

Connecting The Dots Webinar Series Part 3:

SEPs and R&D – How to file valid and essential patents

Tim Pohlmann IPlytics GmbH

Recording: <https://youtu.be/ta6-cjhIE4c>

IPLYtics Webinar Series 2022

I. Connecting The Dots Part 1: “SEP Portfolio Management”

May 17th, 2022

Recording: <https://www.iplytics.com/events/past/>

II. Connecting The Dots Part 2: “SEP Licensing, Transaction and Litigation”

July 12th, 2022

Recording: <https://www.iplytics.com/events/past/>

III. Connecting The Dots Part 3: “SEP Research and Development”

August 16th, 2022

Recording: <https://www.iplytics.com/events/past/>

Today's Speaker



The World's Leading IP Strategists **2022**

Tim Pohlmann
Chief Executive Officer, IPlytics GmbH

IAM says: As architect of the game-changing IPlytics intelligence platform, Tim Pohlmann has distinguished himself as one of the most forward-thinking minds in intellectual property today. He is a top expert on standard essentiality and has his finger on the pulse of technology industry developments.

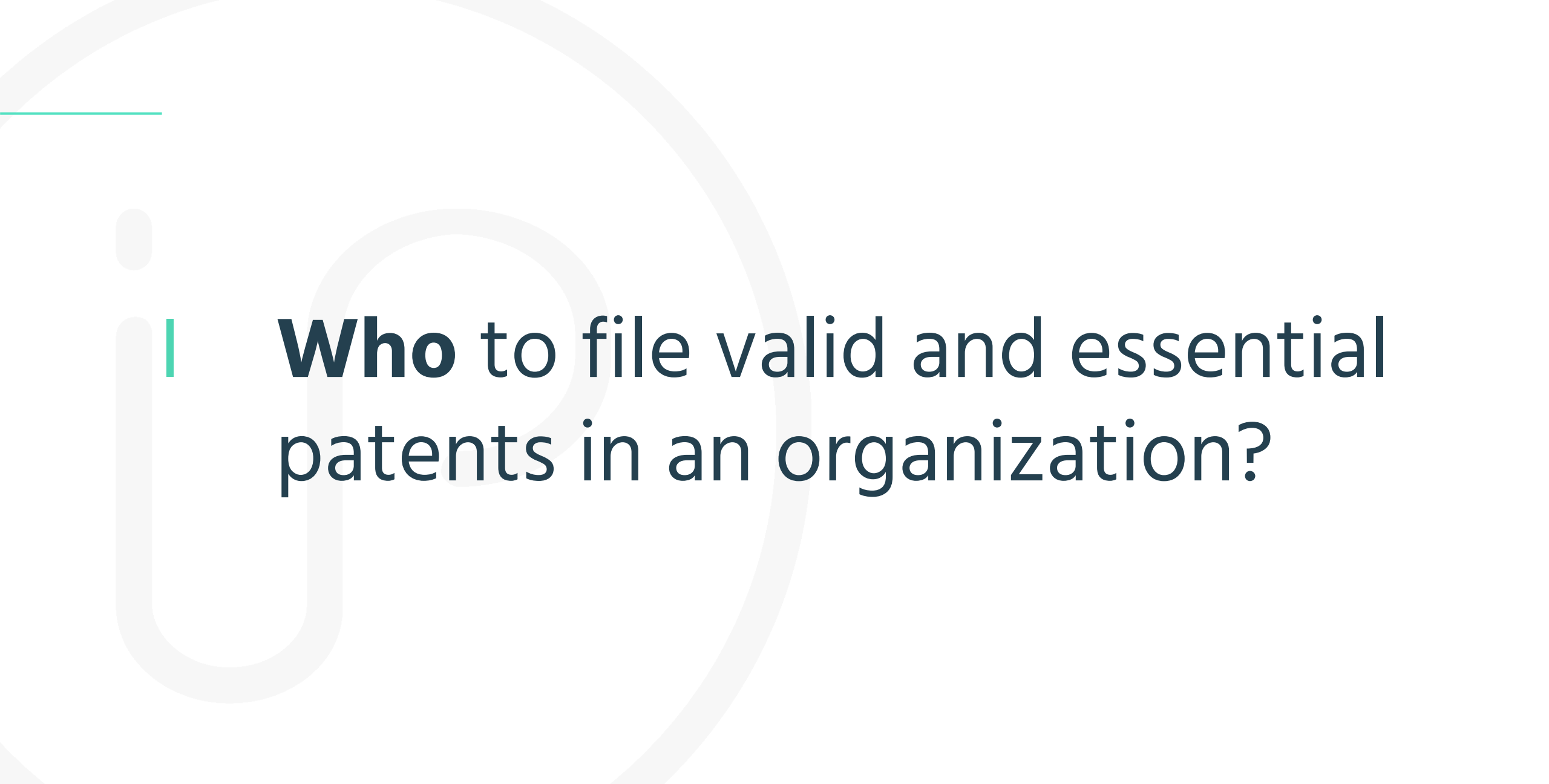


- **PhD & Post Doc.** TU Berlin, CERN, MINES ParisTech.
- **CEO and founder of IPlytics.**
- **2022 IAM Strategist 300.** Panel speaker thought leader.
- **Economic expert** and author of studies for the EU Commission, WIPO and German government.
- Appointed **faculty lecturer** (TU Berlin, EPF Lausanne, CEIPI Strasbourg, Cleveland-Marshall College of Law)
- **Author** of over 50 industry articles published at IAM Magazine, IPWatchdog and Managing IP.



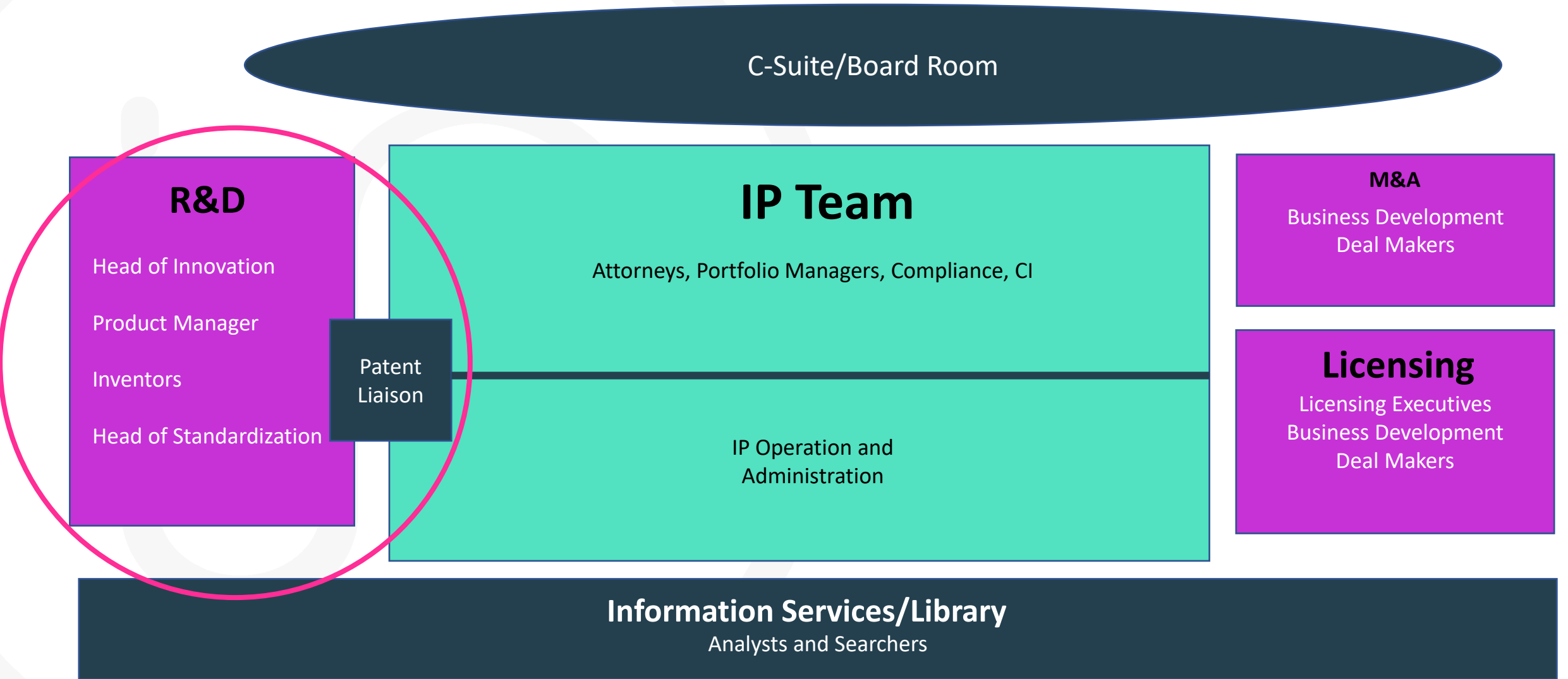
Agenda

- I **Who** to file valid and essential patents in an organization?
- II **Why** to file valid and essential patents?
- III **How** to approach filing valid and essential patents?
- IV **How** to draft valid claims?
- V **How** to determine essential claims?
- VI **How** to right-size a SEP portfolio?
- VII **How** to leverage access to patents and standards data cross-departmental?

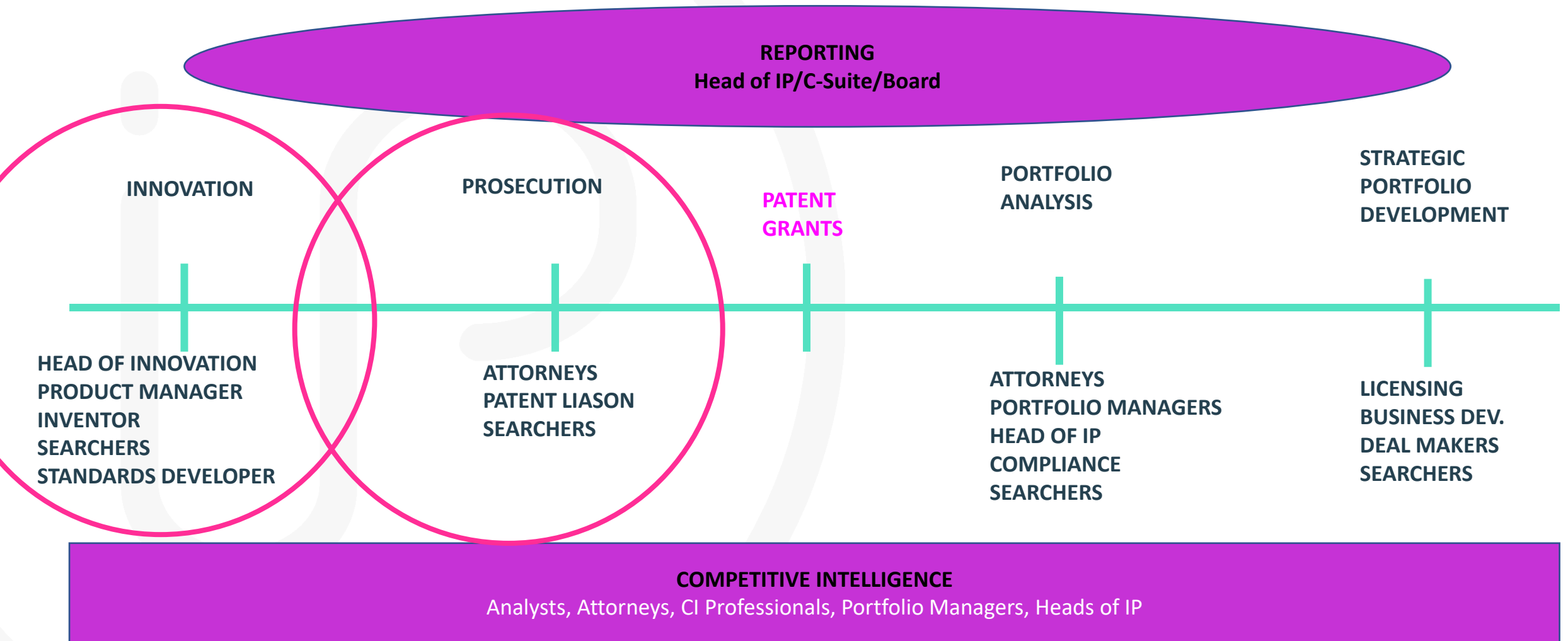


Who to file valid and essential patents in an organization?

