

Connecting The Dots Webinar Series Part 2:

SEP Licensing, Transaction and Litigation

July 12th, 2022

Recording: <https://youtu.be/8xqormX13ds>

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

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

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

August 16th, 2022

Register: <https://www.iplytics.com/events/upcoming/>

Today's Speaker



- PhD and Post Doc. from CERN, **MINES ParisTech** and **TU Berlin**.
- CEO and founder of IPlytics.
- 2022 IAM Strategist 300. Panel speaker thought leader.
- Appointed faculty lecturer at:
 - **Technical University of Berlin** - Strategic Standardization
 - **CEIPI Université de Strasbourg** - SEPs and FRAND licensing
 - **EPFL Lausanne** - Big Data Driven Patent Intelligence
 - **PATON Ilmenau** – The Interplay of Patents and Standards
 - **European Patent Office** – SEP / FRAND and standards development

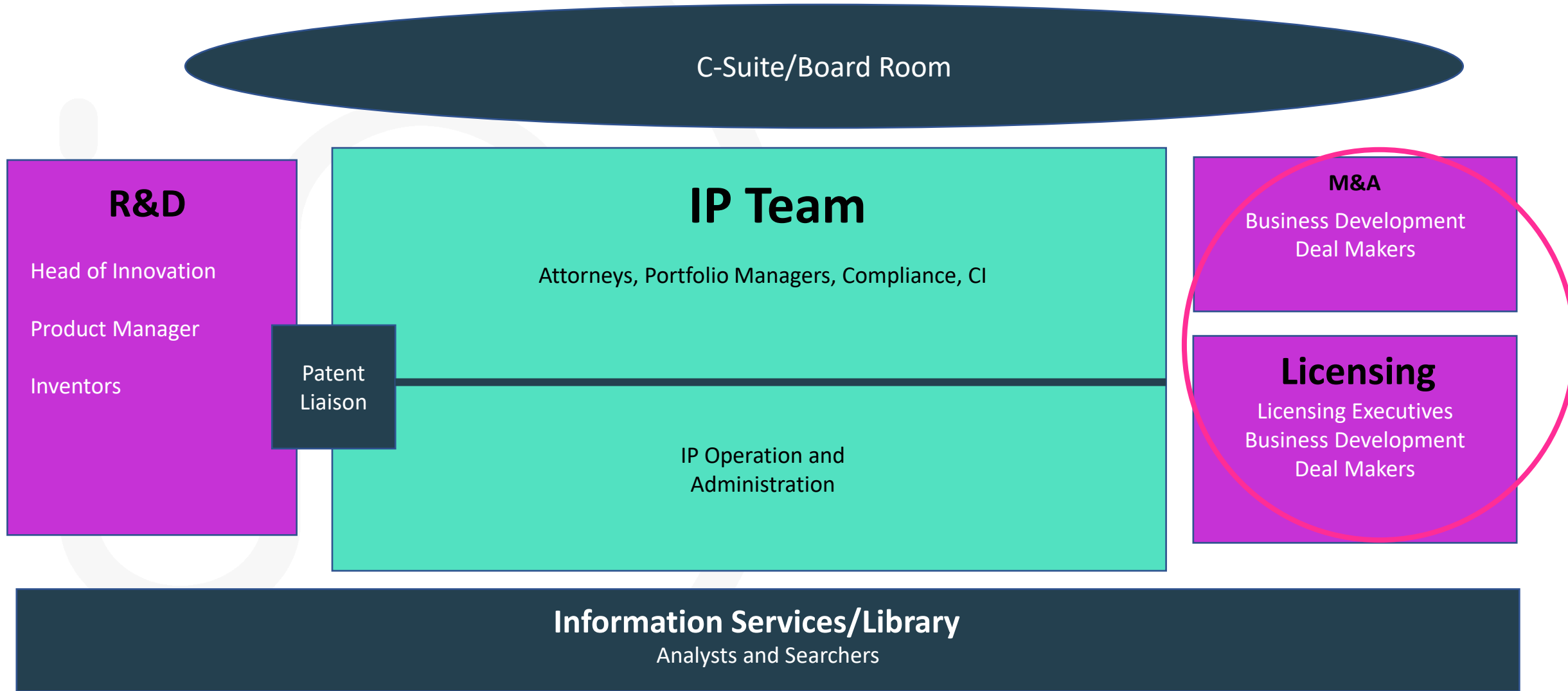


Agenda

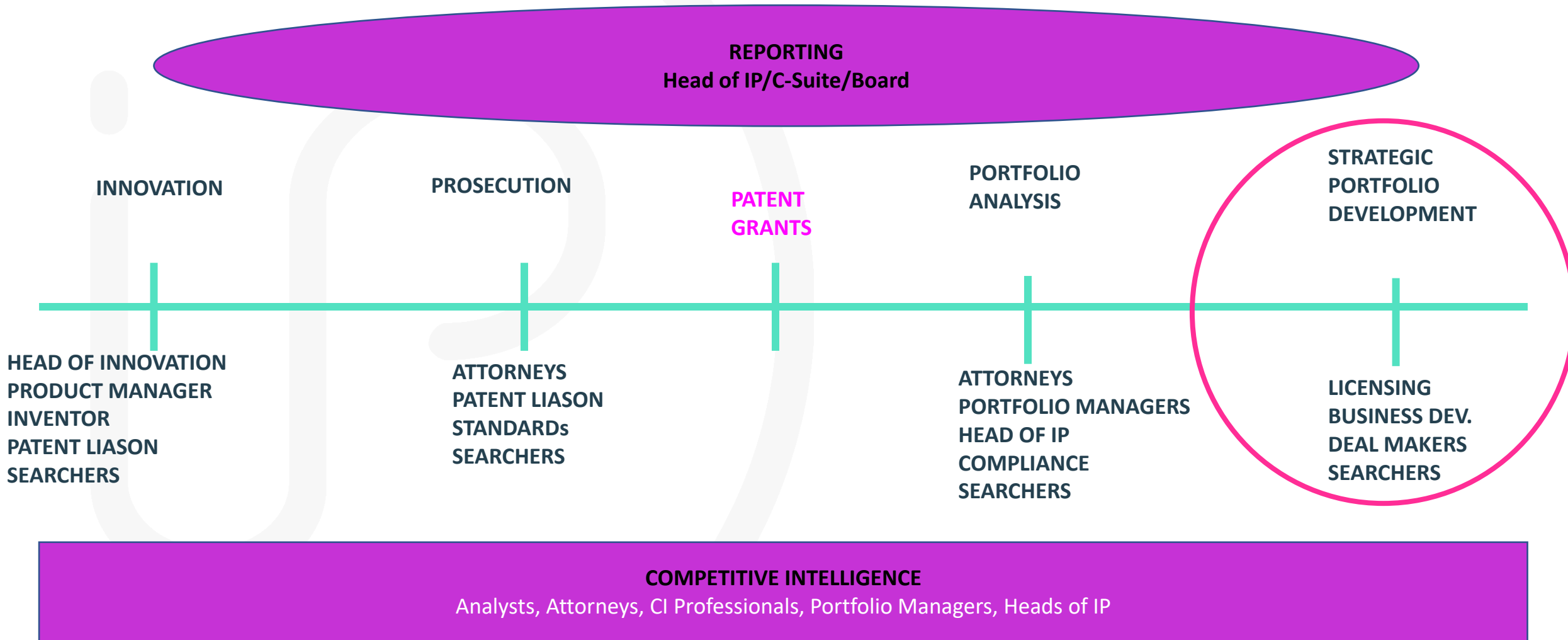
- I Licensing, Transaction and Litigation personas
- II Licensing, Transacting and Litigating trends
- III Shifting SEP markets
- IV Joint licensing platforms and patent pools
- V Bilateral SEP licensing
- VI Identifying, counting and valuating SEP portfolios
- VII How to make use of IPlytics across departmental

| Licensing, Transaction and Litigation **personas**

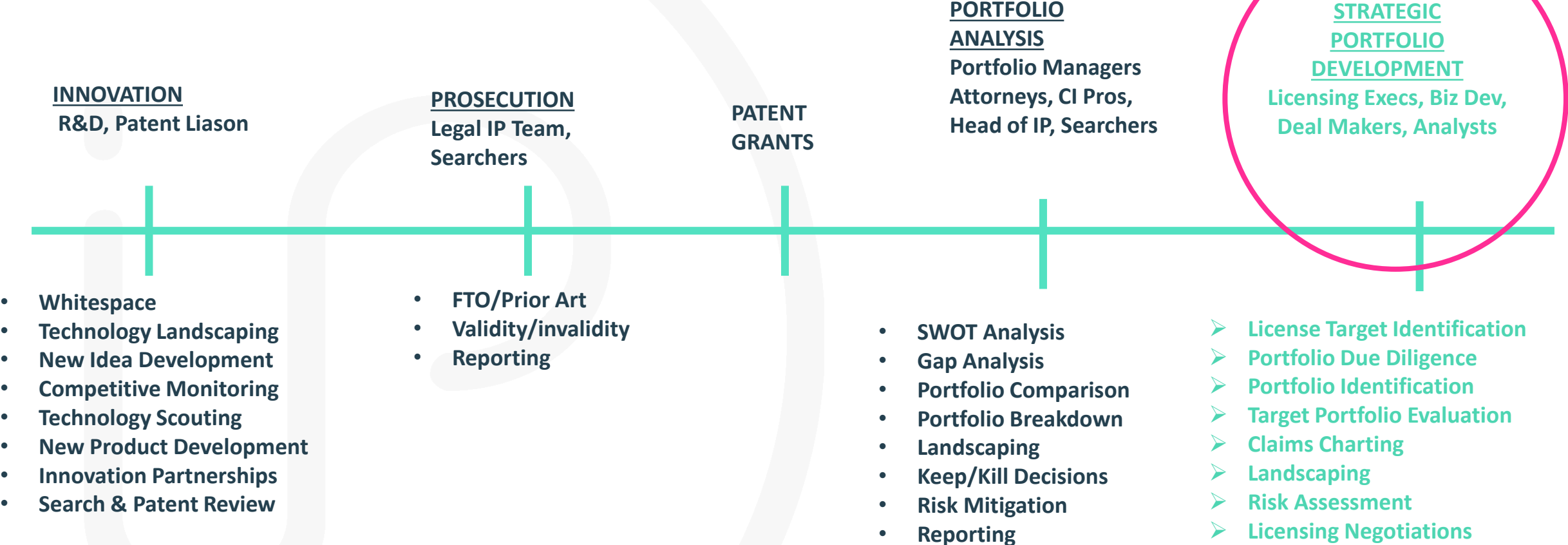
Corporate Layout of Personas



Key Events in the Life of a Patent by Persona



Key Events in the Life of a Patent by Use Case



Titles: Licensing Executive, Portfolio Development, Business Development, Director of Corporate Strategy, Head of IP Transactions

What do they do:

- Tasked with generating value and revenue from the IP Portfolio through licensing activities, both **carrot and stick**.
- Need to generate a **pipeline** of possible **licensing deals**.
- Needs to work with R&D, portfolio managers and legal to understand what **patents can be licensed**
- Identify possible **licensing targets**
- Work with SMEs and legal counsel to **prove infringement**
- **Negotiate licensing deals**; draw up agreements
- **Invoke litigation** if needed
- **Monitor competitors**, new technologies and products

What are their Challenges/Goals:

- **Finding** the technologies or **assets (patents)** to license
- Finding solid partnership or **licensing candidates** quickly, and effectively
- **Hitting revenue targets**/managing a pipeline of deals
- Avoiding blow back or understanding early on possible **cross licensing opportunities**

Use Cases

- **All Strategic Portfolio Development Use Cases**
- **Portfolio Breakdown**
- **Portfolio Comparison**

Titles: Business Development, IP Transaction specialist, Corporate Development Director, M&A Director

What do they do:

- Responsible for understanding **gaps in the technology/business strategy** and/or patent portfolio
- Find companies, technologies or **patent portfolios that bridge the gaps**, in order to give the company the best advantage in the marketplace against the competition
- **Review portfolios** that are presented to them for possible acquisition from other companies or patent brokers/aggregators.
- Perform portfolio/company **due diligence**
- Work with legal and portfolio managers to understand portfolios to **sell/buy**
- **Negotiate transactions**; draw up contracts
- **Monitoring**/understanding the **competitive landscape** for new emerging players
- **Align** all activity with the **business strategy of company**

What are their Challenges/Goals:

- **Reviewing** large numbers of **patents/portfolios** quickly and accurately
- **Assessing** the **value** of portfolios efficiently for purchase
- Understand the **competitive landscape** easily in order to identify suitable M&A targets
- Must avoid putting the company at risk through any transaction

Use Cases

- **All Strategic Portfolio Development Use Cases**
- **Portfolio Breakdown**
- **Portfolio Comparison**
- **Gap Analysis**

Use Case by Persona – law firm

New Client Acquisition

Managing Partner
Partner
Attorney

Current Client Retention

Managing Partner
Partner
Attorney

Search & Analysis Services
Due Diligence

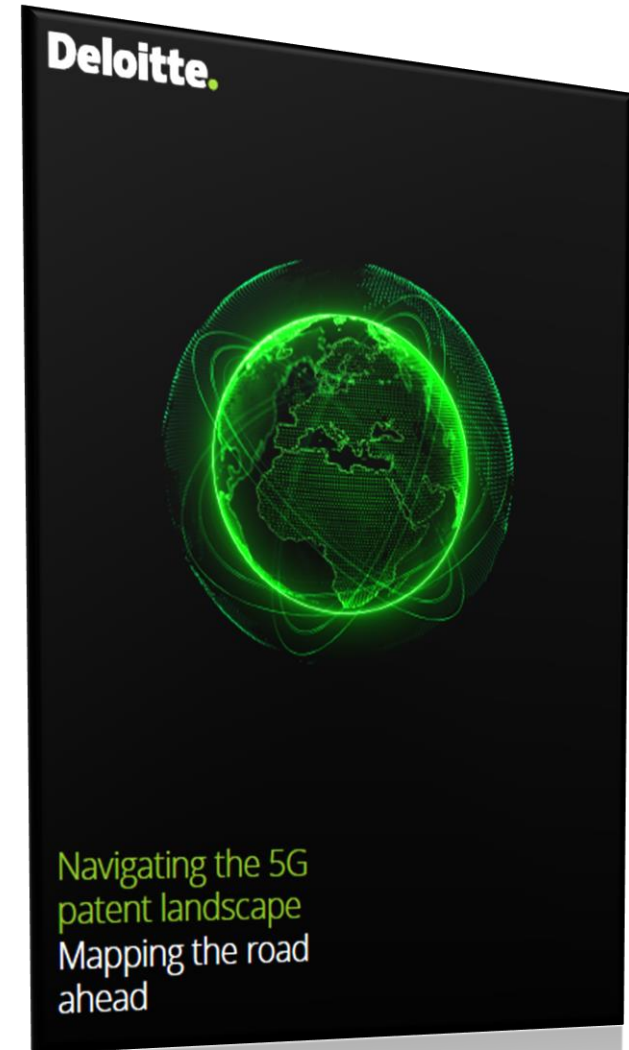
Paralegal
Researcher/Analyst
Attorney

II Licensing, Transacting and Litigating trends

The future of 5G – Challenges for SEP licensing

As to a Deloitte study published 2021:

- “The majority of **SEP holders** will actively monetize and **enforce their SEP portfolios** covering 5G standards in this fast-moving, high-investment environment.”
- “SEP owners as well as standard implementers are faced with the challenge to **manage operational and financial risks** and cost exposures while striving to maximize value.”



