



# I Plytics – Who is Leading the Qi Wireless Charging Patent Race?

LexisNexis® IPlytics

## Expert Panel



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IPlytics

# The Qi Standard Patent Data Challenge



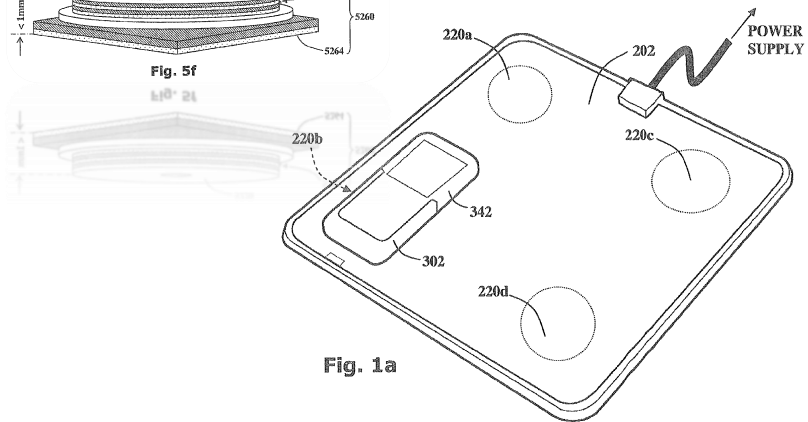
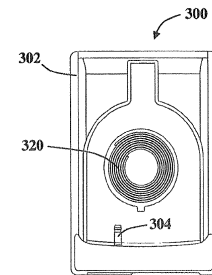
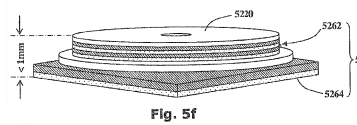
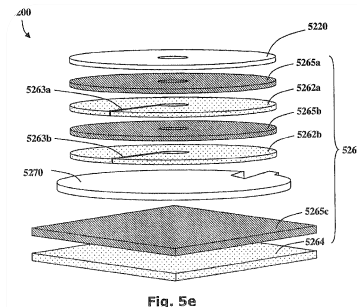
## The Qi standard market

- The **Qi wireless charging standard** was developed by the Wireless Power Consortium (WPC) and first released in **2008**.
- Qi is certified for over **9,000 different wireless charging products** and widely adopted across smart phones but also smartwatches to electric toothbrushes, furniture, and vehicles and more.
- In 2023, over **1 billion Qi compatible products** were sold.



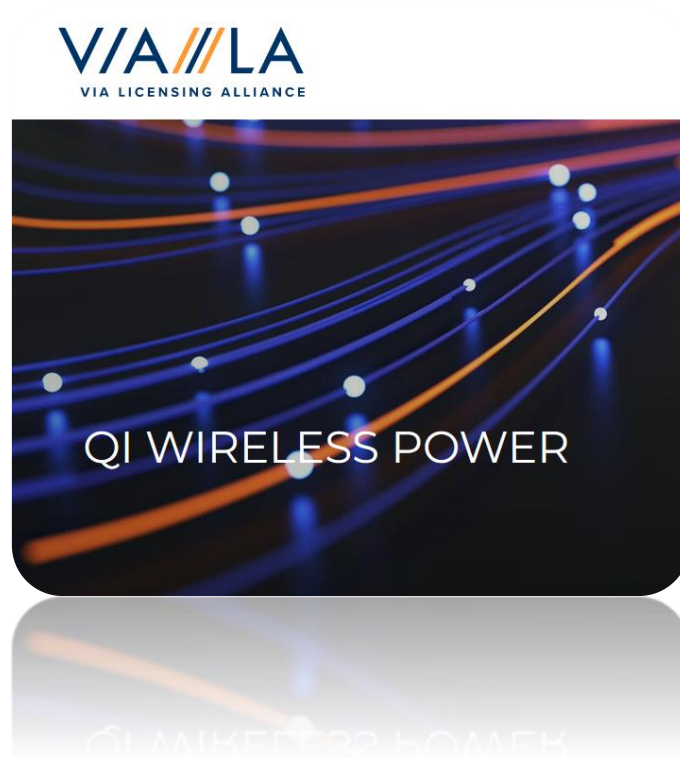
# Qi standard standard essential patents (SEPs)

- The Qi standard is subject to **thousands of standard essential patents (SEPs)**.
- The challenge with identifying the Qi patent landscape is that many large **Qi patent owners' portfolios are not public** since there is no systematic patent declaration database like ETSI.