Corporate Layout of Personas



Key Events in the Life of a Patent by Persona



Key Events in the Life of a Patent by Use Case

INNOVATION

R&D, Patent Liason

- Technology Landscaping
- New Idea Development
- Competitive Monitoring
- Technology Scouting
- New Standards Development
- Innovation Partnerships
- Search & Patent Review

PROSECUTION

Legal IP Team,
Searchers

- Prior Art
- Validity/invalidity
- Reporting

PATENT GRANTS

PORTFOLIO ANALYSIS

Portfolio Managers
Attorneys, CI Pros,
Head of IP, Searchers

- SWOT Analysis
- Gap Analysis
- Portfolio Comparison
- Portfolio Breakdown
- Landscaping
- Keep/Kill Decisions
- Risk Mitigation
- Reporting

STRATEGIC PORTFOLIO DEVELOPMENT

Licensing Execs, Biz Dev,
Deal Makers, Analysts

- License Target Identification
- Portfolio Due Diligence
- Portfolio Identification
- Target Portfolio Evaluation
- Claims Charting
- Landscaping
- Risk Assessment
- Licensing Negotiations

Titles: VP or Head of Innovation/R&D/Open Innovation, Technology Lead, Head of Research, Head of Product/Technology Strategy, Chief Innovation Officer, Head of Standardization.

What do they do:

- Set the **technology direction** for the organization
- Need to balance the **commercial** aspects of the project and **technology** with an **understanding of IP**.
- Needs to manage a pipeline of **innovation/products** all with a view to **adding value** to the company.
- **Make Build vs Buy decisions**, Go / No-Go decisions as it relates to R&D resources, standards development and product market needs.
- Understand the **competitive landscape**, new players, **new innovations**.
- Keep an eye on **newly developed internal technology** for potential IP risks. Liaises with **IP legal team**.
- **Manage the speed** and success of innovation.
- Report on this to business/C-Suite.

What are their Challenges/Goals:

- Getting to the **Go/No-Go or Build vs Buy** decision quickly.
- Avoiding **wasted time on R&D projects** that can't get to market due to FTO issues.
- Too much information available that needs to be understood or summarized e.g., **new patents, new standards, competitors**.
- **Accurate summaries or reporting on portfolio and competitive comparisons**.

Use Cases

- **Technology Landscaping**
- **Competitive Intelligence**
- **Technology Scouting**
- **Partnerships**
- **Technical Standard Implementation**

➤ Decision Maker

Personas in Context – Product/Standards Manager

Titles: Head of Product, Product Lead, New product development, Head of Standards, Standards Lead.

What do they do:

- Deliver **new products / standards to markets** with the product team usually through a **'stage-gate'** process
- Works with IP Legal team to ensure **standards/product/IP clearance**
- Works with Legal to align product/standards IP strategy
- Responsible for getting a **product/standards to market** as quickly as possible
- Understands where the standards/product fits into the **IP portfolio**
- Keeps up to date information on the **competition's innovation** throughout product development and before each project.
- Must keep a solid commercial understanding of Innovation, both **costs and revenue expected**.

What are their Challenges/Goals:

- Getting to the **Go/No-Go or Build vs Buy** decision quickly
- Avoiding wasted time on R&D projects that can't get to market due to **FTO issues**
- Needs efficient competitive intelligence and market summaries
- Always in search of accurate and fast **whitespace/ new technology / new standards projects**: "Just tell me where I can invent!"

Use Cases

- **Technology Landscaping**
- **Competitive Intelligence**
- **Technology Scouting**
- **Innovation Partnerships**
- **Technical Standard Implementation**

➤ **Decision Maker/Influencer**

Titles: inventor, engineer, scientist, researcher, principle.

What do they do:

- Work on **researching and developing** new technology to solve hard, technical problems that will eventually become products
- Work on **prototypes** of their ideas
- **Collaborate with other engineers** in the company or with others at institutes and universities
- Submitting **invention disclosure** to the Patent Review Board
- Working with **IP Legal team** on **patent applications**
- Gets involved in **competitive monitoring** if allowed by organization
- Stays up to date on **innovation activity** in their field of expertise

What are their Challenges/Goals:

- Not an IP expert, but needs to understand **IP landscapes**, uniqueness of working ideas, **prior art**, **competitors**.
- Needs to conduct quick, accurate **IP searches**
- Wants to understand if **invention makes it to a patent**.
- **IP is not the main focus** of the job; R&D is. Working with legal teams is often confusing, extra work, time consuming.

Use Cases

- **Technology Landscaping**
- **Competitive Intelligence**
- **Technical Standard Implementation**
- **Search/Review Patents**

➤ Influencer

Titles: IP Attorney, IP Counsel, Prosecution Attorney, Patent Agent, Patent Attorney

What do they do:

- Responsible for **review of invention disclosures** from R&D
- Prepare and process patent applications working with the PTO and/or Outside Counsel. Usually specialize in a certain technology area.
- Conduct preliminary **prior art/FTO searches**.
- Advise other departments on all things IP e.g., R&D, licensing.
- Is part of the **invention review committee** and can interface with portfolio managers/R&D for portfolio decisions e.g., patent abandonment decisions.
- Generally, tend to be very risk averse in nature and exacting when it comes to the accuracy of their work.

What are their Challenges/Goals:

- Accuracy in their work
- Maximizing and streamlining their internal processes
- Balancing the IP processes and systems with the commercial needs of the business
- Expected to go above and beyond their traditional role and responsibilities

Use Cases

- **All Portfolio Management Use Cases dependent on responsibilities.**
- **Prior Art**

➤ Influencer



II **Why** to file valid and essential patents?

Why SEPs are important

As to a study published 2021:

- Over 75% of patent owners agree that a well-balanced patent portfolio **reduces the risk of litigation**.
- Further, strategic investment in patents **mitigates exposure to damages and royalties** at an estimated 5% of a company's revenue.
- IP-owning companies **spend over \$40 billion on patents** worldwide each year.
- However, due to **inflation and economic crises**, companies are drastically **reducing budgets available for R&D, standards and patent portfolio** development, which makes it difficult for patent managers to further develop a company's IP assets.

Why SEPs are important

SEPs more valuable than other patents?

- The SEP-related global **royalty income** in 2021 was estimated at **\$20 billion**, yet market researchers foresee a **strong increase in the compound annual growth rate** of this over the next years, due to the wide implementation of the next generation of standards in smartphones and **beyond (automotive, IoT, manufacturing, home appliance, energy, healthcare)**.
- **SEP holders** (net-licensors) will **actively monetize** and enforce their SEP portfolios covering standards such as 4G/5G, Wi-Fi 6, VVC, Qi, ATSC and many more.
- **Standard implementers** (net-licensees) need SEPs as **bargaining chips** in complex **SEP licensing negotiations** and to **have a seat at the table** when connectivity technology is developed.

Why SEPs are important

Economic patent research on validity and essentiality :

- SEPs are twice as likely to be **subject to a change of title** than other patents.
- SEPs have **significantly more claims compared** to other patents.
- SEP's **claims are amended** around **25% more often** than other patents.

However:

- **Declared patents** are **twice as** often challenged for validity compared to other comparable patents.
- **Essentiality rates** of declared patents for cellular technologies from 3G to 5G is estimated to have fallen from about **30% to 40%** in 2015 to only **10% to 15%** in 2022.



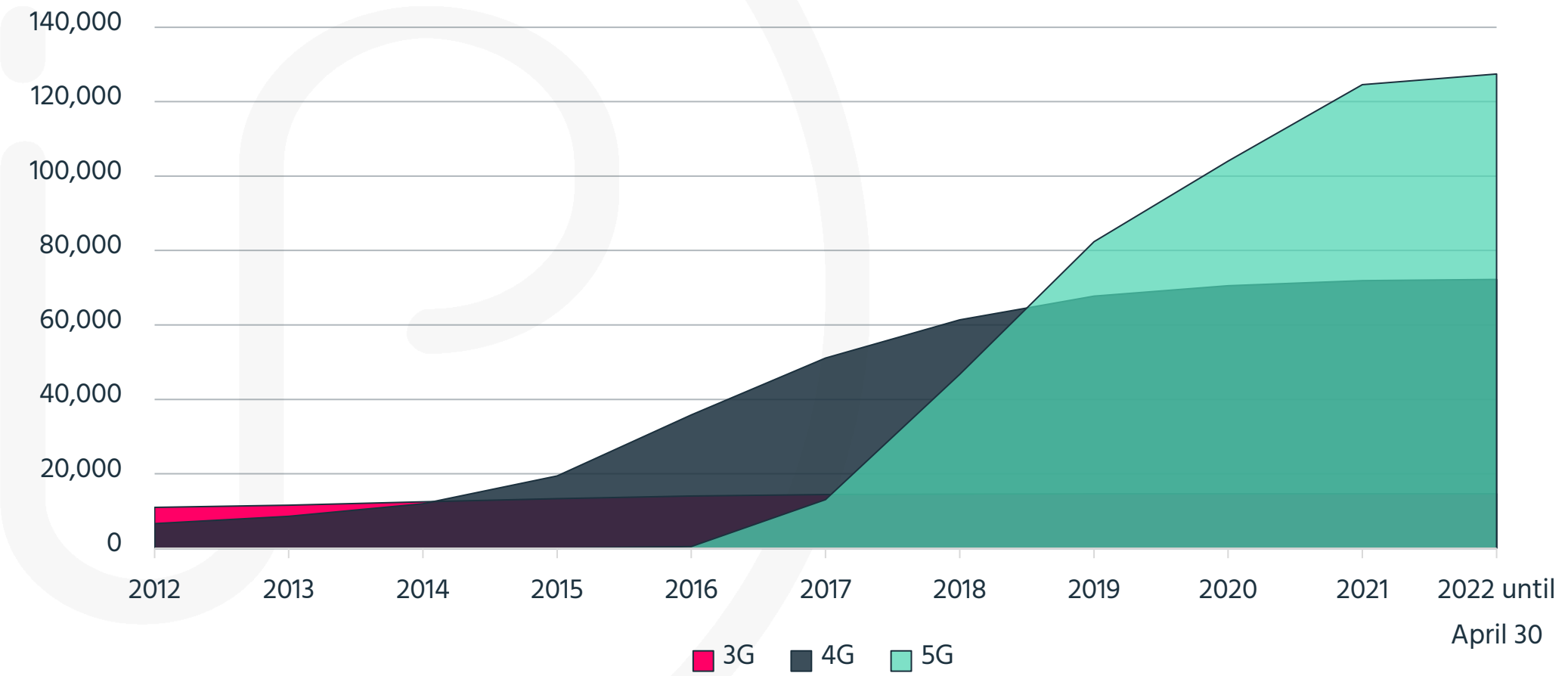
III **How** to approach filing valid and essential patents?

How to file valid and essential patents?

