IPLYTICS | Intellectual Property Analytics

Answering SEP market questions-Webinar Series Part 3:

How to gain the competitive edge for Wi-Fi and Video Codec

Tim Pohlmann CEO @ IPlytics GmbH

Recording: https://youtu.be/_MS4IPq1fWA

IPlytics Webinar Series 2023

I. Part 1: "How to gain the competitive edge for V2X technology"
January 24th, 2023
Recording: https://www.iplytics.com/events/past/

II. Part 2: "How to gain the competitive edge for NB-IoT and LTE-M"
February 28th, 2023
Recording: https://www.iplytics.com/events/past/

III. Part 3: "How to gain the competitive edge for Wi-Fi and Video Codec"
May 24th, 2023
Register: https://www.iplytics.com/events/upcoming/

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Today's Speaker

- **PhD & Post Doc.** TU Berlin, CERNA, 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.

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Today's Agenda

I. Why **Wi-Fi** will become relevant across industries?

II. IEEE and the **Wi-Fi** Generations

III. **Wi-Fi SEP declaration data** – access and limitation

IV. Why **Video Coding Technology** will become relevant across industries?

V. **HEVC/VVC SEP declaration data** – access and limitation

VI. Wi-Fi and Video Codec SEP **Market Pain Points**

VII. The Wi-Fi and Video Codec **SEP Identification Approach**

VIII. Takeaways.

I. Why Wi-Fi 6 SEPs will become relevant across industries?

The Internet of Things and SEPs

- Connectivity is not a futuristic scenario anymore as **today**:
  - **Connected cities** provide ten thousands of Wi-Fi access points
  - **Connected meters** use Wi-Fi collecting energy consumption data in the cloud
  - **Connected factories** collect data from machinery through Wi-Fi in real time
  - **Connected homes** use Wi-Fi for security, lighting or heating in smartphone apps
- The use of connectivity standards such as Wi-Fi 6 **will drastically increase in importance** over the next years.

Wi-Fi 6 Key capabilities and benefits

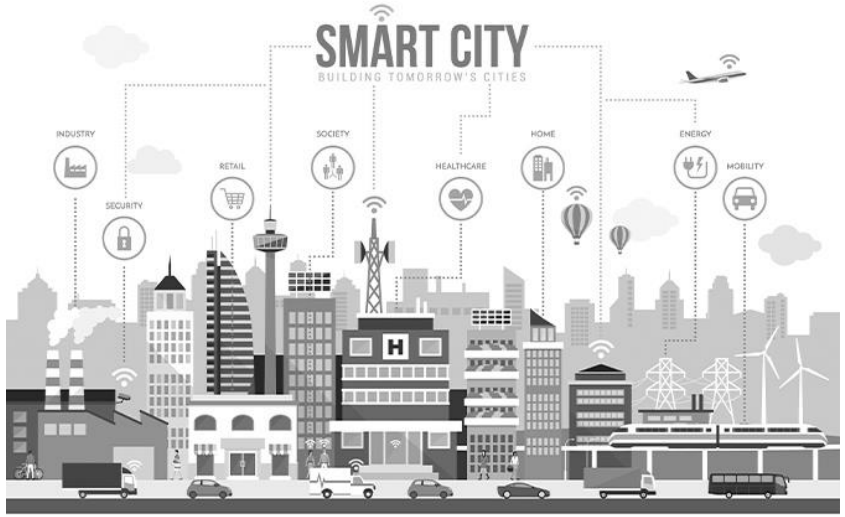
Key features enabling the benefits of Wi-Fi 6 are:

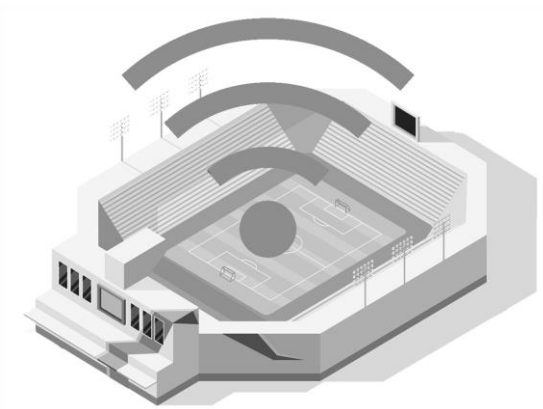
- ✓ **Orthogonal frequency division multiple access** (OFDMA) enables more users to simultaneously operate in the same channel and therefore improves efficiency, latency, and throughput.
- ✓ **Multi-user multiple input, multiple output** (MU-MIMO) allows more data to be transferred at once and enables an access point to handle a larger number of concurrent clients
- ✓ **Transmit beamforming** improves signal power resulting in significantly higher rates at a given range
- ✓ **Target wake time** (TWT) makes Wi-Fi CERTIFIED 6 devices more power efficient

Standards and Connectivity – **Connected Venues/Cities**

- **Wi-Fi 6** BSS Coloring technology ensures resistance to interference even when the density of devices becomes high such as in public places, at mass events (stadium) or at a large University Campuses.

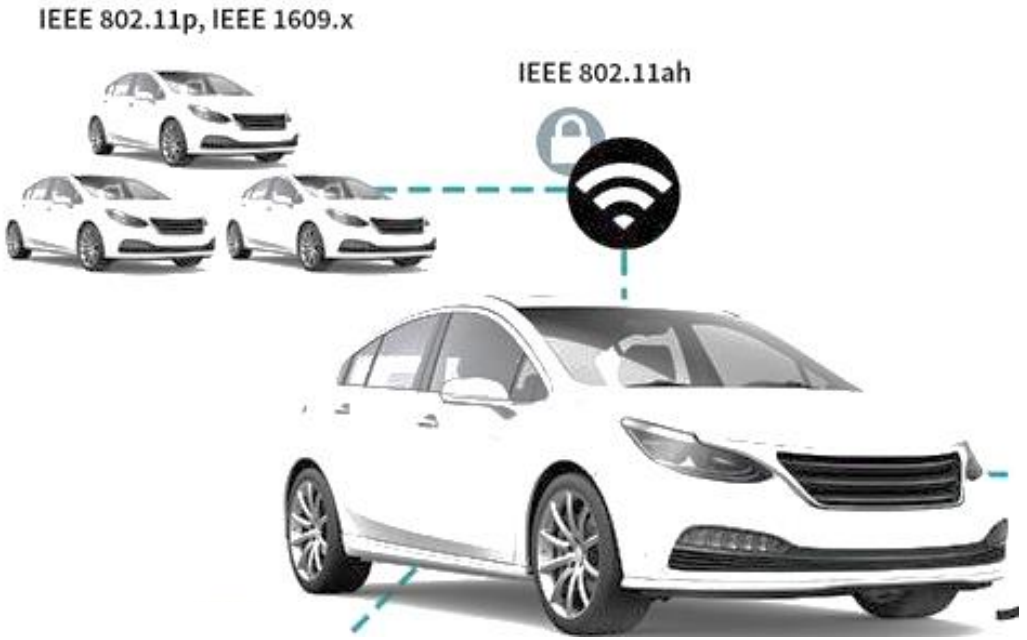
- **Wi-Fi 6** enables a much larger bandwidth delivering consistent throughput for more audio, video and other real-time data exchange.





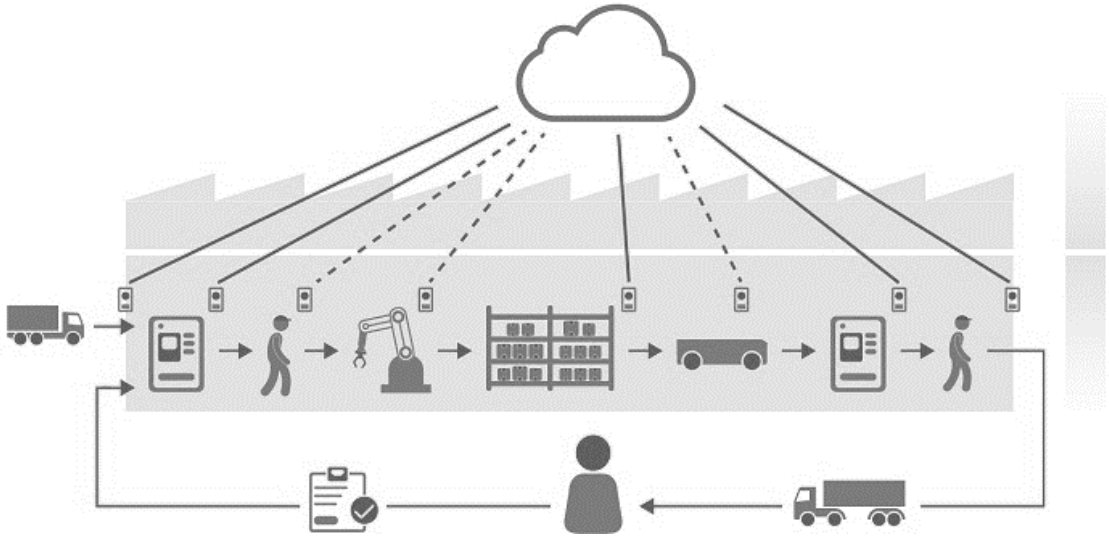
Standards and Connectivity – **Connected Cars**

- **Wi-Fi 6** enables larger bandwidth to allow cars to exchange real-time information among cars.
- **Wi-Fi 6** has a Target Wait Time (TWT) feature for lower battery consumption enabling to integrate Wi-Fi sensors in traffic lights or buildings to only “wake up” when needed.
- **Wi-Fi 6** will have a reduced latency to ensure high quality streaming for e.g. conference video calls, on demand video streaming or gaming.



Standards and Connectivity – **Connected Factory**

- **Wi-Fi 6** networks connect machines with cloud services and data centers.
- **Wi-Fi 6** technologies OFDMA and MU-MIMO allow more IoT devices to operate unimpeded on the network and thus allows to connect millions of machine components and real time data points to operate at low-power consumption.

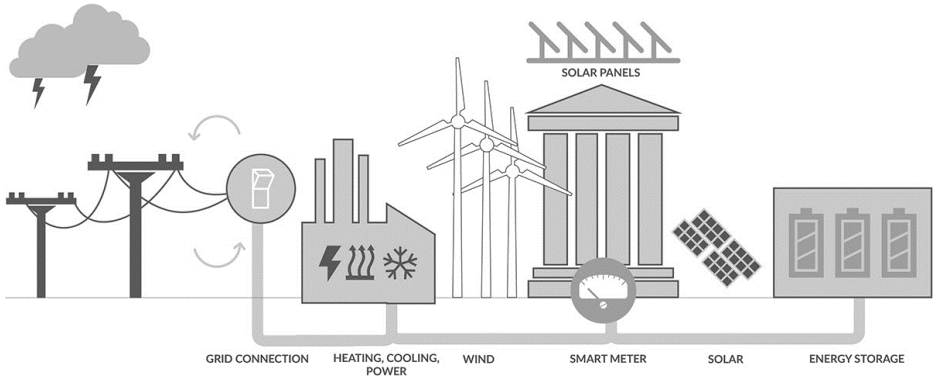


Standards and Connectivity – **Connected Home**

- **Wi-Fi 6** allows smart homes to communicate with devices such as TVs, air conditioning, lighting, home security.
- **Wi-Fi 6** enable simultaneous operation on 2.4 GHz and 5 GHz.
- **Wi-Fi 6** provides high-definition video systems requiring high bandwidth communications and low latency, such as 4K/8K set top boxes, smart TVs and AR/VR devices.

