



New Tools and Technologies for IP Offices

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Frontier Technologies

- Technologies that are emerging at the intersection of radical scientific breakthrough and real-world implementation.
- Artificial intelligence. Big data. The Metaverse. Bioprinting. Quantum computing. The Computer-Brain Interface.
- Frontier technologies have experienced tremendous growth in the last two decades. In 2020 their market value was \$1.5 trillion and by 2030 could reach \$9.5 trillion.



Artificial Intelligence



GenAI is generating
USD 4.4 trillion annual
economic activity



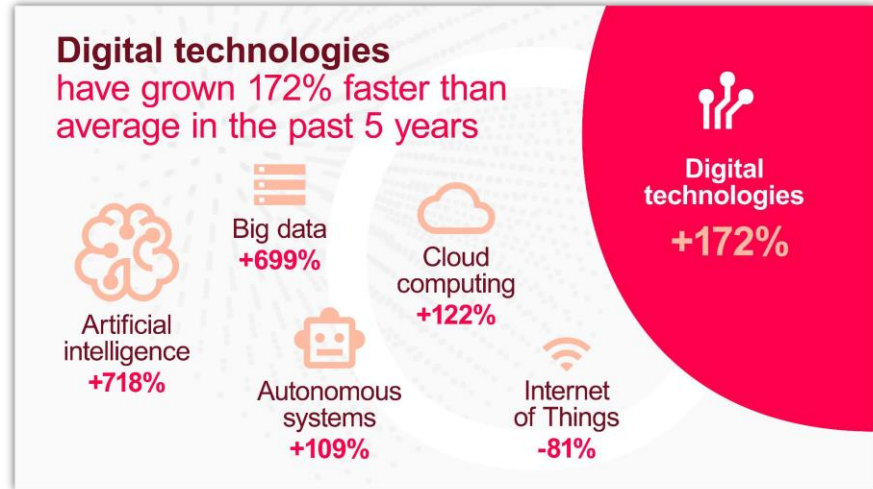
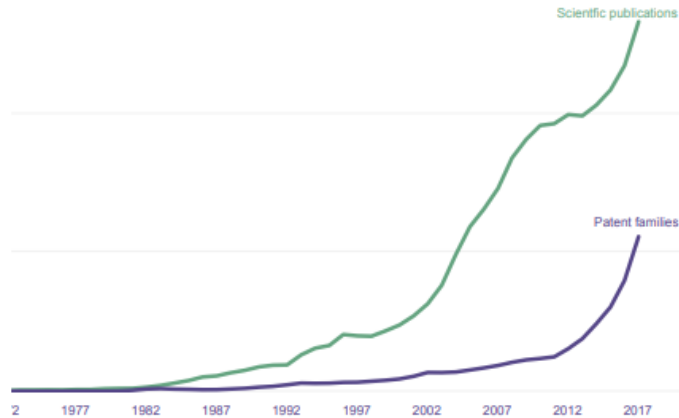
Since 2017, the number of
GenAI patents has
increased by over 800%



60% of musicians
are already using
AI to make music



IP data and AI trends



- 2014-2023: > 54,000 GenAI patents, 75,000 scientific papers
- 25% of patents in 2023 alone.
- China: over 38,000 GenAI patents, (>2x next 4 countries)
- Top filers: China, US, Republic of Korea, Japan, India, the UK and Germany
- 21 application areas



WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

Digital Transformation – IP Offices Business Needs

The three cumulative business needs that shape the policy of digital transformation for an IP Office:

Online Service Delivery

Online, customer-centric, accessible via mobile-friendly interfaces.

Services Redesign

Eliminate unnecessary technical requirements to create a modern, user-friendly experience.

Added-Value Services

Make IP information readily available and use it to provide services like business intelligence, data mining, preliminary search, classification, aiding users in making more effective IP strategy decisions.



