



**Patent Portfolio Overview
December 2018¹**

¹ The data in this presentation is current as of this date.

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Overview:

HEVC Standard Versions in Licensing Program

- Our program includes **Versions 1 and 2** of ISO/IEC 23008-2 MPEG-H Part 2 and ITU-T Recommendation H.265 (“HEVC Standard”).
- Version 1 includes:
 - **Main/Main 10/Main Still**
- Version 2 includes:
 - **Advanced Profile Extensions (RExt, MV-HEVC and SHVC)**
- Features added in **Versions 3, 4, and 5** of the HEVC Standard are being considered for addition to our program.

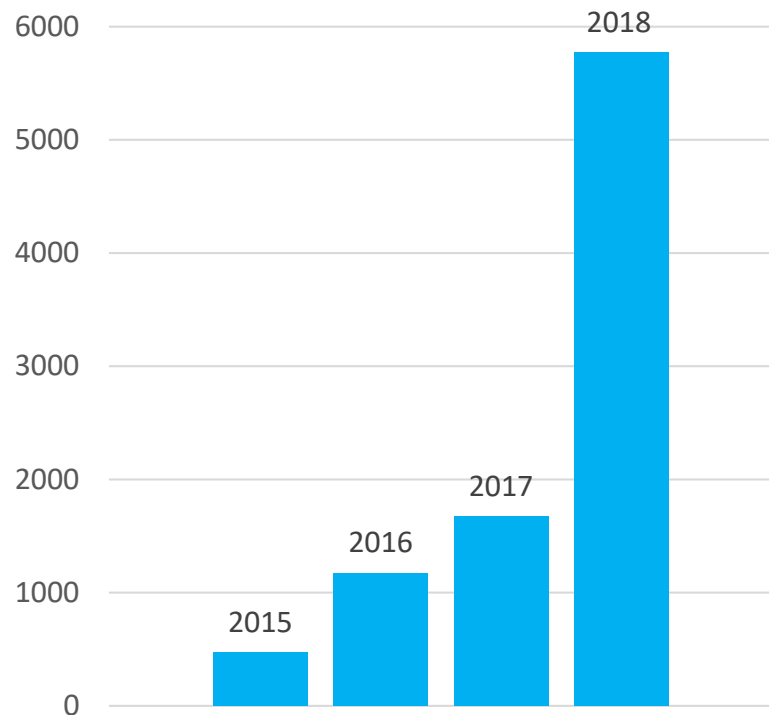
Overview: Patent Evaluation

- Our Patent List identifies Licensor Patents including one or more claims found to be essential to the HEVC Standard by an **Independent Patent Evaluator**, an American firm of patent law experts and engineers: **Barceló, Harrison & Walker, LLP**.
- Multiple firms in countries all over the world offer their **International patent law expertise** to the Evaluator to critically assess patents worldwide.
- Our Licenses cover **all** of our Licensors' HEVC Standard essential claims a licensee uses – **even** those claims in Licensor patents that have not been evaluated.

Overview: Portfolio Growth

- Our Portfolio has grown to include over **4,900** patents, driven by
 - Addition of new licensors
 - Continued increase of other licensors' essential patents
- Specifically, in these patents, over **5,900** claims have been evaluated to be essential.
- A full Patent List, updated monthly, is available on our [website](#).

Growth of Essential Claims on Patent List



* This chart indicates how our patent list has grown over time. Some patents have more than one evaluated essential claim, which is why our claim count is higher than the patent count. Additionally, a portion of these claims are still being processed. Please see our patent list for more information.

Profiles & Geographies: Worldwide Coverage

Our portfolio spans the globe and continues to expand.



Profiles & Geographies: Patent and Claim Totals by Profile

- The number of patents and claims, in force, are broken down as follows:

	M/M10	Scalable	RExt	MV	Optional	Total
Patents	4848	9	8	6	88	4959
Claims	5773	9	10	6	144	5942

Profiles & Geographies: Covered Countries by Profile

Main/Main10			
Albania	France	Macau	Serbia
Argentina	Germany	Macedonia	Singapore
Australia	Greece	Malaysia	Slovakia
Austria	Hong Kong	Malta	Slovenia
Belgium	Hungary	Mexico	South Africa
Brazil	Iceland	Monaco	South Korea
Brunei	India	Morocco	Spain
Bulgaria	Indonesia	Netherlands	Sri Lanka
Cambodia	Ireland	New Zealand	Sudan
Canada	Israel	Nigeria	Sweden
China	Italy	Norway	Switzerland
Croatia	Japan	Philippines	Taiwan
Cyprus	Kenya	Poland	Thailand
Czech Republic	Latvia	Portugal	Turkey
Denmark	Liechtenstein	Romania	Ukraine
Egypt	Lithuania	Russia	United Kingdom
Estonia	Luxembourg	San Marino	United States
Finland			Vietnam

