

AI-Powered IP Office Services

Innovative Solutions for Patent and Trademark Offices

Agenda

Who is Clarivate™

Setting the Scene for AI in IP

Bringing AI into IP Office Solutions

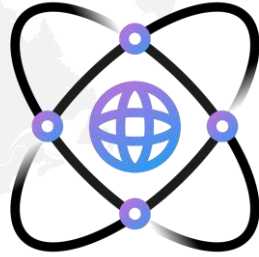
Trademark AI / Patent AI Examples

AI as a Complement to the Full Suite

Clarivate is a global leader in providing trusted insights and analytics



Enriched Data



Workflow Solutions



Analytics & Insights



Expert Services

Clarivate in Intellectual Property

Let our intelligence move you

Expertise

30,000

customers including 90% of the world's top filers

5M

patents, 1.5M+ trademarks

9 out of 10

of the world's most valuable brands rely on Clarivate

40+

patent offices use Clarivate data for their prior art examination

Data

90M+

quality-checked trademark records plus case law data for 4+ million marks

120M

global patent records normalized and enhanced plus case law for 1.5+ million patent cases

9M+

IP cases from 3,800+ courts worldwide

Software

1600+

corporations and law firms use our solutions to manage their IP

40,000+

IP professionals use Clarivate software to make better decisions

Clarivate is bringing together a combined set of unique capabilities and processes that enable our customers to unlock the full potential of IP and remove friction from IP management.

- Global best practices
- Unified technology base
- Unified product development approach
- Innovative implementation technology

Setting the scene for Artificial Intelligence (AI) in Intellectual Property



AI has become a catchall term for applications that perform complex tasks that once required human input

Level of intelligence



Narrow (ANI)

Limited in scope (specific focused tasks)



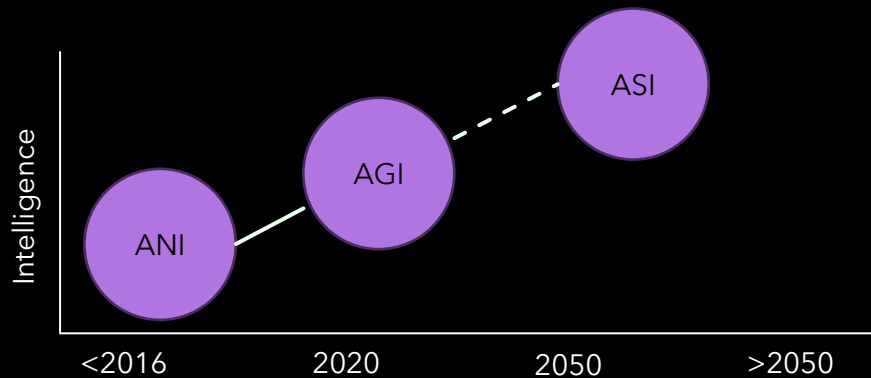
General (AGI)

Problem solving (on par with humans)



Super (ASI)

Surpasses human intelligence



The transition from the first to the second stage has taken a long time, but the market is currently on the cusp of completing the transition to the second stage

The impact of Artificial Intelligence today



Health

Machine-learning enables **accurate predictions** in structural biology that can form starting models to speed up discovery



Financial

Robo-advisors provide **automated algorithm-driven services** more affordable to the previously underserved mass market



Legal

Natural language processing can assist with simple legal questions, document drafts and first pass client messages



Consumer

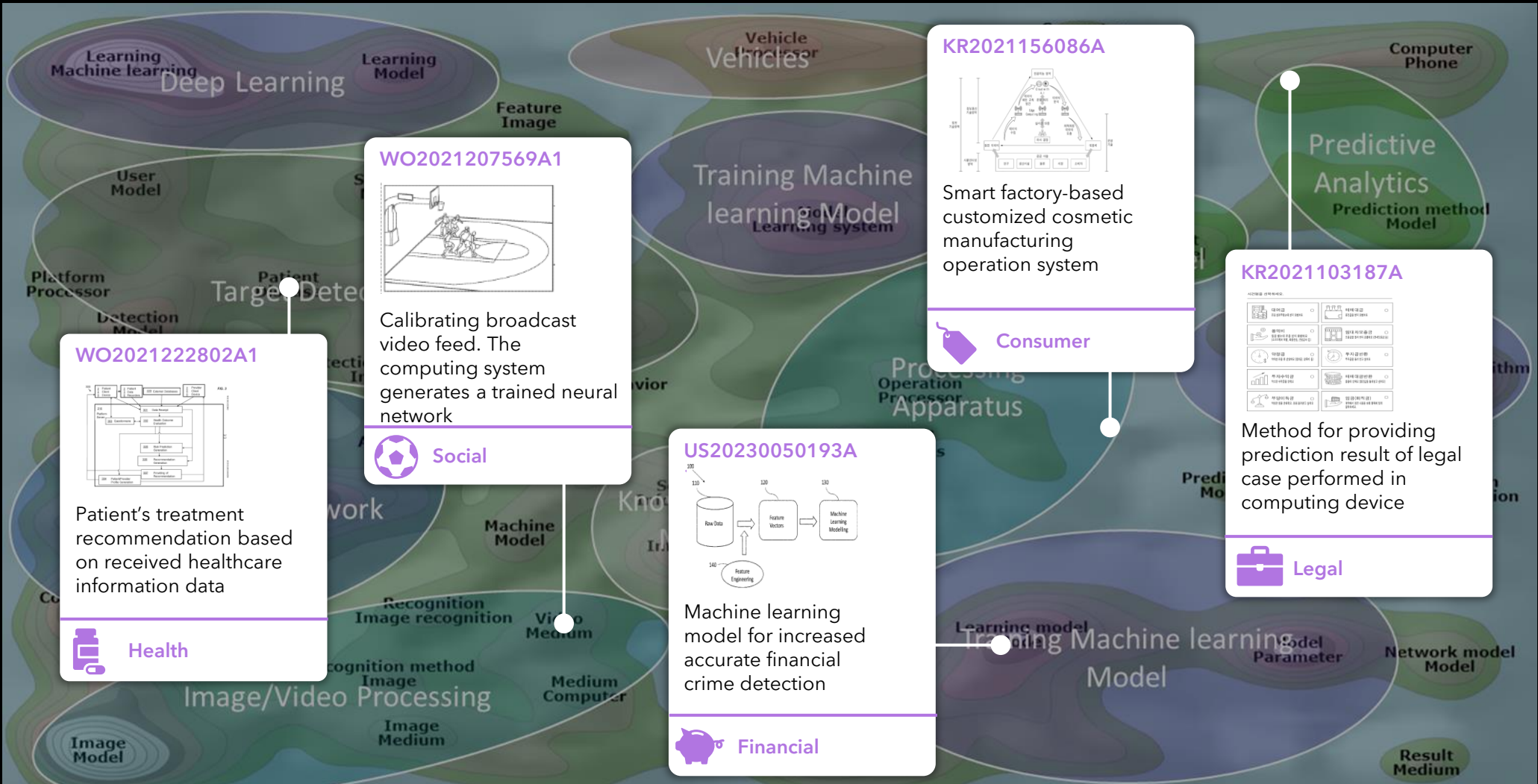
Face mapping technology creates metrics-based analyses of skin based on a photograph to deliver expert advice