Digital Transformation – IP Offices Business Needs

Mobile Friendly
Customer Centric
e_Government
Online Services Business Continuity
Business Processes
Advanced Technologies
Digital Transformation
Disruptive Technologies
Sustainability Quality Services
User Friendly Service Redesign
Data Mining IP Strategy
Legal Framework
Integration



Artificial Intelligence for IP Offices

Promising Domains of AI Application:

- Filing assistants using natural language
- Patentability prior art search
- Trademark image and similarity search
- Classification (IPC, Nice, Vienna, Locarno)
- Translation
- Business intelligence, valuation and analytics
- Integration with multiple data sources to add business value



Part I – AI for IP Office Operations

- Promising Domains of AI Application:
 - Patentability prior art search
 - Trademark similarity search
 - Translation

Similarity Search

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Overall objective: “likelihood of confusion”

Aspects of Similarity: visual, phonetic, conceptual, intended purpose, etc

The screenshot displays the IPAS Similarity Search interface. At the top, there is a search bar with the placeholder text "Search Something...". Below the search bar, the page title "Similarity Search" is visible. A search input field contains the text "Enter affected file number or registration number" and a "Search" button. Below the search bar, there are tabs for "Mark Tiffany", "New Classes 30", and "Clear All". A filter bar includes dropdown menus for "Application Type", "Filing Date", "Reg. Date", "Expiration Date", "Classification", and "Status". There are also buttons for "My Cited Marks" and "Add to Search Strategies". The results section shows "Showing 1-5 of 180 results" and view options: "List View", "Grid View", "Table View", "Sort", and "Export". The results are presented in a table with columns for "Image", "Details", and "Actions".

Image	Details	Actions	
	<p>Mark TIFFANY COCOZOO</p> <p>Filing No 50127 Status Filed</p> <p>Application Type Normal Mark</p>	<p>Representative ONE LEGAL LLC</p> <p>Nice Classes 30</p> <p>Applicant INTERNATIONAL FOODSTUFFS CO. LLC</p> <p>Filing Date 01.10.2018</p> <p>Reg. Date -</p> <p>Expiration Date -</p>	
	<p>Mark TIFFANY</p> <p>Filing No 49846 Status Filed</p> <p>Application Type Normal Mark</p>	<p>Representative ONE LEGAL LLC</p> <p>Nice Classes 30</p> <p>Applicant INTERNATIONAL FOODSTUFFS CO. LLC</p> <p>Filing Date 01.10.2018</p> <p>Reg. Date -</p> <p>Expiration Date -</p>	

1-Click Similarity Search: find related trademarks based on classification, phonetic similarity, etc.

AI-based Similarity Search: include logo similarity and similarity of goods and services. What is “likelihood of confusion” to a machine???

Patentability

Overall objective: “Determine whether a patent is anticipated by the prior art. Non-obvious to a person skilled in the art..”

Traditional Approach: Classify patents (IPC) and search by classification + keyword

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG

(19) Weltorganisation für geistiges Eigentum
Internationales Büro

(43) Internationales Veröffentlichungsdatum
07. Oktober 2021 (07.10.2021)

WIPO | PCT
WO 2021/197800 A1

(51) Internationale Patentklassifikation:
B62M 6/40 (2010.01)

(21) Internationales Aktenzeichen: PCT/EP2021056239 (74) Anwalt: TERPATENT PATENTANWÄLTE TER SMITTEN EERLEIN VAN HOOF RÜTTEN DAUBERT PARTNERSCHAFTS GEMEINSCHAFT MBH, Burganderstr. 29, 40549 Düsseldorf (DE).

(22) Internationales Anmeldedatum:
11. März 2021 (11.03.2021)

(25) Einreichungssprache: Deutsch
(26) Veröffentlichungssprache: Deutsch

(30) Angaben zur Priorität:
2019/2912.5 03. April 2020 (03.04.2020) EP

(71) Anmelder: AMPRIO GMBH [DE/DE]; Alfred-Pierburg-Str. 1, 41460 Neuss (DE)