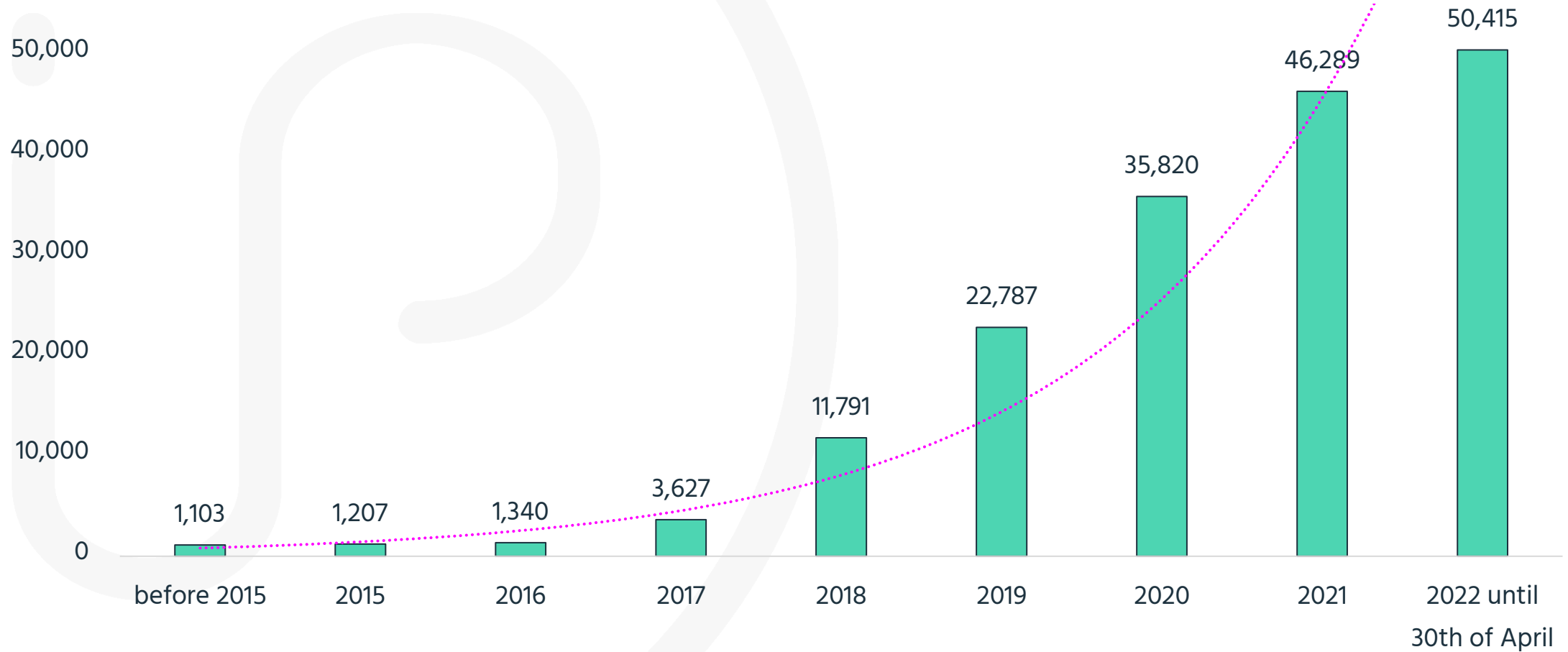
The challenge to file valid and essential patents:

- Filing and maintaining patents with claims that read on the implementation of a standard does **not happen by accident**.
- Filing SEPs requires **long-term investment** in standards development, supported by active and **strategic patent prosecution**.
- **Patenting** activities must be **aligned** with **standards-development** activities and integrated into its overall R&D and business plan.
- The **importance of connectivity standards** such as 5G and the potential value these will bring has triggered increasing investment in **standards development** and the filing of **standards related patents**.

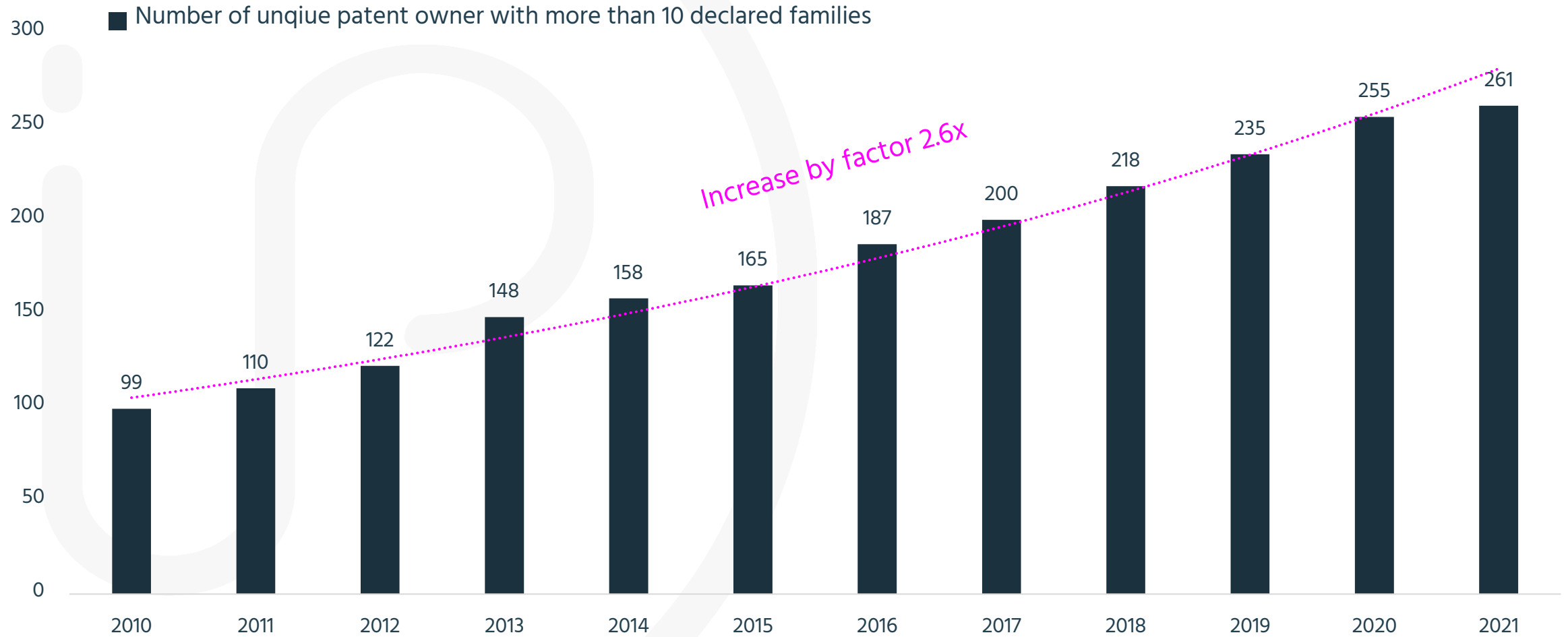
➤ There have been more technical contributions submitted to 5G than in 2G, 3G and 4G combined



➤ There have been more patent families to 5G than in 2G, 3G and 4G combined

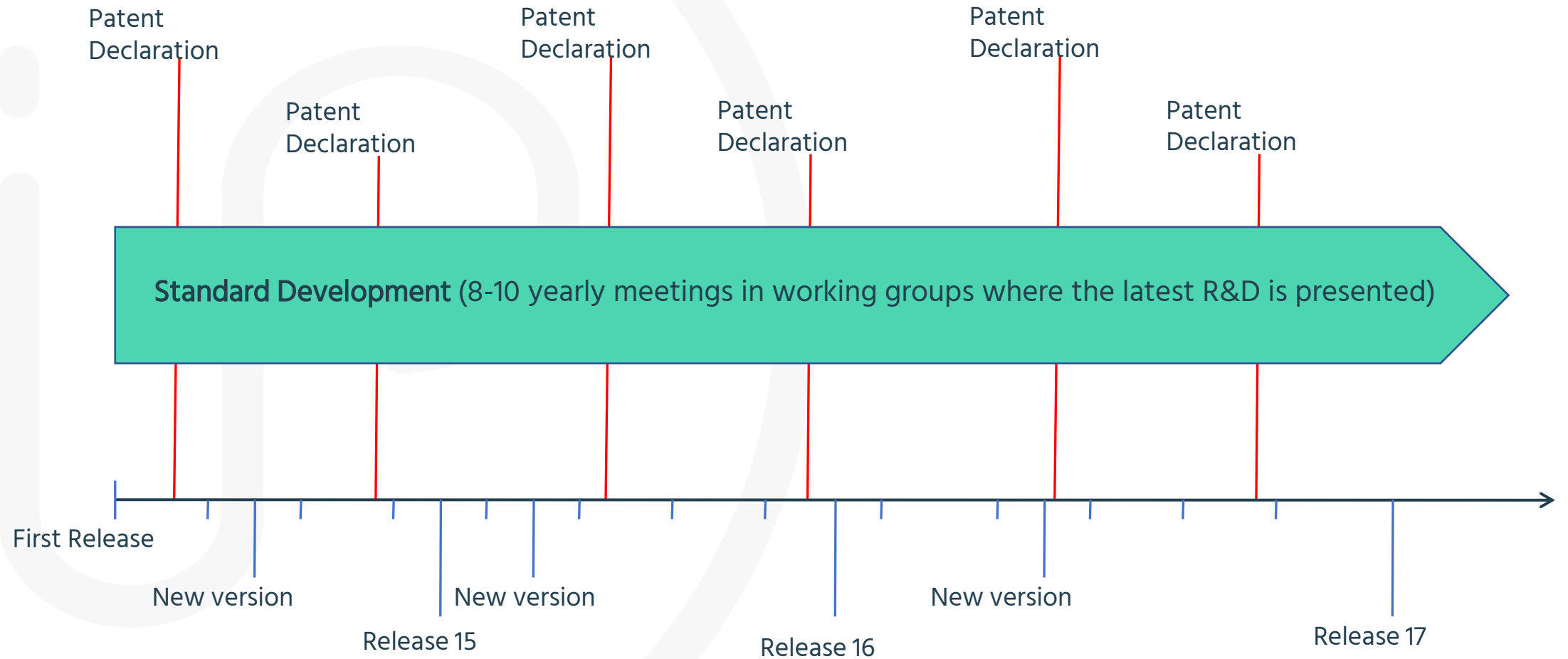


➤ Number of unique SEP holders over time increase

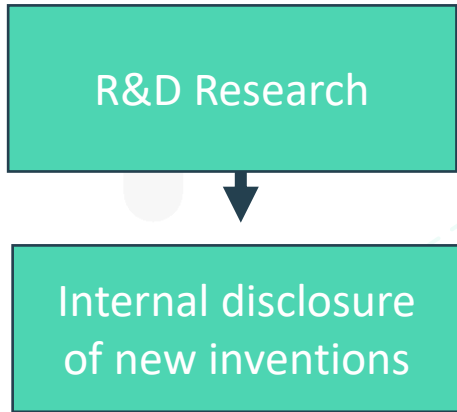


Source: <https://www.iptytics.com/report/rise-standard-essential-patents/>

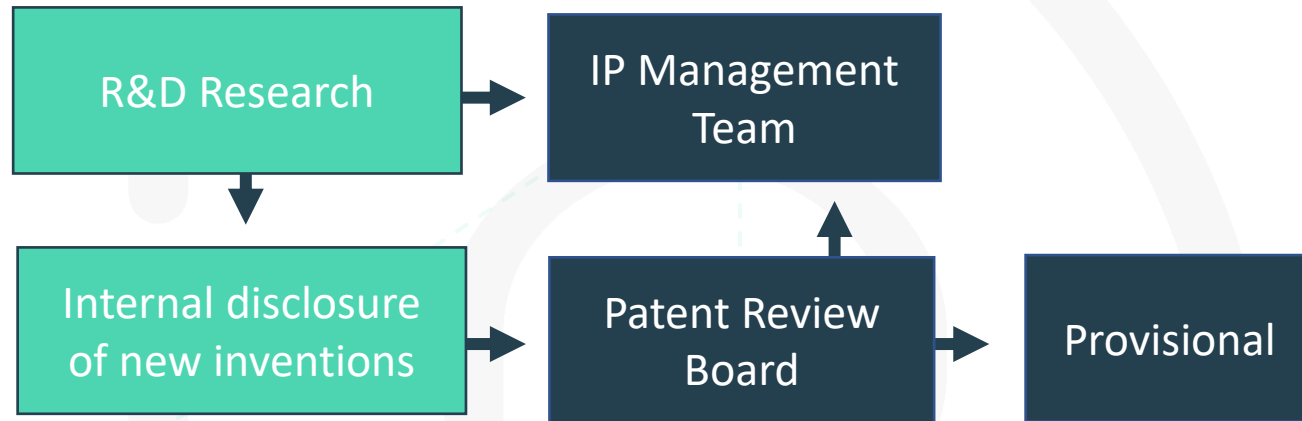
Standards development and patent declarations