Social

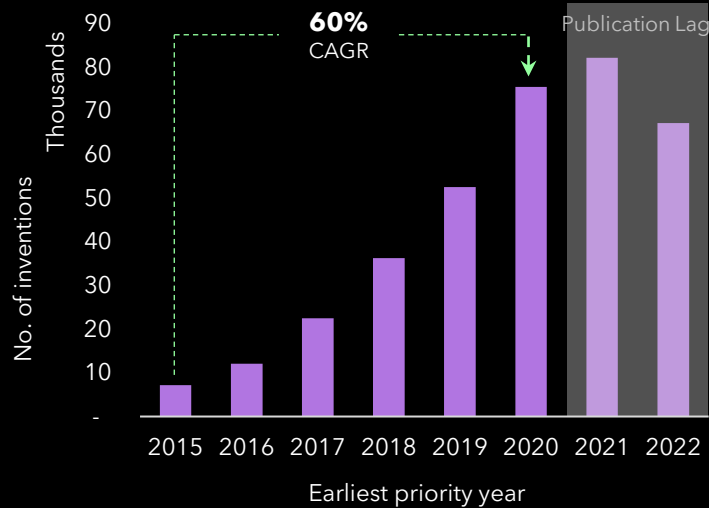
Major sports events are using data from positioned cameras to provide refereeing **decisions based on real-time data**

AI is growing fast and is a key feature in many business and consumer applications.



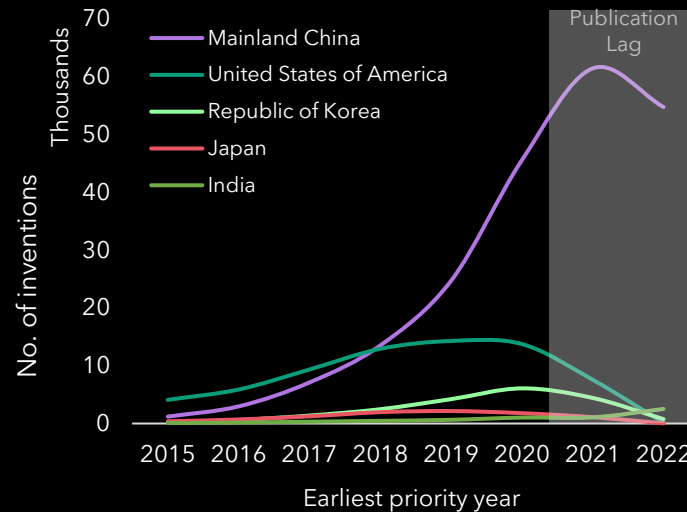
Global patent activity in AI

Core AI invention timeline, 2015 onwards



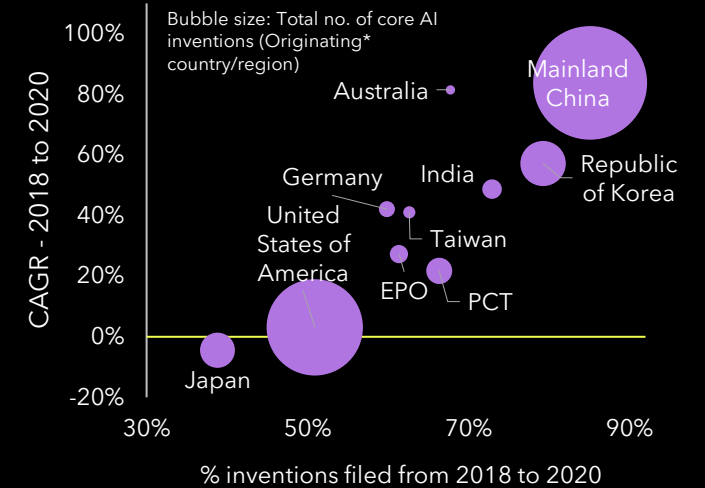
Over 65% of core AI-related patent applications have been filed since 2018, with the rapid growth driven by domestic filings in China

Top five countries, 2015 onwards



Over the past decade, China's advantages in size, data collection, and national determination have enabled it to close the AI gap with the US