Standards competition

Competing connectivity standards for IoT.

- “For massive IoT, where voice and video over LTE is not necessary, there are other standards that will be competing to cellular, such as Bluetooth, DECT NR+, or other mesh-networks.”

Marianne Frydenlund Senior VP Legal & Compliance Nordic Semiconductor

Standards Implementation Wi-Fi

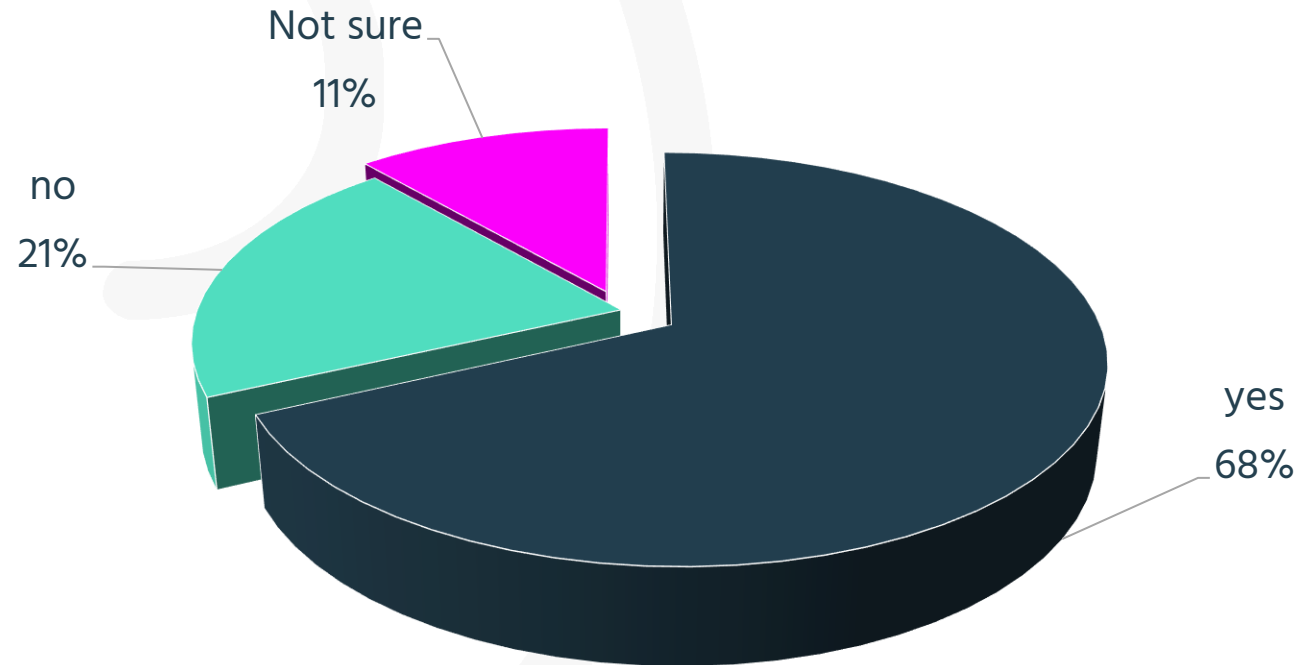
Wi-Fi compliant products

- The number of products that implement Wi-Fi outside of the communication sector has drastically increased (e.g. Other and Smart Home).

Category	Products	Brands
Phones	21.507	111
Routers	14.941	297
Televisions & Set Top Boxes	11.941	83
Computers & Accessories	7.652	148
Other	6.757	262
Tablets, Ereaders & Cameras	2.697	86
Gaming, Media & Music	1.636	124
Smart Home	529	89
Building	3	1

TU Berlin Industry Survey in 2021

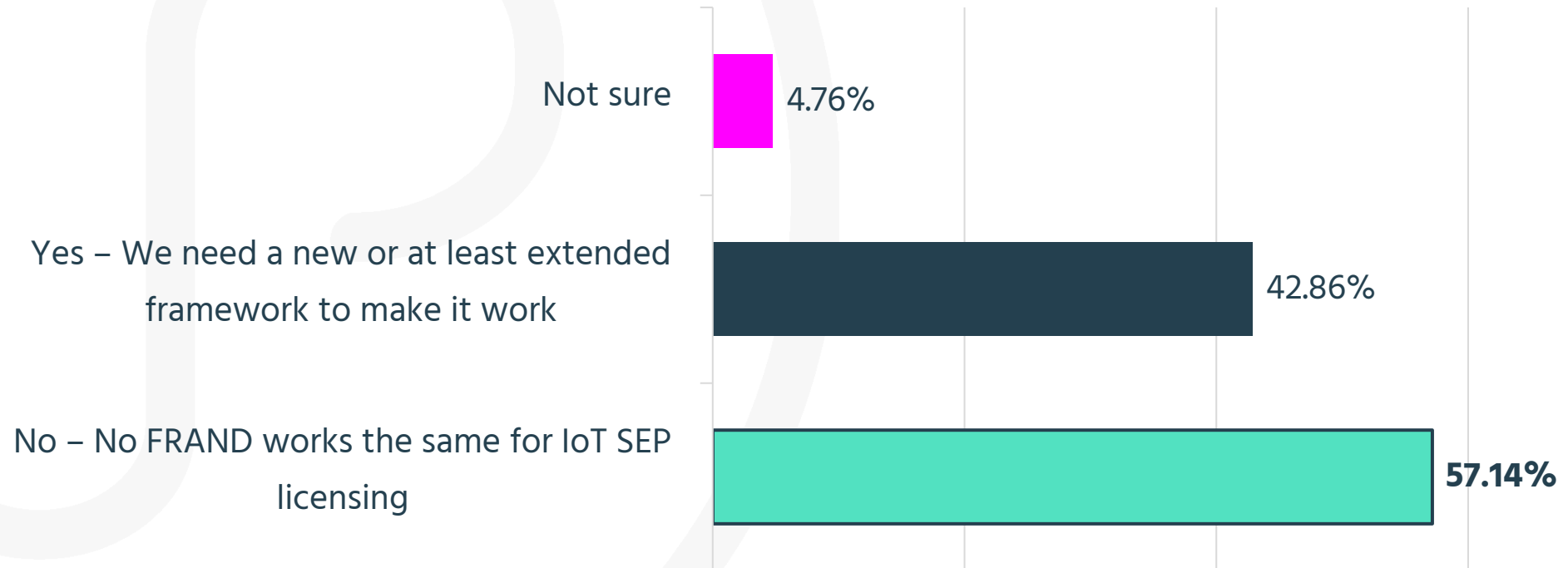
Q1: Do you think that SEP licensing will be more challenging for IoT applications compared to the smartphone market? (N=54)



Source: <https://www.iplytics.com/report/video-recording-tu-berlin-virtual-conference-licensing-of-seps/>

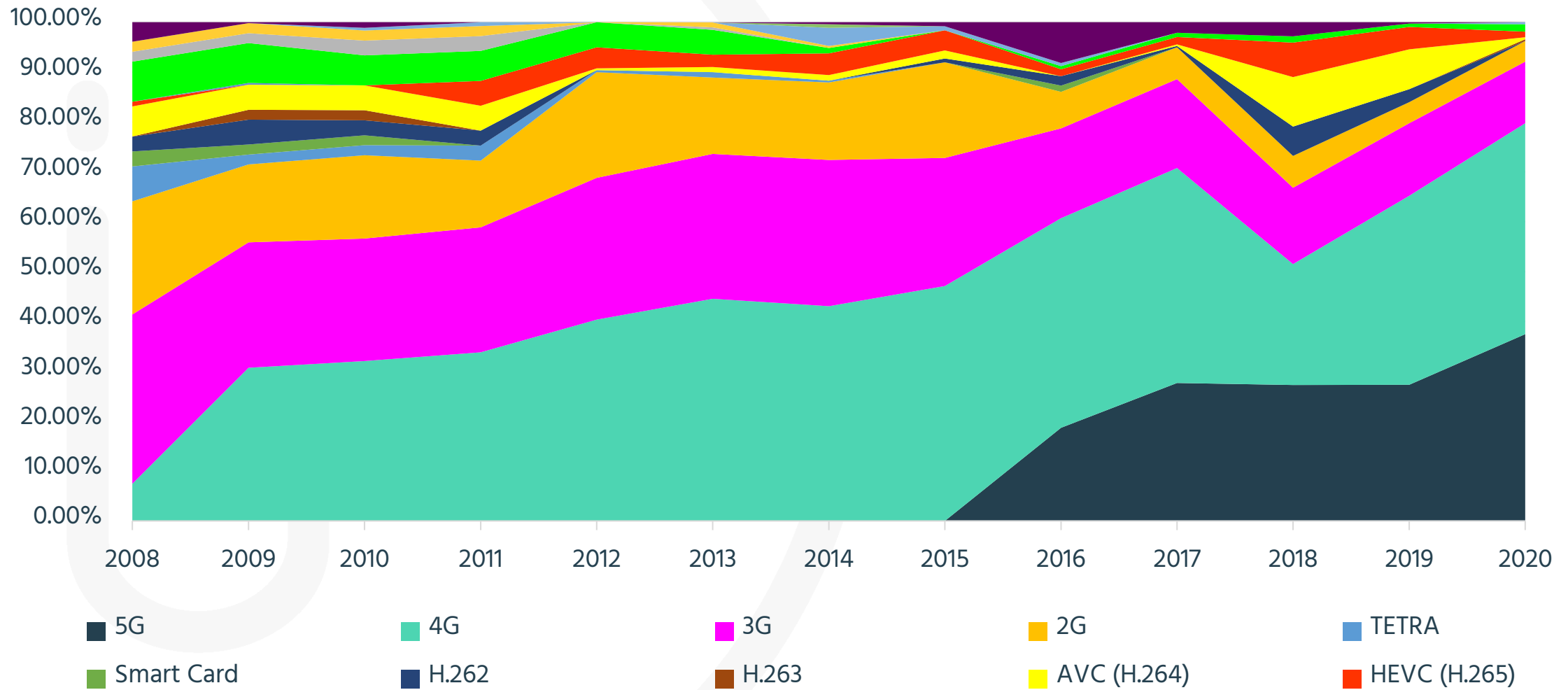
TU Berlin Industry Survey in 2021

Q2: Do we have to rethink the FRAND framework for SEP licensing for IoT? (N=52)



Source: <https://www.iplytics.com/report/video-recording-tu-berlin-virtual-conference-licensing-of-seps/>

SEP Litigation per Standard 2001-2021 (world-wide)



SEP litigation beyond smart phones

Recent SEP auto industry litigation :

- Nokia vs. Daimler (Germany, 2019)
- Sharp vs. Daimler (Germany, 2020)
- Conversant vs. Tesla (Germany, 2020)
- Sharp vs. Tesla (Japan, 2020)
- Sisvel vs. Tesla (USA, 2021)
- L2 Mobile vs. Ford Motors (USA, 2021)
- IV vs. GM, Toyota, Honda (USA, 2021)
- Sharp vs. Volkswagen (Germany, 2022)
- IP Bridge vs. Ford Motors (Germany, 2022)

Automotives: the next battlefield of SEP litigation?

