

Who wins the VVC Patent Race

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Patent data is divorced from standards data

Global
Patent
Data

Patent Databases have little correlation to Standard Databases from SSOs.

SSO databases are difficult and time-consuming to use.

Any SEP found is frequently divorced from other vital patent information.

Standard Database information can not be used for stand-alone analysis e.g. Competitive Intelligence

Technical
Standard
Data

SEP Data Challenge for Video Standards

Under-declaration

VVC declaring entities

Only 5 out of 43 (~12%)
declaring companies
have submitted specific
patent declarations at
the ITU-T.

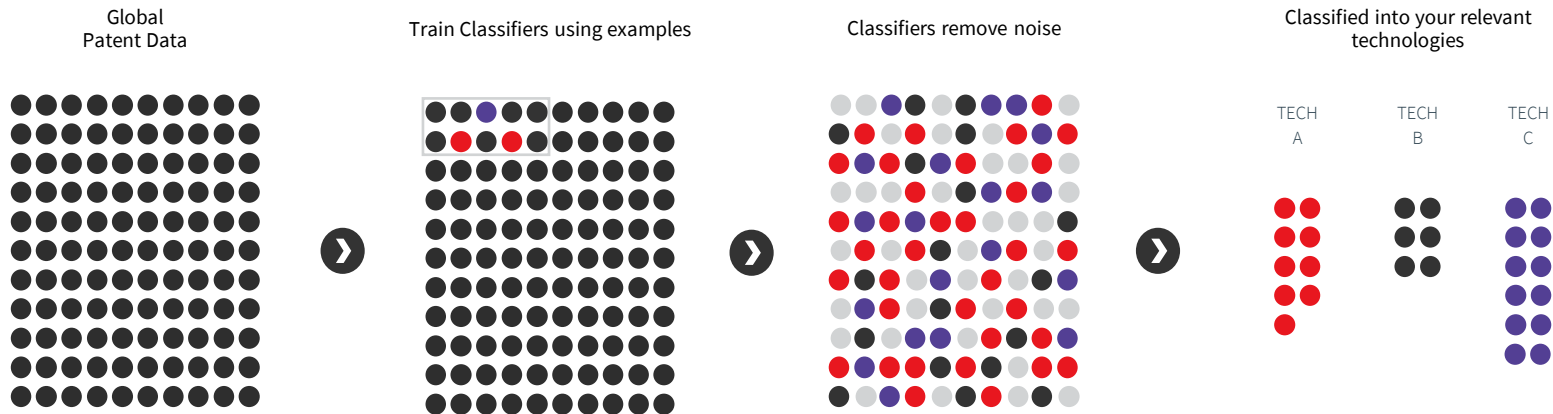
VVC contributors

As little as **9%** of the
HEVC/ VVC
**contributing
companies** have
submitted specific patent
declarations at the ITU-T

SEP Data Solution for Video Standards

Undeclared Patents

- The IPlytics data team has utilized a supervised ML algorithm (**LexisNexis Cipher**) to identify undeclared patents for AVC, HEVC, VVC, AV1 and VP9 standards.
- The algorithm uses **true positive** (patent pools) and **true negative training data** to build patent landscape classifiers with independently verified accuracy.

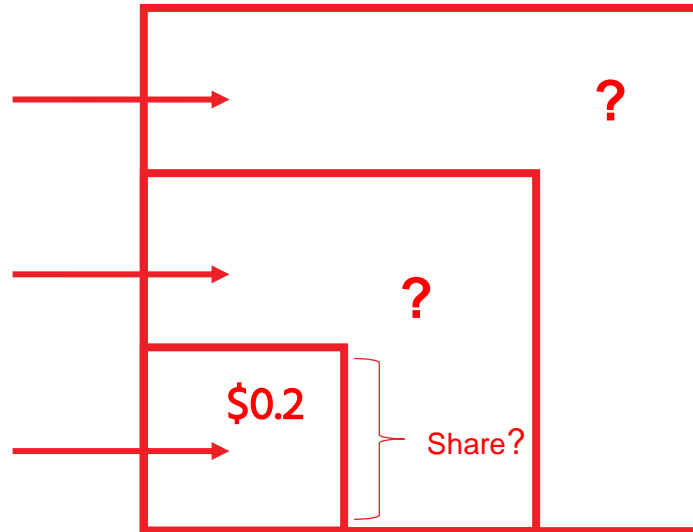


➤ Decrease uncertainty about the patent royalty stack

Royalty ask from
unknown SEP licensors

Royalty ask from
known SEP licensors

Royalty ask from
SEP patent pool



- Determine the royalty share of a patent owner / pool

$$\frac{\text{Patent Owner's patent families}}{\text{Worldwide stack of patent families}} = \text{Patent Owner's share of the patent family stack}$$

numerator

denominator

➤ Use data to facilitate licensing



Determine for FRAND by identifying patent value and market share.