Recent % volume vs. recent CAGR

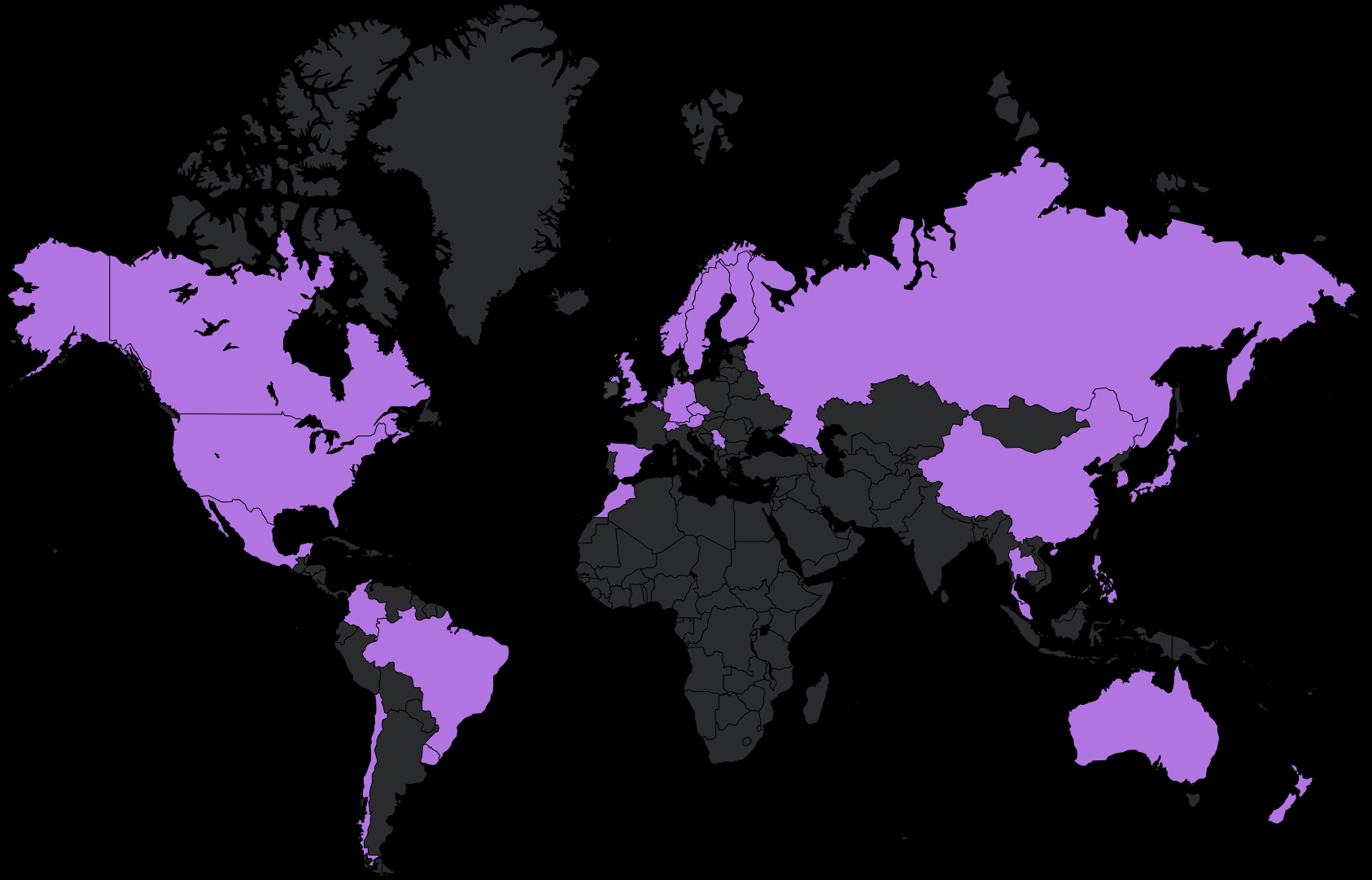


AI-related inventions are putting pressure on IP systems worldwide. The KIPO has introduced an expedited examination system for AI-related patent applications

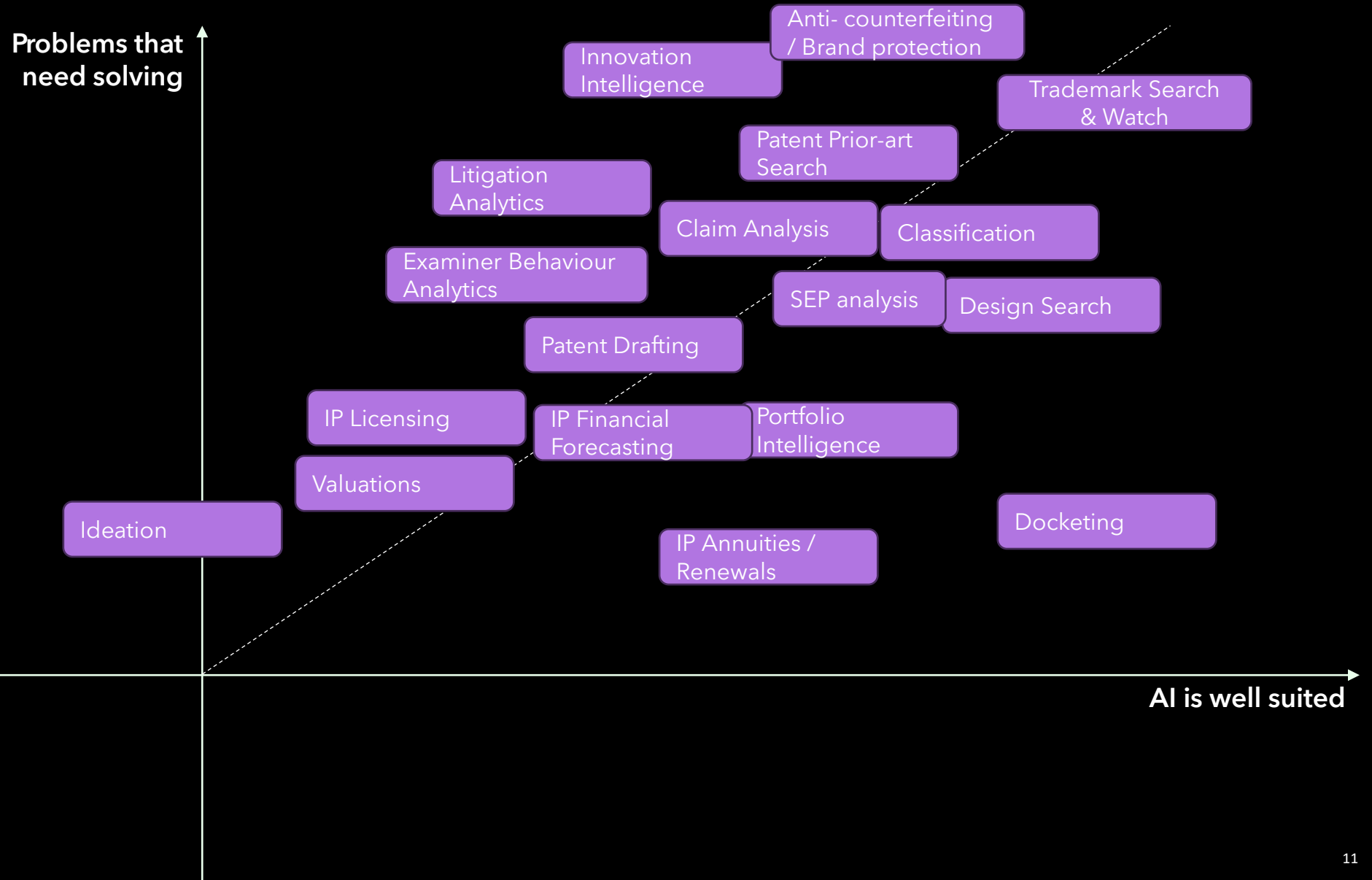
Many IP Offices have invested in AI to improve efficiency