01-07-2019 Pauline Debré and Simon Corbineau-Picci



ParabolStudio / Shutterstock.com

Editor's Picks | M

[Booking.com—floodgate](#)

[Sky v SkyKick goes to](#)

[Donald Trump fights fir
copyright row](#)

[US Copyright Office w
box row](#)

[CPA Global to make re
'new normal'](#)



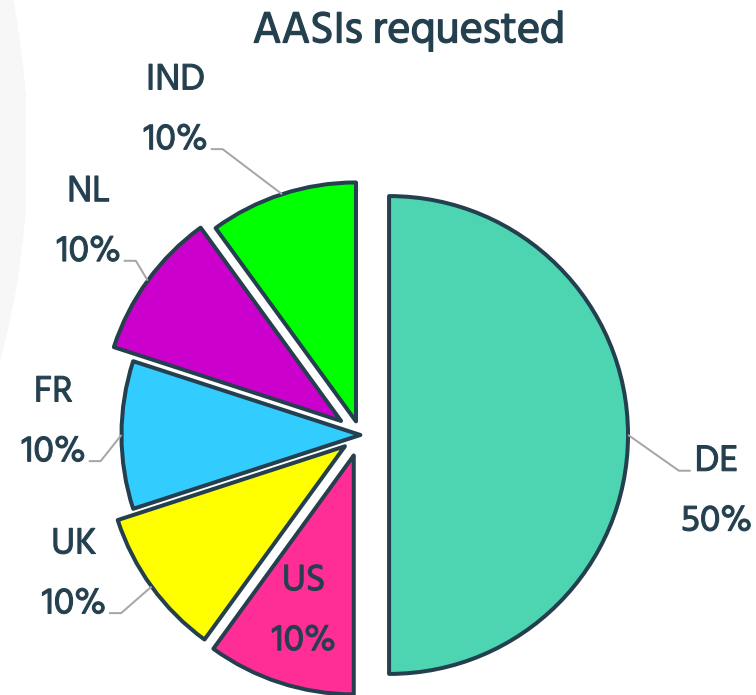
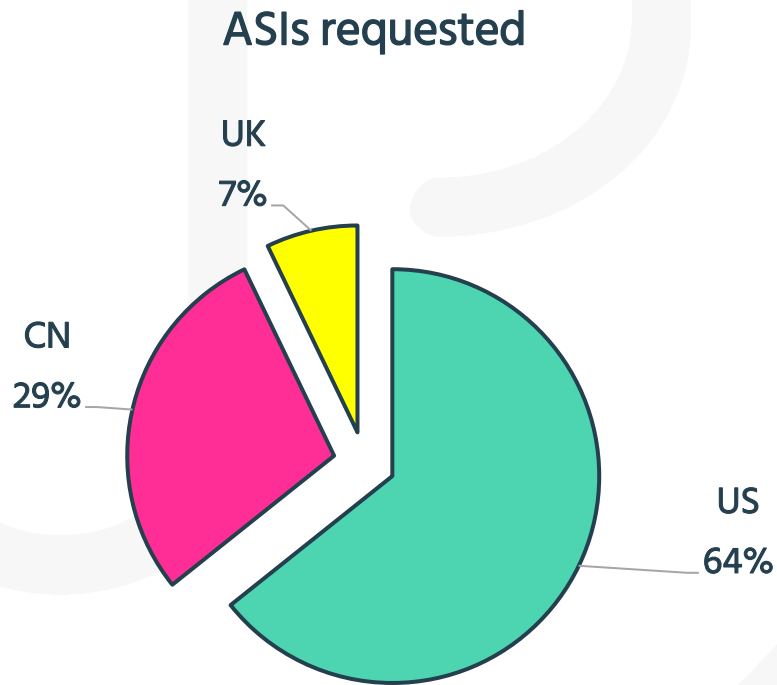
Local courts global rates?

- Decisions in which a national court has considered a request by one of the parties to litigation to determine a **worldwide rate** for FRAND licensing.

Jurisdiction	Instance	Global FRAND?
UK	Vringo v ZTE [2015] EWHC 214 (Pat)	NO
	Unwired Planet Intl. Ltd. v Huawei Techs. Co. Ltd. [2020] UKSC 37	YES
US	TCL Communication Technology Holdings Ltd. v Ericsson US No. 2:15-cv-02370 CV 15-2370 JVS(DFMx) SACV 14-341 JVS(DFMx) (C.D. Cal Dec. 21, 2017)	YES
	Optis Wireless Tech., LLC, v. Huawei Device Co. Ltd., No. 2:17-cv-123-JRG-RSP, 2018 WL 476054 (E.D. Tex. Jan. 18, 2018)	NO
China	Xiaomi Communication Technology Co Ltd v InterDigital Inc [2020] Wuhan Intermediate People's Court, Case E 01 Zhi Min Chu No 169.	YES
	Samsung v Ericsson [2020] Wuhan Intermediate People's Court, Case E 01 Zhi Min Chu No 743.	YES
	OPPO v Sharp, Supreme People's Court (19.08.21). (2020) Zui Gao Fa Zhi Min Xia Zhong No. 517	YES
	Oppo v Nokia Intermediate Court of Chongqing [2021] Docket: (2021)渝01民初1232号	No information available

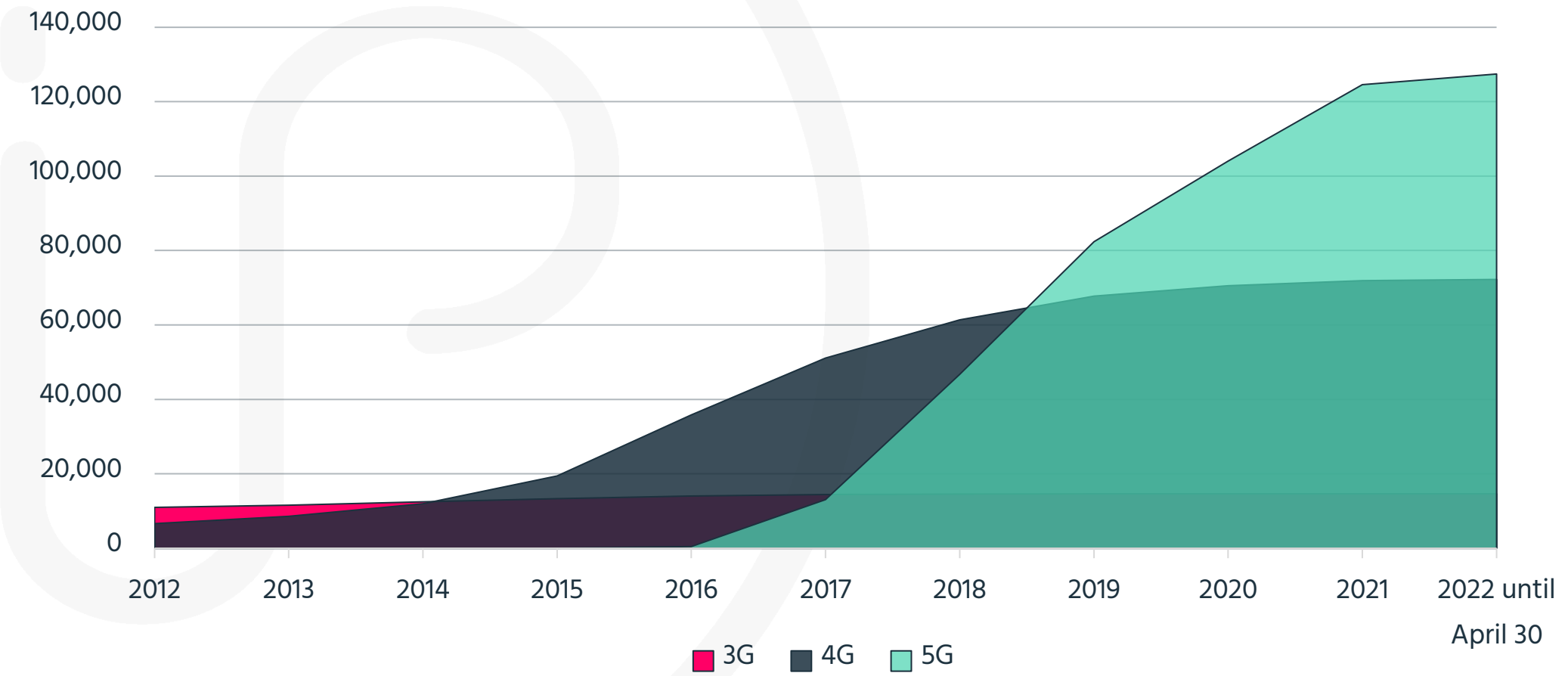
Anti Suite Injunctions?

- Requests for Anti-Suit and Anti- Anti-Suit injunctions – SEP disputes (2012-2021)
- ASIs are essentially coming from non-EU countries and EU countries respond to ASIs by issuing AASIs in order to re-establish their jurisdiction.

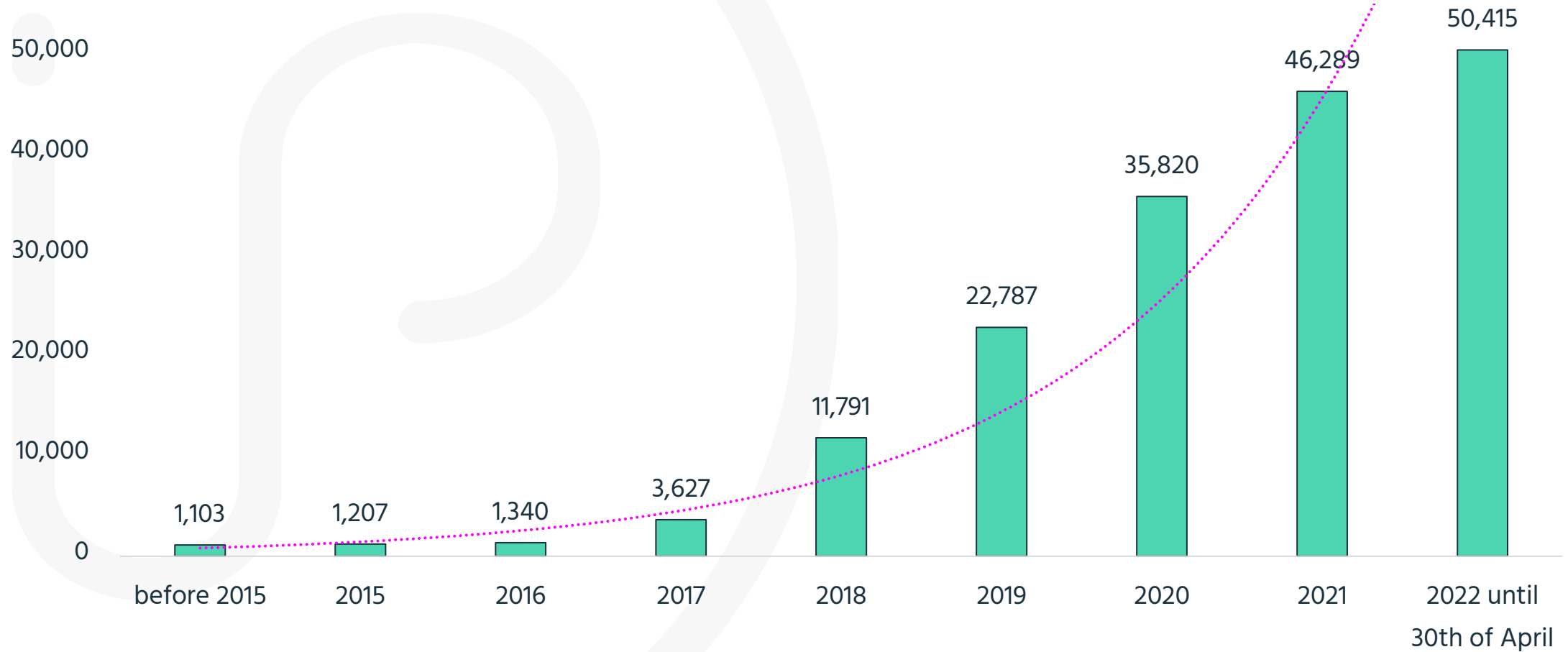


III Shifting SEP markets

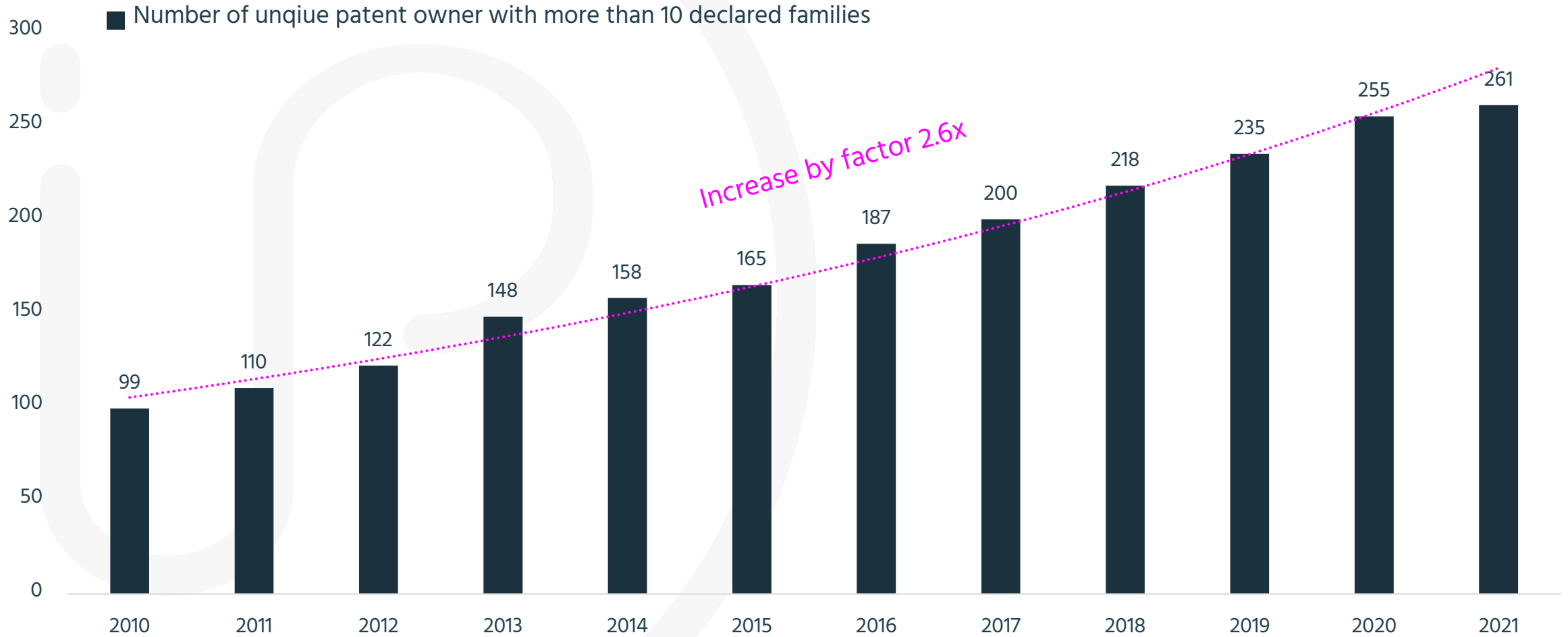
➤ There have been more technical contributions submitted to 5G than in 2G, 3G and 4G combined