Standards and Connectivity – **Connected Energy**

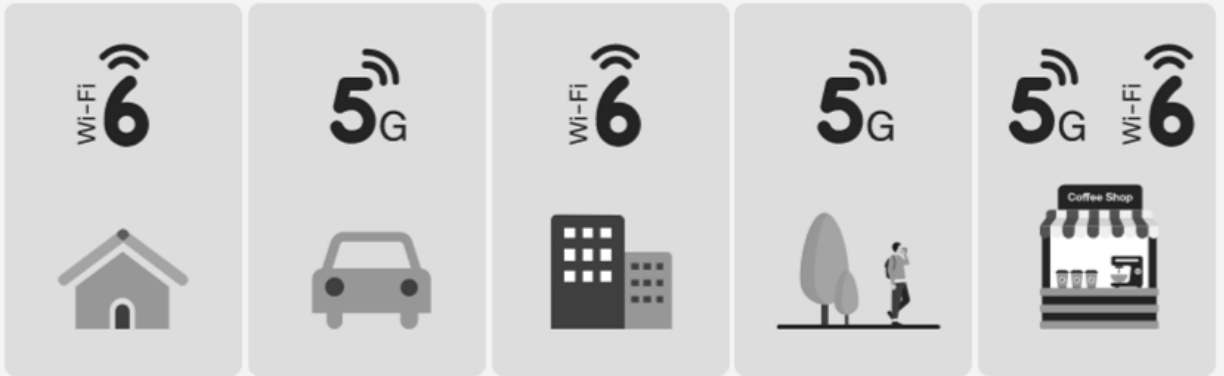
- **Wi-Fi 6** connects smart meters with cloud services in the Internet of Things.
- **Wi-Fi 6** allows to connect energy consumption sensors with local data centers.



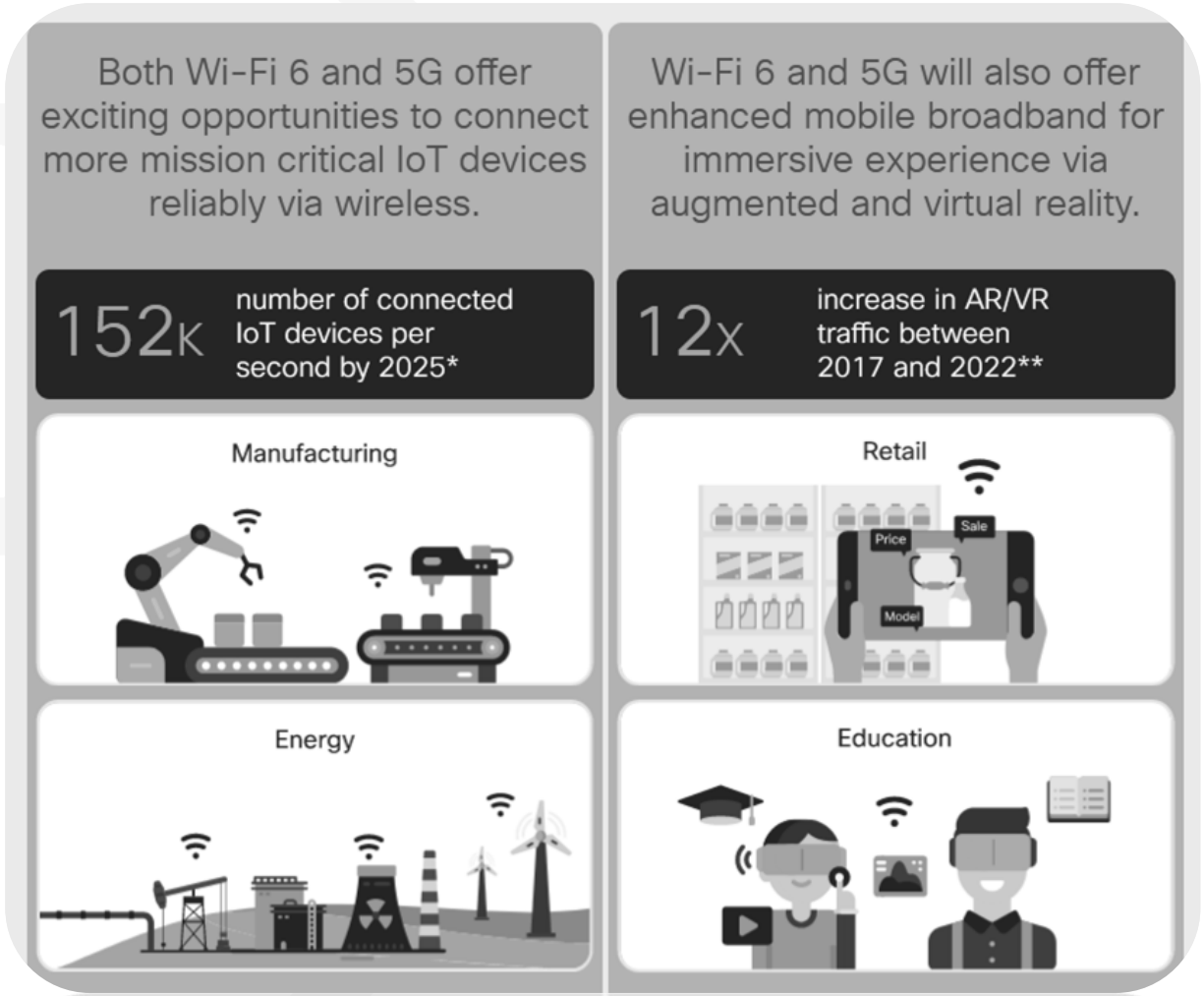
Standards and Connectivity – **Wi-Fi 6 & 5G**

1. **Wi-Fi** is the access choice for **indoor networks** with improvements in speed, latency, and higher density of connected devices.
2. **Wi-Fi** is the ideal system in areas where **access points** will serve **more users**, such as stadiums, convention centers, University Campus.

- However, **Wi-Fi 6 and 5G will co-exist** and work better together to support different use cases
- Uninterrupted wireless access while…



Standards and Connectivity – **Wi-Fi 6 & 5G**

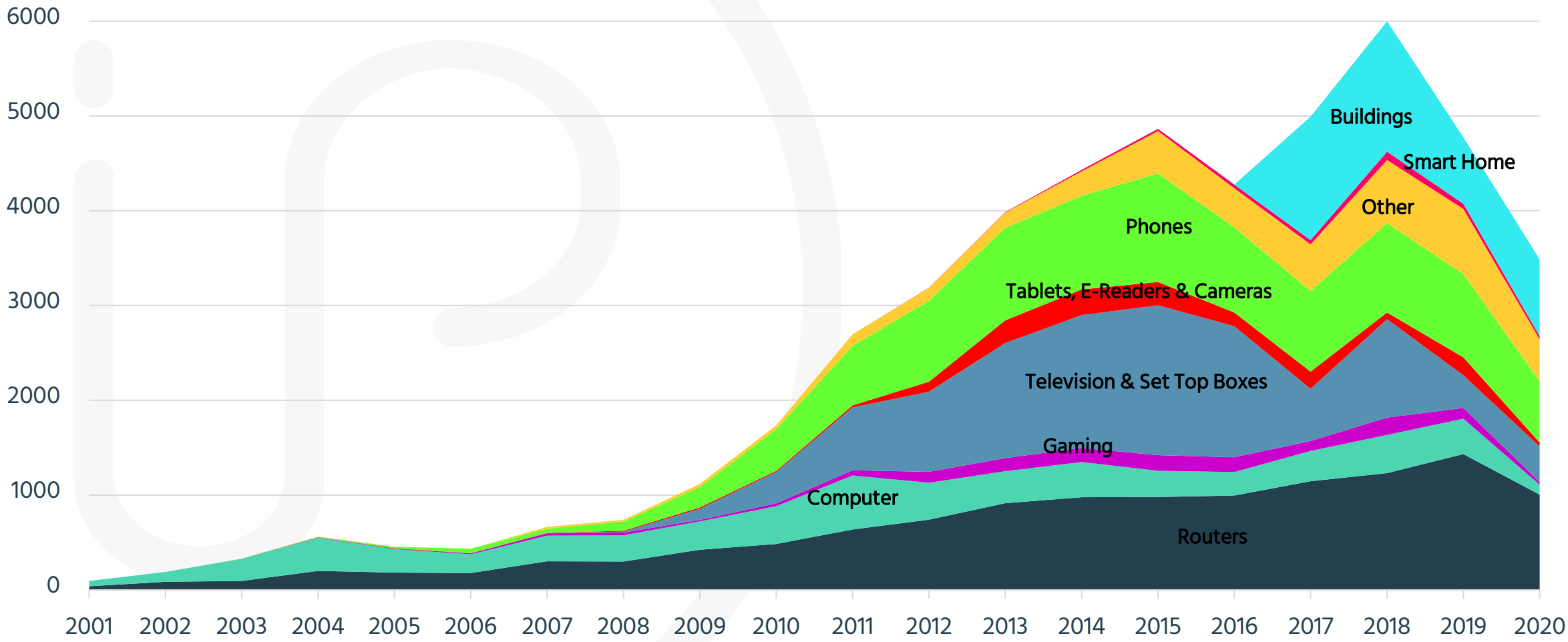


II. IEEE and the Wi-Fi Generations

Wi-Fi Generations

Generation/IEEE Standard	Maximum Linkrate	Standards Development	Adopted	Frequency
Wi-Fi 7 (802.11be)	na	2019-today	na	2.4/5 and 6 GHz
Wi-Fi 6E (802.11ax)	600 to 9608 Mbit/s	2014-today	2019	6 GHz
Wi-Fi 6 (802.11ax)	600 to 9608 Mbit/s	2014-today	2019	2.4/5 GHz
Wi-Fi 5 (802.11ac)	433 to 6933 Mbit/s	2008-2013	2014	5 GHz
Wi-Fi 4 (802.11n)	72 to 600 Mbit/s	2003-2013	2008	2.4/5 GHz
802.11g	6 to 54 Mbit/s	2000-2003	2003	2.4 GHz
802.11a	6 to 54 Mbit/s	na	1999	5 GHz
802.11b	1 to 11 Mbit/s	na	1999	2.4 GHz
802.11	1 to 2 Mbit/s	na	1997	2.4 GHz

Wi-Fi adoption (Wi-Fi Alliance certified products)



The application of Wi-Fi 6 will however be very **different for each IoT use case**.

Not all **Wi-Fi** generations will be used in each IoT application and therefore also **not all Wi-Fi SEPs** will need to be licensed-in.

How to best count and identify SEPs subject to standards implemented today and in the near future?