IP Office Applications include:

- Examination management
- Patent classification
- Patent prior art search
- Image search (trademark, design)
- Trademark classification (goods & services)
- Copyright registration
- Data analysis
- Machine translation
- Digitization and process automation
- Helpdesk services



Identifying and assessing AI use-cases in the IP process



Bringing AI into PTO Solutions



Common Challenges in Patent and Trademark Offices



Examination Quality

- Consistent high quality examination is core to all office's mission
- Quality is often at tension with backlogs
- New technologies resulting in complicated examinations



Examination Efficiency

- Increasing application volumes and complexities result in a constant fight against rising backlogs
- Staff onboarding and training is time consuming and expensive - tools need to be easy to use



Security

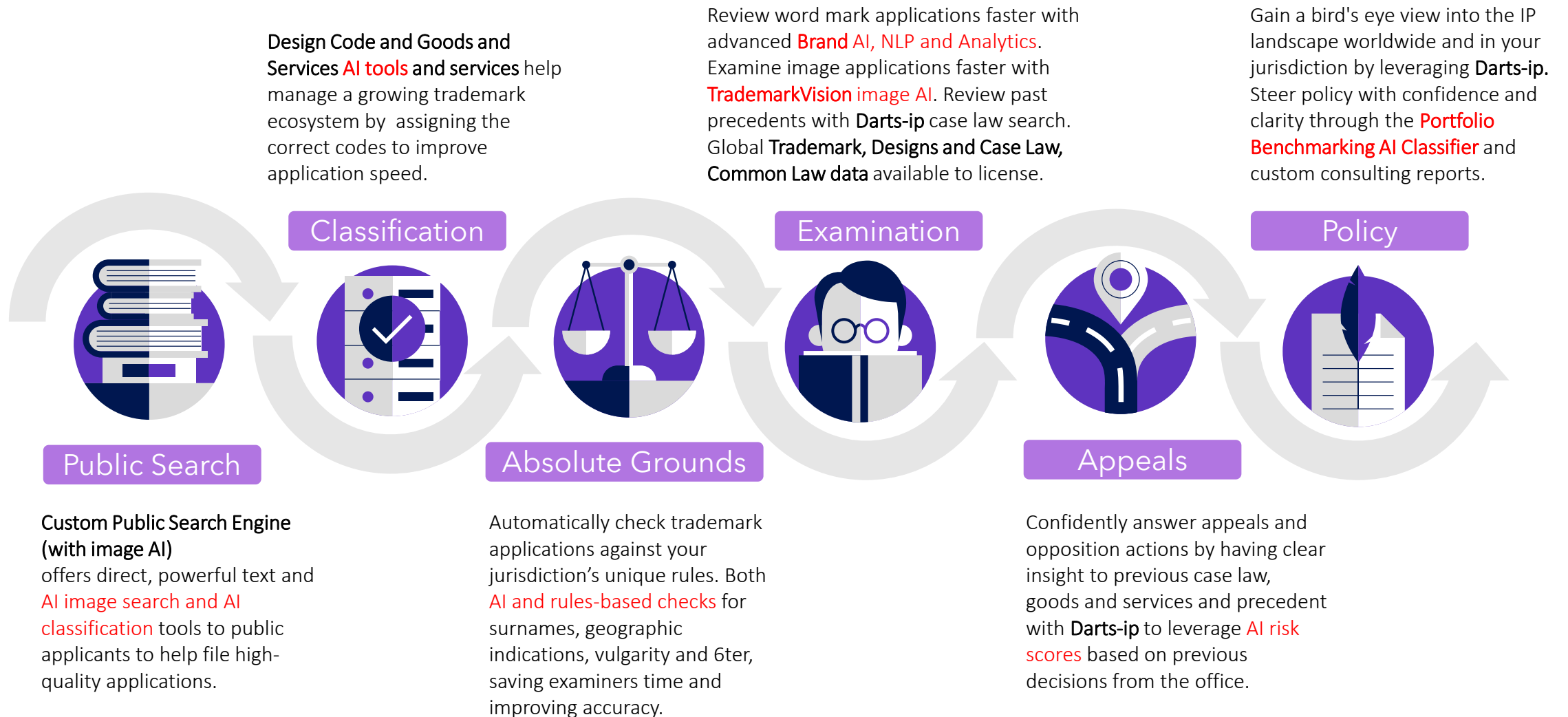
- Modern security standards to protect and encrypt data (i.e., FedRAMP)
- Compliance with local data protection ordinances (i.e., GDPR)
- Must provide protected access to staff and team members



Local Business Support

- PTO's are charged with supporting the businesses whose IP drives economic growth
- But, providing quality support is difficult to scale without tools to support those users

The Trademark Examination Workflow



AI in action: Brand AI and NLP Search

Problem

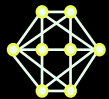
Brand clearance assessment is more complex than ever...