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

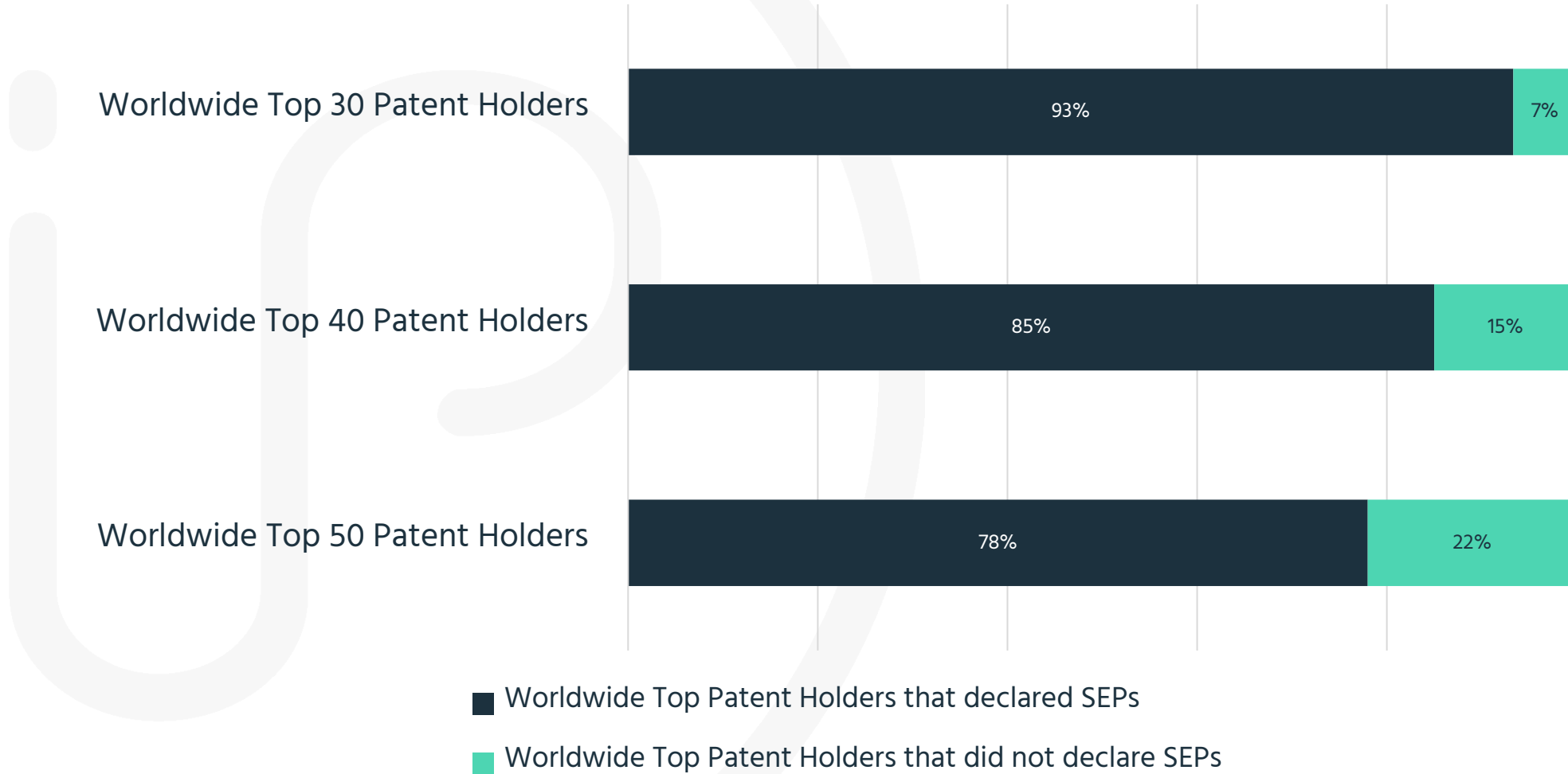


➤ Number of unique SEP holders over time increase



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

➤ Share of SEP holders in top 50



IV Joint licensing platforms and patent pools

SEP Licensing – Patent Pools

Patent pools:

- A patent pools aggregate patent ownership and offer a license program under a single license contract – “one-stop shop”.
- Many **economist claim positive** effects from pooling patents:
 - Pools may reduce **transaction costs** (reduce number of licensees)
 - Reduce multiple **marginalization** problem
 - **Clear** blocking positions (blocking patents)
 - **Facilitates** a technology to the public
- Pools are often created for standardized technologies due to the **nature of SEPs** that must be licensed in any implementation (no bundling).

SEP Licensing – Patent Pools

Potential Patent Pool Costs:

- Pools have substantial **set-up costs** (usually worn by the SEP owners that consider to join the pool, the pool initiator and/or the pool administrator).
- It is **difficult** for pools to **agree on revenue-sharing rules** if there are significant (perceived) differences in the value of essential patents or differences in the fees that the patent owners wish to receive.
- Pools may introduce **complexity** when pool members negotiate license or litigate individually.
- Broad pools may create **attractive positions for single firms to stay out**
- Some patent pools are set up to **set royalty rate** for a certain standard

AVANCI Pool Member and Outsider

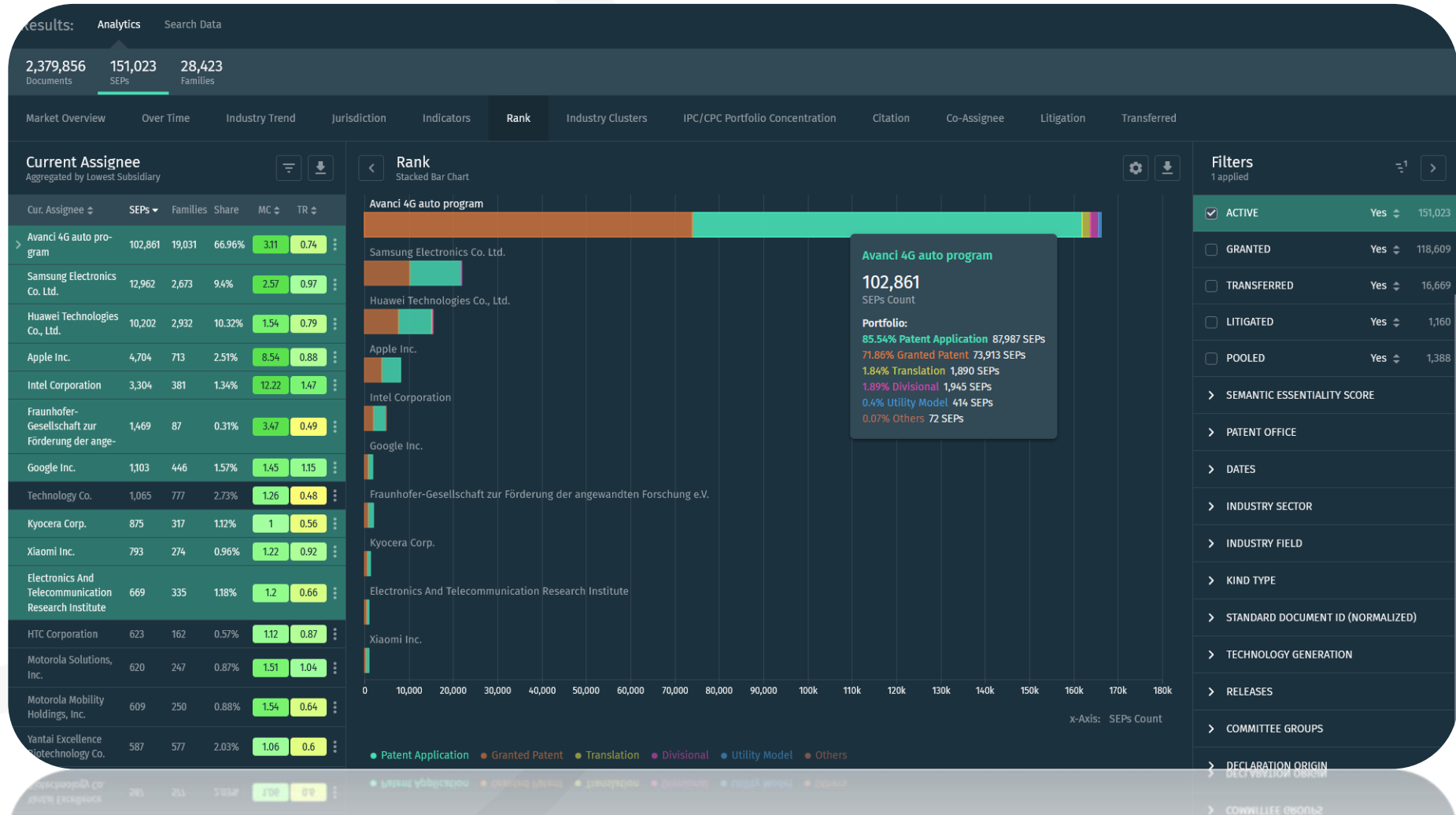
2G, 3G, 4G SEP owner AVANCI Member



2G, 3G, 4G SEP owner AVANCI Outsider



2G, 3G, 4G declared paten families



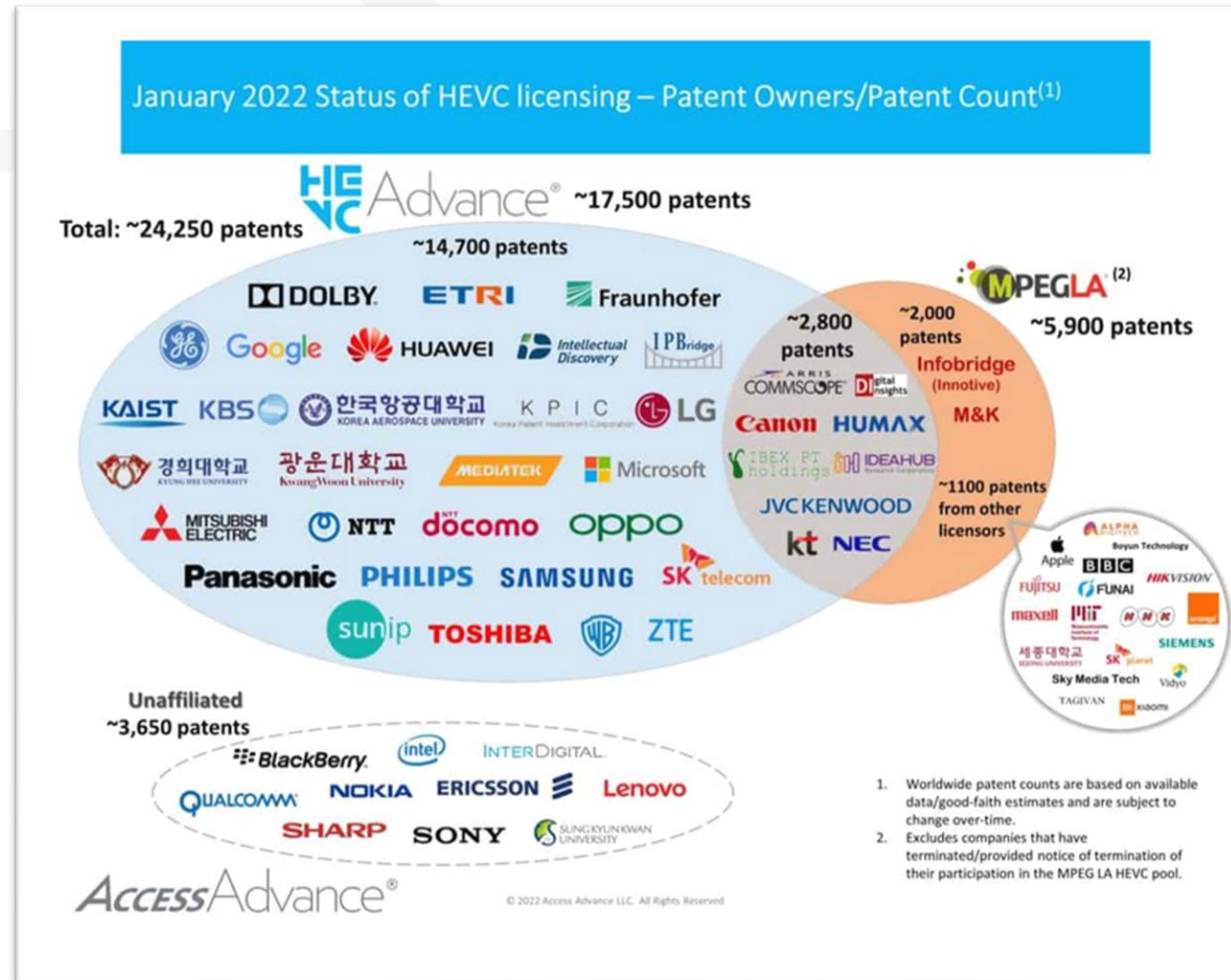
SEP Licensing – Patent Pools

Successful pools

- Many of the SEP licensing programs with the largest number of licensees are in the field of Audio/Video Coding.