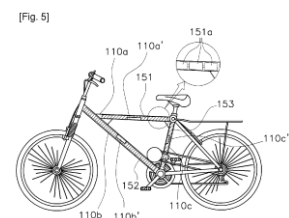
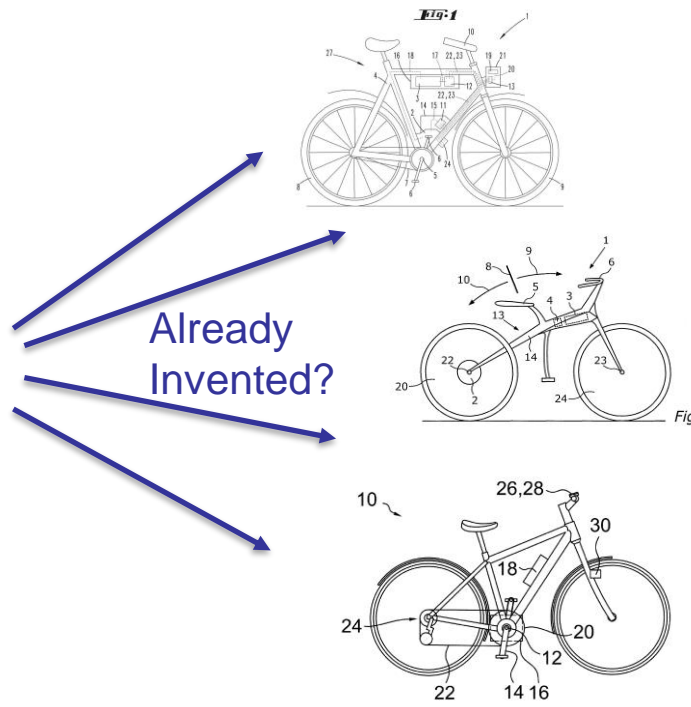
(72) Erfinder: MINGELD, Bernd Johannes Engelbert; c/o Amprio GmbH, Alfred-Pierburg-Str. 1, 41460 Neuss (DE)

(54) Titel: ELECTRIC BICYCLE
(54) Bezeichnung: ELEKTROFAHRRAD

12021/197800 A1

Fig. 1

(57) Abstract: The invention relates to an electric bicycle (10), comprising an electric traction motor (30), which drives the front wheel (18) and/or the rear wheel (16), a traction storage battery (32) for supplying electrical energy to the traction motor (30), an electric-bicycle controller (40) for controlling the traction motor (30), and a walk-assist controller (50) for controlling an adaptive walk-assist function, which is supported by the traction motor (30), in accordance with an interaction force (F7) between a pedaling person (9) and the electric bicycle (10). The electric bicycle (10) has an inclination sensor (61) for determining the angle of inclination (β) of the electric bicycle (10) relative to the terrestrial horizontal (H), a traction-motor torque decoupler (44) for determining the current traction-motor torque (T_M), an electric-bicycle velocity sensor (66) for determining the current electric-bicycle velocity (V_B).



AI-based patentability search:

1. Cluster patents based on machine-learning and Gen AI
2. Use LLM to find and rank conceptually similar documents

Part II – AI for IP Office Service Delivery

- Promising Domains of AI Application:
 - Filing assistants – natural language
 - Business intelligence, valuation and analytics
 - Integration with multiple data sources to add business value

Artificial Intelligence for IP Offices – Example: Filing Assistant

Traditional Approach:

Forms with complicated requirements and technical language.



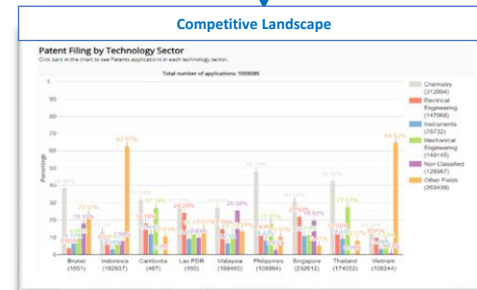
Provisional Refusal

AI-based Approach:

Machine translates user needs into technical language.

Please describe your business:

A chain of exclusive coffee shops with single-origin, locally roasted coffee ...



Filing Advice:

*Make the logo more abstract and distinctive.
Limit the goods and services to "...".*

Pre-Approved Application

Challenges and Opportunities for Small/Medium IP Offices

Challenges

- Commercial solutions are expensive and complex to integrate.
- Free solutions are general-purpose and not adapted for IP.
- Customized AI solutions are expensive and risky.
- Lack of capacity and infrastructure to support advanced technologies.