Solution

...we leverage DNNs and Clarivate's expansive data to assess brand risk in multiple dimensions



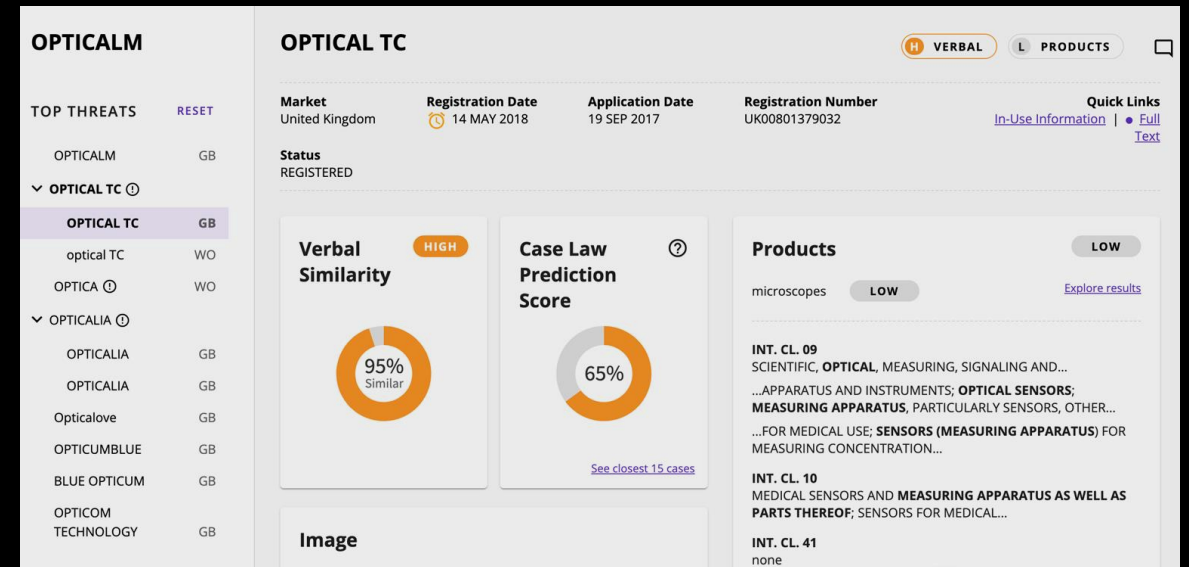
Gold-standard global trademark and IP case data



Multilingual semantics based on deep neural networks trained on generic EN text



Machine learning models trained on historic in-house analysts' trademark selection data



Features/metrics driven by cutting-edge AI technology

Similar TMs & Top Threats

Verbal Similarity Scores

Case Law Prediction Scores

Product Class Codes

Trademark In-Use Info.

AI in action: Trademark and design images search




Planned integration into
WIPO IPAS in 2024


Problem


Vienna (trademarks) and Locarno (designs) codes are subjective, time consuming to use, and provide no ranking function across ever larger datasets

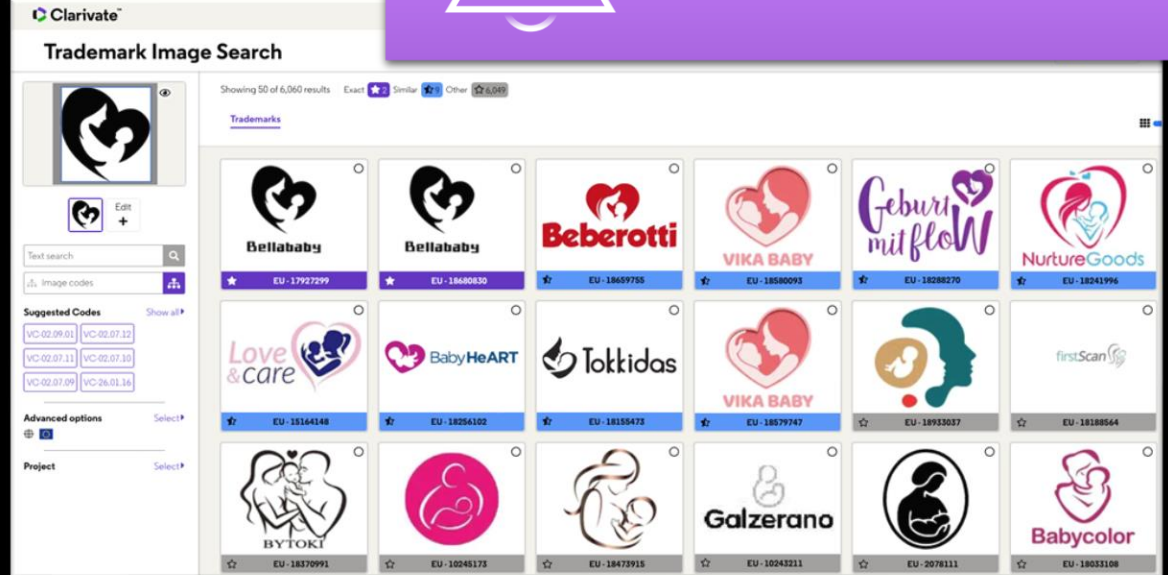
Solution

Well validated image recognition finds relevant logos and designs quickly and accurately

 Intuitive searching - Subjective codes not required

 Benchmarked accuracy - Finding 97% of real benchmark citations in one recent trademarks trial

 Accelerated examinations and reduced backlogs - Up to 5x faster designs examinations in one recent PTO trial