Mitigating risk by keeping up to date with SEP ownership and litigation

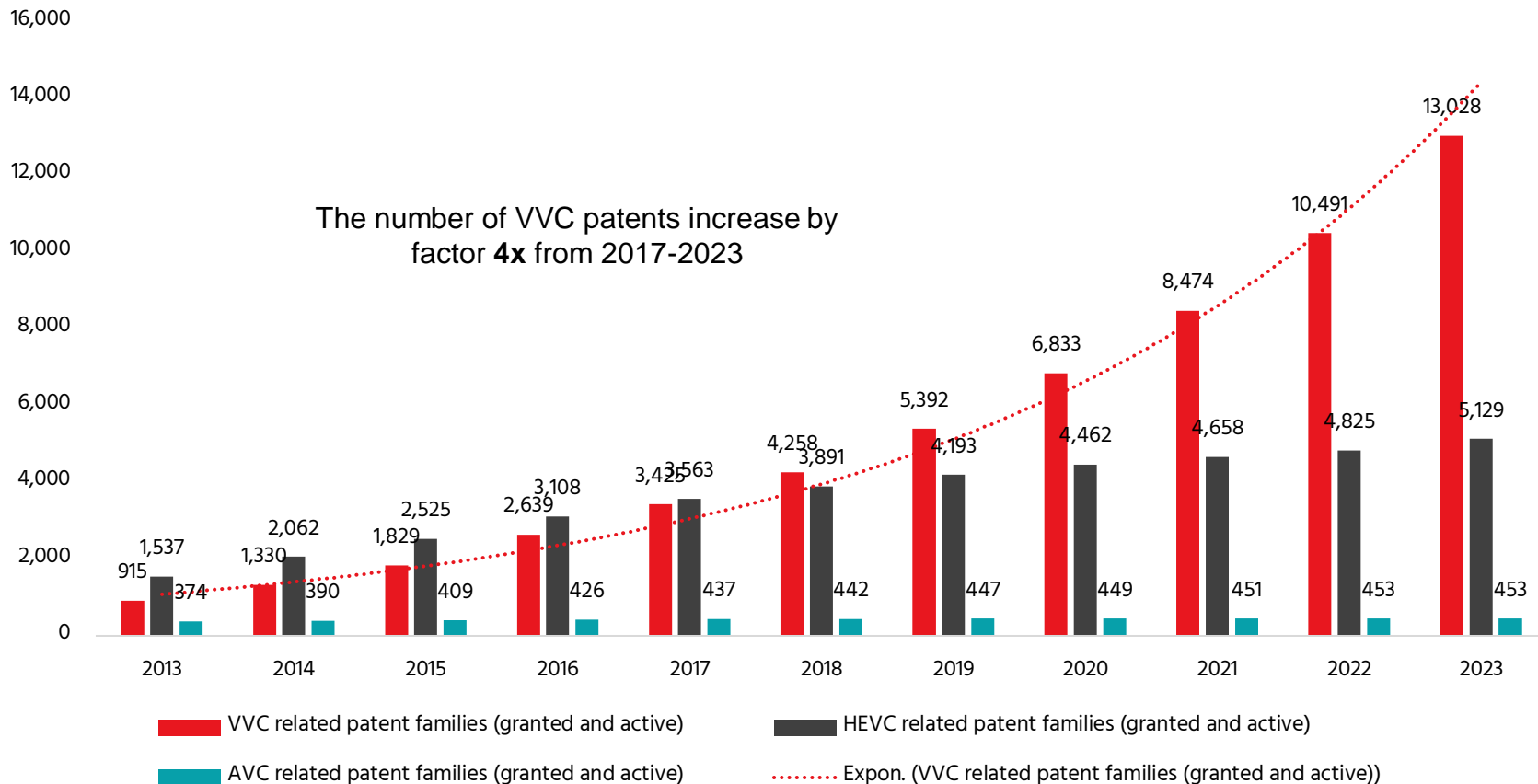


Reducing negotiation time on licensing deals

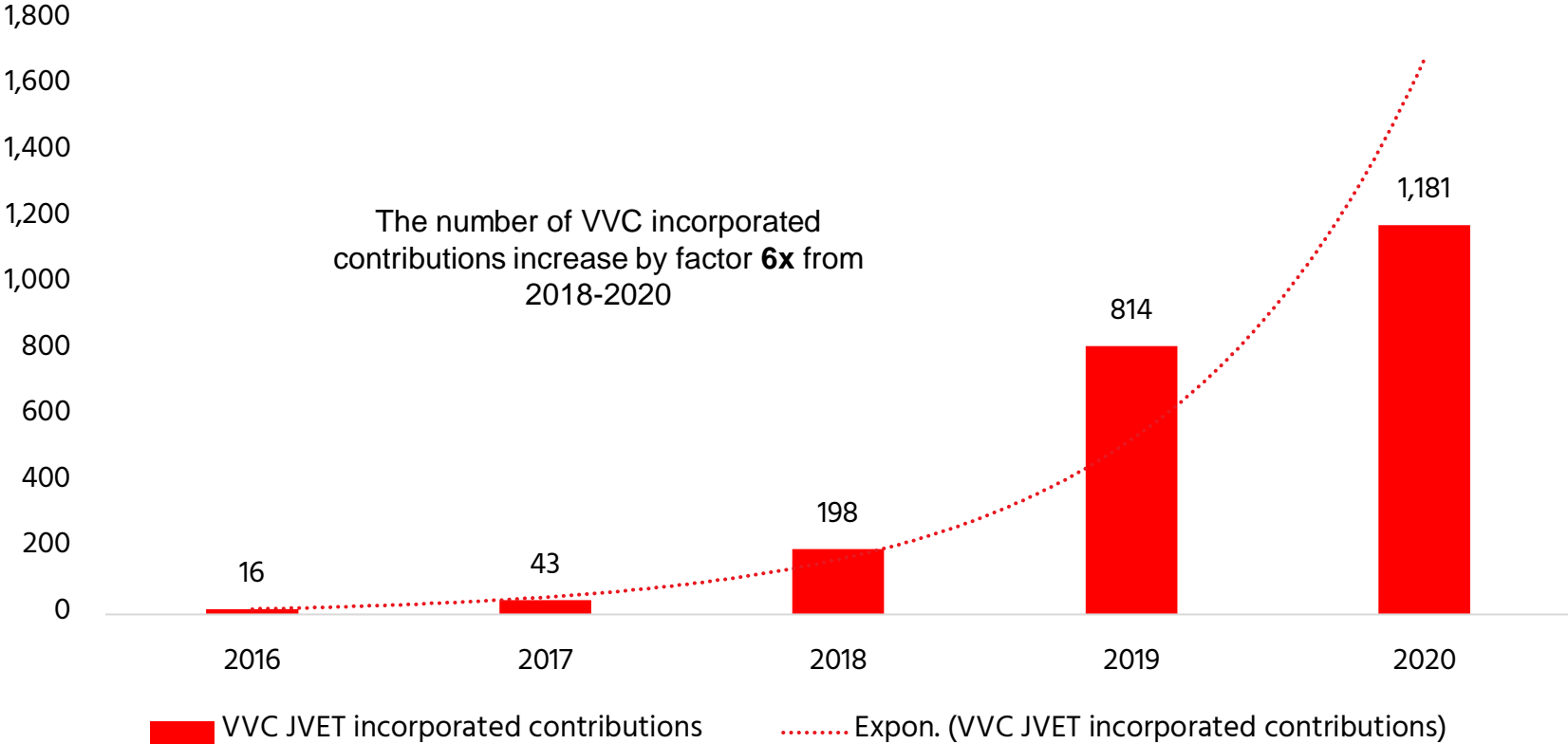
The Growing VVC Patent Landscape



Cumulative number of AVC, HEVC & VVC patent families