## Qi patent pool program

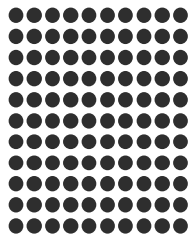
- In January 2020, the MPEG LA (Via LA after merger) patent pool administrator announced a license for patents essential to the Qi standard.
- Via LA attracted **11 major Qi SEP holders** to join the patent pool program.
- Via LA offers an aggregated pool rate between **\$0.2 to \$0.85 cents per Qi** standard compliant product.



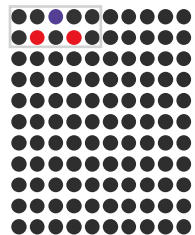
## Using supervised ML to identify Qi patents

- The IPlytics data team has utilized **Cipher Certified** (supervised ML algorithm) to identify Qi related patents using **Via LA pooled patents** as training data.
- The **Cipher Certified** algorithm uses true positive and negative training data to build Classifiers with independently verified accuracy.

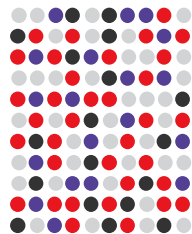
Global  
Patent Data



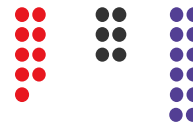
Train  
Classifiers



Classifiers  
remove noise



Classified  
technologies



# Iterating the process using true positives and true negatives

## True positive training set:

- Publicly known SEPs (patent pool lists)

## True negative training set:

- Patents related to wireless charging but not to the Qi standard (based on SME review).