Clarivate™
Trademark Image Search

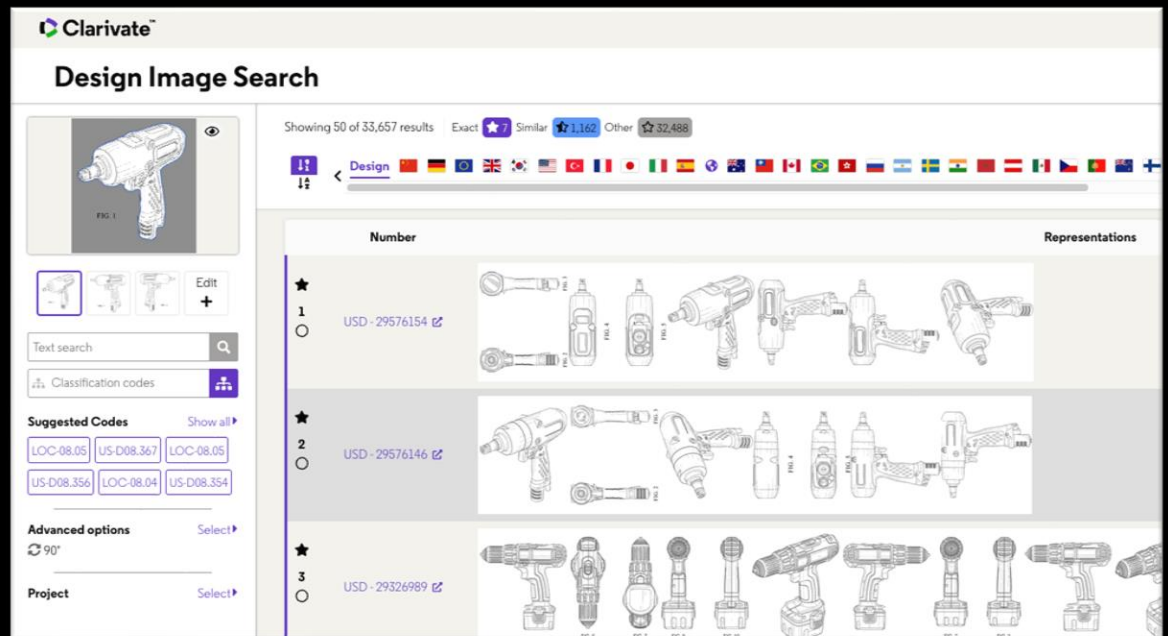
Showing 50 of 6,060 results Exact Similar Other 6,060

Trademarks

Text search
Image codes
Suggested Codes
Advanced options
Project

Results grid showing logos and trademark numbers:

- Bellababy (EU-17927299)
- Bellababy (EU-18680830)
- Beberotti (EU-18659756)
- VIKI BABY (EU-18580093)
- Geburt mit flow (EU-18288270)
- NurtureGoods (EU-18041996)
- Love & care (EU-18164148)
- BabyHeART (EU-18256102)
- Tokkidas (EU-18155473)
- VIKI BABY (EU-18679747)
- firstScan (EU-18188564)
- BYTOKI (EU-18370991)
- (EU-10245173)
- (EU-18473915)
- Galzerano (EU-10243211)
- (EU-2078111)
- Babycolor (EU-18053108)



Clarivate™
Design Image Search

Showing 50 of 33,657 results Exact Similar 1,162 Other 32,488

Design

Number Representations

Results list:

- 1 USD-29576154
- 2 USD-29576146
- 3 USD-29326989

AI in action: Custom white label public search and filing tools

Problem

Offices want to provide world class tools to SME's so that they can search and file high quality applications. However, these tools are expensive to develop and maintain.

Solution

Offices can deploy Clarivate's advanced AI tools to their public users via an API or custom white-labeled interfaces. Clarivate can also custom develop AI solutions for office challenges.

Custom search engines can be deployed in as little as 4 months.



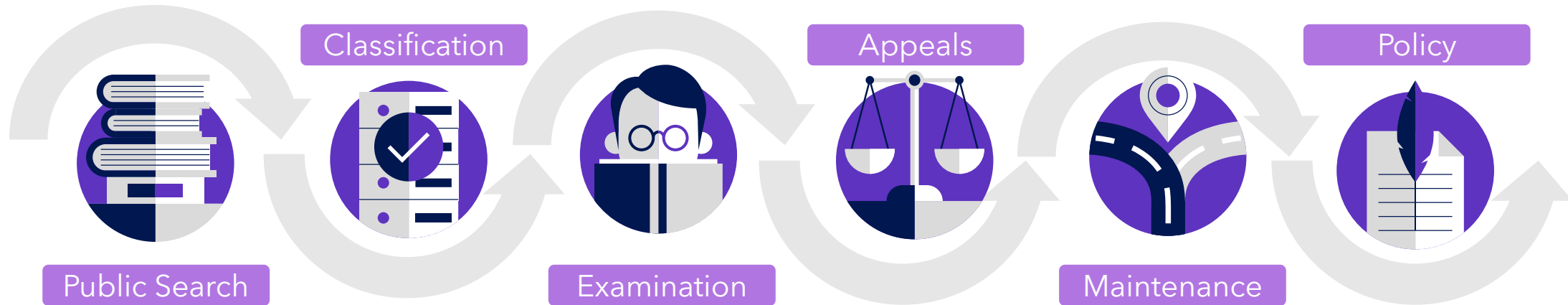
The screenshot displays the MARCIA search interface, which is a custom white-label public search and filing tool. The interface features a header with the IMPI logo and the MARCIA logo, along with navigation links for 'Nueva búsqueda', 'Tus favoritos', 'Historial de Búsqueda', and 'Términos y Condi'. A search bar is visible, and the results are displayed in a grid format. The search results show 6,272 results, with the first 10,000 results shown. The results include various diamond logos and brand names, such as 'DIAMOND SPA', 'EMPRESAS DIAMANTE AGENTE DE SEGUROS', 'Talentus', 'JOYA DE MITA', 'MC JOYERÍA', and 'RR SERVICIOS®'. Each result card includes a diamond logo, a brand name, and a registration number. The interface also includes a 'Filtrar búsqueda' section with filters for 'Estatus' (Registrada, En Trámite) and 'Clases de Niza' (1, 2, 3, 4). The 'Códigos de Viena' section is also visible, showing filters for 27.05.01, 27.05.05, 17.02.02, and 17.02.01.

The Patent Examination Workflow

Classification Services help manage a growing patent ecosystem by assigning the correct patent subject matter to improve examiner speed. **AI is used to presort cases into technical fields** before manual classification.

Confidently answer appeals and opposition actions by having clear insight to previous case law and precedent with **Darts-ip** to leverage **AI risk scores** based on previous decisions from the office.

Gain a bird's eye view into the IP landscape worldwide and in your jurisdiction by leveraging **Darts-ip**. Steer policy with confidence and clarity through the **Portfolio Benchmarking AI Classifier** and custom consulting reports.



Custom Public Search Engine (with image AI) offers direct, powerful text and **AI image search and AI classification tools** to public applicants to help file high-quality applications.