III. Wi-Fi SEP declaration data – access and limitation

Transparency Situation

The **"maximal declaration"** situation

- Approximately only about 20-47% of all ETSI declared 2G/3G/4G patents are essential *(Unwired Planet v. Huawei, TCL v. Ericsson)*

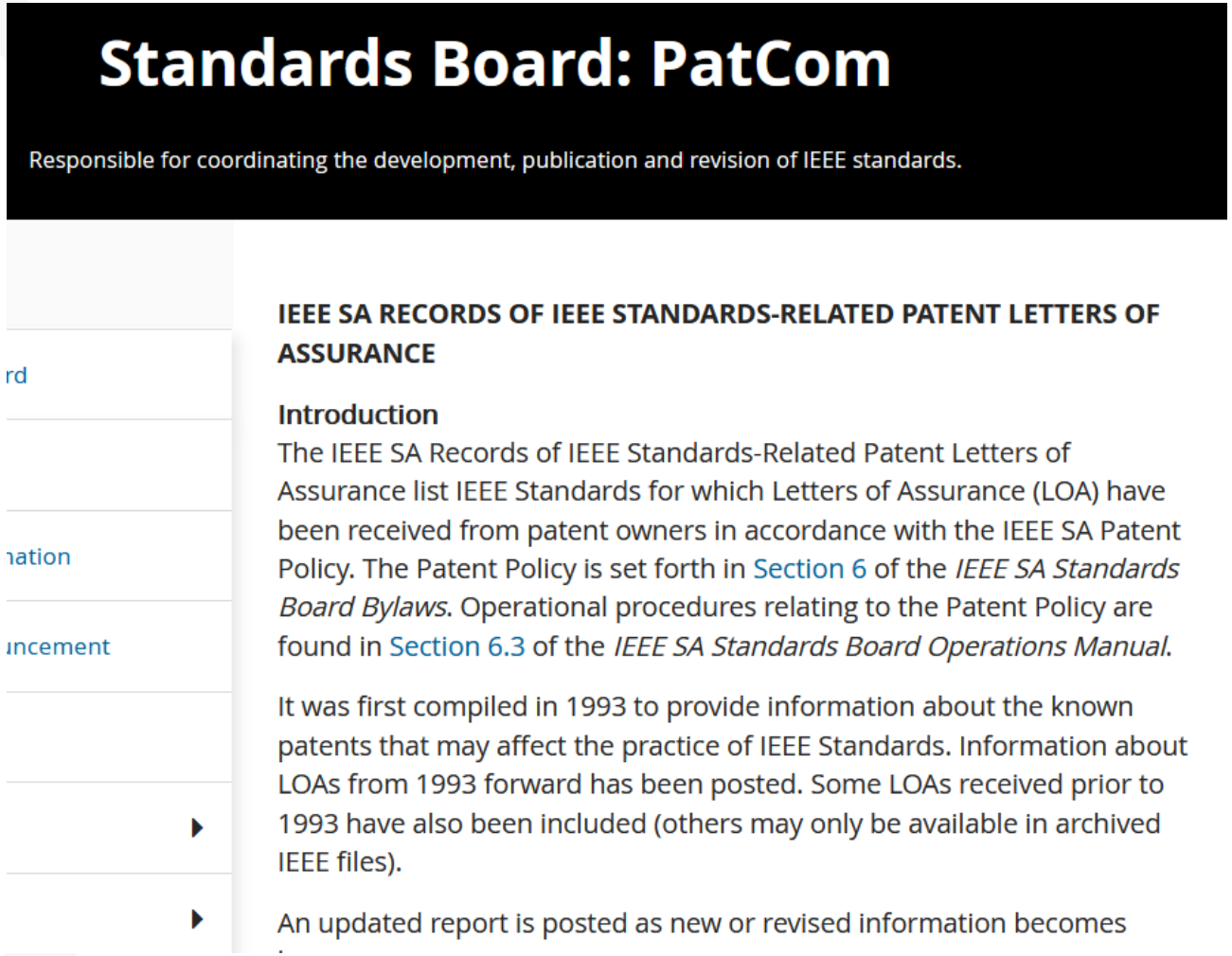
The **"minimal declaration"** situation

- Approximately only about 10-20% of all Wi-Fi SEPs are declared at IEEE *(estimations in Microsoft Corp. v. Motorola, Inc. 2013 U.S. Dist. LEXIS 60233)*
- Approximately only about 20-30% of all HEVC SEPs are declared at ITU-T *(comparing MPEG LA and Access Advance pooled HEVC SEPs)*

**The numbers quoted above are examples of expert reports and may vary when considering other reports. No matter what the percentages are all reports show that patent declaration databases either include non-essential patents (e.g. ETSI and others) or are incomplete (e.g. IEEE, ITUT and others).*

IEEE IPR

- **Letters of Assurance** are submitted to the IEEE PatCom Board.
- Most LOAs are so called **blanket declarations**.



Standards Board: PatCom

Responsible for coordinating the development, publication and revision of IEEE standards.

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IEEE SA RECORDS OF IEEE STANDARDS-RELATED PATENT LETTERS OF ASSURANCE

Introduction

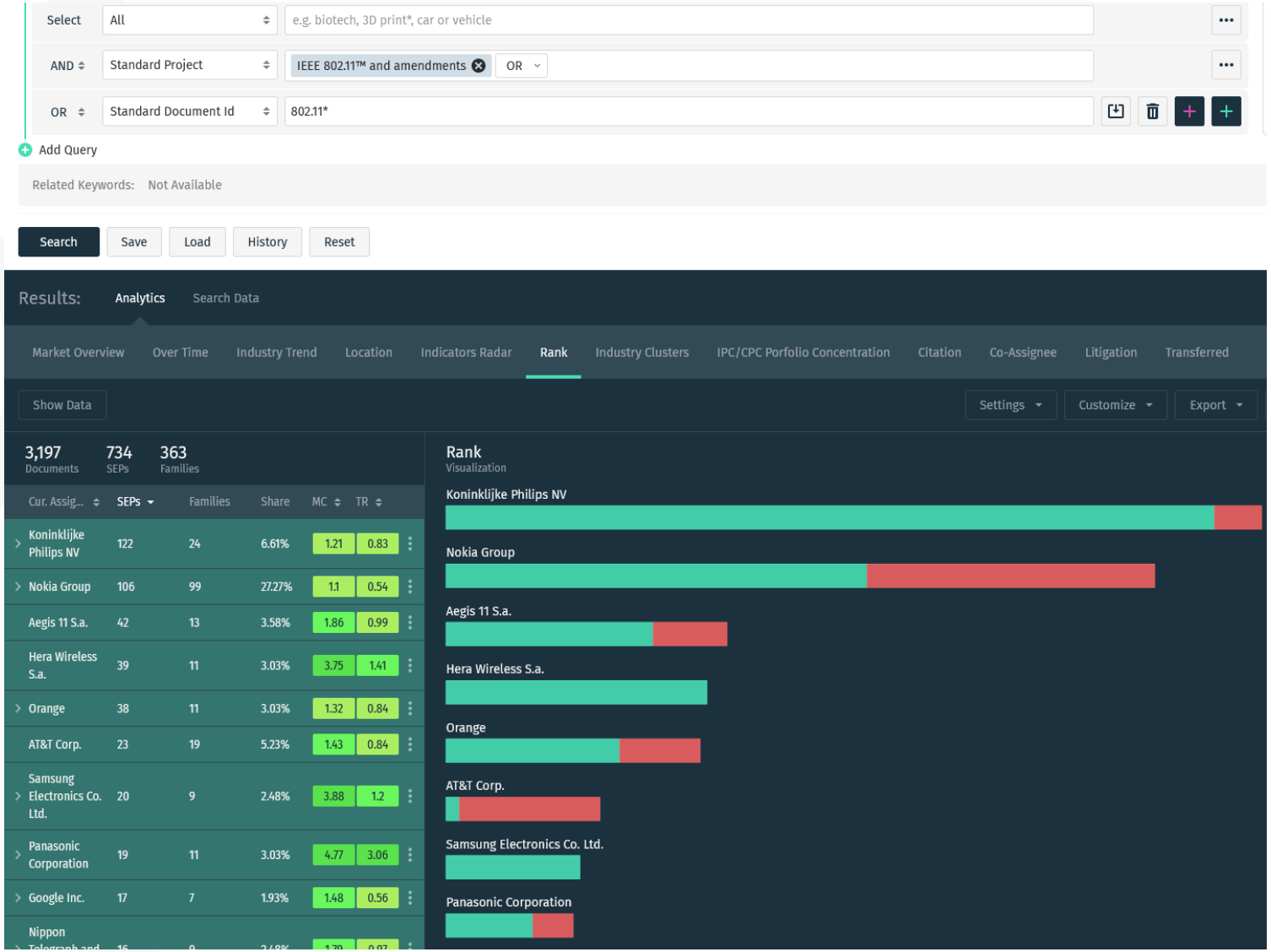
The IEEE SA Records of IEEE Standards-Related Patent Letters of Assurance list IEEE Standards for which Letters of Assurance (LOA) have been received from patent owners in accordance with the IEEE SA Patent Policy. The Patent Policy is set forth in Section 6 of the *IEEE SA Standards Board Bylaws*. Operational procedures relating to the Patent Policy are found in Section 6.3 of the *IEEE SA Standards Board Operations Manual*.

It was first compiled in 1993 to provide information about the known patents that may affect the practice of IEEE Standards. Information about LOAs from 1993 forward has been posted. Some LOAs received prior to 1993 have also been included (others may only be available in archived IEEE files).

An updated report is posted as new or revised information becomes

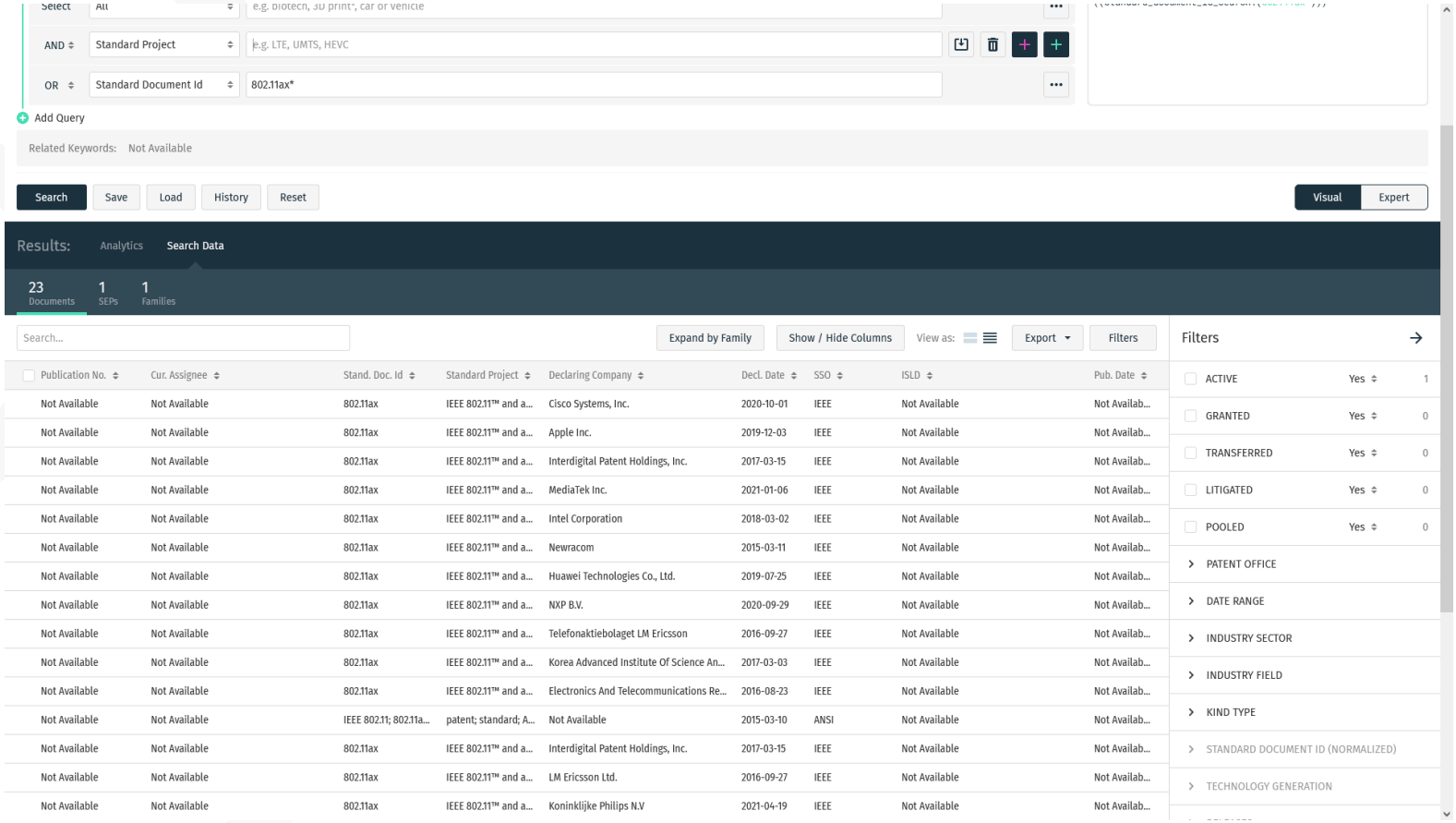
IEEE IPR

- Only a few companies declare specific patent numbers



IEEE IPR – 802.11ax (Wi-Fi 6)

- We identify 23 LOAs for 802.11ax (Wi-Fi 6)
- Out of 23 LOAs only one provides a specific patent number



Challenges with Wi-Fi patent declaration data

Available Wi-Fi declaration data:

- **The Wi-Fi patent declaration** database (IEEE IPR) include over **50%** so called "blanket" declarations → Companies state to own Wi-Fi SEPs without proving lists of declared patents.
- **Patent pools** such as SISVEL only cover a **fraction** of the Wi-Fi patent owners.
- We identify almost **100 entities** that have submitted **standards contributions** for Wi-Fi technologies (IEEE Mentor). Patent declaration information or patent pools are missing over for over **60% of these** companies.