Cumulative number of VVC incorporated contributions



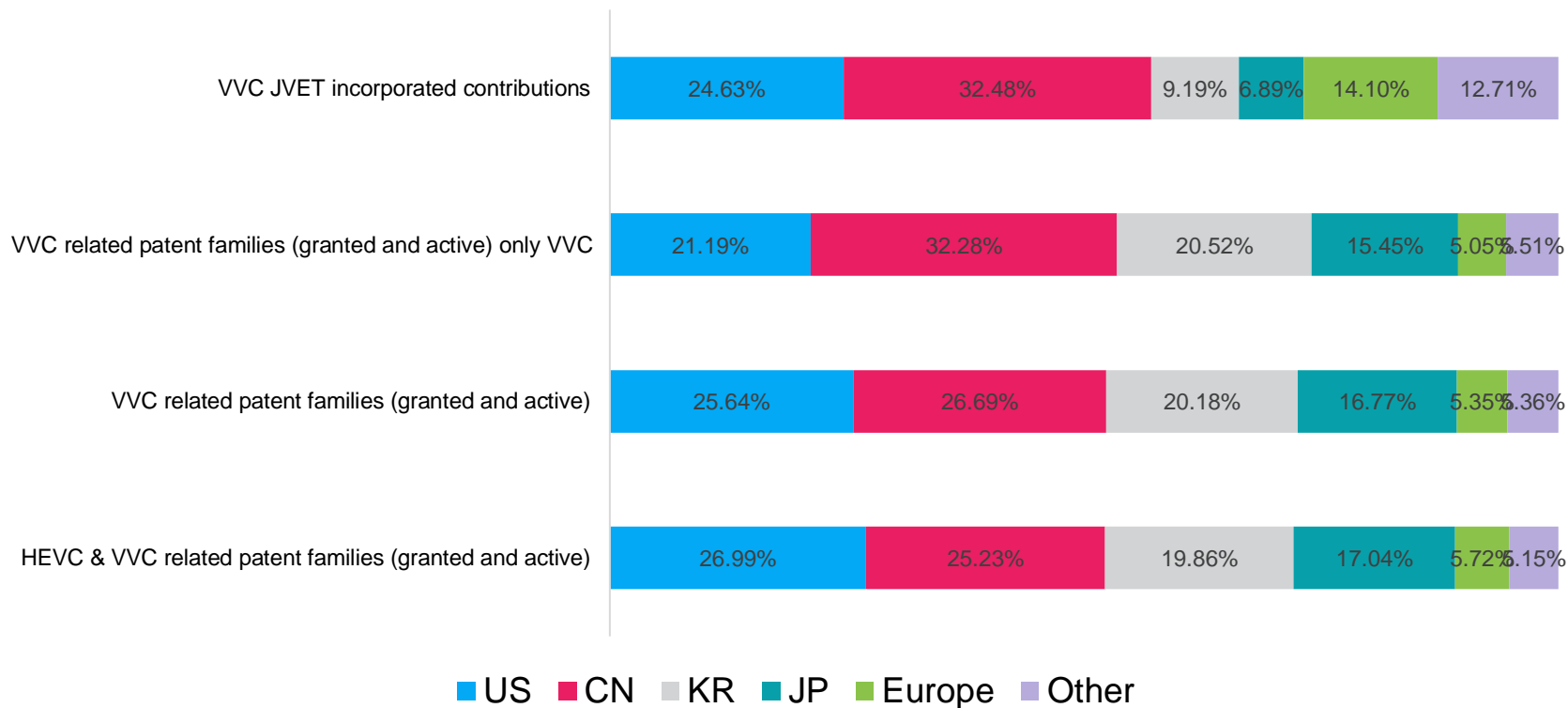
Top 10 VVC patent owner

Ultimate Owner	Region of HQ	HEVC & VVC related patent families (granted and active)	VVC related patent families (granted and active) allow overlap	VVC related patent families (granted and active) only VVC
Qualcomm	US	6.57%	7.30%	5.93%
Huawei	CN	5.48%	5.97%	6.47%
Tencent	CN	4.25%	4.95%	6.64%
LG Electronics	KR	4.87%	4.98%	5.68%
MediaTek	TW	3.09%	3.49%	3.62%
Samsung	KR	5.72%	5.64%	4.96%
InterDigital	US	3.21%	2.81%	2.34%
Sony	JP	2.94%	2.84%	2.45%
Canon	JP	2.38%	2.60%	2.32%
Panasonic	JP	1.59%	1.56%	1.60%