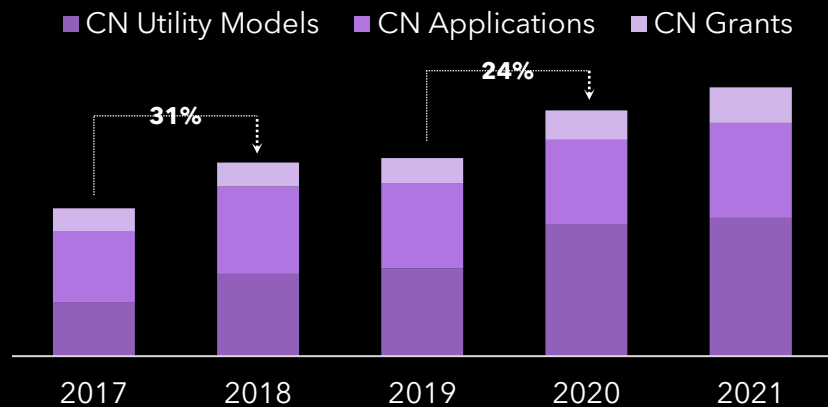
Patent Examination Services from Clarivate allow you to outsource patent examination, searches and opinions. Use **Derwent Innovation** to search patent applications efficiently, with **AI semantic search**. Curated global **Derwent Patent data**, including **AI-augmented fields**, available as data feed or API used by over 30 jurisdictions. **DesignVision™ AI image search** to find visually similar matches for 5x faster examination

Reclassification Services help scale mature patent systems to maintain accurate and efficient patent classification, improving the overall efficiency and effectiveness of the patent system.

AI in action: Leveraging AI to augment the patent abstraction process and enhance the coverage of our valued DWPI content

Problem

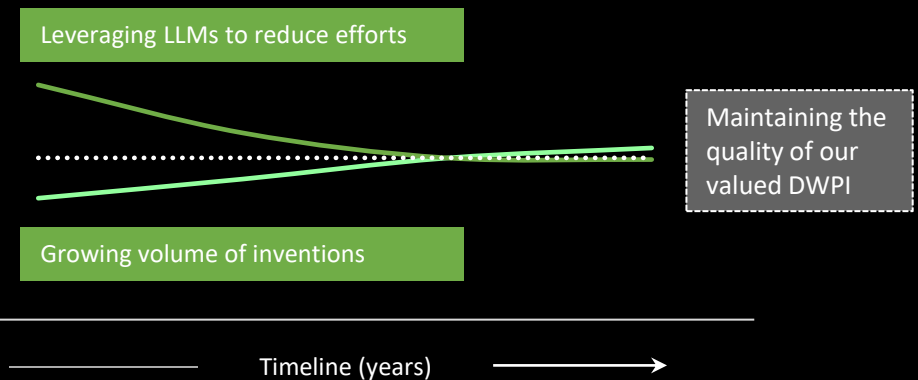
Significant IP filing volumes in China means a lot of data...



- High volume and growth rates of Chinese Utility Models and Applications
- Utility models are “minor inventions”, still important – for finding a needle in the haystack
- Volume growth creates pressure on timeliness of delivery and limits the expansion of content coverage

Solution

...we leverage large language models and image recognition to improve operational efficiencies



- Leveraging deep industry and content expertise to manually curate & review the enhanced patent content
- Language models trained on large sets of patent input & DWPI output for generating enhanced patent content
- Image recognition technology to select most appropriate drawing and text extraction solutions for obtaining part list of selected drawing

AI in action: Prior Art Natural Language Search

Problem

Finding relevant prior art in the ever-growing patent and NLP literature is an ever-increasing challenge

Solution

Patent-centric model training

Training on Derwent World Patents Index (DWPI) gives this model the advantage of disambiguating legalese with technologically meaningful terms. An intensive program of customer feedback on relevance helped tune the models

Rapid results; quick insights

Identifies the most relevant, highly-ranked results in 3 seconds. Offers information for quick decisions and gives new insights for follow-on iterations. Particularly helpful for searching in an unfamiliar IP space. AI-generated excerpts and highlighting aid users in judging hit relevance

Solution

Derwent Innovation's AI powered patent search engine is a use case focused solution to enable information professionals and counsel to rapidly gain insights into invention patentability

The screenshot displays the 'AI SEARCH' interface. At the top, it says 'AI Search delivering high-quality search results in seconds.' Below this, a large text box contains an AI-generated excerpt: 'A stent comprised of non-inflatable non-porous tubing, having at least one fluid flow conduit therein, wherein the tubing is circumferentially arranged so as to form a side wall of the stent, thereby creating a main lumen of the stent through which blood can flow; a removable catheter wherein a proximal end remains outside of a body and a distal end is sealingly attached to the stent, wherein the catheter is adapted to deliver fluid to the stent; connector means for attaching the removable catheter to the stent; and valve means within the system for controlling fluid flow.'

Below the excerpt, there are 'Search fields' with filters for 'Application date', 'Priority date', and 'Publication date', each with 'Start date' and 'End date' dropdowns. There are 'Clear all', 'Reset', and 'Search' buttons.

At the bottom, there is a table of search results. The table has columns for '#', 'MARK', 'PDF', 'PUBLICATION NO.', 'DWPI TITLE', and 'AI RELEVANCE EXCERPT'. Two results are visible:

#	MARK	PDF	PUBLICATION NO.	DWPI TITLE	AI RELEVANCE EXCERPT
1	EP2488892B1			Endoluminal vacuum-assisted closure (VAC) device for applying negative pressure to endoluminal surface in body of patient, passageway that extended between sponge and absorbent element to pass bodily substances from lumen	A device (1A, 9B) for applying a negative pressure to an endoluminal surface (31) in the lumen of a patient to treat a wound in the endoluminal surface, the endoluminal surface defining an internal lumen of the patient, and the device comprising: a flexible porous element (1K) with a peripheral...
2	CN102831704A			System for performing extracorporeal membrane oxygenation (ECMO), comprises first and second tube bodies, and openings for infusion of blood into or drainage from blood vessel in the regions of proximal ends of first and second tube bodies	The present invention relates to a system for supplying and draining blood in particular for performing extracorporeal membrane pulmonary oxygenation (ECMO), methods of assembling systems for supplying and removing blood, and a tubular body, in particular an inflow cannula, for insertion into a...