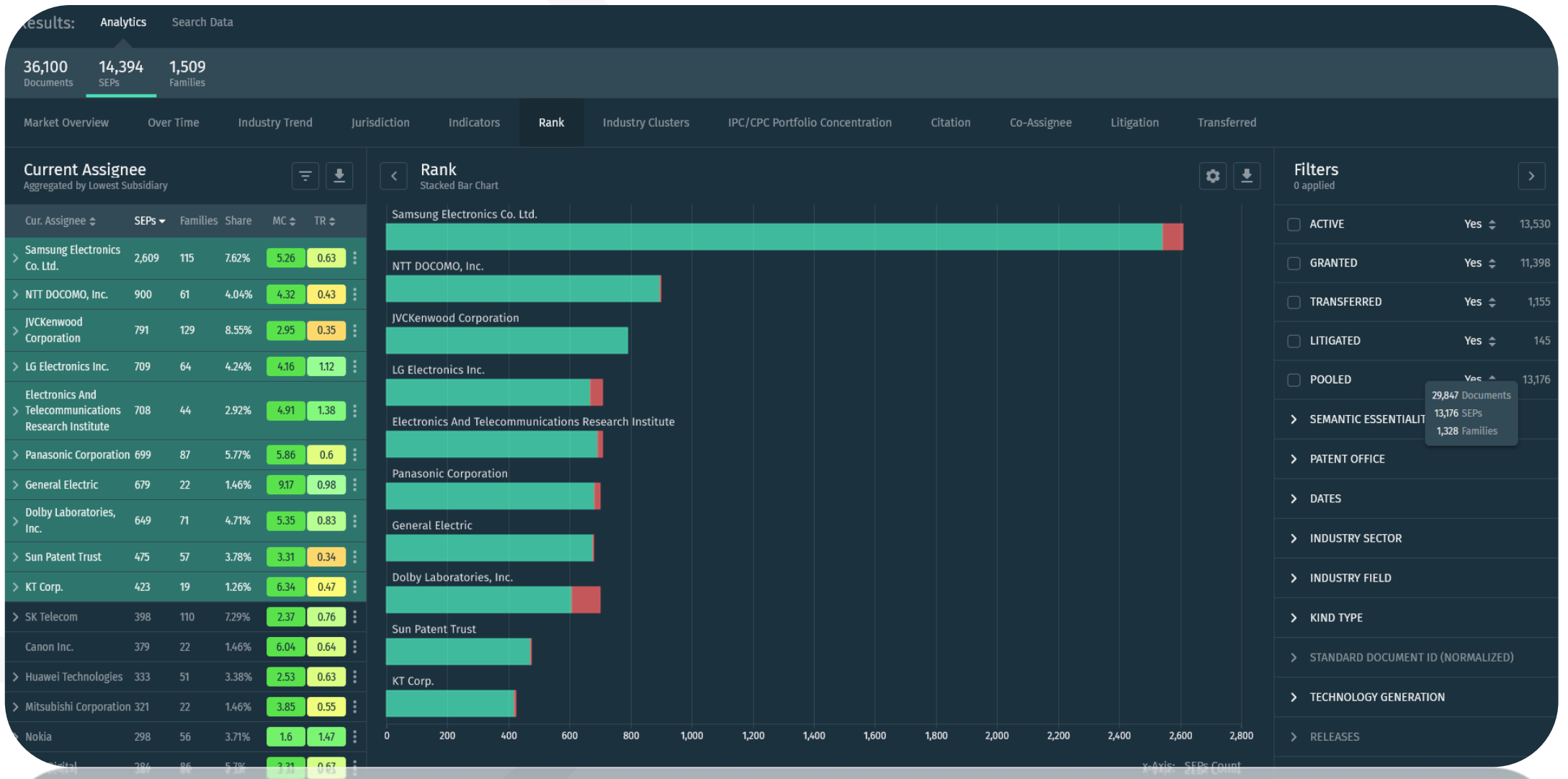
Pool	Administrator	Number of currently listed licensees
AVC/H264	MPEGLA	1,575
MPEG Audio	Sisvel	1,154
Advanced Audio Coding	Via Licensing	891
MPEG2	MPEGLA	822

HEVC pool situation



1. Worldwide patent counts are based on available data/good-faith estimates and are subject to change over-time.
2. Excludes companies that have terminated/provided notice of termination of their participation in the MPEG LA HEVC pool.

HEVC pool member as to IPlytics



VVC pool situation

MPEG LA Announces Development of VVC (Versatile Video Coding) Pool License

VVC expected to improve video compression efficiency and functionality

January 27, 2021 07:13 PM Eastern Standard Time

DENVER--(BUSINESS WIRE)--MPEG LA, LLC, the world leader in digital video patent pool licensing for nearly 25 years, announced today the development of a pool license for the next generation video coding standard known as VVC (Versatile Video Coding, also known as H.266 and MPEG-I Part 3) in order to offer the market a convenient one-stop alternative enabling VVC's wide adoption.

"MPEG LA applauds the work of leading technology innovators from around the world whose research and development investments have made VVC possible, and welcomes them to join MPEG LA's license development effort"

VVC has the potential to achieve the same level of perceptual quality as prior video codecs with up to a 50% improvement in video coding efficiency, thereby supporting 4K and 8K Ultra High Definition (UHD) and High Dynamic Range (HDR) video, telemedicine, online gaming, virtual 360° video and adaptive streaming applications.

"MPEG LA congratulates the Media Coding Industry Forum (MC-IF) and its participants for their pool fostering initiative preparing the market for a VVC pool license. MC-IF's work has been of immeasurable benefit, and MPEG LA was pleased to cooperate in that process. Building on MC-IF's work, MPEG LA is moving ahead with the next step listening to, working with and leading MC-IF participants and others to make yet another breakthrough generation of digital video compression technology widely accessible to the market under reasonable, trusted, transparent and non-discriminatory licensing conditions," said Larry Horn, President and CEO of MPEG LA.

"MPEG LA applauds the work of leading technology innovators from around the world whose research and development investments have made VVC possible, and welcomes them to join MPEG LA's license development effort," said Bill Geary, MPEG LA's Vice President of Business Development.

To participate in the initial VVC license development meeting, parties that believe they have patents essential to the VVC standard are invited to submit them to MPEG LA in accordance with the submission procedures at <https://www.mpegla.com/vvc/>.

Although only issued patents will be included in the license, patent applications with claims that owners believe are essential to the VVC standard and likely to issue in a patent also may be submitted in order to participate in the license development process.

MPEG LA, LLC

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Access Advance Launches VVC/H.266 Video Patent Pool

JULY 1, 2021

SHARE   

Includes innovative Multi-Codec Bridging Agreement that Provides Substantial Royalty Savings to Licensees in both the VVC and HEVC Advance Pools

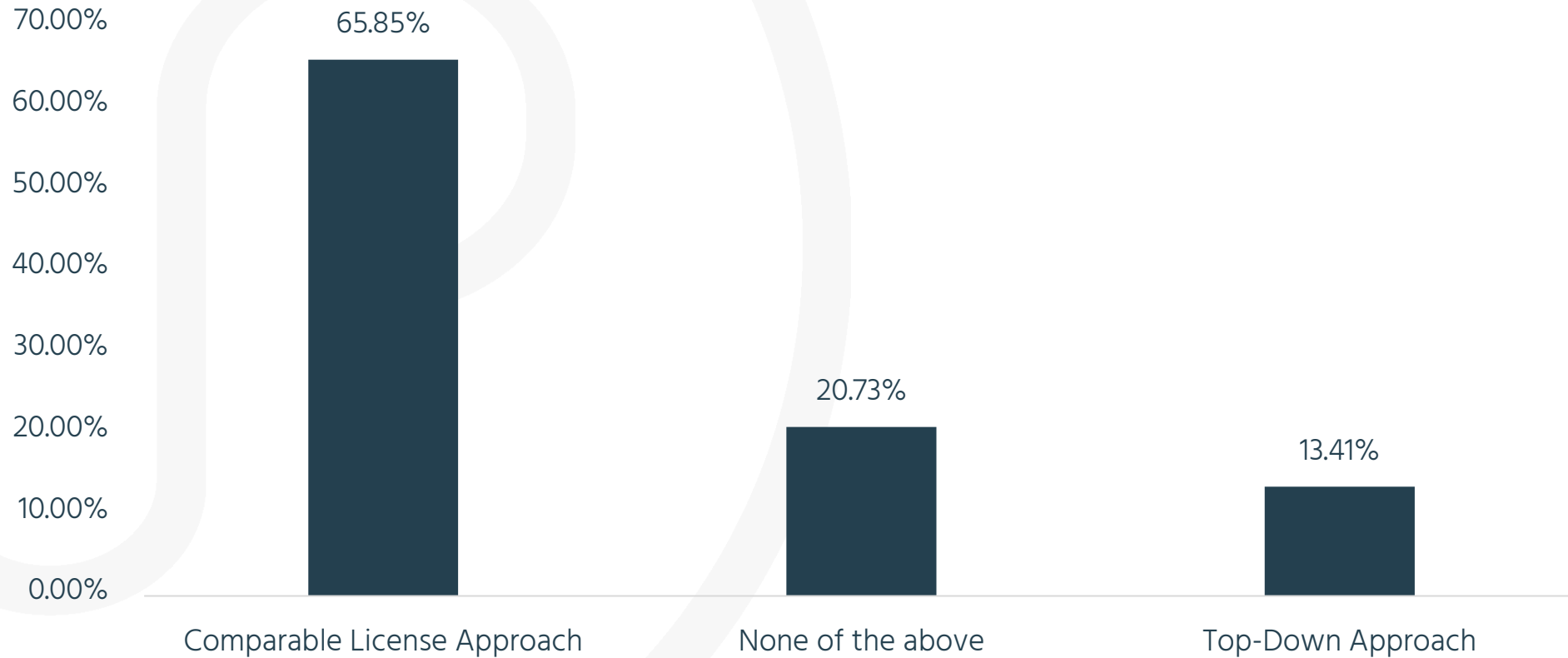
BOSTON – (July 1, 2021) – Building on the success of its HEVC Advance Patent Pool, Access Advance today announced the launch of the VVC Advance Patent Pool *and* the Multi-Codec Bridging Agreement ("MCBA"). VVC is the next generation video codec standard finalized less than one year ago, which provides significant improvements in video compression of up to 50% over HEVC, enabling a new generation of products, ever more beautiful video, faster downloads, and improved savings on storage.

The license structure of the new VVC Advance Pool mirrors that of the HEVC Advance Platform Pool License recently announced, with royalty rates and caps set at a **modest 25% increase** over the equivalent HEVC Advance License structure. Please see <https://www.accessadvance.com/vvc-advance-patent-pool-royalty-rates-summary>.

v Bilateral SEP licensing

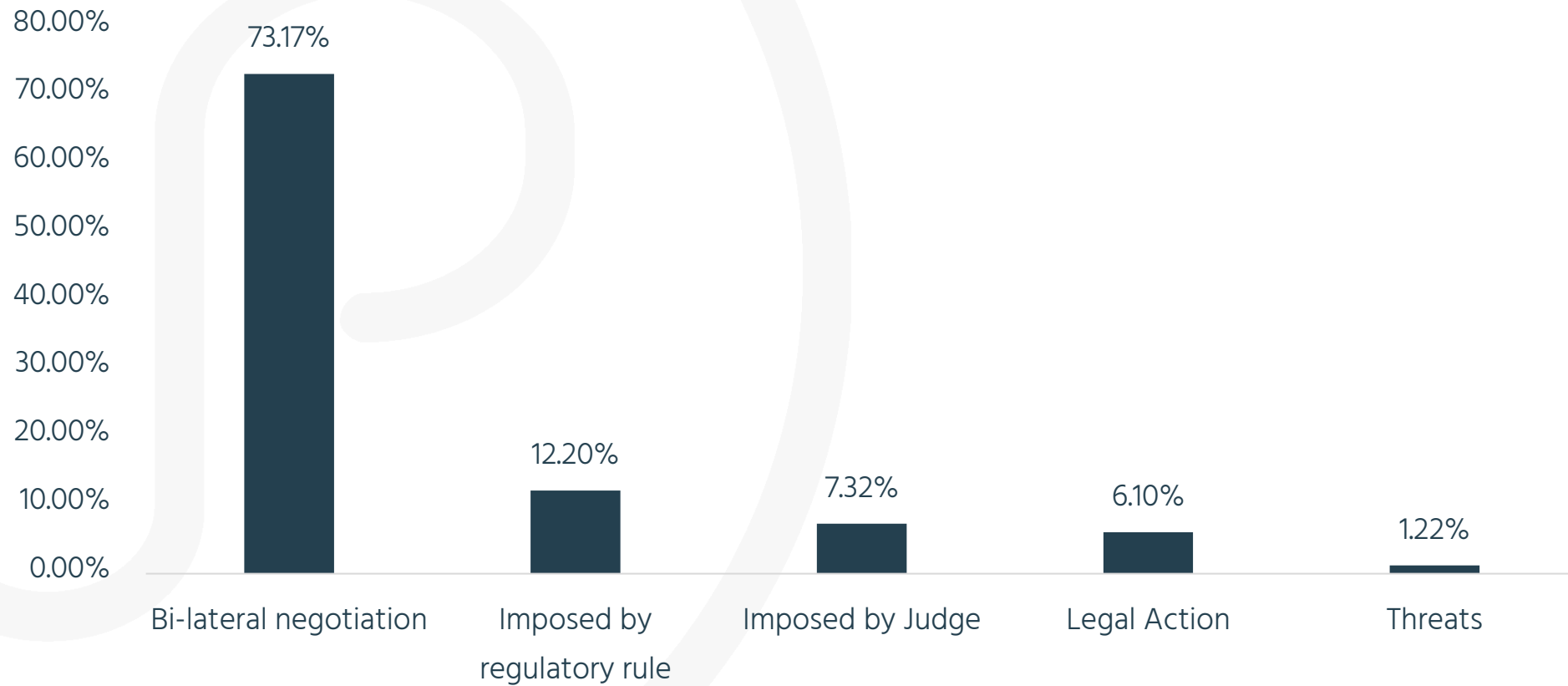
Poll Question Results

Q1: What is in your experience the more accurate approach to determine FRAND? (N=182)