How to best count and identify SEPs if the IEEE declaration data only provides blanket LOAs?

VI. Why VVC will become relevant to humans and machines?

The increasing importance of video compression

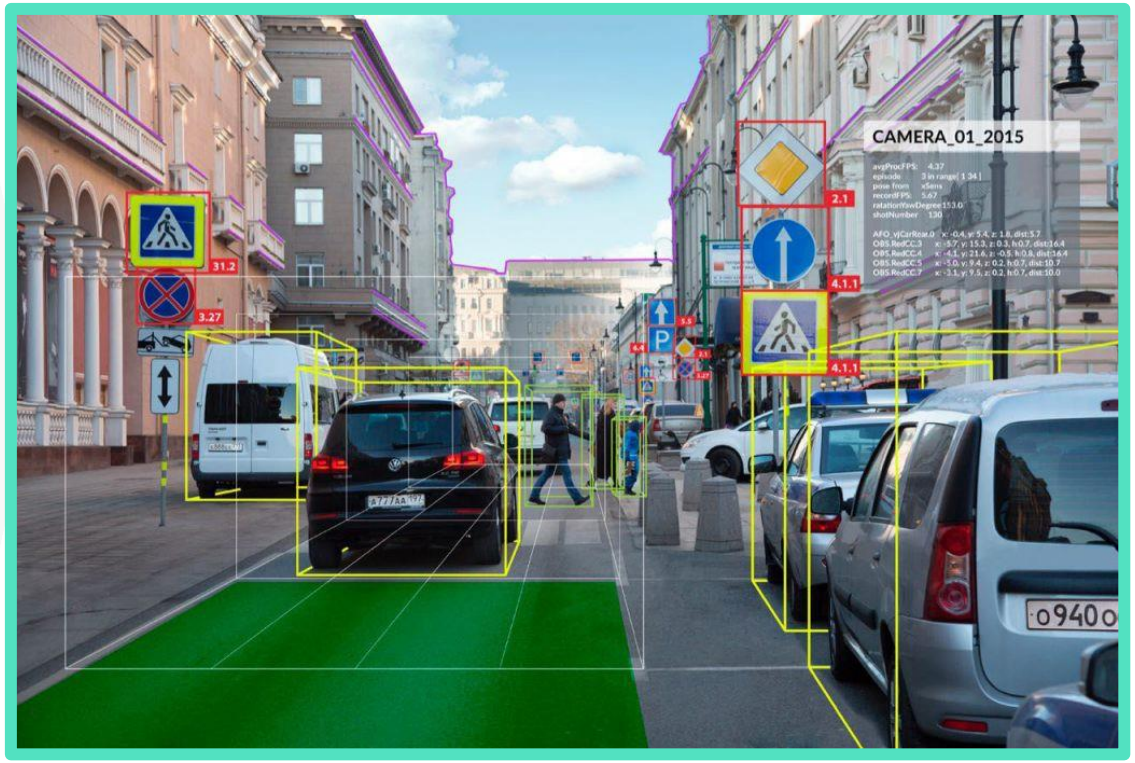
- Global lockdowns due to covid-19 have drastically increased the prevalence of **video streaming** and **conferencing**.
- It is estimated that video will account for **77 percent** of all mobile data traffic by 2026.
  - For humans, **video compression** means **high-quality, high-resolution deep colors** in the videos and games we play on our devices.
  - Video compression standards such as **AVC/HEVC** are embedded into virtually every:
    - **smartphone, PC, TV, digital video player, consumer camera, broadcasting networks** or **media cloud service** in the world.

Video compression in IoT

- It is estimated that in 5 years, half of **global video traffic** will **only be seen by machines** and not humans.
- For machines, video compression delivers video optimized for **machine vision tasks** such as:
  - machine-to-machine (M2M) communications
  - autonomous cars
  - smart surveillance cameras
  - industrial robots
- All of the listed use cases use video compression standards and in the near future **VVC** to sense and analyze their environments and **fulfill automated tasks**.

VVC and autonomous driving

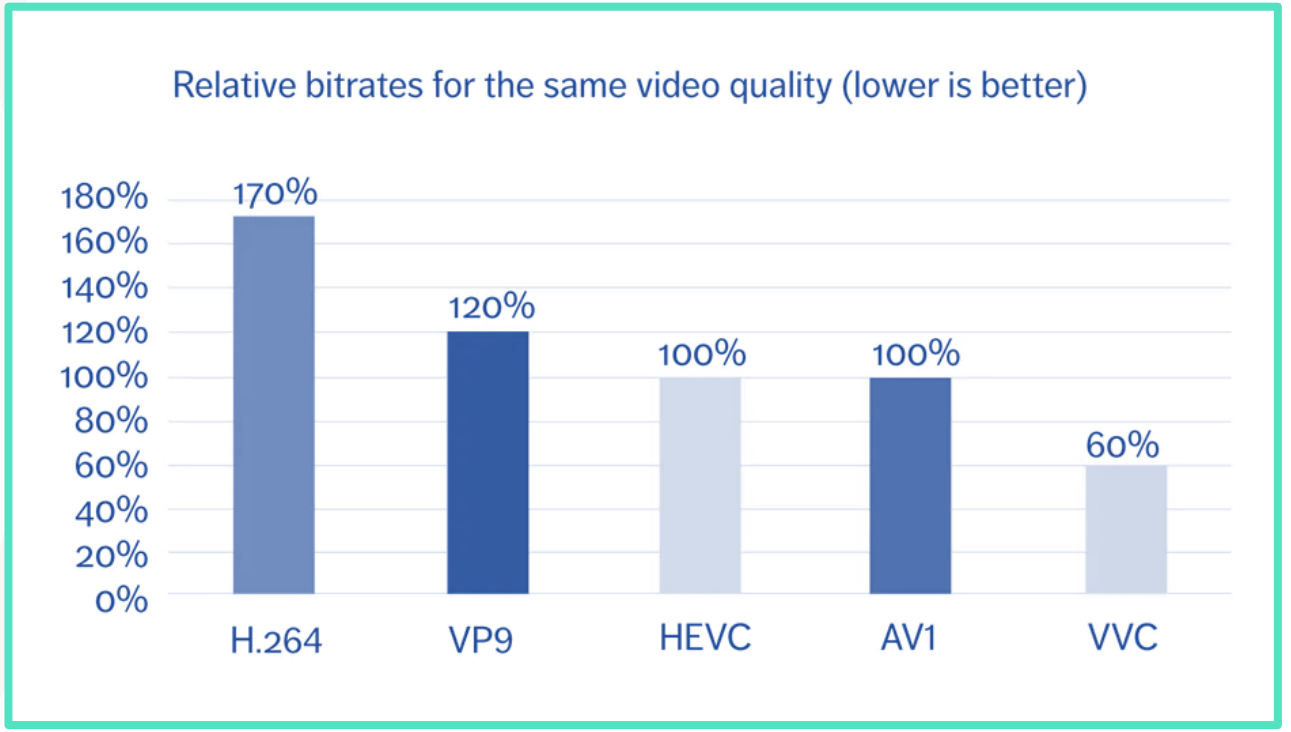
- An autonomous vehicle uses input devices like cameras to allow the **car to perceive the world around it**, creating a digital map.
- **Image classification** is determining what the objects in the image are, like a car or a person.
- Such application set **high demands on video compression** efficiency and functionality that VVC will meet.



VVC Key capabilities and benefits

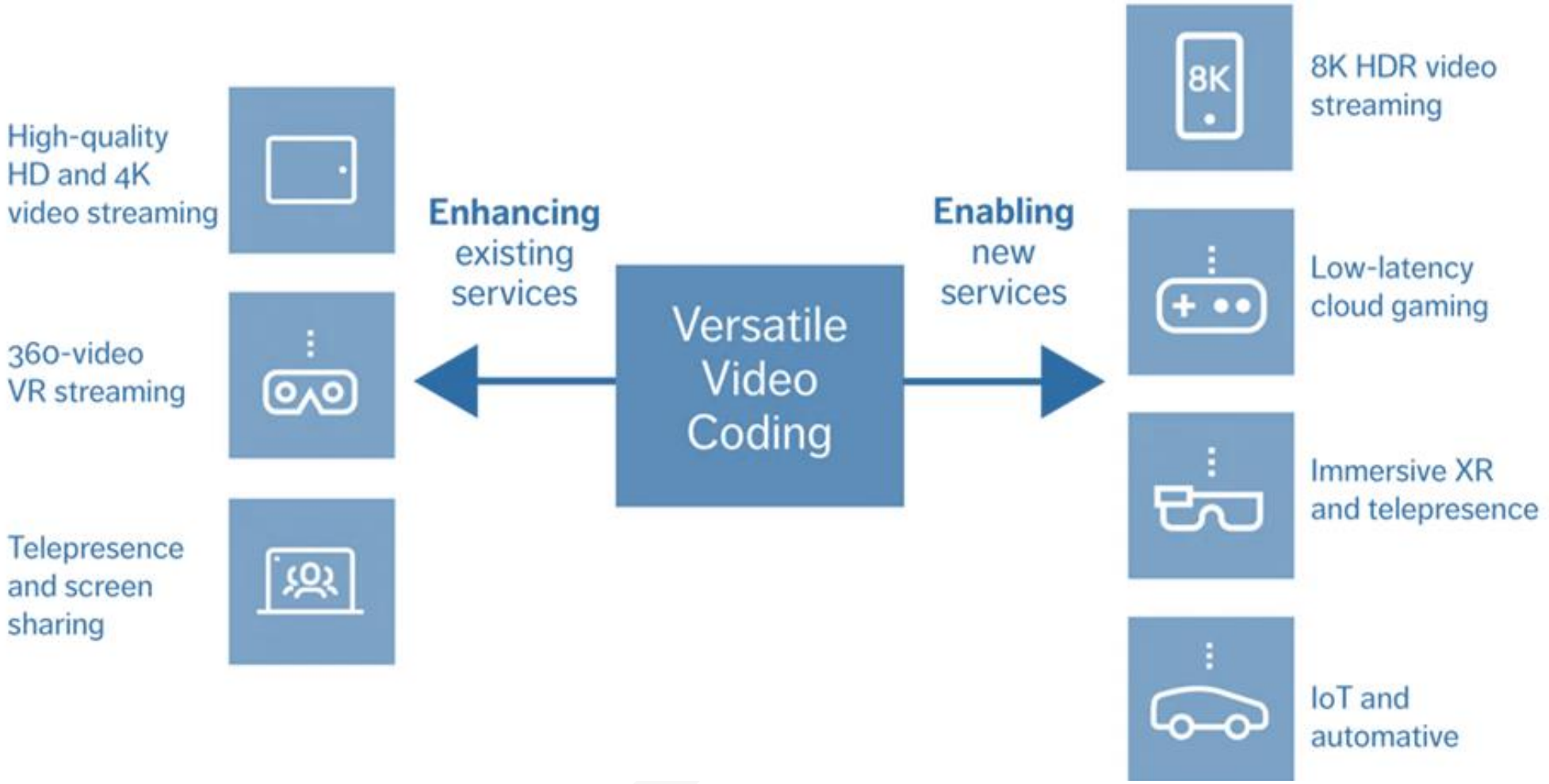
Key features enabling the benefits of VVC compared to other video compression standards:

- ✓ VVC (H.266) enables **50 %** more compression gain than the previous standards with the same picture quality.
- ✓ it delivers efficient **transmission** and **storage** of all video resolutions, even up to 16K for
  - ➢ future wall TVs, game streaming,
  - ➢ 360-degree video streaming and
  - ➢ ultra-low latency video applications.