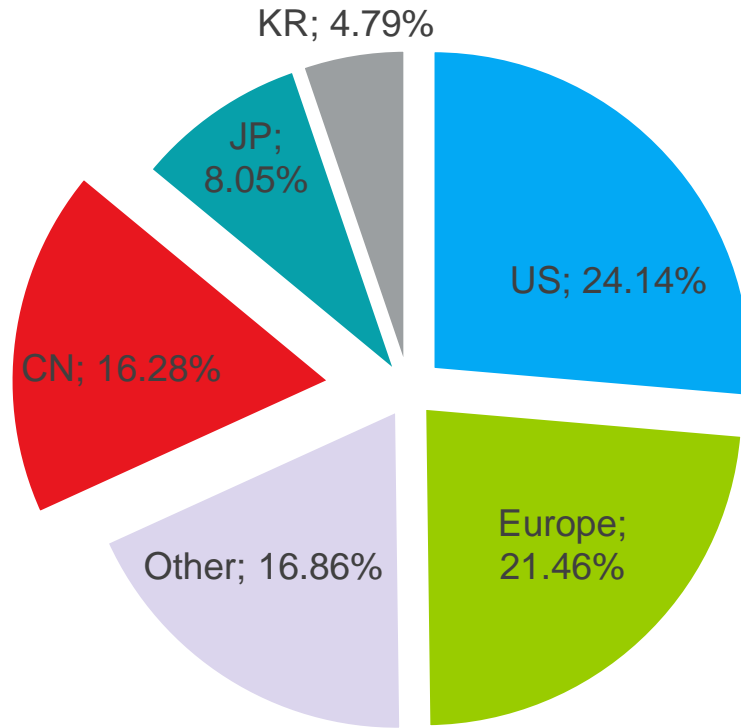
Top 10 VVC standards contributors

Ultimate Owner	Region of Headquarter	VVC JVET incorporated contributions
Qualcomm	US	18.97%
Huawei	CN	18.71%
Tencent	CN	13.29%
LG Electronics	KR	8.72%
MediaTek	TW	9.48%
Samsung	KR	4.15%
InterDigital	US	6.10%
Sony	JP	2.79%
Canon	JP	1.44%
Panasonic	JP	4.66%

VVC patent families by region of headquarter



HEVC and VVC patent pool listed licensees by region of HQ



LexisNexis IPlytics 2024 VVC report:

Gain unique insights into
the VVC technology
patents landscape and its
major players.

[Download](#)



Who Is Leading the VVC Patent race? 2024



LexisNexis® IPlytics standards landscapes

- Declared patents **3G, 4G, 5G**
- Undeclared patents **Wi-Fi 4, 5, 6**
- Undeclared patents **AVC, HEVC, VVC**
- Undeclared patents **Qi standard**
- Undeclared patents **AV1, VP9** (coming soon)
- Undeclared patents **AAC** (coming soon)
- Undeclared patents **ATSC** (coming soon)

The screenshot displays the LexisNexis IPlytics search interface. At the top, there is a section for 'Untitled Query'. Below this, there are two rows of filters. The first row has a 'Select' dropdown set to 'All' and a search input field containing 'e.g. biotech, 3D print*, car or vehi'. The second row has an 'AND' dropdown, a 'Technology Generation' filter with a gear icon, and a search input field containing 'Wi-Fi 6 (IEEE 802.11ax)'. Below the filters, there is an 'Add Query' button and a 'Related Keywords: Not Available' section. At the bottom, there are buttons for 'Search', 'Save', 'Load', and 'History'. A dark blue bar at the very bottom contains the text 'Results: Analytics Search Data'. A dropdown menu is open on the right side of the 'Technology Generation' filter, listing various Wi-Fi standards: Wi-Fi 6 (IEEE 802.11ax), HEVC (H.265), VVC (H.266), Wi-Fi 1 (IEEE 802.11b), Wi-Fi 2 (IEEE 802.11a), Wi-Fi 3 (IEEE 802.11g), Wi-Fi 4 (IEEE 802.11n), Wi-Fi 5 (IEEE 802.11ac), Wi-Fi 6 (IEEE 802.11ax), and Wi-Fi 7 (IEEE 802.11be).

LexisNexis® IPlytics Overview



Coverage of worldwide SEP and contribution data

- Access to SEP declarations from over 25 standards organizations (over **580k declared patents**),
- Access patent pool listed SEPs from over 10 patent pools (over **60k pooled patents**),
- Access to standards contributions for cellular, wireless and video codecs (over **2M standards contributions**)



Refinement features for SEPs and standards data

- SEPs/contributions can be refined by technology generations (3G/4G/5G, AVC/HEVC/VVC, Wi-fi 4/5/6/7), standards groups and releases (RAN 1, JVET, TGbe, Release 11-18) and protocols (NB-IoT, V2X)



Value standard essentiality (LexisNexis® IPlytics **Semantic Essentiality Score**)

- Estimate declared patents' claims likelihood of being essential to declared standards document sections



Identify undeclared patents (LexisNexis® IPlytics **Undeclared Patents**)

- Identify patents hidden under blanket declarations for technologies such as video codec (AVC/HEVC/VVC) and Wi-Fi (Wi-Fi 4,5,6).

Questions?

For more information on LexisNexis® IPlytics
please visit: www.lexisnexisip.com/iplytics/

Or request a demo at:
www.lexisnexisip.com/iplytics/demo



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