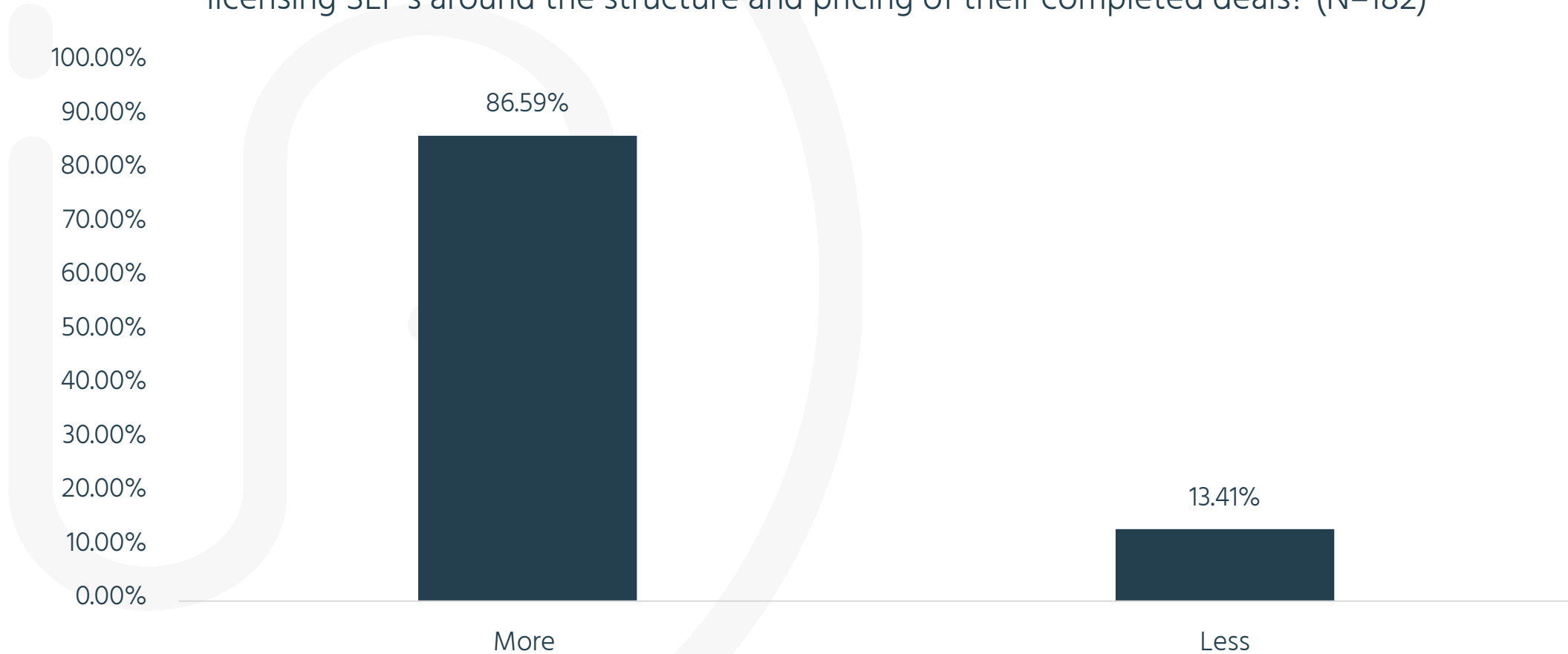
Poll Question Results

Q2: What is in your opinion the best way for companies to decide on the value of SEP portfolios? (N=182)



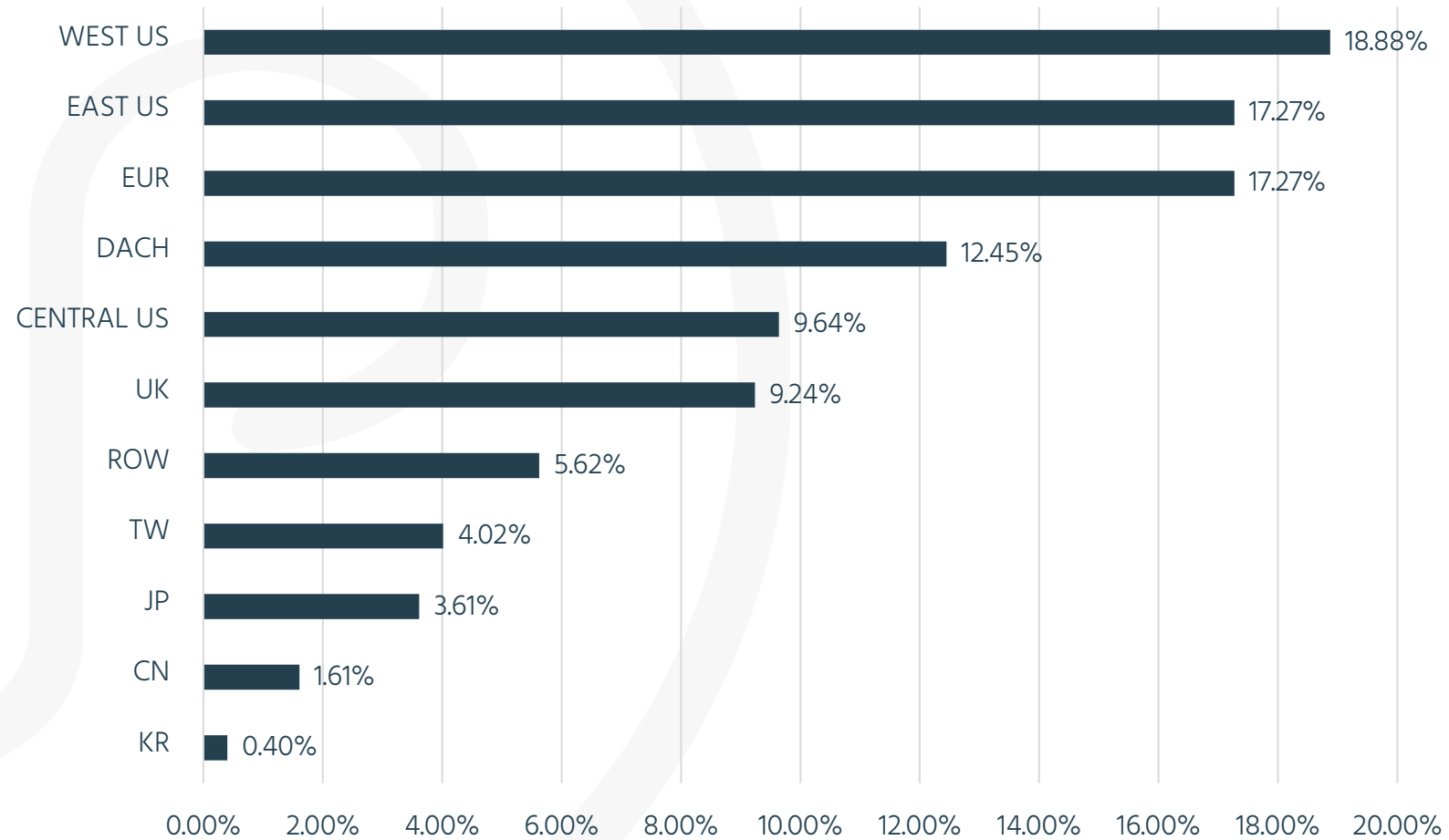
Poll Question Results

Q3: Do you think there should be more or less transparency by companies licensing SEP's around the structure and pricing of their completed deals? (N=182)



Poll Question Results

Participated by Region (N=332)



VI Identifying, counting and valuating SEP portfolios

Challenges for top-down approaches

SEP portfolios are dynamic in size, value and market share

- - Patents may expire, laps, revoked or invalidated
 - + More patents are filed, pending patents are granted
 - The change of patent **ownership** (SEPs 2x more often than other patents) may **decrease** or **increase** SEP portfolios significantly
 - **New versions of standards** are published where newly integrated **sections** are eventually fully **mappable to claims** of patents that were not essential before
 - **The overall number of SEPs** for a standard changes (denominator) which changes the **SEP owner's SEP portfolio** (numerator) **share**
- **The size, value and share of SEP portfolios may significantly change over time!**

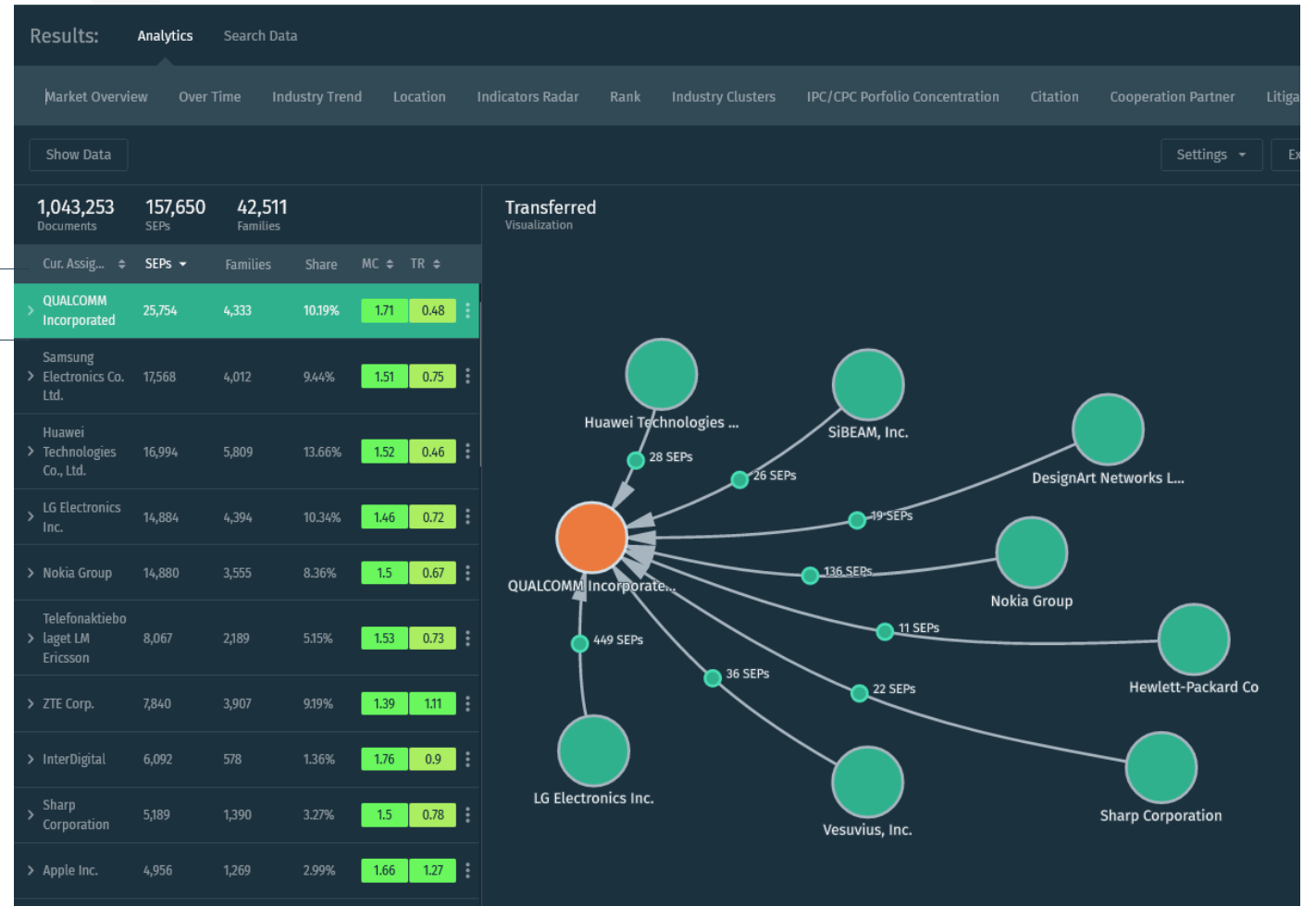
Corporate Tree Data

- The company portfolio analysis aggregates patents as to the **ultimate parent company**

	1,043,253 Documents	157,650 SEPs	42,511 Families			
	Cur. Assig...	SEPs	Families	Share	MC	TR
QUALCOMM Incorporated	25,754	4,333	10.19%	1.71	0.48	
QUALCOMM Incorporated	25,171	4,316	10.15%	1.7	0.46	
SnapTrack, Inc.	328	24	0.06%	2.26	1.6	
Qualcomm Flarion Technologies,	168	18	0.04%	1.79	1.46	
Digital Fountain, Inc.	95	8	0.02%	2	0.36	

Latest assignee data

- The portfolio analysis aggregates patents as to the current parent company



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	TDDoc	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	TDDoc	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	TDDoc	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"/>

Counting raw data can easily produce
misleading analysis results

Data enhancement – ambiguous patent numbers

Submission of wrong patent numbers

- **Typos** or an **incorrectly transposed patent number** result in a match of the declared SEP to the wrong patent family.