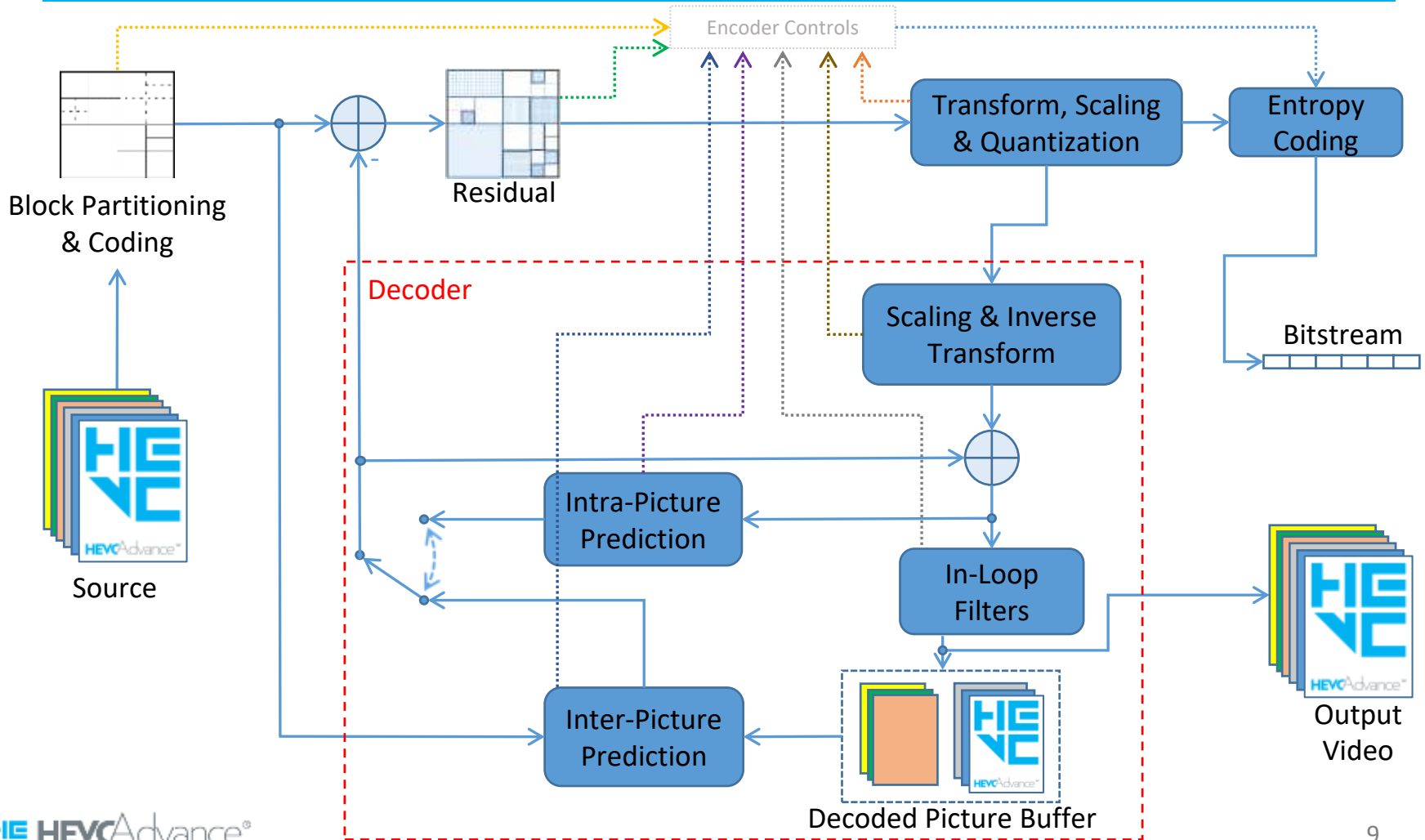
Optional		
Australia	Italy	Slovakia
Austria	Japan	South Africa
Belgium	Luxembourg	South Korea
Canada	Macau	Spain
China	Malaysia	Sweden
Czech Republic	Mexico	Switzerland
Denmark	Netherlands	Taiwan
Finland	Norway	Thailand
France	Philippines	Turkey
Germany	Poland	Ukraine
Hong Kong	Portugal	United Kingdom
India	Russia	United States
Ireland	Singapore	Vietnam