Opportunities

- Not constrained by old ways of working.
- People ready to adopt new technologies and new ways of working.
- “Leapfrogging”



Risks and Opportunities


Risks

Emerging of a new *digital divide* by not having access to latest tools and solutions provided by the new disruptive technologies such as Cloud Computing and Artificial Intelligence.

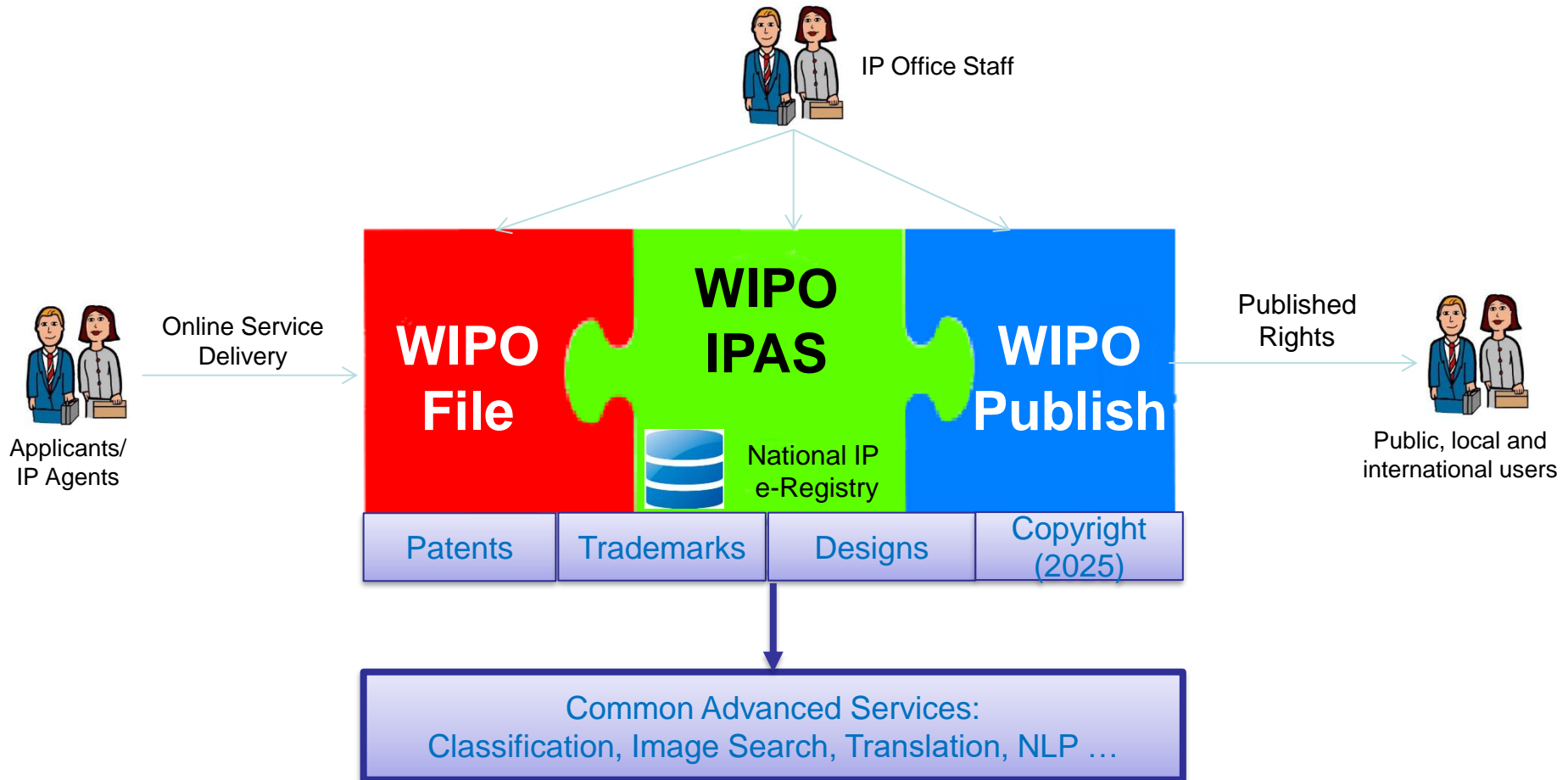
Lack of resources and specialized knowledge to integrate advanced technologies into IP offices.