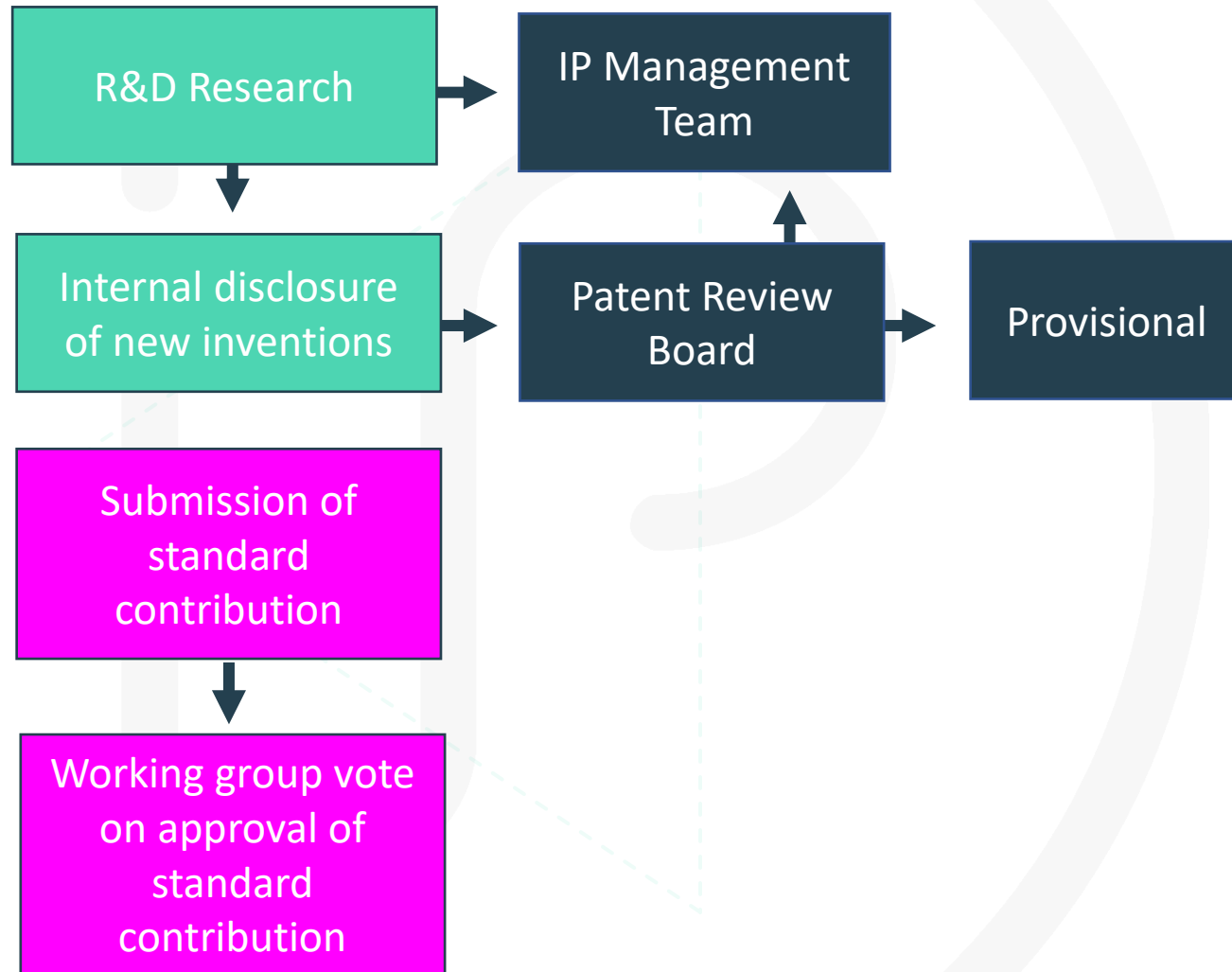
SEP filing process 1/7



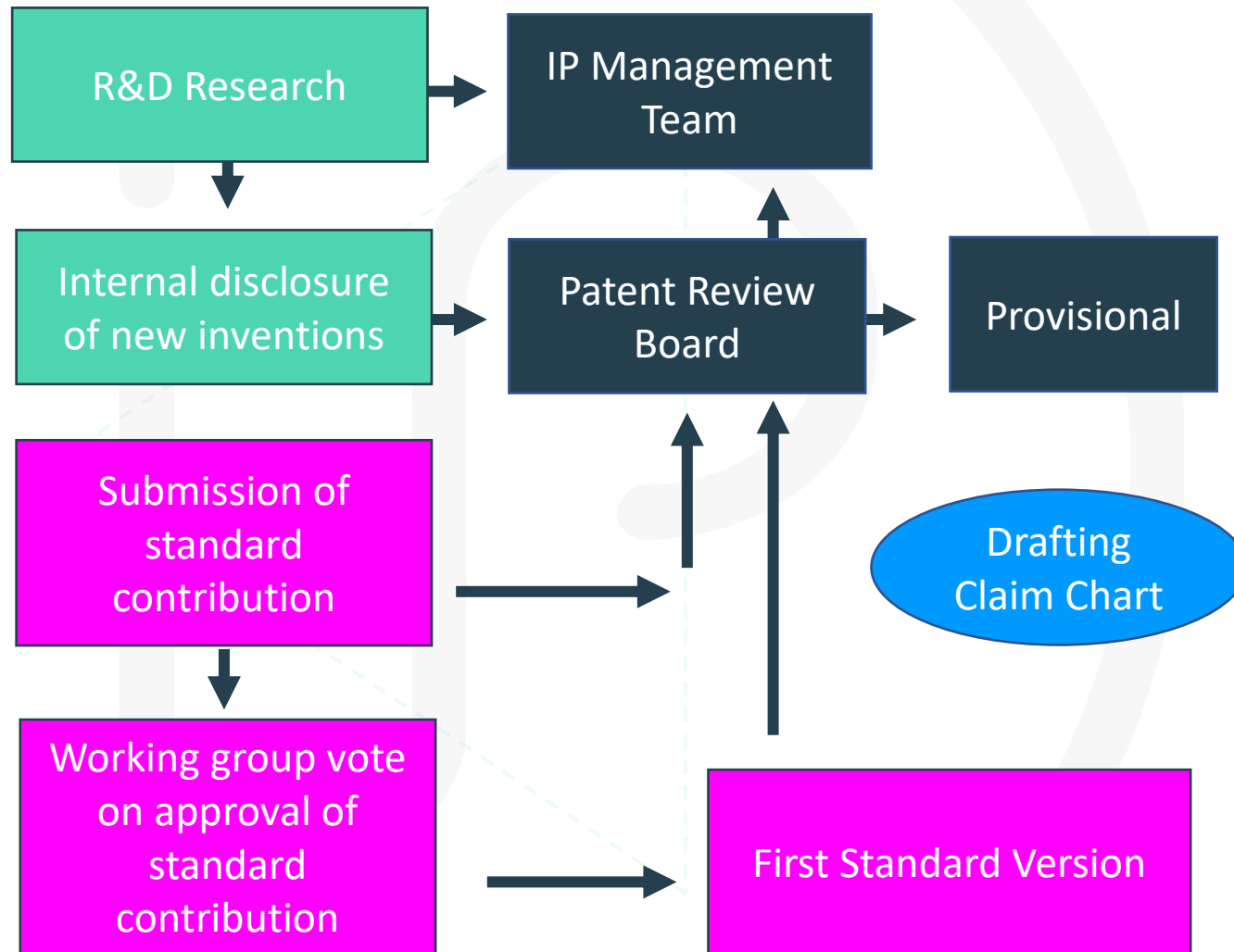
SEP filing process 2/7



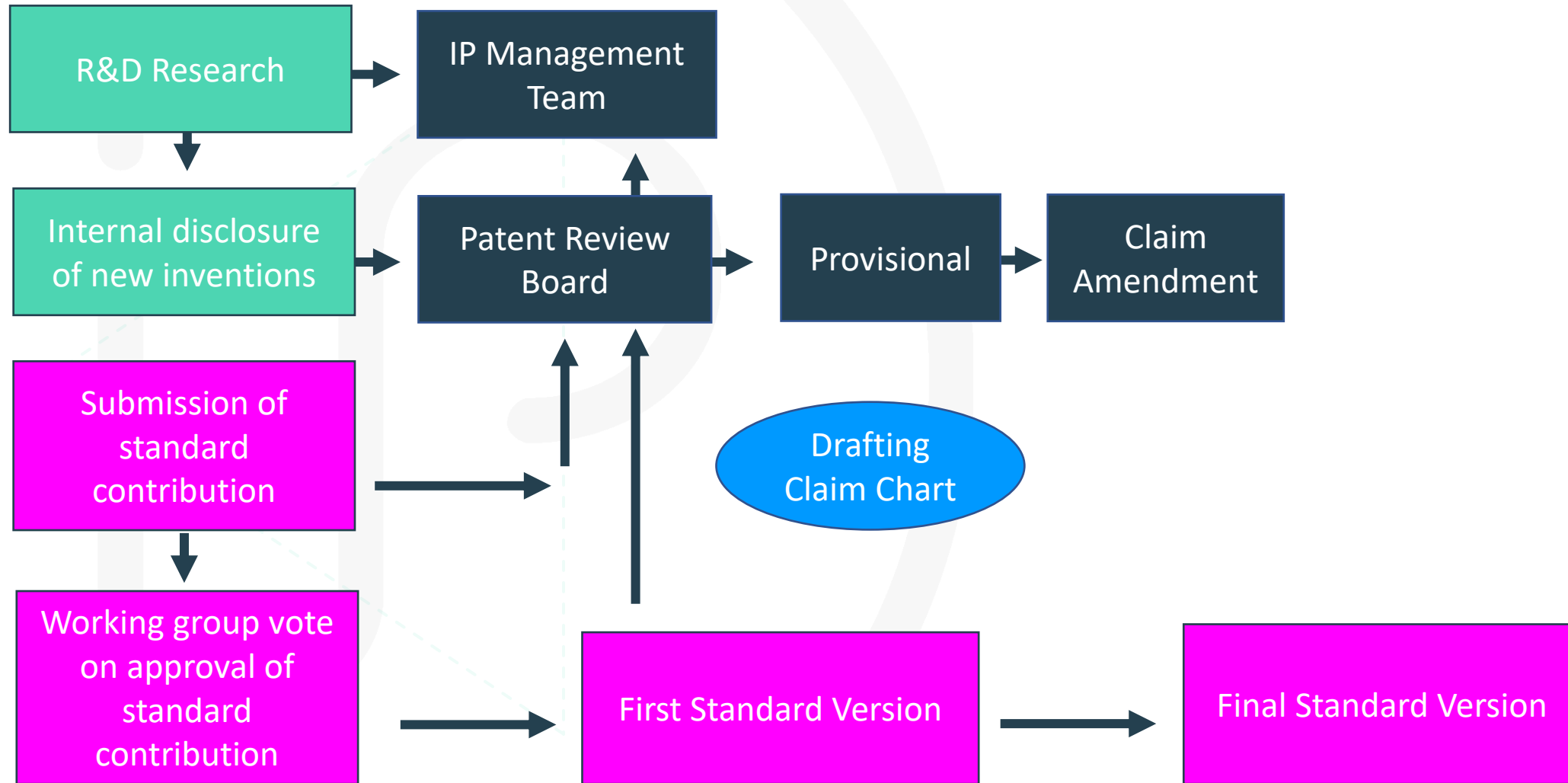
SEP filing process 3/7



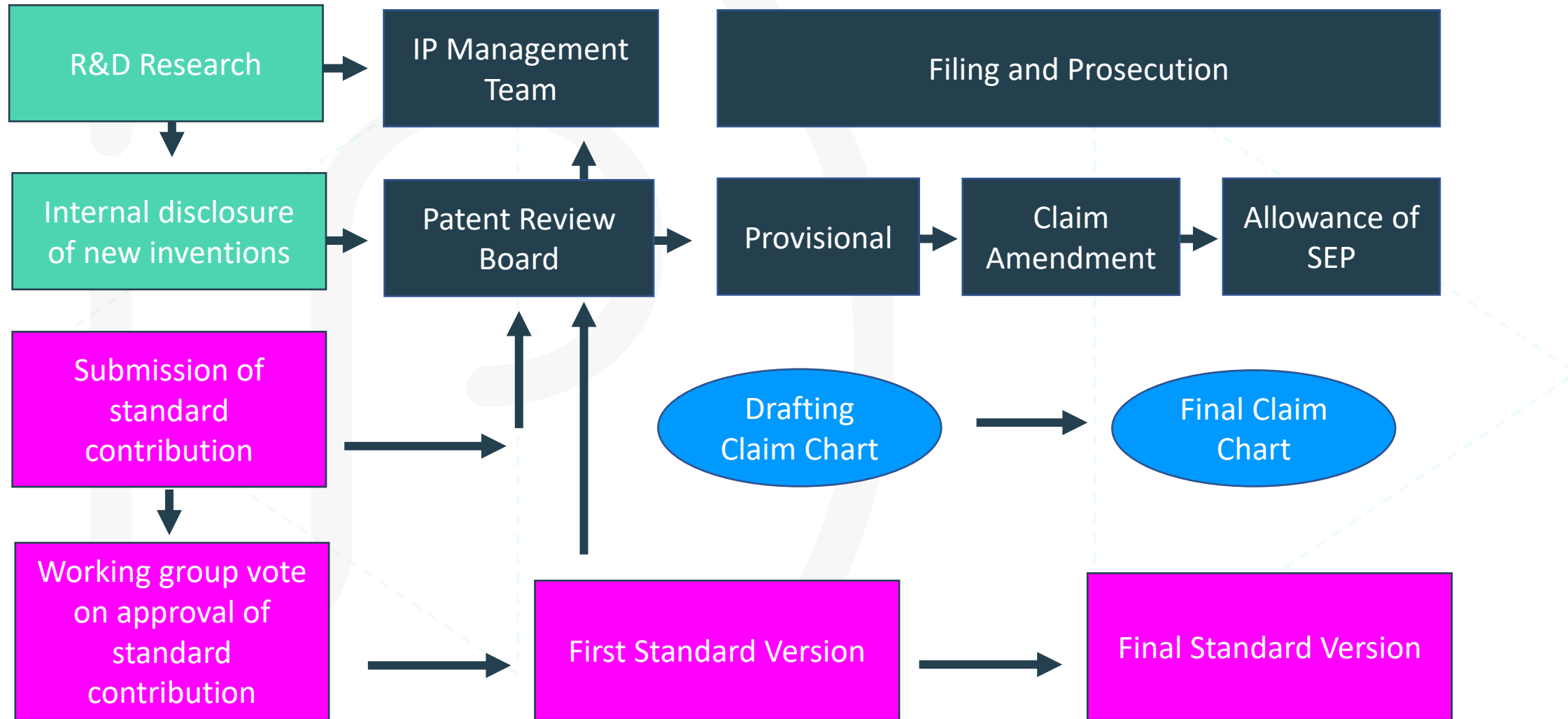
SEP filing process 4/7



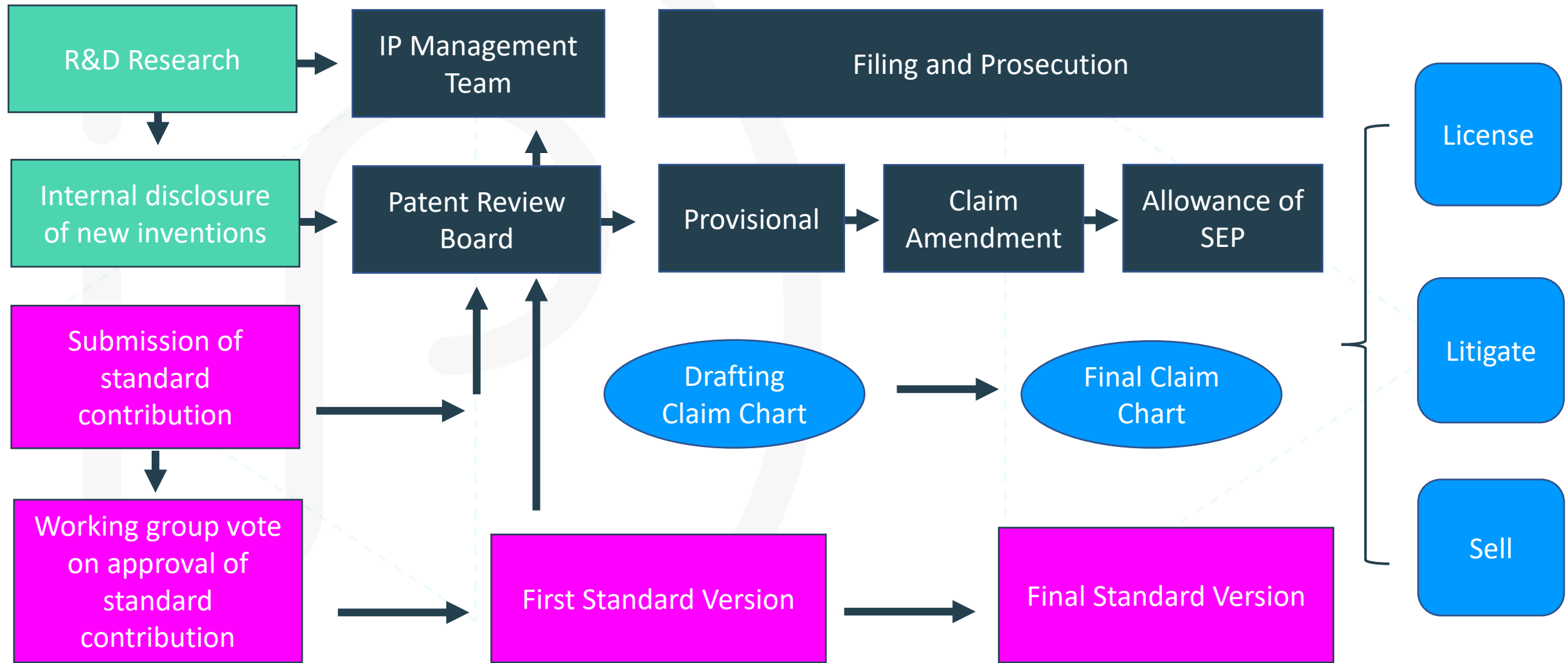
SEP filing process 5/7



SEP filing process 6/7



SEP filing process 7/7



IV **How** to draft valid claims?

How to file valid claims?

Validity is not given:

- The immense amount of potential prior art documents create considerable risk for SEP owners of losing patents for good when **prosecutors do not draft claims properly** and patent **offices fail to identify all prior art**:
 - **76%** of all IPRs filed against SEPs used **non-patent literature (NPLs) as prior art**
 - **66%** of these proceedings specifically used NPLs that were produced explicitly for the purpose of developing and refining standards, e.g., technical **specifications/standards contributions/reports** or **working group documents** produced under the auspices of a standard-setting organization.

Source: Sterne, Kessler, Goldstein & Fox March 2022: <https://www.sternekeessler.com/news-insights/publications/standard-essential-patents-ptab-are-seps-faring-any-differently-non-seps>

How to file valid claims?

Analysis of NPL-citations: 3GPP

- ▶ 81,383 patents citing 3GPP documents, including
 - ▶ 26,702 citations to technical specifications (TS)
 - ▶ 29,603 citations to technical contributions
 - ▶ 9,249 citations to meetings (meeting minutes?)
 - ▶ 5,969 citations to technical reports (TR)