Scalable	Multiview	Range Ext.
China	China	Malaysia
Japan	Japan	United States
Macau	Macau	
United States	United States	

Patented Technologies: List of Core HEVC Sub-Blocks

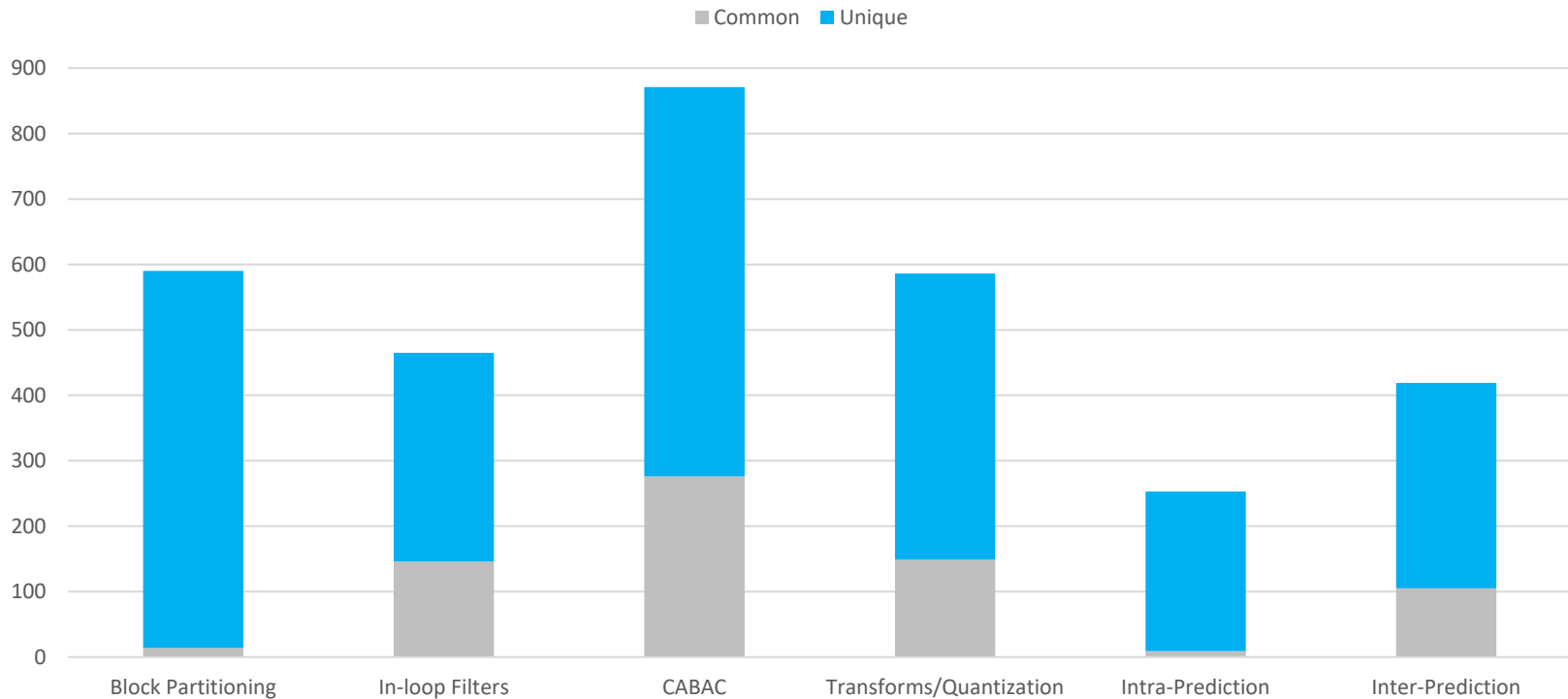
- The following sub-blocks are core to an HEVC encoder or decoder to use an HEVC compressed bitstream:
 - Block Partitioning and Coding
 - Transforms, Scaling, & Quantization
 - Entropy Coding (CABAC)
 - Intra-Prediction
 - Inter-Prediction
 - In-Loop Filters

Patented Technologies: Block Diagram of Core HEVC Sub-Blocks



Patented Technologies: Main/Main10 Claims New to HEVC over AVC

- Our Portfolio includes patents on every sub-block in HEVC, including many new features added in HEVC over AVC.



Note: The newly added patents/claims have not yet been technically categorized and are not yet included in this analysis.



 Thank you.

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