AI in action: Portfolio Benchmarking AI Classifier

Problem

Deriving high level insight from the IP filing activity has always been a challenge

Solution

Customer focused taxonomy

Input a taxonomy which enables customers to view competitor portfolios from their organizational lens

Adapts according to availability of customer data

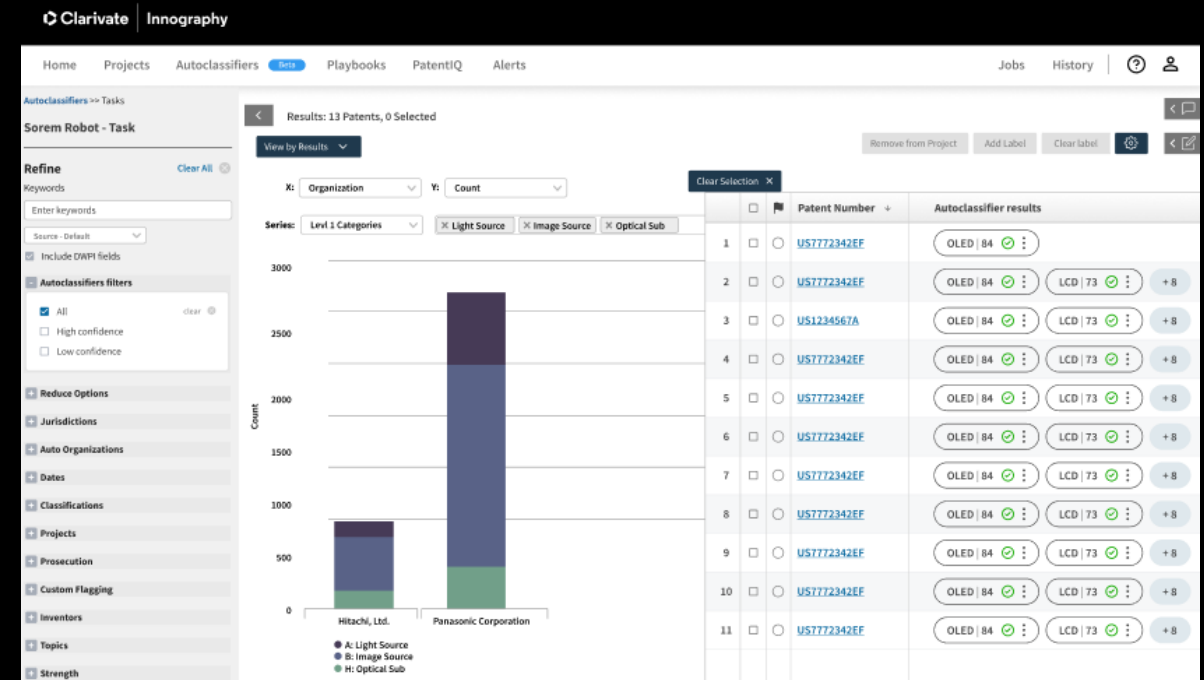
Leverage the power of supervised machine learning model combined with large language model to classify patents with minimal initial information

Scale up portfolio benchmarking

Push manual boundaries of portfolio benchmarking leveraging the swiftness of AI. Under test conditions, the AI engine classified patents at a rate of 48 patents per second. To put it in context, 8653 patents were classified in the same time as manual classification of 1 patent

Solution

AI powered patent classification engine is a solution to help companies benchmark their patent portfolios or for governments to compare activity across economic regions



AI as a Complement to the Full Suite

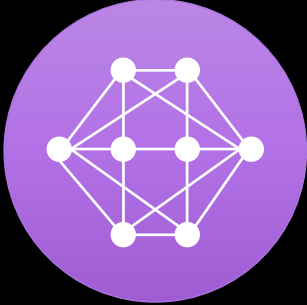
AI without the right data and expertise is just... Artificial



Data



Expertise



Models



Identification of the right tasks for automation
Training AI models
Delivering outcomes

AI is an enhancer to Clarivate's Full Suite of IP Solutions for accurate and efficient IP Office operations



Outsourced Services

- Examination Services
- Classification Services
- Reclassification Services
- Custom PTO application development
- Trademark Watch / Search
- Specialty projects (custom reports, digitization, etc)



Applications & SaaS Tools

- Case Management / IP Management Systems
- Derwent Innovation
- Darts-IP - Case law research
- TMV Examiner Search Engines
- PTO Public Search Engine
- Examiner / AI Assistive tools



Data Feeds & Content APIs

- Patents (incl Derwent World Patents Index, full text and PDFs from over 107 jurisdictions)
- IP Case Litigation (from Darts-IP)
- Chemistry, Pharma, Bio (including SequenceBase / Geneseq)
- Trademarks (from over 185 jurisdictions)
- Industrial Designs (from over 65 jurisdictions)
- IP Data Analytical API (covering multiple IP rights)
- Academic Literature (from Web of Science)
- Dialog for non-patent literature (NPL)

A Trusted Partner to Help

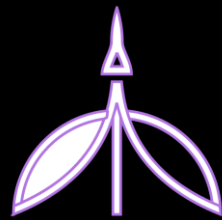
Our trademark and patent data suite, accelerated workflows and services provides a valuable resource for you, offering comprehensive data coverage, flexible access options, and synergy with your existing services.

By leveraging our data, products and services, you can make more informed decisions, faster, and provide better service to your clients both internal and external.



High level data quality you can trust

Patent and Trademark data to support confident decision making.



Accelerated workflows

Clear your backlogs to focus on the future.



Flexible access

Get the data you need, how and when you need it.



Custom service

Your work, our team, one seamless workflow.



Thank you

About Clarivate

Clarivate is the leading global information services provider. We connect people and organizations to intelligence they can trust to transform their perspective, their work and our world. Our subscription and technology-based solutions are coupled with deep domain expertise and cover the areas of Academia & Government, Life Sciences & Healthcare and Intellectual Property. For more information, please visit clarivate.com

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