Source: https://www.ericsson.com/en/reports-and-papers/ericsson-technology-review/articles/versatile-video-coding-explained

VVC Enhancing and Enabling Services



Source: https://www.ericsson.com/en/reports-and-papers/ericsson-technology-review/articles/versatile-video-coding-explained

V. SEP declaration data for VVC – access and limitation

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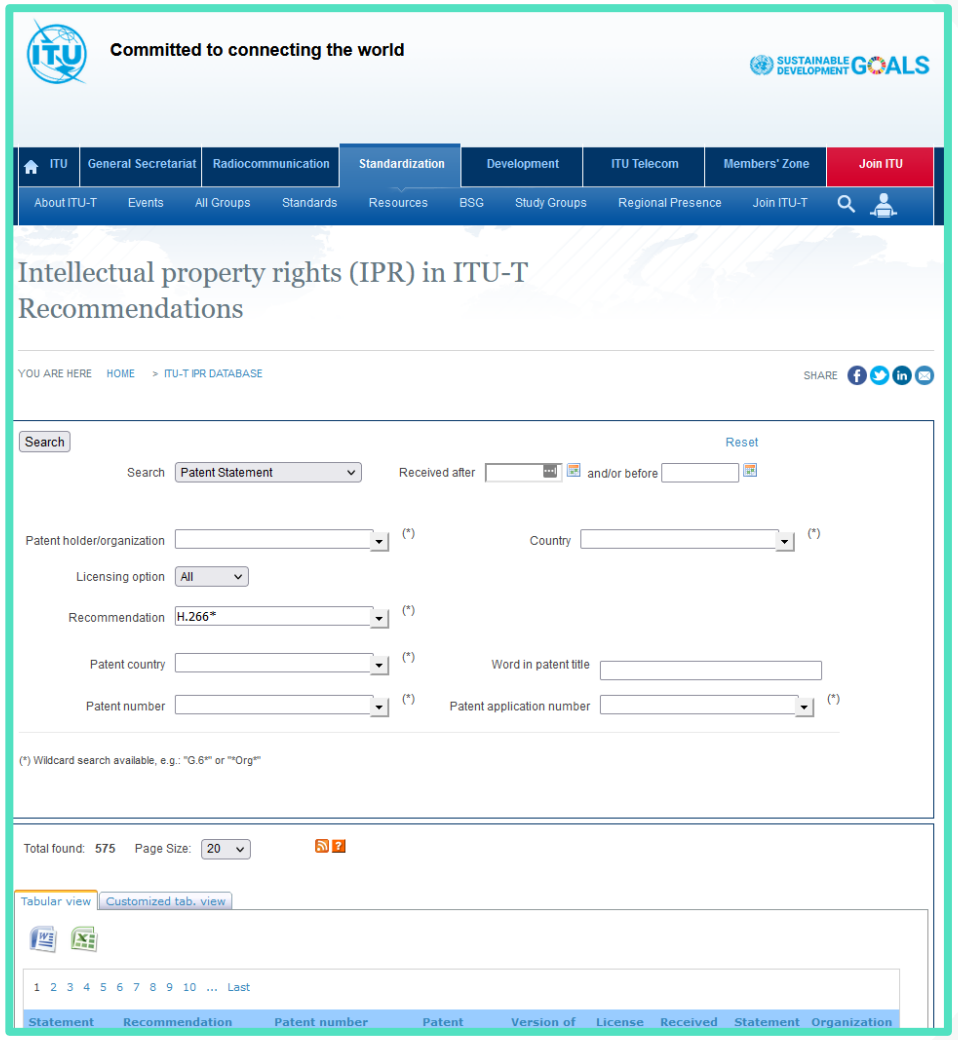
ITUT IPR



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Statement Id	Recommendation	Patent number	Patent application number	Version of declaration form	License option	Received date	Statement date	Organization
H266-01	H.266 (ex. H.VVC, H.FVC)	None	None	2 November 2018	2	2020-06-29	2020-06-26	Intel Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	US9432699	None	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	WO	WO2019FI50469	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	CN	201880065662.3	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	EP	18865590.6	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	IN	202047019138	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	KR	2020-7013043	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	MX	MX/a/2020 /003370	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	PH	1-2020-550095	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	RU	2020114245	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	US	16/753511	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-02	H.266 (ex. H.VVC, H.FVC)	VN	1-2020-01845	2 November 2018	2	2020-06-30	2020-06-30	Nokia Corporation
H266-03	H.266 (ex. H.VVC, H.FVC)	US7,769,084	None	2 November 2018	2	2020-06-22	2020-06-18	Apple Inc.
H266-03	H.266 (ex. H.VVC, H.FVC)	CNZL201210009742.1	None	2 November 2018	2	2020-06-22	2020-06-18	Apple Inc.
H266-03	H.266 (ex. H.VVC, H.FVC)	DE1532746	None	2 November 2018	2	2020-06-22	2020-06-18	Apple Inc.
H266-03	H.266 (ex. H.VVC, H.FVC)	DE2326019	None	2 November 2018	2	2020-06-22	2020-06-18	Apple Inc.
H266-03	H.266 (ex. H.VVC, H.FVC)	DE2328283	None	2 November 2018	2	2020-06-22	2020-06-18	Apple Inc.
H266-03	H.266 (ex. H.VVC, H.FVC)	FR1532746	None	2 November 2018	2	2020-06-22	2020-06-18	Apple Inc.
H266-03	H.266 (ex. H.VVC, H.FVC)	FR2326019	None	2 November 2018	2	2020-06-22	2020-06-18	Apple Inc.
H266-03	H.266 (ex. H.VVC, H.FVC)	FR2328283	None	2 November 2018	2	2020-06-22	2020-06-18	Apple Inc.

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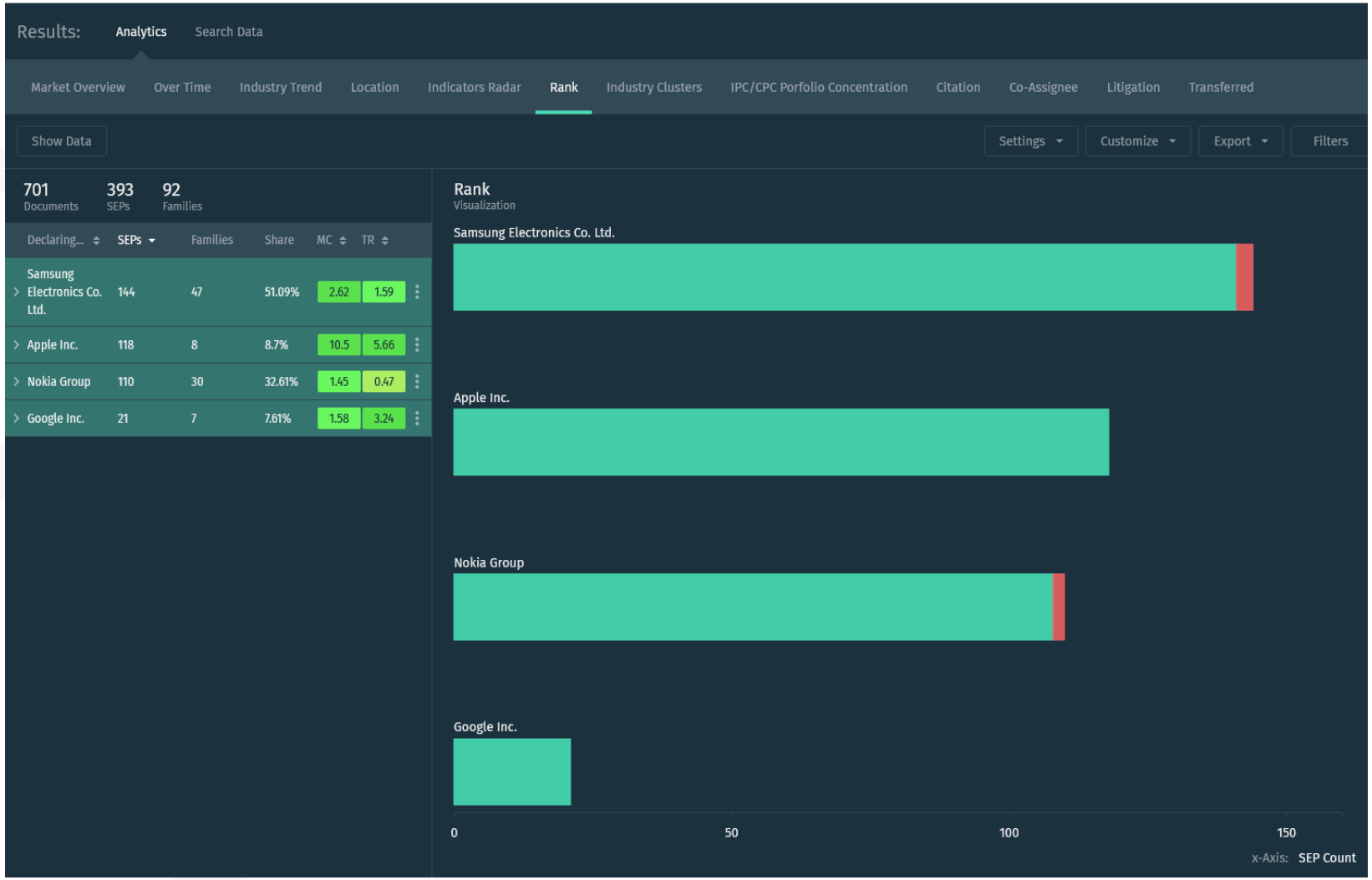
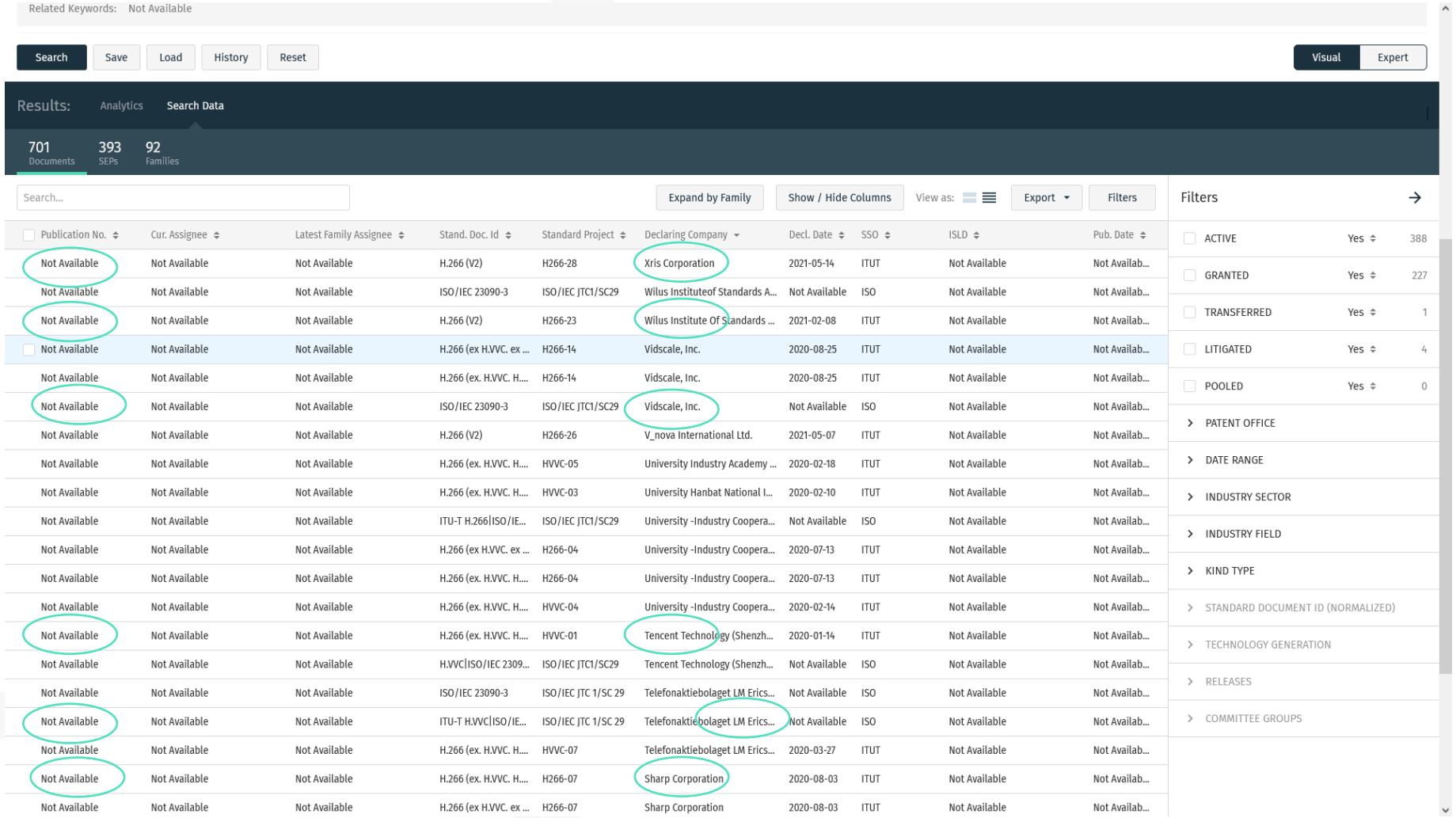
ITUT IPR

