment & recycling					X
Sewerage					X

	Trademark	Design	Patents	Copyright	No intense intellectual property rights dependency
Civil engineering					X
Retail trade, except of motor vehicles and motorcycles					X
Electricity, gas, steam & air conditioning supply					X
Real Estate					X
Mining					X
Accommodation					X
Legal and accounting activities					X
Construction of residential & non-residential buildings					X

	Trademark	Design	Patents	Copyright	No intense intellectual property rights dependency
Land transport and transport via pipelines					X
Food and beverage service activities					X
Postal and courier activities					X
Repair of computers and personal and household goods					X
Security & investigation activities					X
Specialised construction					X
Manufacture of fabricated metal products, except machinery & equipment					X
Manufacture of metals					X

	Trademark	Design	Patents	Copyright	No intense intellectual property rights dependency
Manufacture of paper & paper products					X
Manufacture of wood products except furniture					X
Services to buildings & landscape activities					X
Warehousing and support activities for transportation					X
Water supply; sewerage, waste management and remediation activities					X
Activities of head offices; management consultancy activities					X
Veterinary activities					X

Table 13. Division of economic activity in intellectual property rights intensive group of industries

Intellectual property rights intensive group of industries	Economic activity (NUTS2 classification)
IT/technology	Manufacture of computer, electronic and optical products
IT/technology	Telecommunications
IT/technology	Computer programming, consultancy and related activities
Knowledge intensive industry	Manufacture of food products
Knowledge intensive industry	Manufacture of beverages
Knowledge intensive industry	Manufacture of chemicals and chemical products
Knowledge intensive industry	Manufacture of basic pharmaceutical products and pharmaceutical preparations
Knowledge intensive industry	Manufacture of rubber and plastic products
Knowledge intensive industry	Manufacture of other non-metallic mineral products
Knowledge intensive industry	Manufacture of motor vehicles, trailers and semi-trailers
Knowledge intensive industry	Manufacture of other transport equipment
Media/entertainment	Printing and reproduction of recorded media
Media/entertainment	Publishing activities
Media/entertainment	Motion picture, video and television programme production, sound recording and music publishing activities
Media/entertainment	Programming and broadcasting activities
Fashion/design	Manufacture of textiles
Fashion/design	Manufacture of wearing apparel

Fashion/design	Manufacture of leather and related products
Trademark dependent trade	Wholesale and retail trade and repair of motor vehicles and motorcycles
Trademark dependent trade	Wholesale trade, except of motor vehicles and motorcycles
Trademark dependent trade	Manufacture of tobacco products
Trademark dependent trade	Water transport
Trademark dependent trade	Air transport
Knowledge intensive services	Information service activities
Knowledge intensive services	Scientific research and development
Knowledge intensive services	Advertising and market research
Knowledge intensive services	Other professional, scientific and technical activities
Knowledge intensive services	Rental and leasing activities
Knowledge intensive services	Travel agency, tour operator reservation service and related activities
Knowledge intensive services	Office administrative, office support and other business support activities

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Graphic design & layout: Andreea - Ioana Sutac

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