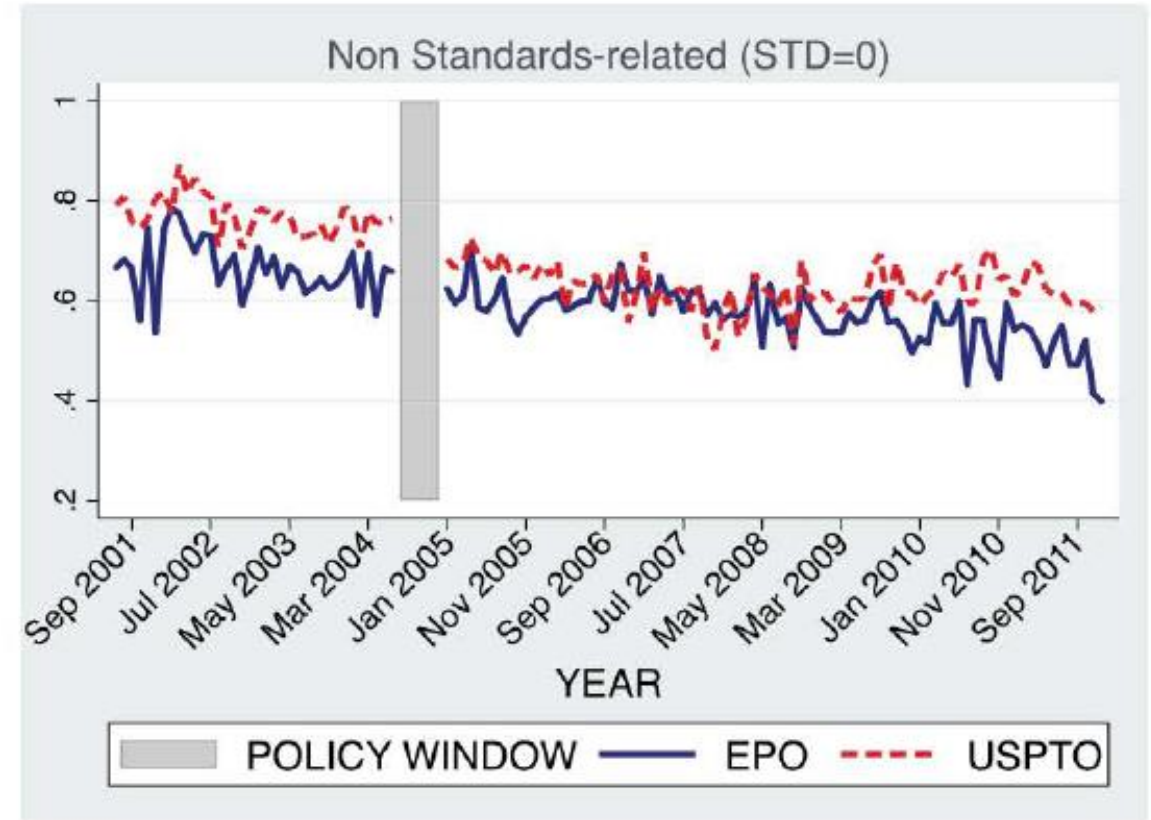
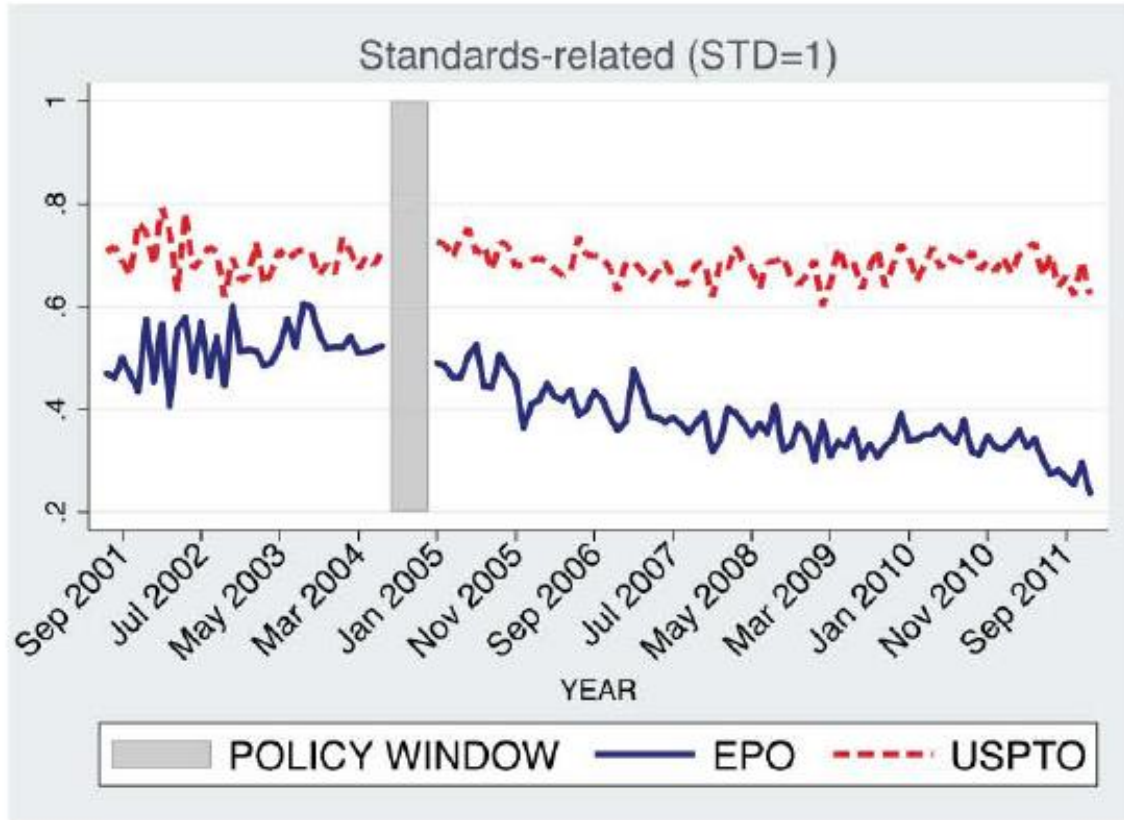
Source: Justus Baron and Daniel F. Spulber: Technology Standards – An Introduction to the Searle Center Database, Journal of Economics and Management Strategy, 27-3, 2018

Patent offices and access to standards data

Access to standards data:

- Patent offices such as the **USPTO** or the **EPO** have signed a Memoranda of Understanding (**MoU**) with the European Telecommunications Standards Institute (**ETSI**) and with the Institute of Electrical and Electronics Engineers (**IEEE**).
- These agreements gave the patent offices **access** to a broad repository of relevant documents such as **standards documents, preliminary standards drafts, other documents related to the temporary drafting of the standards, contributions or working groups minutes.**
- At the **EPO since 2004 the ETSI** non-patent literature database was set up while the **ITU and IEEE databases** were then completed in **2006 and 2008**, respectively.

How to file valid claims?



Bekkers, Rudi, Arianna Martinelli, and Federico Tamagni. "The impact of including standards-related documentation in patent prior art: Evidence from an EPO policy change." *Research Policy* 49.7 (2020): 104007.

PTAB and SEP invalidation

Fighting patents on validity:

- The number of technology standards **implementers** that find themselves entangled in **SEP disputes** has drastically increased.
- The biggest risk to potential infringers will always be the **threat of an injunction**.
- In the US, **Filing an IPR** (inter partes reviews) can be critical to the standards implementer's **defense**.
- Conversely, **mitigating the effect of an IPR** on a request for injunctive relief should be a primary focus of an **SEP holder**.
- We have **risks on both sides of the table**: Standards implementers risk of an injunction and the SEP holders' risk of SEP invalidation.

PTAB and SEP invalidation

SEP PTAB statistics:

- IPRs involving electronics-based SEPs have **similar claim cancellation rates** as proceedings involving non-SEP electronics patents, and actually have **higher chances of having all claims cancelled**:

Figure 3: Claim Cancellation Outcomes at FWD (Electronics IPRs)¹²

	All Claims Cancelled	Some Claims Cancelled	No Claims Cancelled	Total Number of Claims
SEP Proceedings	78%	5%	17%	137
Electronics IPRs	71%	15%	14%	2506

Source: Sterne, Kessler, Goldstein & Fox March 2022: <https://www.sternekeessler.com/news-insights/publications/standard-essential-patents-ptab-are-seps-faring-any-differently-non-seps>

Access to standards data

Access to standards data:

- **Multidimensional access** to fully indexed standards contributions, standard documents, standards meeting minutes and email combinations is crucial for identifying prior art to ensure patent claims are novel and thus valid.
- There are several search strategies to identify prior art:
 - Follow the corresponding **standards meetings proceedings**, minutes and contributions
 - Follow the **inventors**
 - Follow the **claim elements disclosed**

Query Builder

Untitled Query

Edit Code Preview Quick H

Select All e.g. biotech, 3D print*, car or vehicle

ANC Publication Number e.g. EP2931721A1 OR US20150061859A1

ANC Current Assignee e.g. Nokia, "Volkswagen AG" OR Siemens

Add Query

Related Keywords:

Search Save Load History Reset

Visual Expert

Results: Analytics Search Data



Results: Search Data

Currently no documents visible. Please use the query builder above to construct a relevant search.

Need Help?

Filters

0 applied

- ACTIVE Yes
- GRANTED Yes
- TRANSFERRED Yes
- LITIGATED Yes

Query Builder

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Results: Search Data

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<input type="checkbox"/>	LITIGATED	Yes	0
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<input type="checkbox"/>	TRANSFERRED	Yes	0
<input type="checkbox"/>	LITIGATED	Yes	0
<input type="checkbox"/>	POOLED	Yes	0



V **How** to determine essential claims?

Challenges for top-down approaches

Patents and standards are two moving targets:

- Pending patents' **claims change** in the PTO granting process.
- New versions of standards are published where newly integrated **sections** are introduced

Combinations of claims and section are numerous:

- **SEPs** are **declared** to on average **6,84 standard specifications** (as to 5-digit level not even considering the version).
- Standard specifications have on average **160 different sections** and patents on **average 5 independent claims**.
- Only for ETSI declared patents we count **1.8 billion combinations** of declared patents' claims and standards sections.

5G Standard specifications defined by 3GPP

- Different TS versions are subject to different releases and to different generations.

5G
(Release 15 & 16)

4G
(Release 13 & 14)

3GPP Portal

Specification #: 23.008

General Versions Responsibility Related

Meeting	Version	Upload date	ETSI	TDoc	CR
CT#88-e	16.3.0	2020-07-06	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#87-e	16.2.0	2020-03-30	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#86	16.1.0	2019-12-20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#85	16.0.0	2019-09-18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Release 15(Spec is UCC for this Release) **Latest Remark:**

Meetings	Version	Upload date	ETSI	TDoc	CR
CT#83	15.7.0	2019-03-22	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#82	15.6.0	2018-12-22	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#81	15.5.0	2018-09-24	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#80	15.4.0	2018-06-18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#79	15.3.0	2018-03-27	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#78	15.2.0	2017-12-21	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#77	15.1.0	2017-09-18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#76	15.0.0	2017-06-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

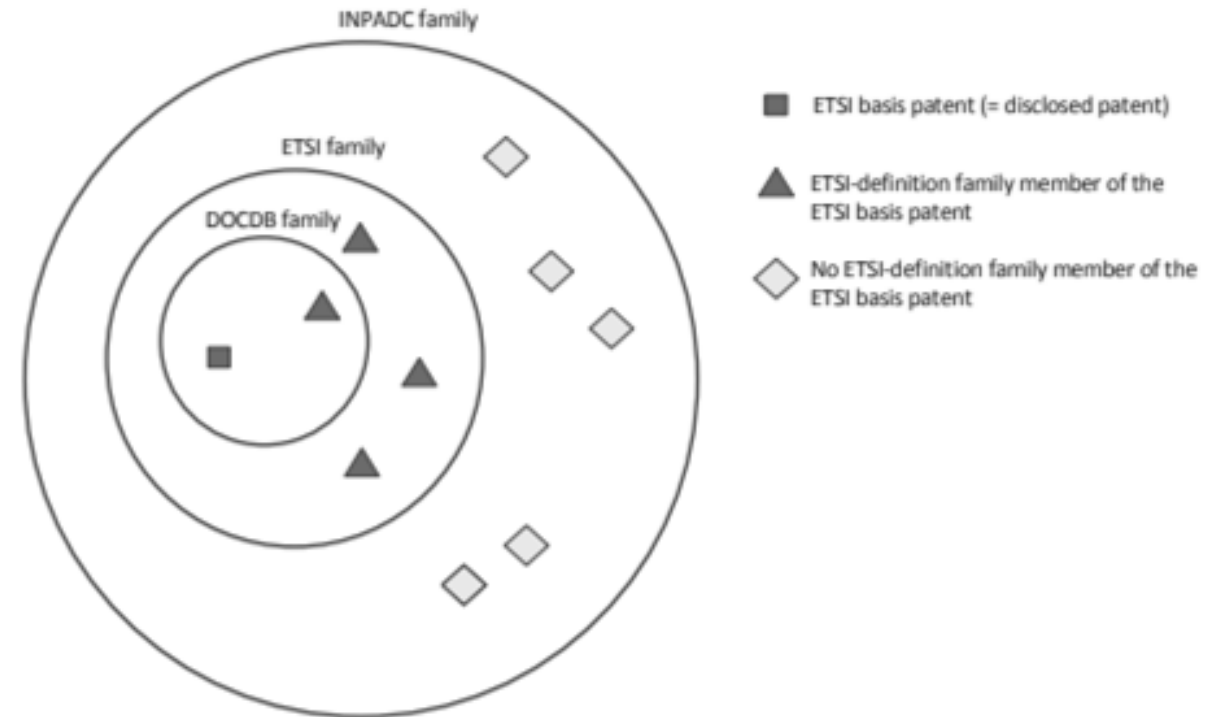
Release 14(Spec is UCC for this Release) **Latest Remark:**

Meetings	Version	Upload date	ETSI	TDoc	CR
CT#78	14.4.0	2017-12-21	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#77	14.3.0	2017-09-18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CT#76	14.2.0	2017-06-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Data enhancement – missing family counterparts

ETSI Patent Family – basis patent

- The FRAND obligation covers all ETSI family (simple family DOCDB) members of initially declared so called “**basis patents**”. In other words, the ETSI FRAND obligation only requests the **declaring company to declare at least one patent family member** (ETSI family definition) assuming all other family members are covered by the FRAND commitment.



Data enhancement – missing family counterparts

Patent Family Expansion - ETSI

- **ETSI expands its database** by ETSI family members through the **API of the worldwide.espacenet.com**, however this extension **does not cover** many declared “basis patent” from offices such as WO, JP, KR and CN.
- IPlytics therefore matches the missing “basis patent” family members to **IP 5 granted patent family counterparts**.
- As of June 2022, IPlytics added **56,882 US, EP, CN, KR and JP patent counterparts** where at least one family member (ETSI family definition) was declared.