- Only a 4 companies declare specific patent numbers (393) for the VVC standard (H.266 / ISO/IEC 23090-3)
- Most companies submit blanket declaration (27).



IUT IPR – includes many blanked VVC contributions



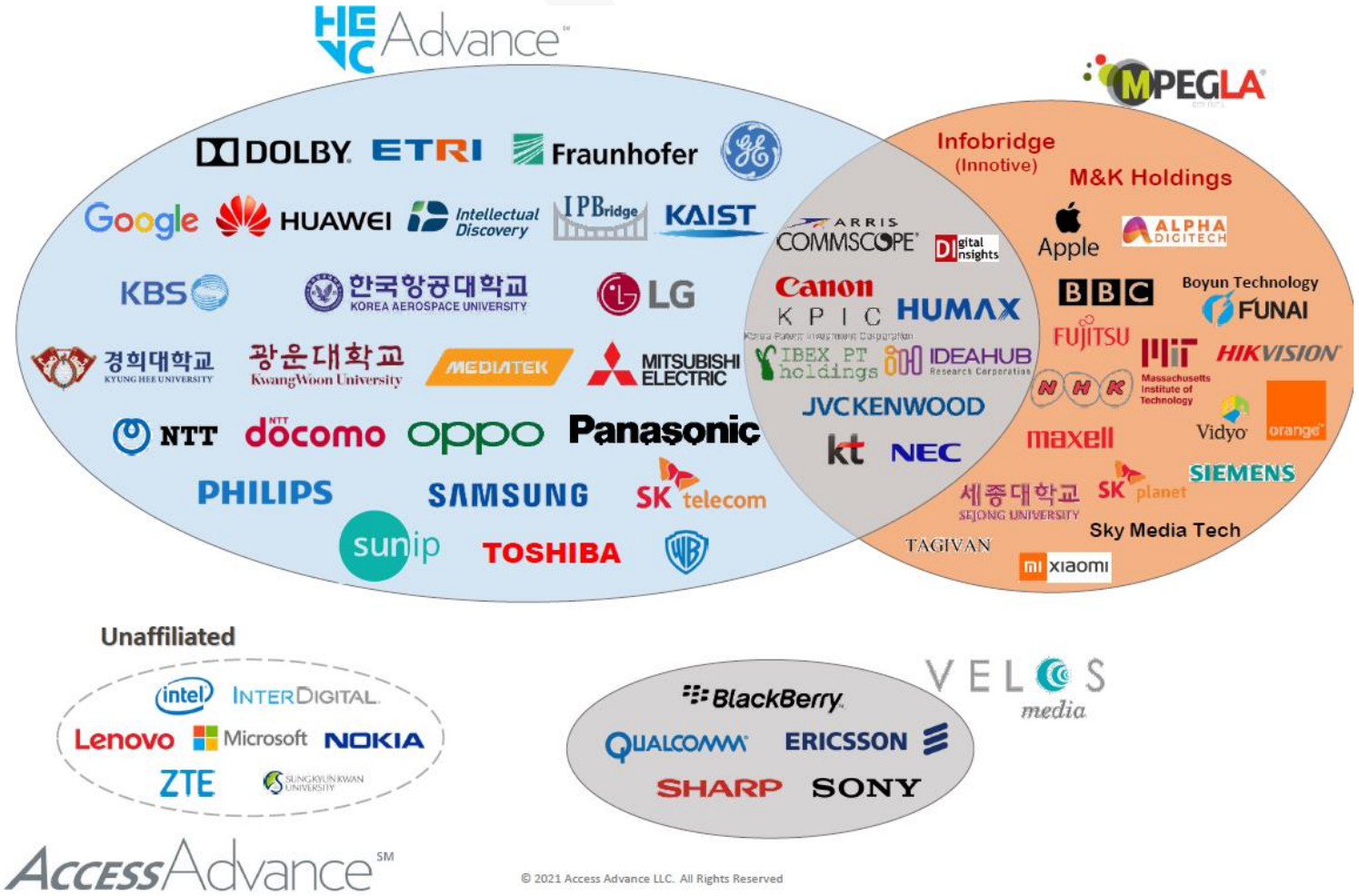
IUT IPR – includes many blanked VVC contributions

- **31 VVC declaring companies**
- out of which **27 submit blanket declaration** and
- **6 submit declarations** without having a **VVC contribution incorporated**.

Declaring Company	Declared patents	Blanket declarations	Approved VVC Contributions
Samsung (KR)	183	0	26
Apple (US)	142	0	2
Nokia (FN)	136	1	14
Google (US)	24	0	0
QUALCOMM (US)	0	1	149
Tencent (CN)	0	1	138
Huawei (CN)	0	1	92
Sharp (JP)	0	1	76
Bytedance (CN)	0	1	75
LG Electronics (KR)	0	1	66
Fraunhofer (DE)	0	1	59
Panasonic (JP)	0	1	43
Ericsson (SE)	0	1	43
Alibaba (CN)	0	1	37
Interdigital (US)	0	1	33
Broadcom (US)	0	1	21
ETRI (KR)	0	1	14
Canon (JP)	0	1	12
Intel (US)	0	1	8
SZ DJI (CN)	0	1	8
Wilus (KR)	0	1	7
Dolby (US)	0	1	6
Microsoft (US)	0	1	6
Fg Innovation (CN)	0	1	3
Xris (BE)	0	1	2
Fujitsu (JP)	0	1	1
Op Solutions (US)	0	1	0
Vidscale (US)	0	1	0
Humax (KR)	0	1	0
Hyundai (KR)	0	1	0
V-Nova International (UK)	0	1	0

Patent Pools in Video Compression generations

HEVC pool situation



VVC pool situation

- Media Coding Industry Forum (MC-IF) was formed in **2018 by 49 member** companies to set up a **single dominant VVC patent pool**.
- Two pool administrators, **MPEG-LA** and **Access Advance** (formerly HEVC Advance), intend to launch **separate patent pools for VVC**.
- VVC licensing regime with 2 pools may still work as also 2 AVC pools were successful:
  - MPEG-LA and Via Licensing offered separate pools for the 2003-finalised standard **AVC** (H.264) – presently the most **widely used codec**.
- To form a VVC pool, SEP owners and implementers alike must consider the depth and strength of one **another's SEP portfolios**.
- Complicating this effort is the fact that the **universe of VVC SEPs is unknowable!**

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

Challenges with video codec patent declaration data

Available video codec declaration data:

- **IUT-T patent declaration** database include over **70%** so called “blanket” declarations → Companies state to own video codec SEPs without proving lists of declared patents.
- **Patent pools** such as MPEG LA, Access Advance or Velos Media only cover a **fraction** of the video codec patent owners.
- We identify almost **150 entities** that have submitted **standards contributions** for video codec technologies. Patent declaration information or patent pools are missing over for over **60% of these** companies.

How to best count and identify SEPs if the ITUT declaration data provides many blanket declarations and VVC patents pools are not set up yet?

VI. Wi-FI and Video Codec SEP Market Pain Points

Use cases for Wi-Fi and video codec **patent owners**

Patent portfolio manager:

- How to compare and value your portfolios against competitors for Wi-Fi or HEVC or VVC patents?
- What is my market share for Wi-Fi, HEVC or VVC patents compared to others?
- How can I identify strength and weaknesses to further develop my own portfolio?

Licensing executives / deal maker:

- How do I find all relevant Wi-Fi or HEVC or VVC patents in my portfolio?
- How do I identify patents to commercialize/license, sell or which ones should I abandon?
- How can I weed out ‘weaker’ patents, focusing resources on higher ranked patents

Use cases for Wi-Fi and video codec **licensees**

Licensing manager / legal division:

- How do I identify the market share of patents offered for licensing-in technologies like Wi-Fi or HEVC or VVC?
- How can I get access to objective data to consider for FRAND preparation, negotiations, argument formulation
- How do I know the offered SEP portfolio is “essential”?