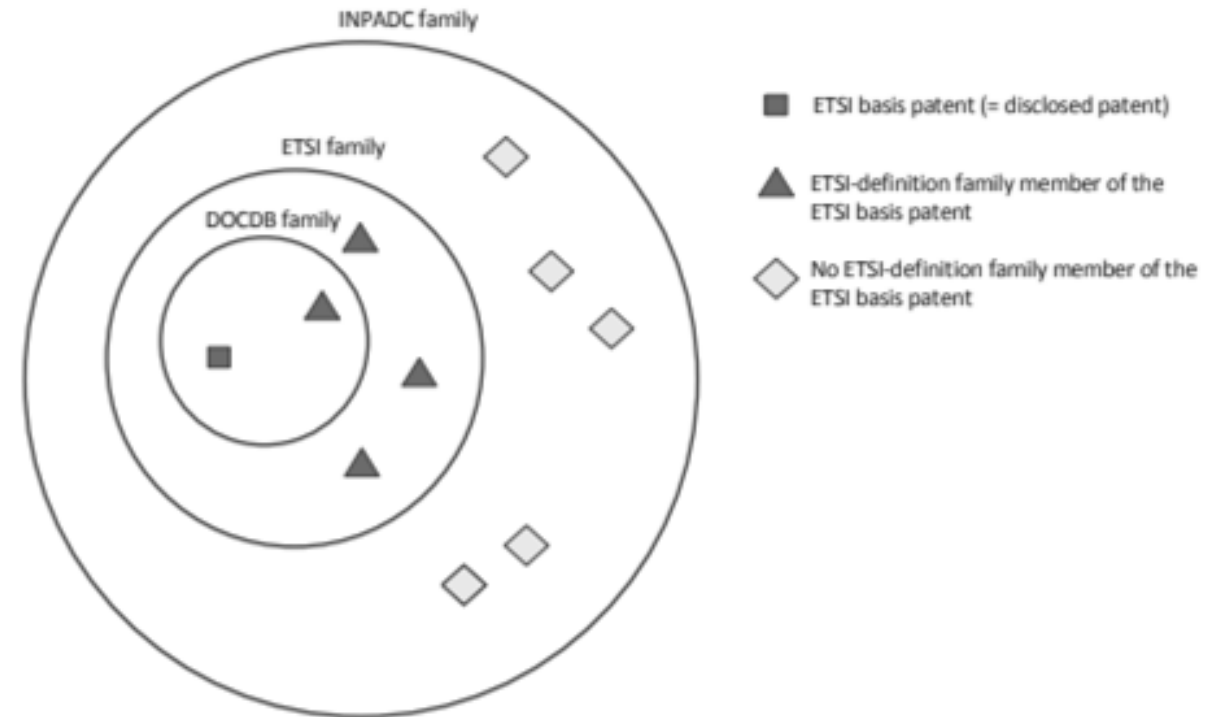
IPLYtics cleans out wrong patent numbers - **we identified over 3,000 cases** of false positives

- IPLYtics therefore only integrates declared patents in its database the
 - declared **company name** matches the applicant/assignee or highest parent
 - **IPC/CPC code** matches other declared patent's IPC/CPC
 - **Prio date** matches other declared patent's prio date
- Final manual check needed to **rule out false negatives!**

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.

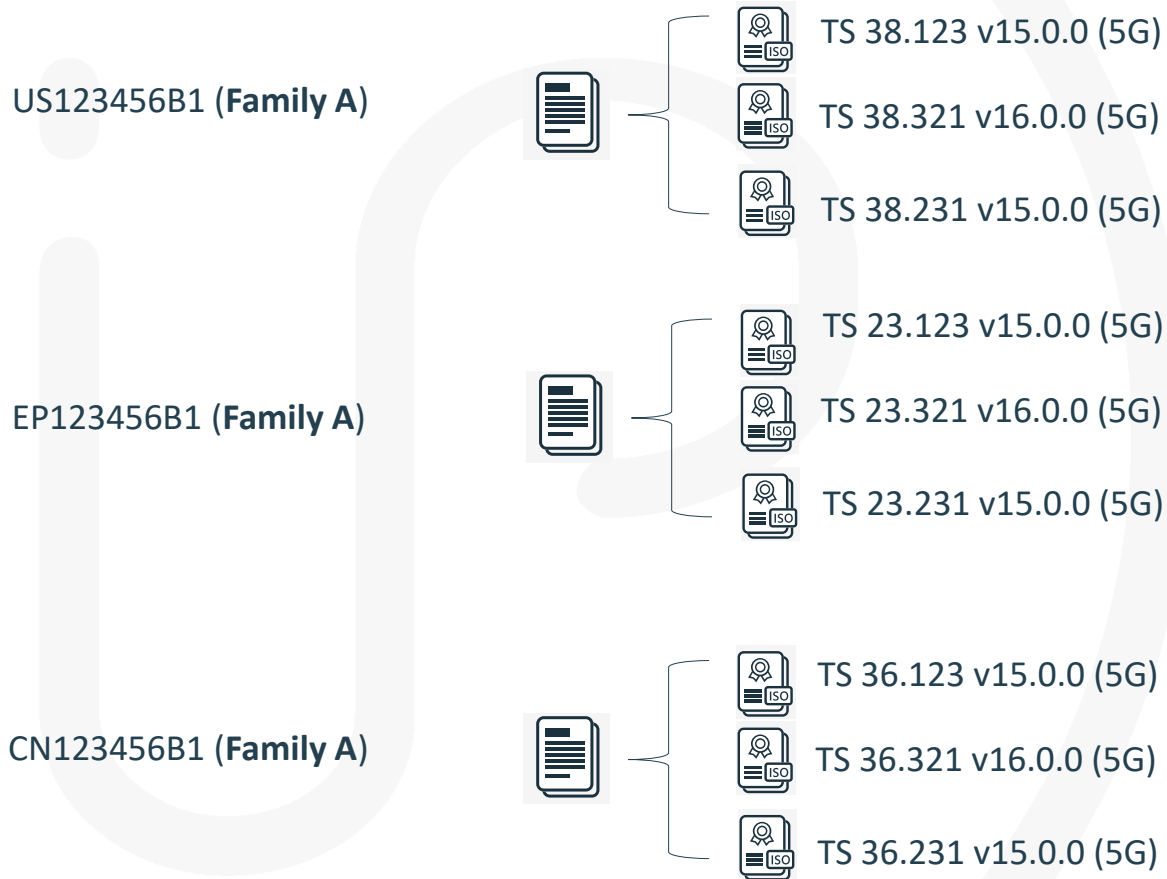


Data enhancement – missing family counterparts

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.

Distinct family counting



3 patents, 1 patent family declared to 5G

Cleaning the raw data is not enough to
determine SEP portfolios

SSO declaration practice: “maximal declaration” situation

- ❖ Often companies submit patent declarations when patents are **still pending**, and the standard is **still evolving**.
 - Thus, patent **claims** as well as **standards** specifications are likely **subject to change** after the declaration has already been submitted. By design of the declaration practice some of these self-declared **patents** end up being **not essential**.
 - Approximately only about 20-47% of all ETSI declared **2G/3G/4G** patents are essential (*Unwired Planet v. Huawei, TCL v. Ericsson*)
 - Approximately only about 10-15% of all ETSI declared **5G** patents are essential (*IPlytics sample data, Bird & Bird report*)

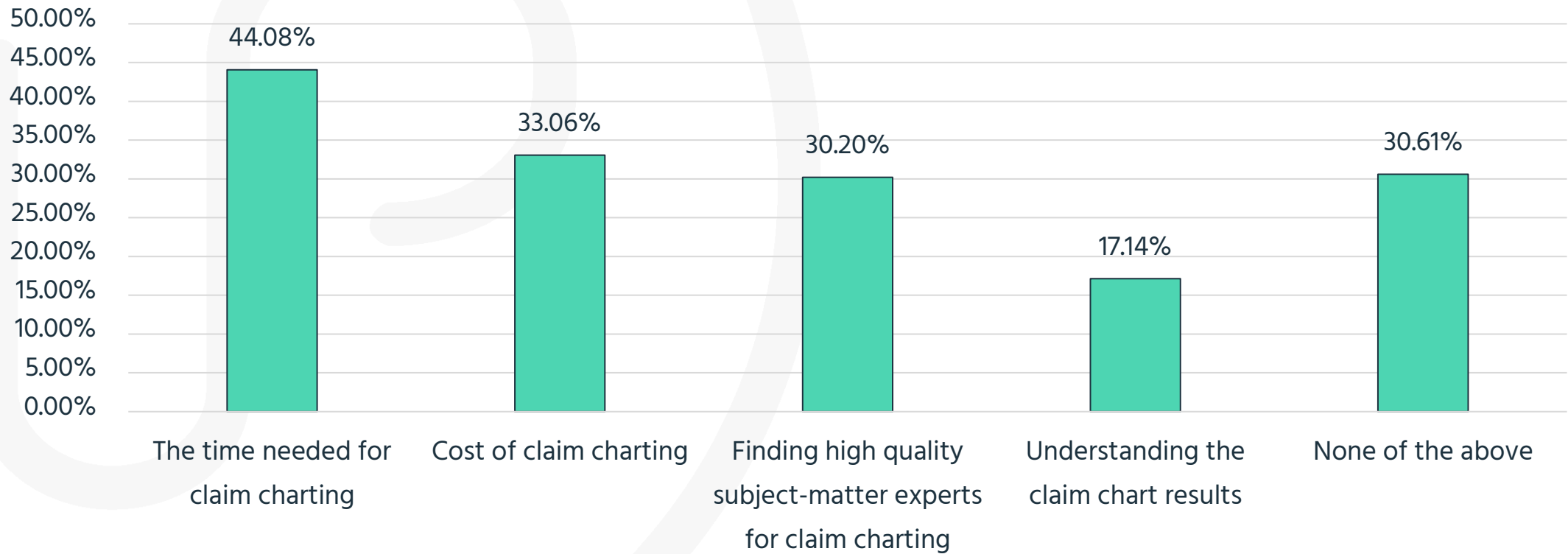
SEP determination is a challenge

- 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 determination is a challenge

What is your biggest challenge with regards to SEP determination?

Multiple answers possible, N=245



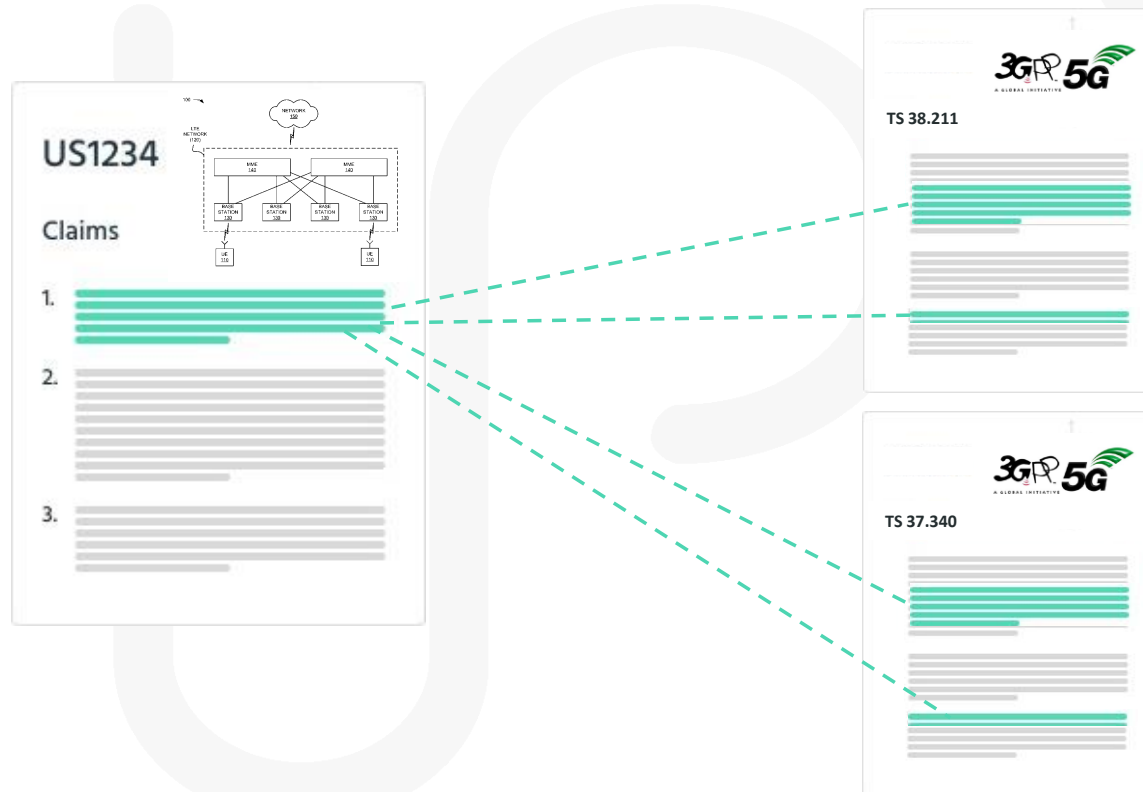
Cross correlating patents and standards data can be a **first efficient step** towards SEP portfolio determination

Characteristics of essentiality and value

Correlating patents and standards – 7 relevant SEP scores:

1. Patent's claims are **semantically similar** to corresponding standard document (TS)
2. Patent's listed **inventors** (name, surname, affiliation) **participated** at corresponding standards meeting
3. Patent's **applicant/assignee** submits accepted and **approved contributions** at to corresponding standard in working group
4. Patent's **prio. date** overlaps with **core date range** of standards development
5. Patent has been **cited by declared SEPs** (excluding self-citations)
6. Patent cites of **predecessor standard** or Tdocs as prior art in the non-patent literature
7. Patent's **IPC/CPC** overlaps with verified SEP's IPC/CPCs