SEP determination is a challenge

- Understanding whether a patent is essential or not is **expensive** and **time-consuming** requiring:
 - **SME review**, claim charting, attorney legal opinion and review is very expensive when done rigorously
 - **Slow manual human** processes - Legal teams and SMEs are limited resources
 - **Claim charting a portfolio of e.g. 200 patents takes almost a year (for one SME) and may need budgets of \$500k-\$600k for outside SME and counsel.**

SEP Claim Charting according to international experts

	SEP evaluation rigorousness level description	Average costs in €	Median costs in €	Min. costs in €	Max costs in €
A	Light SEP evaluation: Rough determination whether any TS could be relevant for given patent at all	355 €	184 €	31 €	1,285 €
B	Quick SEP evaluation: Rough determination, which TS could be relevant for which claim features of the given patent	789 €	367 €	92 €	2,753 €
C	Specific SEP evaluation: Determination of specific standard sections for each claim feature of the given patent	1,486 €	734 €	734 €	3,670 €
D	Claim chart: Specific SEP evaluation plus arguments on mapping, i.e., specific correspondence	4,159 €	3,670 €	734 €	8,808 €
E	Claim chart as to d) covering 2 different standards (e.g. 4G/5G)	6,117 €	6,239 €	4,404 €	8,808 €
F	Claim chart as to d) with potential objections on essentiality	7,095 €	7,707 €	2,936 €	8,808 €
G	Claim chart as to d) with potential objections on novelty, inventive step, and/or added subject-matter	7,860 €	8,533 €	5,872 €	8,808 €

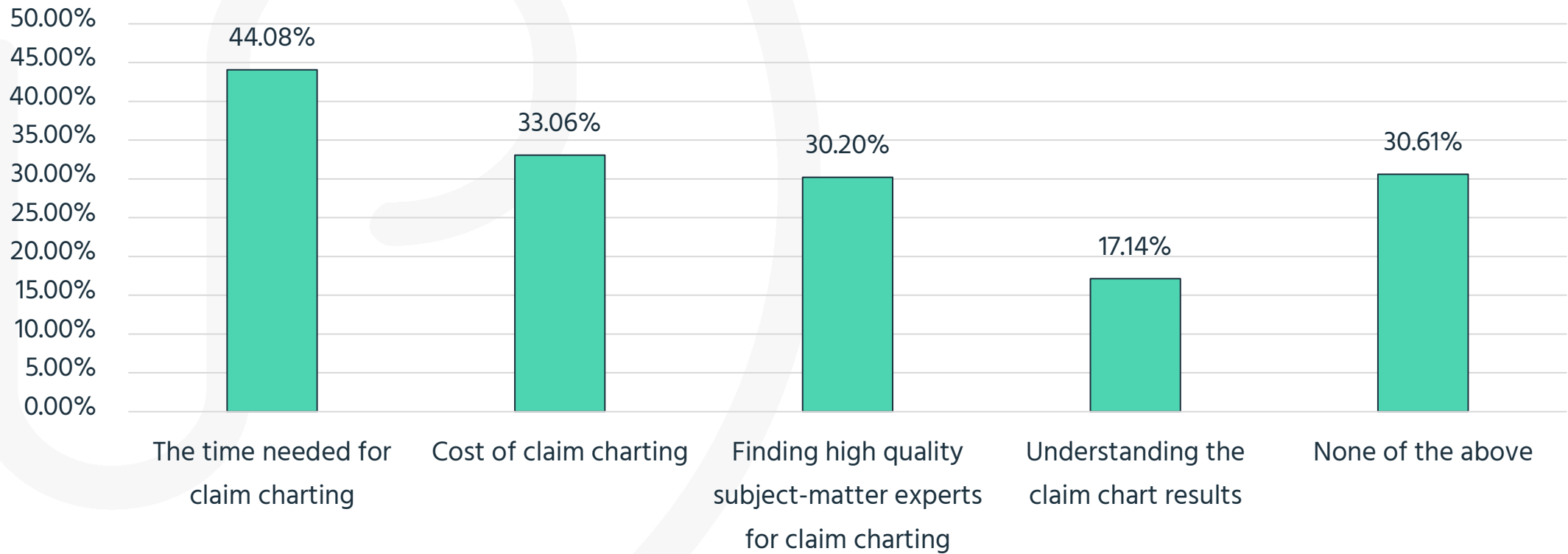
SEP Claim Charting according to international experts

	SEP evaluation rigorousness level description	Average minutes	Median minutes	Min minutes	Max minutes
A	Light SEP evaluation: Rough determination whether any TS could be relevant for given patent at all	58	30	5	210
B	Quick SEP evaluation: Rough determination, which TS could be relevant for which claim features of the given patent	129	60	15	450
C	Specific SEP evaluation: Determination of specific standard sections for each claim feature of the given patent	243	120	120	600
D	Claim chart: Specific SEP evaluation plus arguments on mapping, i.e., specific correspondence	680	600	120	1,440
E	Claim chart as to d) covering 2 different standards (e.g. 4G/5G)	1,000	1,020	720	1,440
F	Claim chart as to d) with potential objections on essentiality	1,160	1,260	480	1,440
G	Claim chart as to d) with potential objections on novelty, inventive step, and/or added subject-matter	1,285	1,395	960	1,440

SEP determination is a challenge

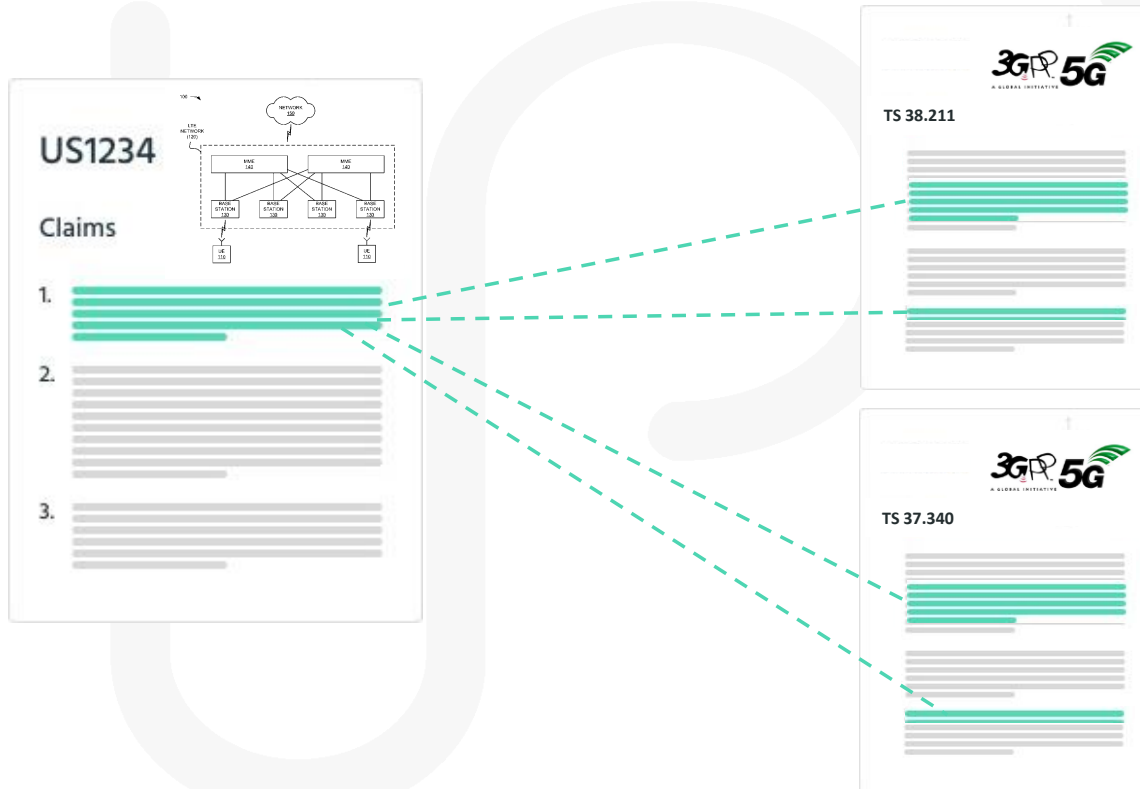
What is your biggest challenge with regards to SEP determination?

Multiple answers possible, N=245



Semantic Essentiality Scores (SES) can be a
first efficient step towards SEP portfolio
determination

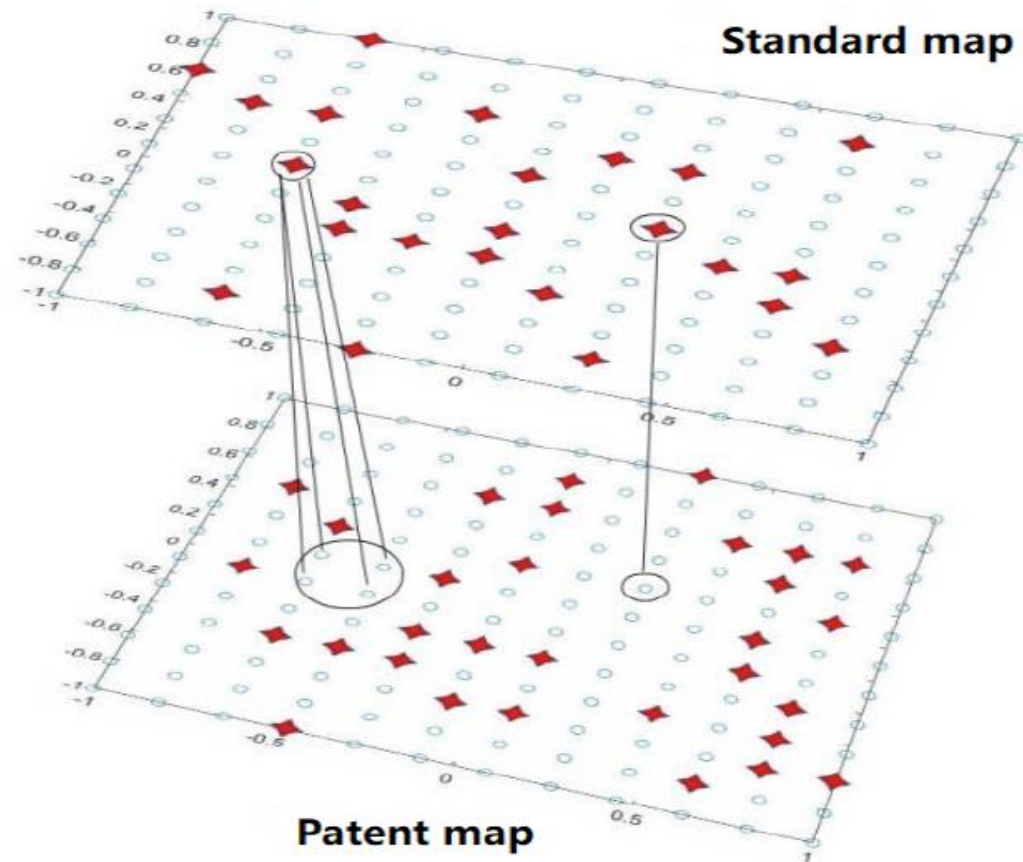
Claim language vs. standards language



Claim language and language in standard specifications may be very **different**:

- **Patent claims** are drafted by patent attorneys using **broad terminology** so that the claims apply to as many applications possible.
- **Standard specifications** or standards contributions are written by technical engineers that develop the standard and **use very specific language**.