Strategic IP attorneys / legal divisions:

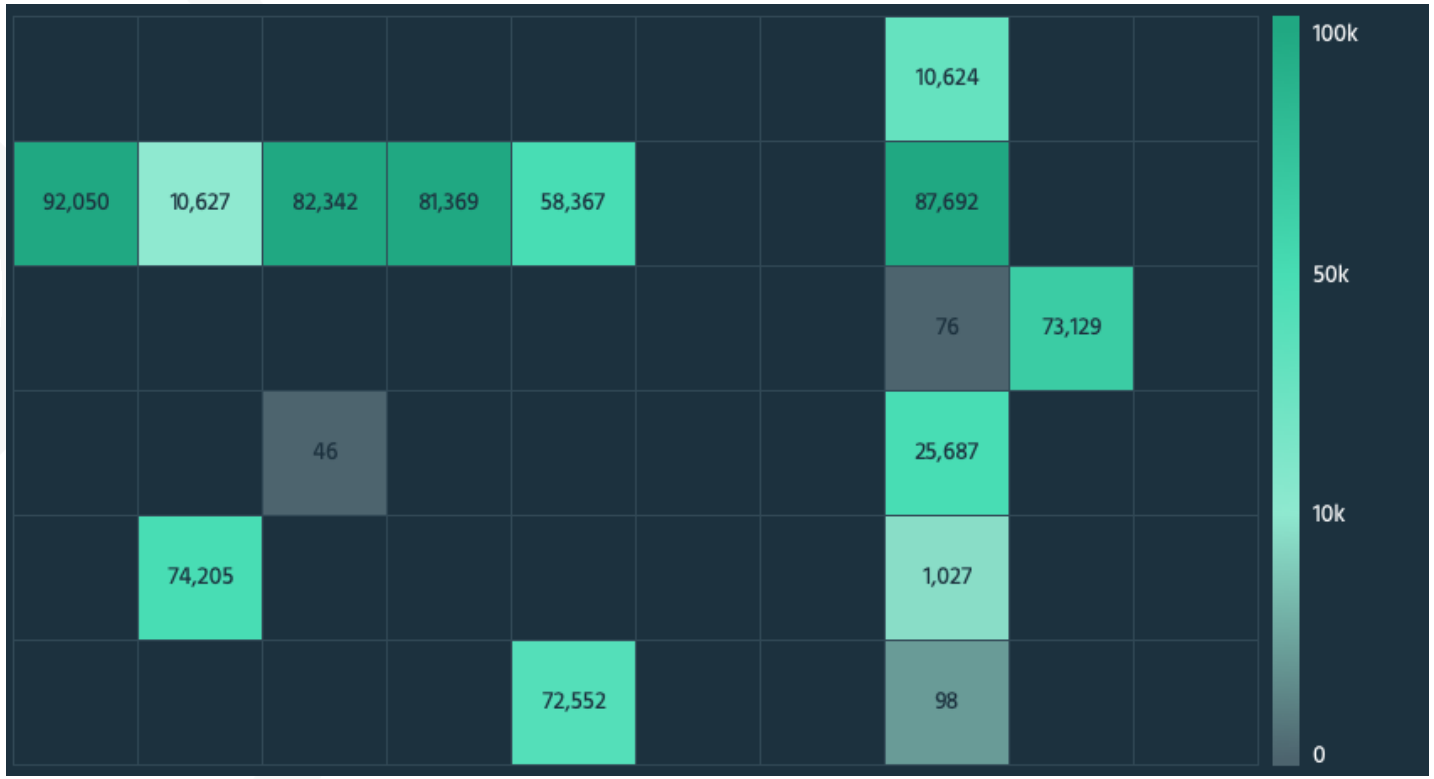
- Which SEPs are in fact relevant for my products?
- Who are the leading patent owners for Wi-Fi or HEVC or VVC patents and how many patents do the patent pools (Access Advance / MPEGLA or Velos Media / Sisvel) cover?
- What are the risk to be litigated in that market?

VII. The Wi-Fi and Video Codec SEP Identification Approach

The IPlytics data team has been utilizing different inputs including a smart combination of **IPC/CPC**, **time ranges**, tested against **contribution** and **inventor** data from video codec patent declarations, patent pool programs, and standards contributions.

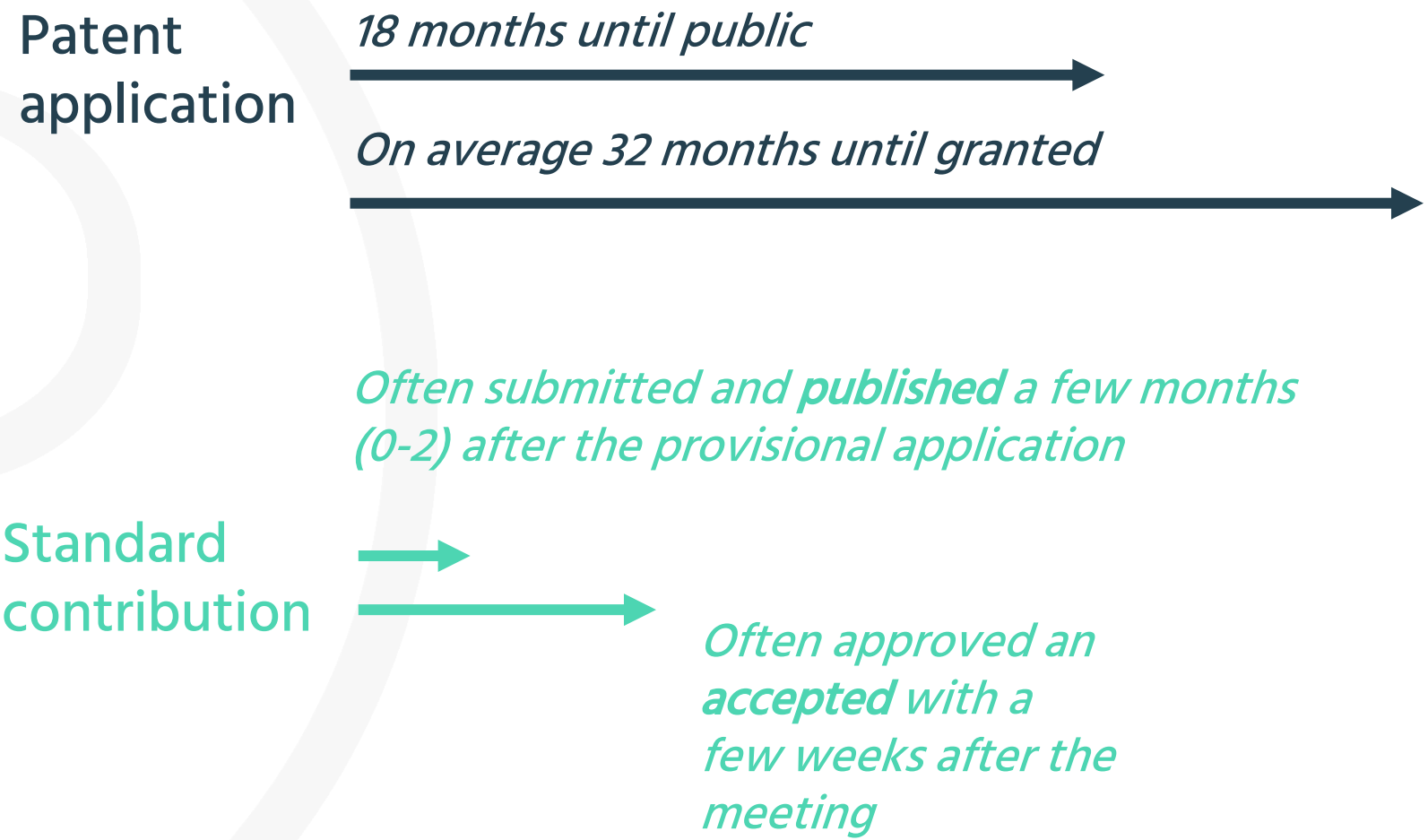
CPC/IPC concentration

- We make use of **pooled patents** and **declared** patents' **main IPC/CPC** classes



CPC/IPC concentration

- We utilize the **time periods** during which the video codec **standard generations** were developed

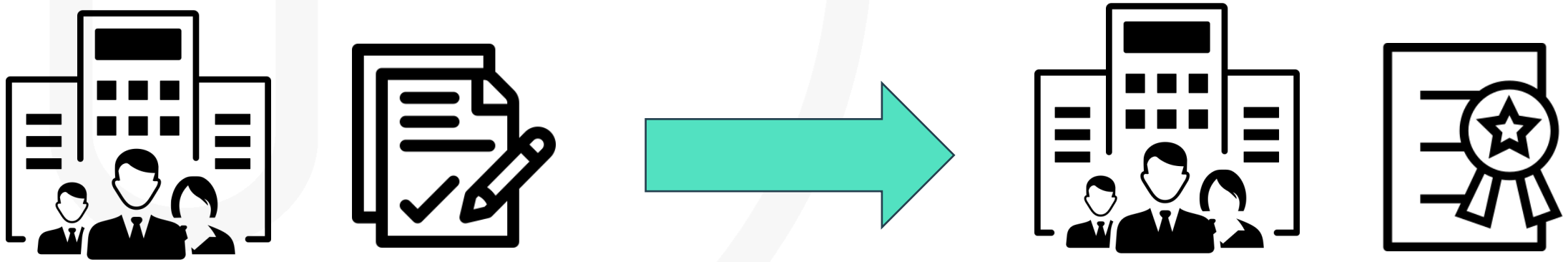


Contributor Applicant Correlation

- We correlate patents' first applicants and inventors with standards contributors

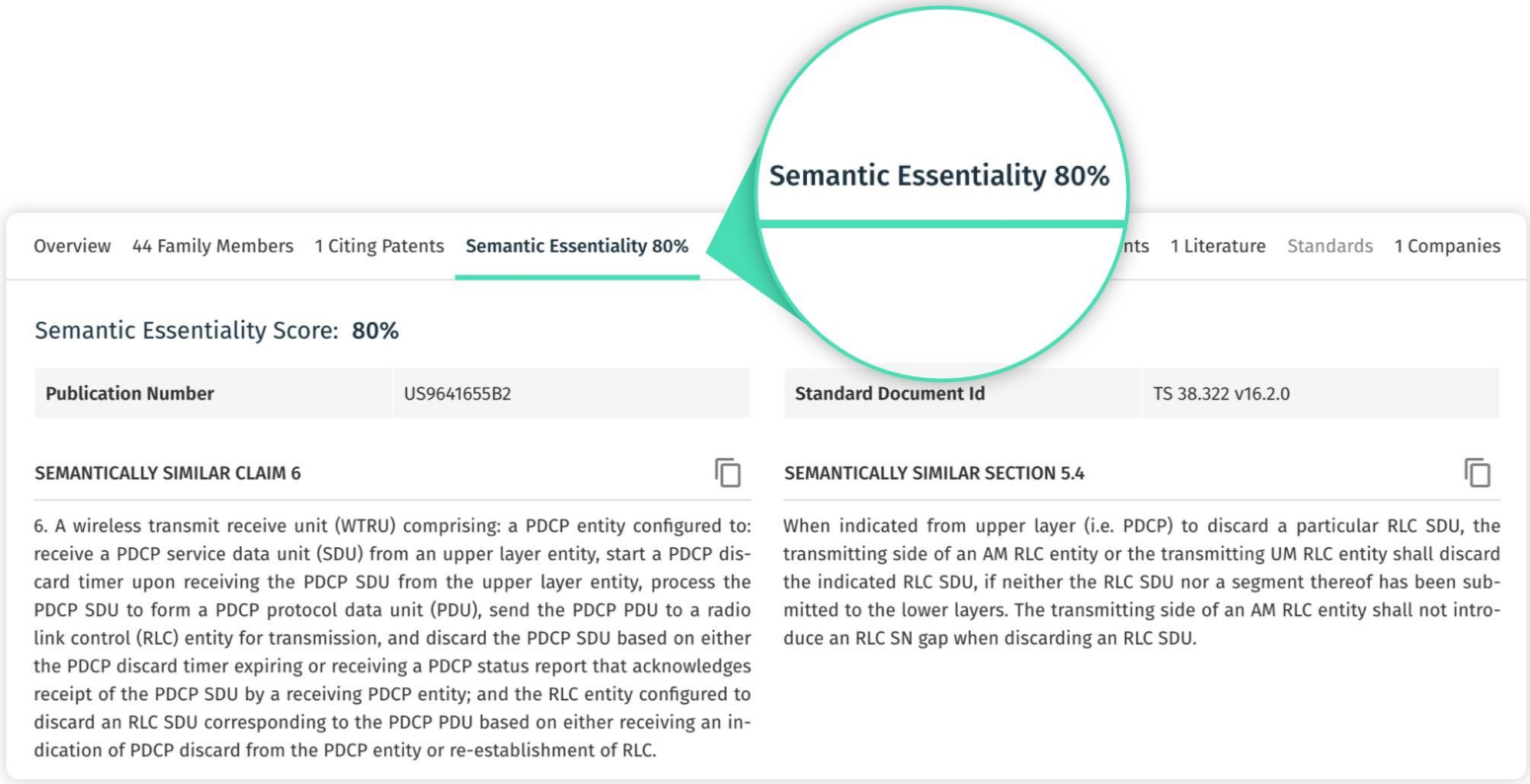
- Submitted **approved and incorporated VVC (H.266)** contribution at meeting