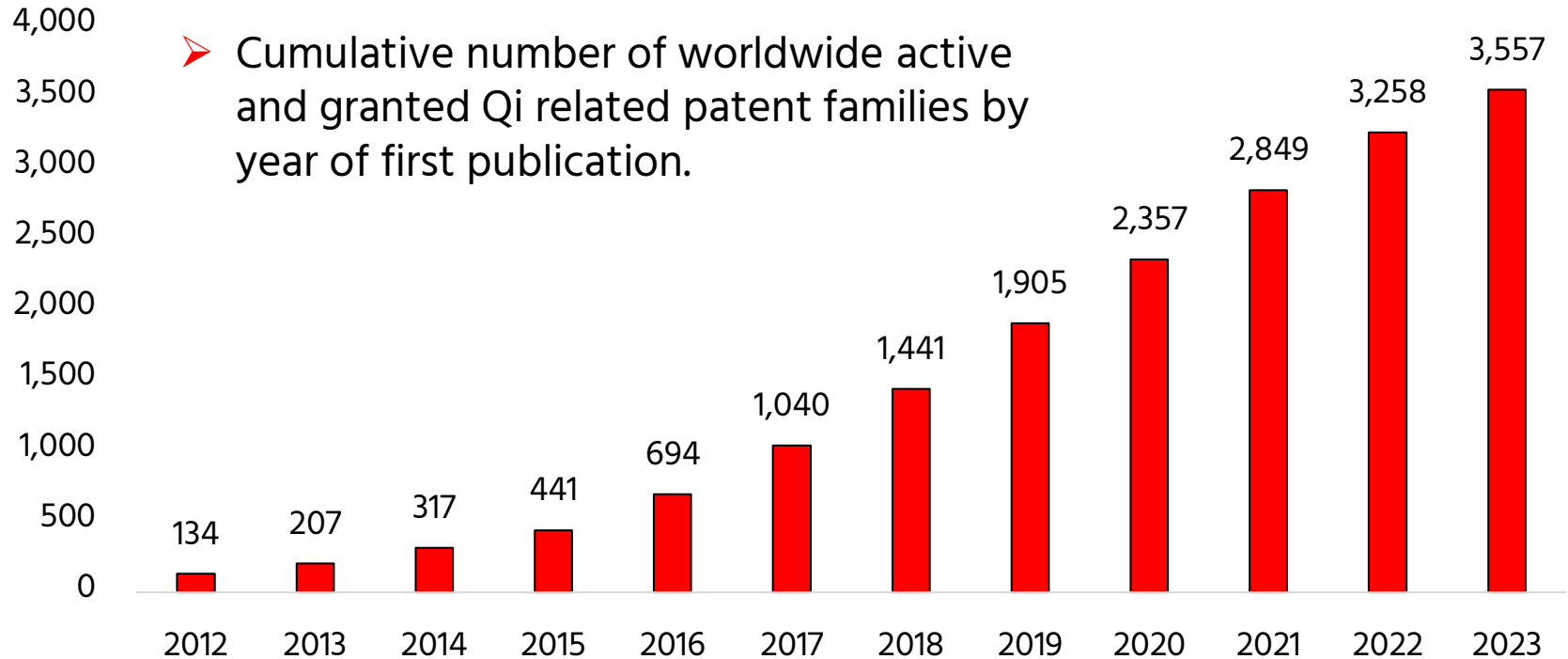
# Qi-related Patent Landscape



## Data limitations – The Qi patent landscape is not a Qi SEP landscape

- The Qi-related patent landscape includes **3,557 active and worldwide granted patent families** as of January 31st, 2024.
- The Qi-related patent landscape includes both **verified standard essential patents but also non-SEPs** (other words, patents related to the Qi technology but not essential to the Qi standard implementation).

# Qi related patents over time

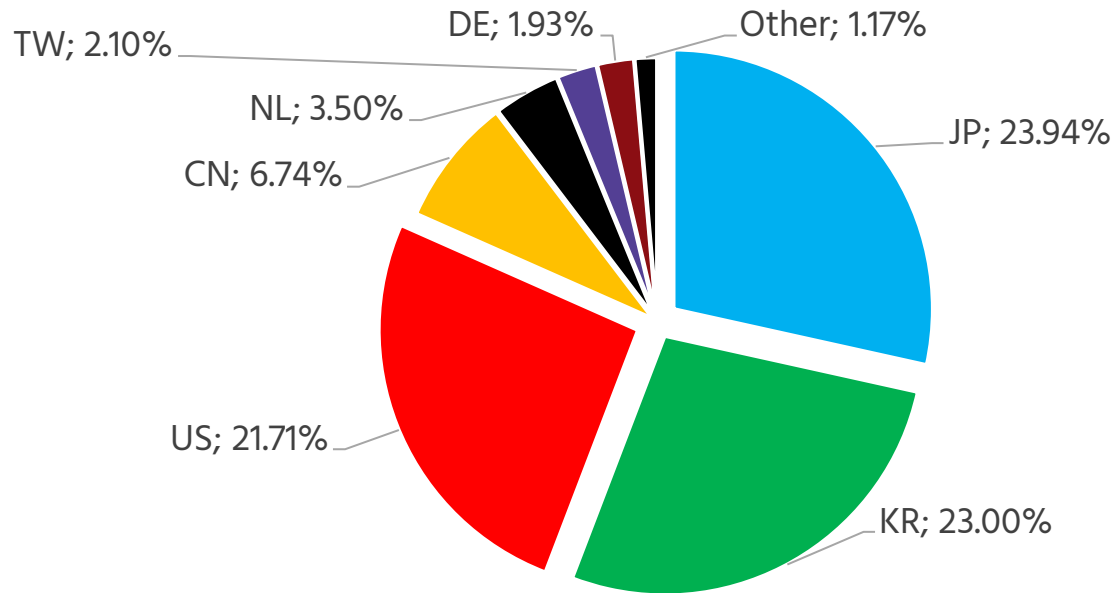


## Top 10 Qi patent owners / Qi licensors

<b>Ultimate Owner</b>	<b>HQ</b>
Samsung	KR
Apple	US
Canon	JP
LG Electronics	KR
Panasonic	JP
Philips	NL
LG Innotek	KR
Qualcomm	US
Sony	JP
Chemtronics	KR
GE	US