Semantic analysis of patent claims and standards



- While claims and standards describe the very same topic and thus can be mapped and charted by experts – the **actual language used can be very different.**
- To overcome this, we **train a semantic model** that understands the context of claims and standards and recognizes the use of different expressions for certain concepts to identify claim elements.
- We use **claim charts** manually created by experts as **training data.**

SES – Patent claim and standard section side by side

Overview 44 Family Members 1 Citing Patents **Semantic Essentiality 80%** Patents 1 Literature Standards 1 Companies

Semantic Essentiality Score: **80%**

Publication Number	US9641655B2	Standard Document Id	TS 38.322 v16.2.0
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SEMANTICALLY SIMILAR CLAIM 6

6. A wireless transmit receive unit (WTRU) comprising: a PDCP entity configured to receive a PDCP service data unit (SDU) from an upper layer entity, start a PDCP discard timer upon receiving the PDCP SDU from the upper layer entity, process the PDCP SDU to form a PDCP protocol data unit (PDU), send the PDCP PDU to a radio link control (RLC) entity for transmission, and discard the PDCP SDU based on either the PDCP discard timer expiring or receiving a PDCP status report that acknowledges receipt of the PDCP SDU by a receiving PDCP entity; and the RLC entity configured to discard an RLC SDU corresponding to the PDCP PDU based on either receiving an indication of PDCP discard from the PDCP entity or re-establishment of RLC.

SEMANTICALLY SIMILAR SECTION 5.4

When indicated from upper layer (i.e. PDCP) to discard a particular RLC SDU, the transmitting side of an AM RLC entity or the transmitting UM RLC entity shall discard the indicated RLC SDU, if neither the RLC SDU nor a segment thereof has been submitted to the lower layers. The transmitting side of an AM RLC entity shall not introduce an RLC SN gap when discarding an RLC SDU.

SES – Sort and refine patents as to essentiality score

Declaring Co...	SSO	SE Publ. No.	SE Stand. Doc. ID	SE Section No.	SE Claim No.				
Samsung Electronics Co. Ltd.	ETSI	US9049718B2	TS 38.322 v16.2.0	5.2.2.1	17	82%	82%	<input type="checkbox"/>	Yes 15
Samsung Electronics Co. Ltd.	ETSI	US9049718B2	TS 38.322 v16.2.0	5.2.2.1	17	82%	82%	<input type="checkbox"/>	Yes 15
Samsung Electronics Co. Ltd.	ETSI	US9049718B2	TS 38.322 v16.2.0	5.2.2.1	17	82%	82%	<input type="checkbox"/>	Yes 0
InterDigital Holdings, Inc.	ETSI	US9641655B2	TS 38.322 v16.2.0	5.4	6	80%	80%	<input type="checkbox"/>	LITIGATED Yes 1
Samsung Electronics Co. Ltd.	ETSI	US10805048B2	TS 38.322 v16.2.0	5.6.1	5	79%	79%	<input type="checkbox"/>	POOLED Yes 0
Samsung Electronics Co. Ltd.	ETSI	US10602563B2	TS 38.322 v15.5.0	5.2.2.1	1	81%	81%	<input type="checkbox"/>	ESSENTIALITY SCORE 62-100%
Samsung Electronics Co. Ltd.	ETSI	US10602563B2	TS 38.322 v16.2.0	5.2.2.1	1	81%	81%	<input type="checkbox"/>	0 documents without Essentiality Score

No. SES

82%

Query Builder

Untitled Query

Edit

Code Preview

Quick Help

Select All e.g. biotech, 3D print*, car or vehicle

ANC Publication Number e.g. EP2931721A1 OR US20150061859A1

ANC Current Assignee e.g. Nokia, "Volkswagen AG" OR Siemens

Add Query

Related Keywords:

Search

Save

Load

History

Reset

Visual

Expert

Results: Analytics Search Data



Results: Analytics

Currently no analytics visible. Please use the query builder above to construct a relevant search.

Need Help?

VI **How** to right-size a SEP portfolio?

How many SEPs are enough?

How to right-size a SEP portfolio:

- A properly managed SEP portfolio should **generate revenue** for an organization by protecting its investments and balancing its **maintenance costs**.
- This requires an organization to make critical and often **risky decisions** about **where** and **when** to invest in R&D, standards development and patent prosecution.
- This is true for **both sides of the table** as a SEP portfolio is often used also by net-licensees to cross-license.

Likelihood of validity and essentiality

- Estimating the **statistical likelihood** of a portfolio including at least **one essential and valid patent** shows that even in pessimistic scenarios a portfolio of **250 patents** includes at least one enforceable SEP:

Validity	pessimistic (30% valid)			optimistic (80% valid)			
	Essentiality	low (10%)	medium (25%)	high (50%)	low (10%)	medium (25%)	high (50%)
Portfolio size							
5		0.1413	0.3228	0.5563	0.3409	0.6723	0.9222
10		0.2626	0.5414	0.8031	0.5656	0.8926	0.9940
25		0.5330	0.8576	0.9828	0.8756	0.9962	1.0000
50		0.7819	0.9797	0.9997	0.9845	1.0000	1.0000
100		0.9524	0.9996	1.0000	0.9998	1.0000	1.0000
250		0.9995	1.0000	1.0000	1.0000	1.0000	1.0000

Using data to right-size your SEP portfolio

The subject matter expert approach:

- It undisputable that **manually determining SEP** essentiality and SEP value is **economically not feasible** for all declared patents.
- **SMEs are also not always** right and when claim charting is not rigorous (e.g. only a 20 min look-up) and may even be subject to a systematic bias.

The data approach:

- Semantic claim section essentiality scores are not perfect (**error rate**) but they can be **a first step analysis before** conducting expensive and lengthy claim charting
→ SES will not replace the SME but enable more **efficient claim charting**.
- Semantic essentiality score (SES) is used as a **proxy for patent portfolio value**.

Increasing complexity

- **Connectivity is everywhere**, and it heavily relies on standards that are subject to SEPs.
- The number and **variety of use case** of **standardized connectivity** technology has increased over the past 5 years with a growing number of newly implemented standard subject to SEPs (e.g. SAE standards, Qi standard)
- It is challenging to **keep up with technology trends**, new standards projects as well as SEPs or new pool license programs.
- **Multidimension access** to patents and standards data is crucial to file valid and essential patents by aligning strategic standard development, patent prosecution and patent portfolio management.
- Also, **standards implementors** need to make sure to **have a seat at the table** when technologies such as V2X, M2M or IoT are developed.

VII How to leverage access to patents and standards data cross-departmental?

SEP licensors (patent owners)

SEP **licensors** use of IPlytics Platform:

- Align R&D investments, standards development, patent prosecution, patent portfolio management and licensing/monetization strategy to **file valid and essential patents** and to **commercialize SEPs** in world-wide licensing campaigns.
- Compare SEP portfolios and **monitor competition** making sure to invest in the right technologies **that justify the costs of prosecution, filing and maintenance**
- Monitor **competitors' standards development** investments (contribution count) and identify new standards groups to maintain leading positions in standards development.



Use Cases

Standards and R&D team:

- Use IPlytics to **monitor the competition** helping to **identify novel technologies** to be introduced in standards development.
- Use IPlytics to identify **prior art** early in the process.
- Use IPlytics to **align standards development** with the **patent board** and patent **prosecution** team.



Patent prosecution:

- Use the IPlytics standards database make sure to consider the dynamic nature of standards development **adapting claim drafting** to the **changing standard versions**.
- Use the IPlytics to identify potential **prior art** to ensure the drafting of valid and essential claims.



SEP licensees (standards implementers)

SEP **licensees** use of IPlytics Platform:

- **Identify standards subject to SEPs** in the complex value chain of suppliers as SEP holder approach OEMs or at least Tier 1 supplier
- Monitor SEP filing, SEP change of ownership and litigation to **quantify risks and plan royalty payments.**
- **Identify** industry related (e.g. V2X or M2M) **standards development initiatives** to have a seat at the table when future connectivity technology is developed.
- **Align standards development** activities with the **patent board** and **patent prosecution** teams to **steer patent filing towards SEP filing.**



Use Cases

Technology/ Standards Manager



- Use IPlytics to monitor the implementation of standards subject to SEPs in early **technology investment decisions**.
- Use IPlytics to **identify** industry related (e.g. V2X or M2M) **standards development initiatives** to have a seat at the table when future connectivity technology is developed.



Patent teams:

- Use IPlytics to identify prior art of risky patents for **invalidation**.
- Use IPlytics to **align standards development** activities with the patent board and patent prosecution teams to steer patent filing towards SEP filing.

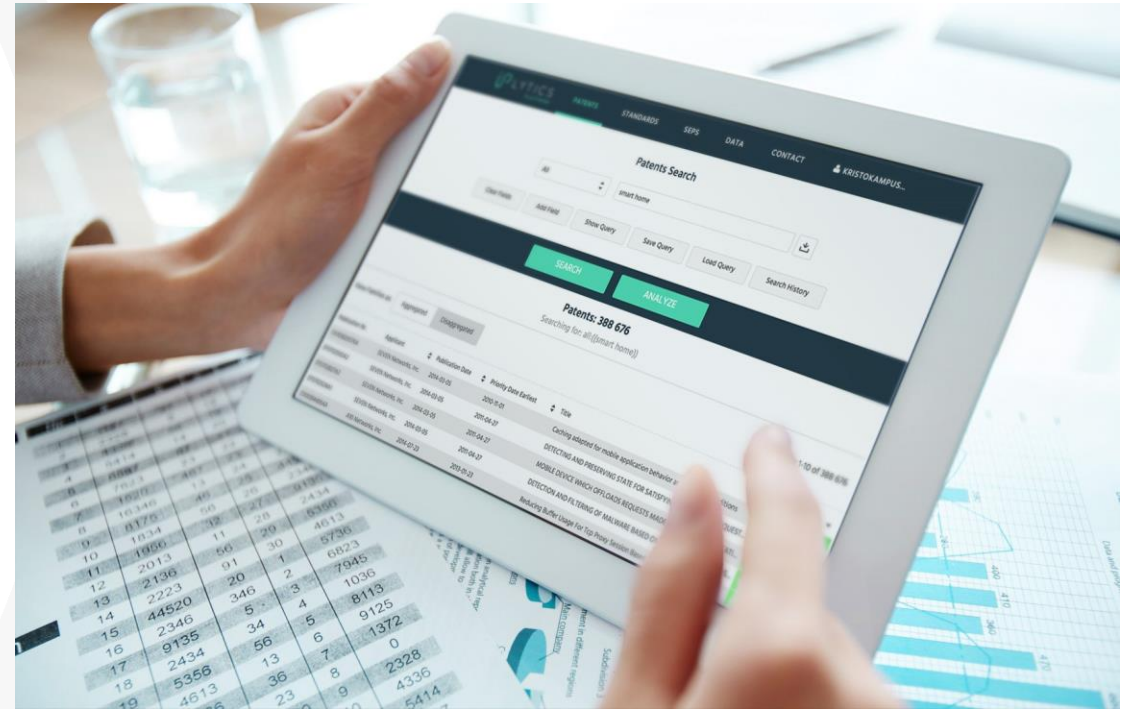
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Meet the IPlytics team in person

- ❖ [Wiesn IP Forum](#) in **Munich Germany**, September 19th-20th, 2022
- ❖ [IAM SEP Summit](#) – **online**, September 21st -22nd, 2022
- ❖ [LES Annual Meeting](#) in **San Francisco USA**, October 16-19, 2022
- ❖ [Global FRAND Symposium](#) in **Palo Alto USA**, October 21st, 2022
- ❖ [IPBC Asia](#) in **Tokyo Japan**, 31 October -2 November 2022
- ❖ [Patent Information Fair & Conference](#) **Tokyo Japan**, 9th-11th November 2022

Next Webinar Series to start in late September



A New Webinar Series

Bridging the Gap between Patents and Standards Data

Coming Soon



The **SEP** Couch

with Tim Pohlmann

Contact

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