- Patent filed by same applicant or inventor



Semantic analysis of patent claims and standards

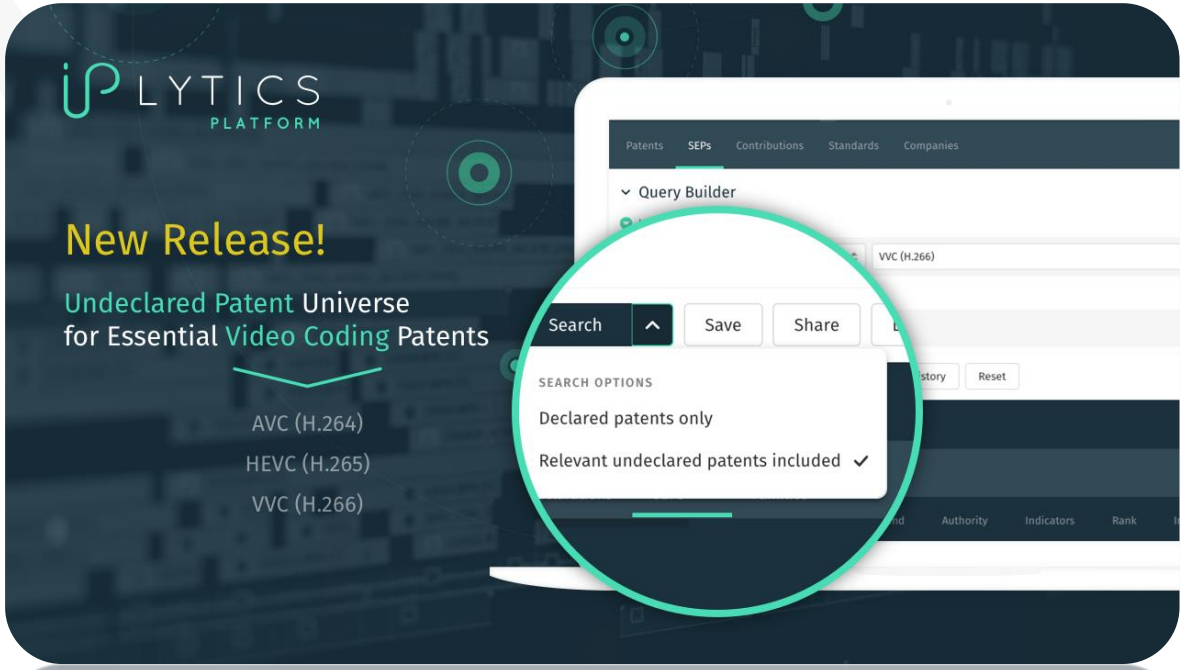
- We **semantically** map patent **claims** to video codec standard **sections**



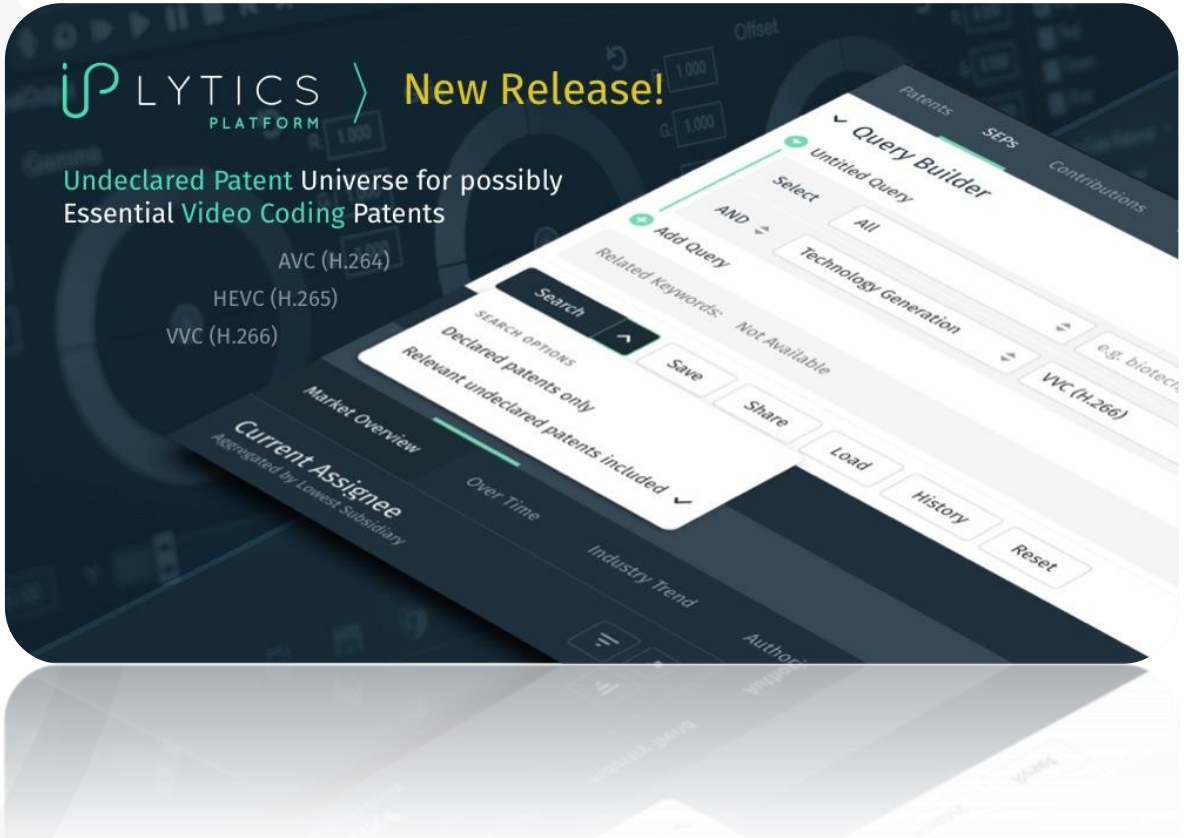
The Wi-Fi and Video Codec SEP Identification Solution

- IPlytics **Undeclared Patent Universe** provides a **Wi-Fi** and **video coding landscape** of potentially essential patents.

- It allows to **discover patents** that may be essential, even though they're hidden behind blanket declarations.
- It enables to gain a clear view of the **competition** in the video coding sector.



- It empowers users to easily recognize the **proportion of the landscape** of players in the video coding space.
- It enables users to adjust the **portfolio strategy** for video coding based on more accessible data.



IPlytics Platform: Analytics (SEP

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Query Builder

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

AND: Technology Generation — Select...

AND: Current Assignee — e.g. Nokia, "Volkswagen AG" OR Siemens

Add Query

Related Keywords:

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Visual | Exp

Results: Analytics | Search Data

Results: Analytics

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

Need Help?

The Wi-Fi and Video Codec Undeclared SEP Data Limitation

Limitations

- The IPlytics undeclared patents identification follows a **precision/recall approach**.
- Patent characteristics like IPC/CPC, priority dates, inventors or patent applicants are utilized to identify potentially essential video codec patents.
- Our approach identifies 96% of all declared or pooled patents with a data noise rate of 2% (known false positives).
- **Not all identified undeclared Wi-Fi and video patents are essential!**
- The Semantic Essentiality Score (SES) provides accurate results only for English original language patents (e.g. US, EP, CA, GB and so on)

VII. Takeaways

Why information is key!

Growing challenges:

- The **volume and complexity** of worldwide patents, standards and SEPs is growing daily, making it difficult to manually **identify, analyze and understand** relevant information on connected technologies.
- As a result, there is a growing demand for **IP analytics** in many departments like **strategic product planning, R&D, standards development, licensing, M&A, IP Asset Management and legal divisions**.

SEP licensors (patent owners)

SEP licensors use of IPlytics Platform:

- Align R&D investments, standards development, patent prosecution, patent portfolio management and licensing/monetarization 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.

SEP licensees (standards implementers)

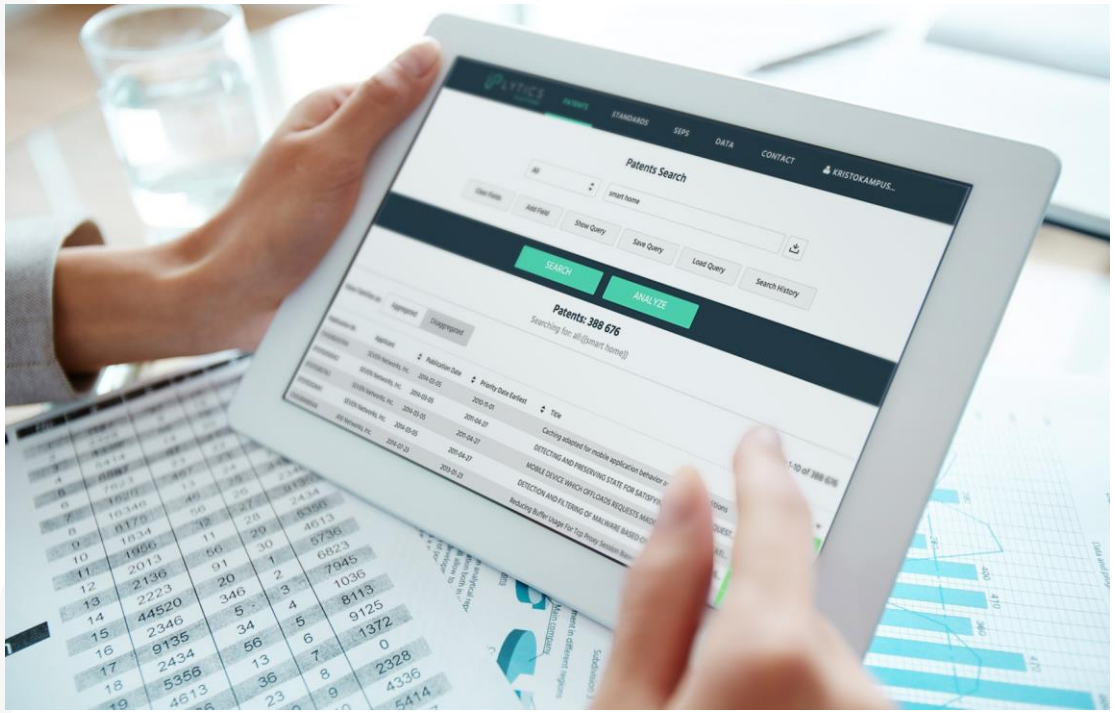
SEP licensees use of IPlytics Platform:

- 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 module supplier
- Monitor SEP filing, SEP change of ownership and litigation to **quantify risks and plan royalty payments**.
- **Identify** industry related (e.g. M2M, IoT, IIoT) **standards development initiatives** to have a seat at the table when future connectivity technology is developed.

IPlytics Europe and US

For more information on IPlytics Products and Services, please contact us on:

https://www.iplytics.com/request-a-demo/



IPlytics Podcast

Global Standards Leadership Conference 2023

Thursday June 15th 2023, 8:00am – 6:30pm | UC San Diego Atkinson Hall

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