## Qi patent owner / Qi licensors

- Qi patent owner, by patent family share and by region of HQ

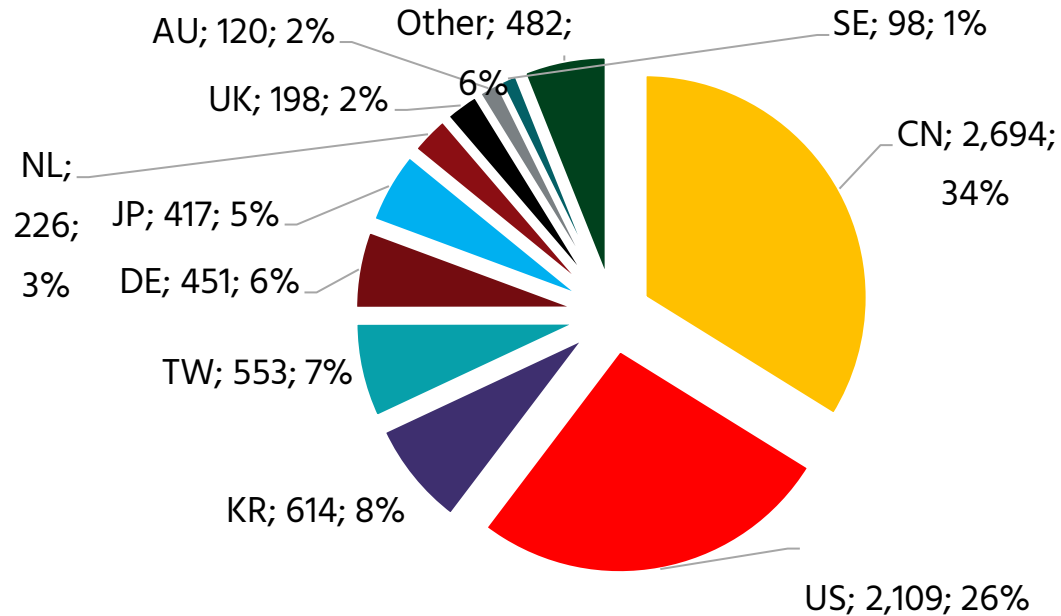


# Top 15 Qi compliant product manufacturer / Qi licensees

Manufacturer	HQ	Number of Qi certified products
Samsung Electronics	KR	377
LinkCom	TW	339
iHome	US	163
ELECOM	JP	128
HUAWEI	CN	121
ADAYO	TW	113
ACV GmbH	DE	86
Anker	US	81
mophie	US	77
DNS	RU	70
ZENS	NL	68
ESORUN	CN	66
Sony	JP	63
Belkin	US	58
PHILIPS	NL	58

# Qi compliant product manufacturer / Qi licensees

- Qi standard certified products, by region of product manufacturer HQ



## Get the Report

### Who Leads the Qi Wireless Charging Patent Race?

Meet the top innovators leading Qi wireless charging patent race.

Download the report and explore the massive Qi royalty potential that is still untapped as the market evolves.