Opportunities

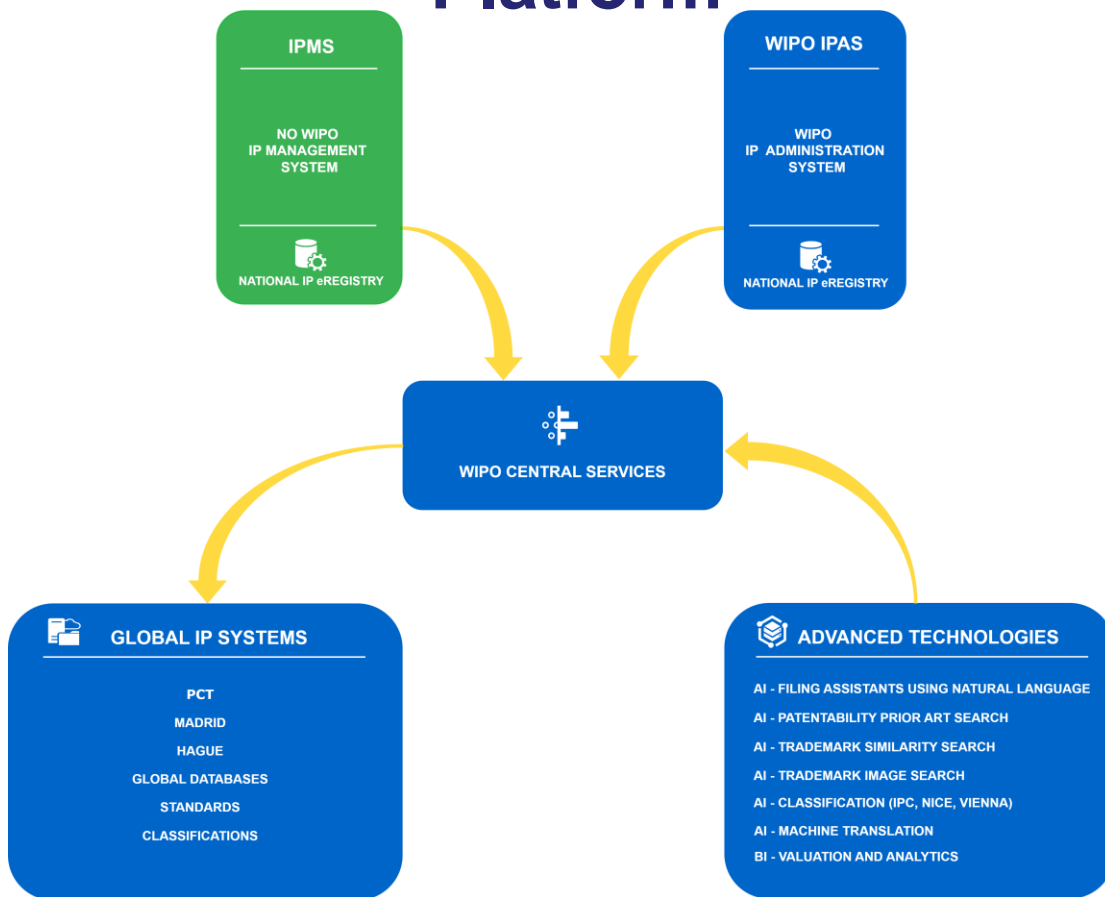
Adopt digital tools to implement new user-oriented services and improve the services provided without the constraints of legacy investments.

 Share solutions and share costs via a common platform for developing country IP offices to access advanced technologies.

Deliver AI Solutions via a Common Platform



Sharing Solutions via a Common Platform



Implementation Strategies

Phased Approach:

- Add services to ASEAN IP Register
- Portfolio Management
- Business Intelligence
- AI tools

Partnership Models:

- Public-Private, e.g. ASEAN Data Hub
- Regional Cooperation, expand to other regions
- South-South Cooperation
- Coordination mechanism to deliver via WIPO IP Office tools



Thank You