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.	SES		Yes	
Samsung Electronics Co. Ltd.	ETSI	US9049718B2	TS 38.322 v16.2.0	5.2.2.1	17	82%	<input type="checkbox"/>	Yes	15
Samsung Electronics Co. Ltd.	ETSI	US9049718B2	TS 38.322 v16.2.0	5.2.2.1	17	82%	<input type="checkbox"/>	Yes	15
Samsung Electronics Co. Ltd.	ETSI	US9049718B2	TS 38.322 v16.2.0	5.2.2.1	17	82%	<input type="checkbox"/>	Yes	0
InterDigital Holdings, Inc.	ETSI	US9641655B2	TS 38.322 v16.2.0	5.4	6	80%	<input type="checkbox"/>	LITIGATED	Yes 1
Samsung Electronics Co. Ltd.	ETSI	US10805048B2	TS 38.322 v16.2.0	5.6.1	5	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%	ESSENTIALITY SCORE 62-100% 0% ————— 50% ————— 100% 62 ————— 100		
Samsung Electronics Co. Ltd.	ETSI	US10602563B2	TS 38.322 v16.2.0	5.2.2.1	1	81%	0 documents without Essentiality Score		

Connecting the data points

Correlating patents and standards – **Inventor Attendee comparison**

- Inventor (Peter Brown, Company Inc.)
- US1234567B1 declared to TS 38.473 - RAN3
- Attendee (Peter Brown, Company Inc.)
- Attended RAN3 Meetings



Connecting the data points

Correlating patents and standards – **Inventor Contributor** comparison

- Inventor (Peter Brown, Company Inc.)
- US1234567B1 declared to TS 38.473 - RAN3

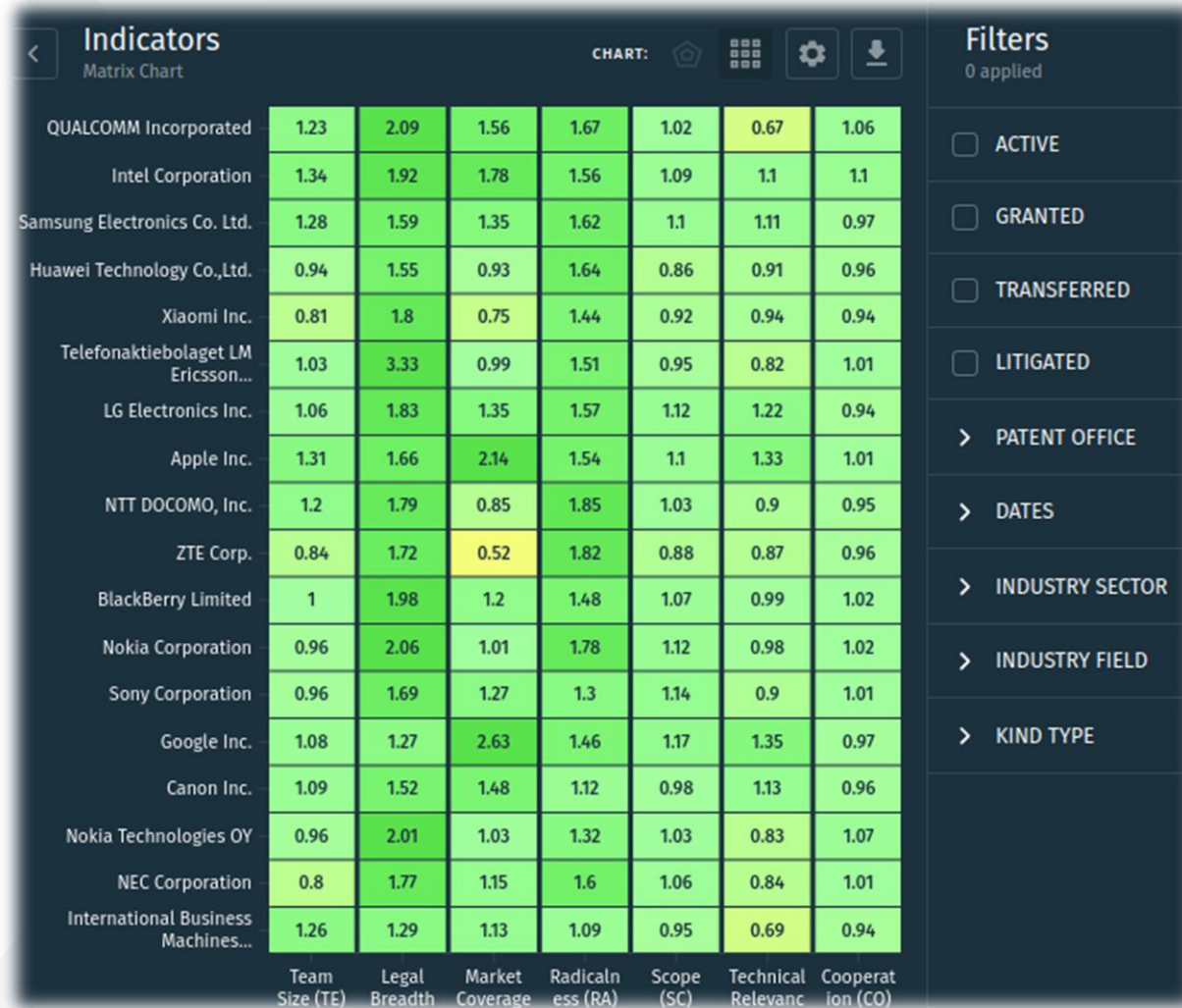
- Author (Peter Brown, Company Inc.)
- Author of contribution for TS 38.473



Connecting the data points

Scoreboard to valuate declared patents:

- Claim sections similarity, inventor attendee overlap, first applicant contribution overlap, FWD citation, NPL citation, timing and classification.

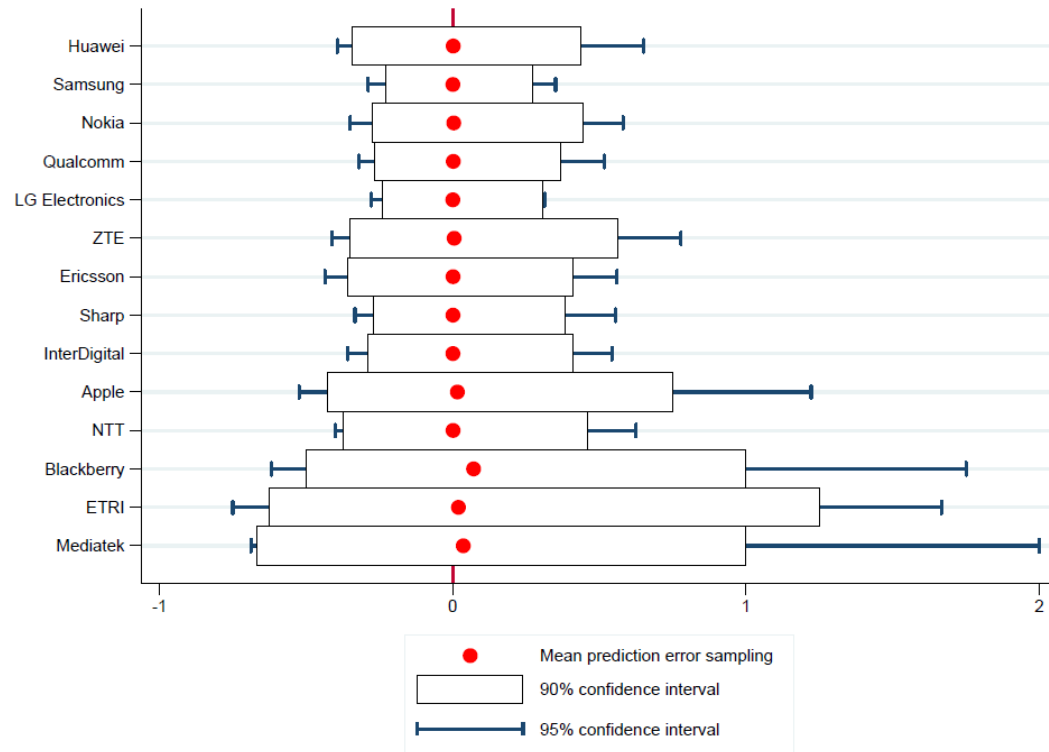


Impartial SEP valuation?

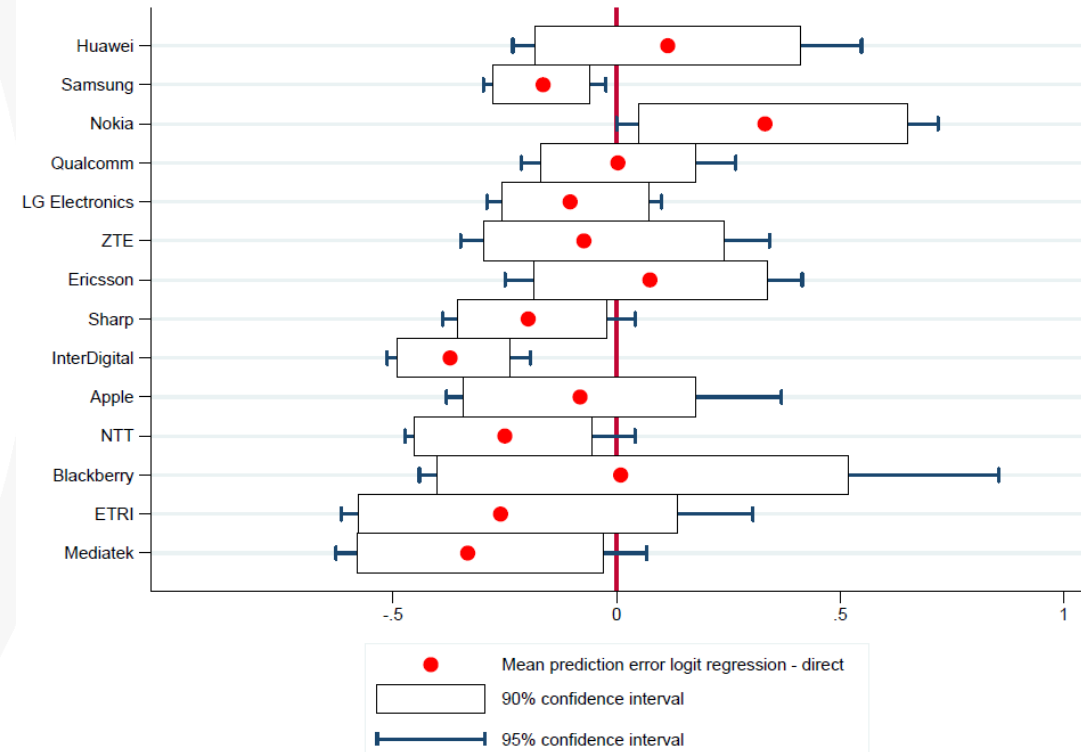
SEP portfolio valuation and determination is not only about the **error rate** (how close are we to the truth?) it is even more about a potential **systematic bias!**

How to overcome SEP determination costs?

a. Rigorously claim charting a small sample



b. Broadly claim charting a large sample / all



Source: <https://www.iplytics.com/wp-content/uploads/2021/11/BARON-POHLMANN-bias-and-precision-essentiality-rates.pdf>

Conclusion

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 even subject to a systematic bias.

The data approach:

- Patent indicators (patent standard cross-correlations) are not perfect (**error rate**) and can be **subject to bias**.
- But if a systematic bias can be ruled out patent **indicators can be used as a proxy to understand patent portfolio value**.

Conclusion

Simple solutions for SEP licensing:

- The licensee market for IoT will need **simple solutions**
- AVANCI is a good example of an aggregate royalty rate and a **revenue sharing distribution system** that is based on data (patent families, contributions, claim charts).

Data is crucial for building, maintaining, licensing or selling SEPs

- **Declaration data, contribution data and patent indicators are mostly used in patent portfolio management, licensing or selling scenarios.**

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 be part of the discussion and have a seat at the table where standards are developed, patents are licensed, and pools are formed.

VII How to make use of IPlytics across 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 for **cross-license** negotiations and **monitor competition** making sure to sustain revenues both on the downstream product market as well as upstream licensing market.
- Monitor **competitors' standards development** investments (contribution count) and identify new standards groups to maintain leading positions in standards development.



Use Cases

Patent portfolio manager:

- Compare and value your portfolios against competitors
- Identify strength and weaknesses to further develop your portfolio
- Support keep/kill decisions in patent portfolio pruning analysis



Licensing executives / deal maker:

- Find gold nuggets in your portfolio to prepare licensing negotiations
- Identify patent portfolios to commercialize/license or use for acquisition
- Use SES to weed out 'weaker' patents, focusing resources on higher ranked patents



SEP licensees (standards implementers)

SEP licensees use of IPlytics Platform:

- Value and determine SEP portfolios offered for license. Prepare for **FRAND negotiation**. Identify the numerator and denominator to measure the patent holder's market share.
- **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.



Use Cases



Strategic IP attorneys / legal divisions:

- Use IPlytics PES in discovery
- Use PES before claim charting/review to focus on most important patents first
- Make use of objective data to consider for FRAND preparation, negotiations, argument formulation



Licensing executives / deal maker:

- Use IPlytics to prepare for FRAND negotiations
- Use IPlytics to understand the share of third-party SEP portfolios
- Identify litigation trends in your industry for standards you integrate

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Meet the IPlytics team in person

- ❖ LES Annual Meeting in **San Francisco USA**, October 16-19, 2022
- ❖ IPBC Asia in **Tokyo Japan**, 31 October -2 November 2022
- ❖ IPWatchdog SEP Masters 2022, **Dallas US**, 15 November 2022
- ❖ Patent Information Fair & Conference **Tokyo Japan**, 14-15 November 2022



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Couch

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