

# Streamlining IP Processes with AI-Powered Automations

#### **Mike Cristiano**

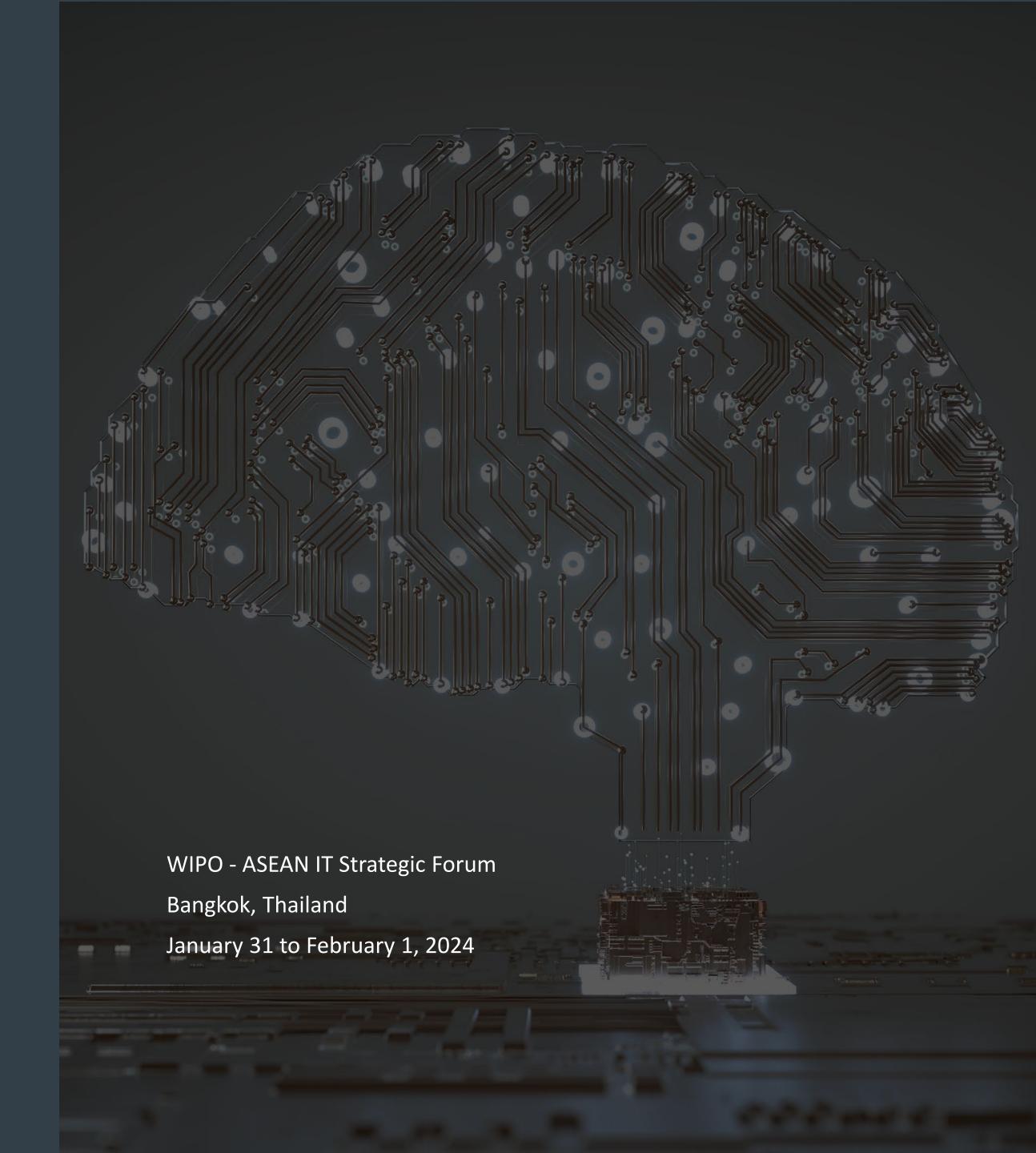
Chief Information Officer & General Manager Innovation and Technology Group IP Australia











### IP Australia's AI Journey

#### 2016

Establishment of Cognitive Futures (AI) Section (and Project)

Prototype development (Virtual Assistant, TM Search, TM Assist, PAC )