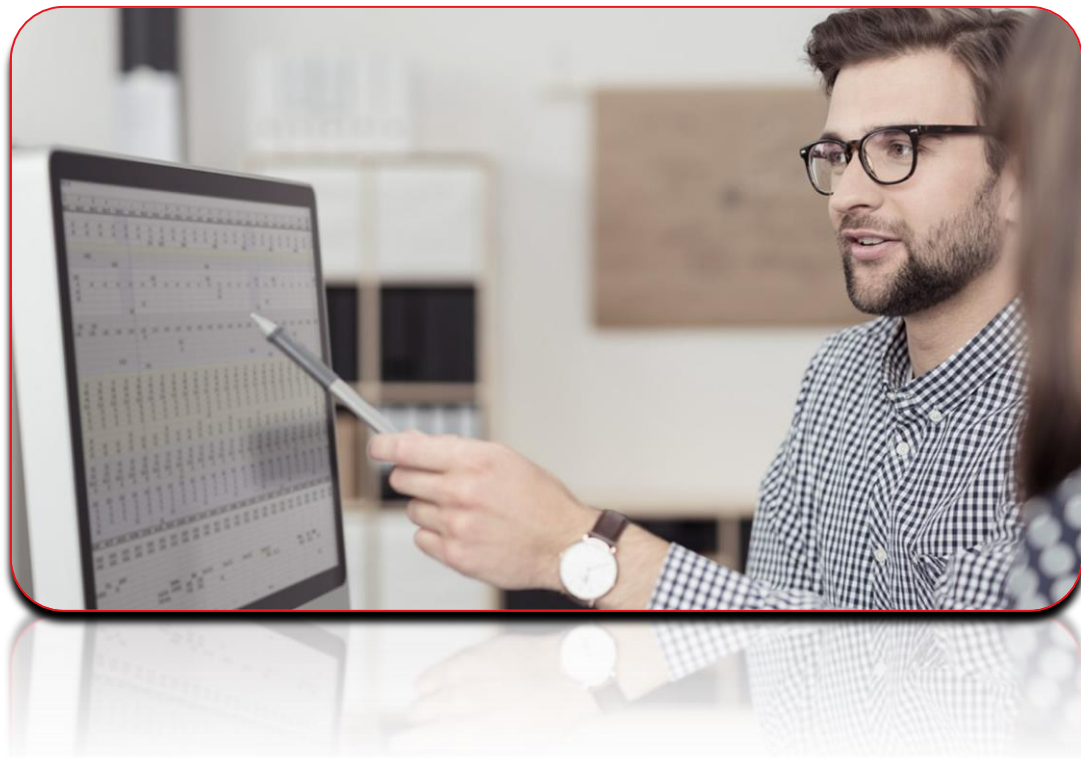
GET THE REPORT





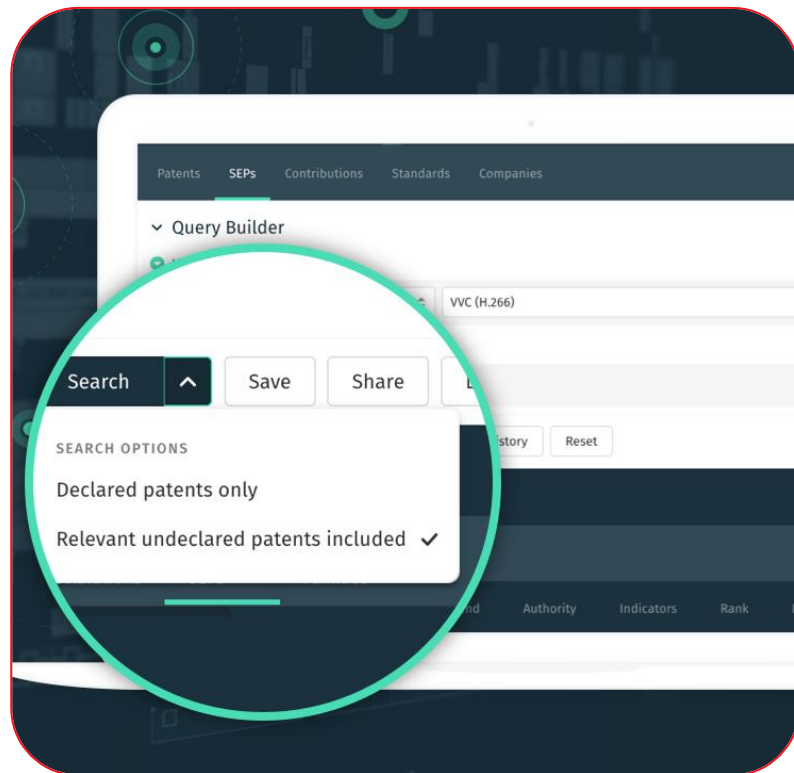
## What IPlytics undeclared patents offers

- **IPlytics Undeclared Patent Universe** provides a **Qi standard landscape** of potentially essential patents.



## What IPlytics undeclared patents offers

- It allows **discovering patents** that may be essential, even though they're not publicly listed.
- It enables to gain a clear view of the **competition** in the Qi standard sector.



## Qi standard pool rates

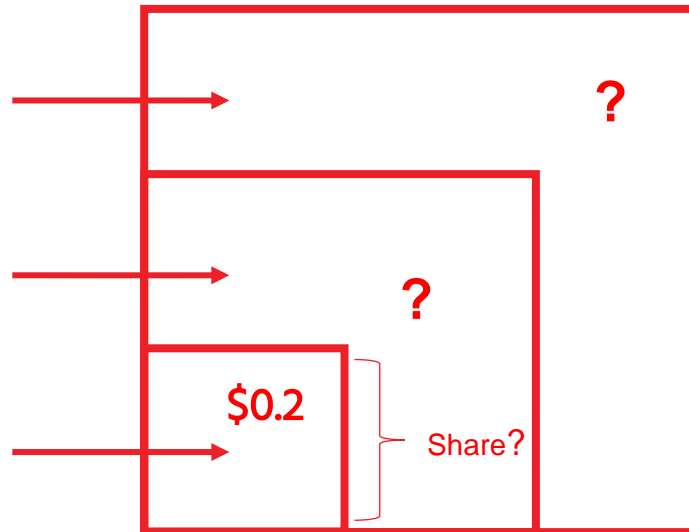
Pool Admin	Rates per device	Source
Via LA	Receivers = \$0,20	<a href="https://www.via-la.com/licensing-2/qi-wireless-power/qi-wireless-power-license-fees/">https://www.via-la.com/licensing-2/qi-wireless-power/qi-wireless-power-license-fees/</a>
Via LA	Transmitters = \$0,25 - \$0,85	<a href="https://www.via-la.com/licensing-2/qi-wireless-power/qi-wireless-power-license-fees/">https://www.via-la.com/licensing-2/qi-wireless-power/qi-wireless-power-license-fees/</a>

# Uncertainty about the Qi patent royalty stack

Royalty ask from  
unknown Qi licensors

Royalty ask from  
known Qi licensors

Royalty ask from  
Via LA Qi patent pool



# Determine the Royalty Share of a patent owner / pool

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

*numerator*

*denominator*

# Use Cases for Licensors



## Patent Portfolio Manager:

- Benchmark your Qi related patent portfolio against competitors.
- Monitor your market share for Qi related patent families.
- Identify strength and weaknesses to further develop your Qi related patent portfolio.

# Use Cases for Licensors



## Licensing Executives / Deal Maker:

- Identify relevant Qi patents in your portfolio.
- Identify Qi related patents to commercialize/license, join patent pools, sell or abandon.
- Weed out 'weaker' patents, focusing resources on higher ranked patents.

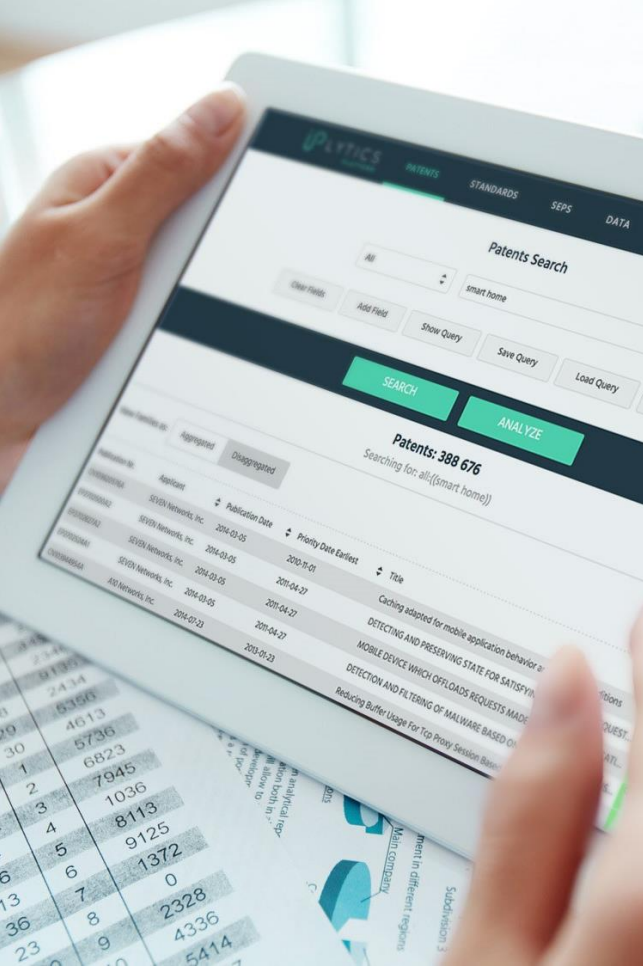
# Use Cases for Licensees



## Legal / Licensing Manager:

- Identify the share of the Qi related patent portfolio or patent pool portfolio offered for licensing-in.
- Get access to objective data to consider for FRAND preparation, negotiations, argument formulation.
- Estimate if offered Qi patent licence is comparable (e.g. to pool license) or excessive.





# Questions?

Would you like to speak to a SEP data expert  
please visit: [www.lexisnexisip.com/iplytics/](http://www.lexisnexisip.com/iplytics/)

Or request a demo at:  
[www.lexisnexisip.com/iplytics/demo](http://www.lexisnexisip.com/iplytics/demo)



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## Thank You

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