#### August 2018

Intellectual Property Laws Computerised Amendment Act 2018 - decision-making

**Automated Decision-**Making (ADM) Framework and Policy

#### Mid 2023

Cognitive Futures (AI) work transitions fully to BAU

**Generative Al** Working Group















First Cognitive Futures (AI) Strategy & Roadmap

2021

Cognitive Futures (AI) Working Group

**IPA Ventures** 

2024

Al implemented widely across IP Australia

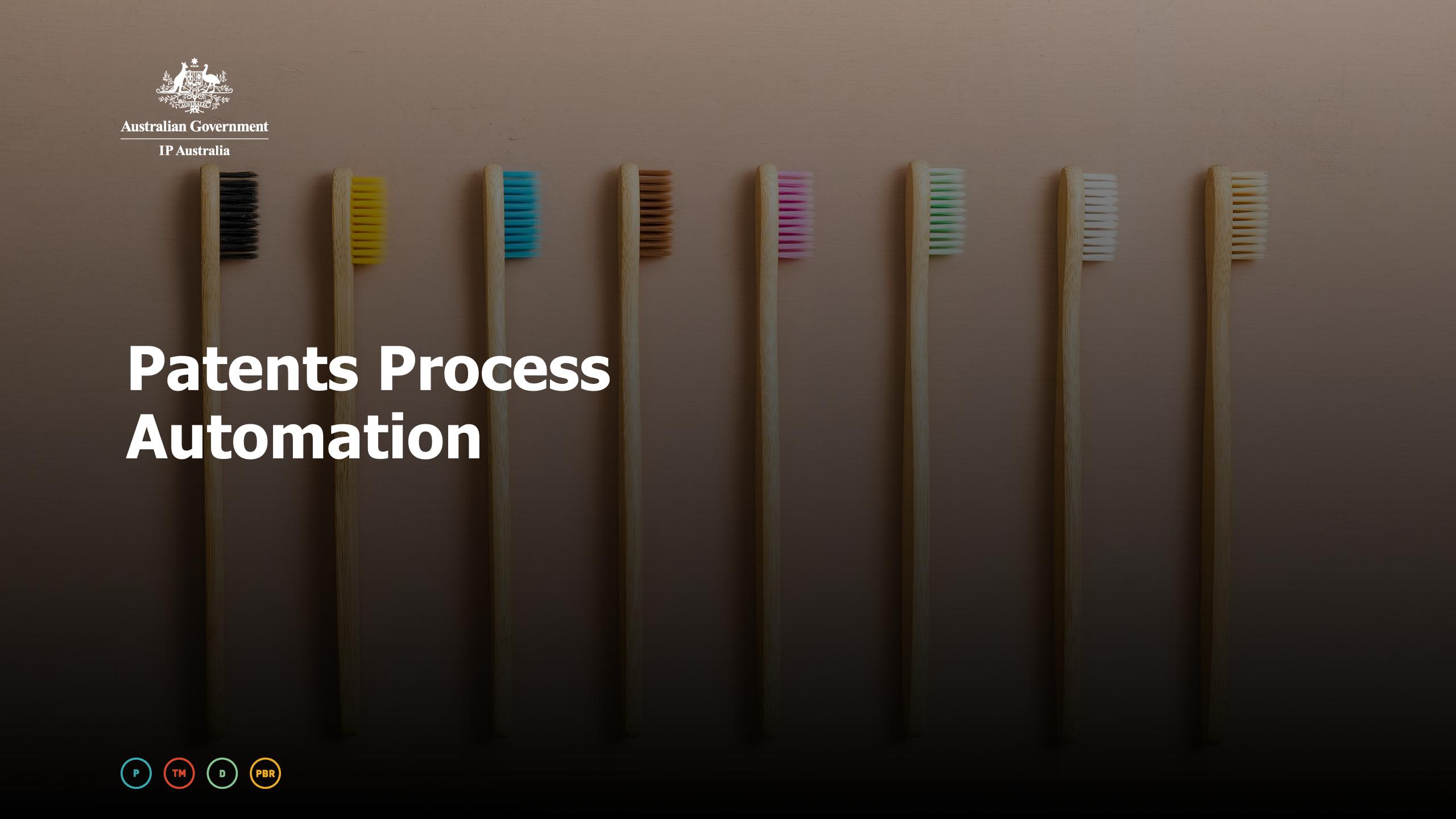
**Updating ADM** Framework & Policy



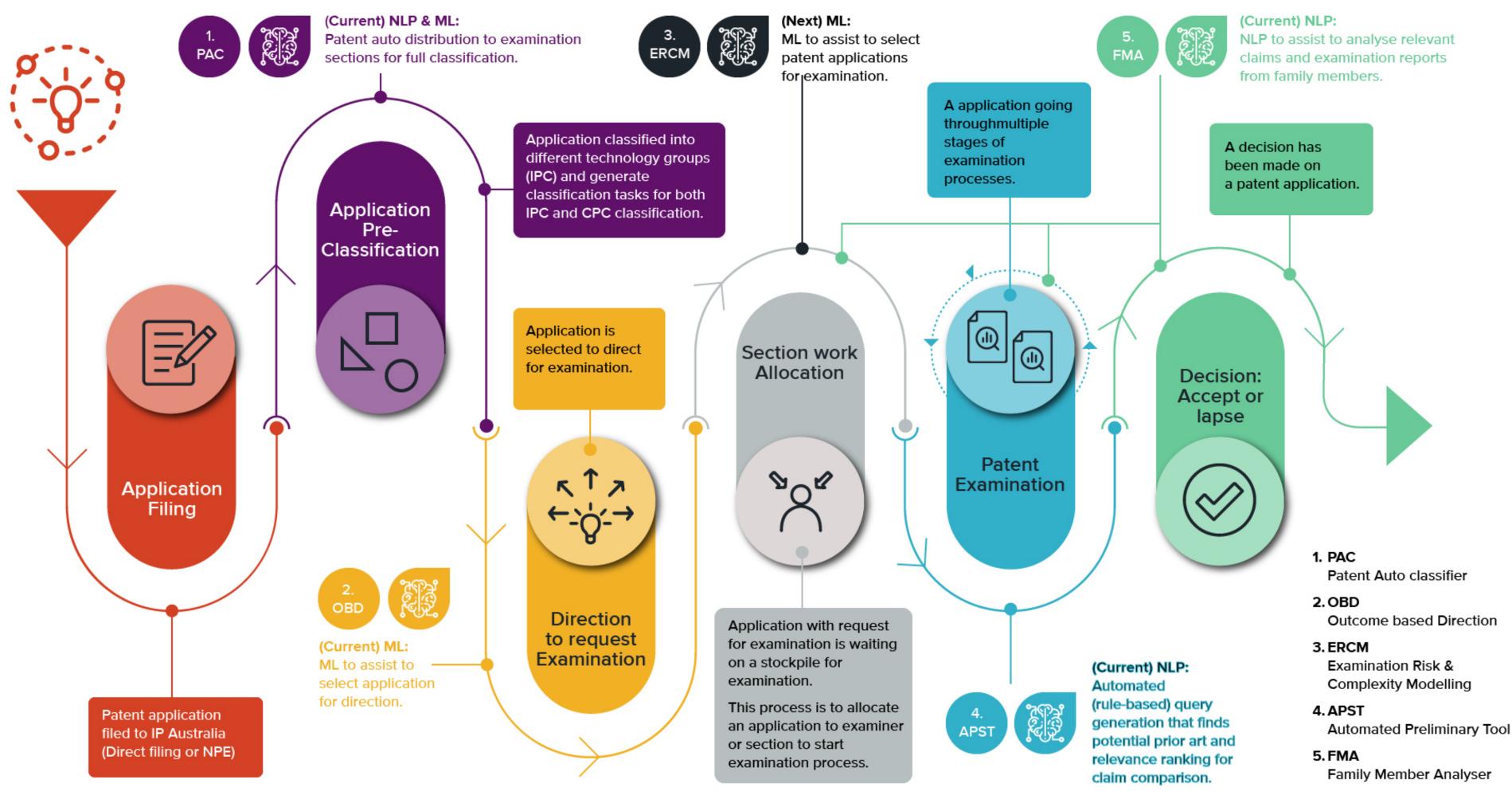








### Patents – Lifecycle map, filing to grant











### Filing and Formalities Automation

### **National Phase Entry and Direct Filing**

- Up-to-date bibliographic data automatically retrieved from ePCT
- Automatic OCR-ing of specification documents (AWS Textract) and language check (AWS Comprehend)
- Automatically checks for prohibited words
- Automatic check of Minimum Filing Requirements and Formalities

- Automatic validation check of sequence listing (using ST.26 Validation Tool)
- Automatic conversion of the XML sequence listing to PDF for use in publication

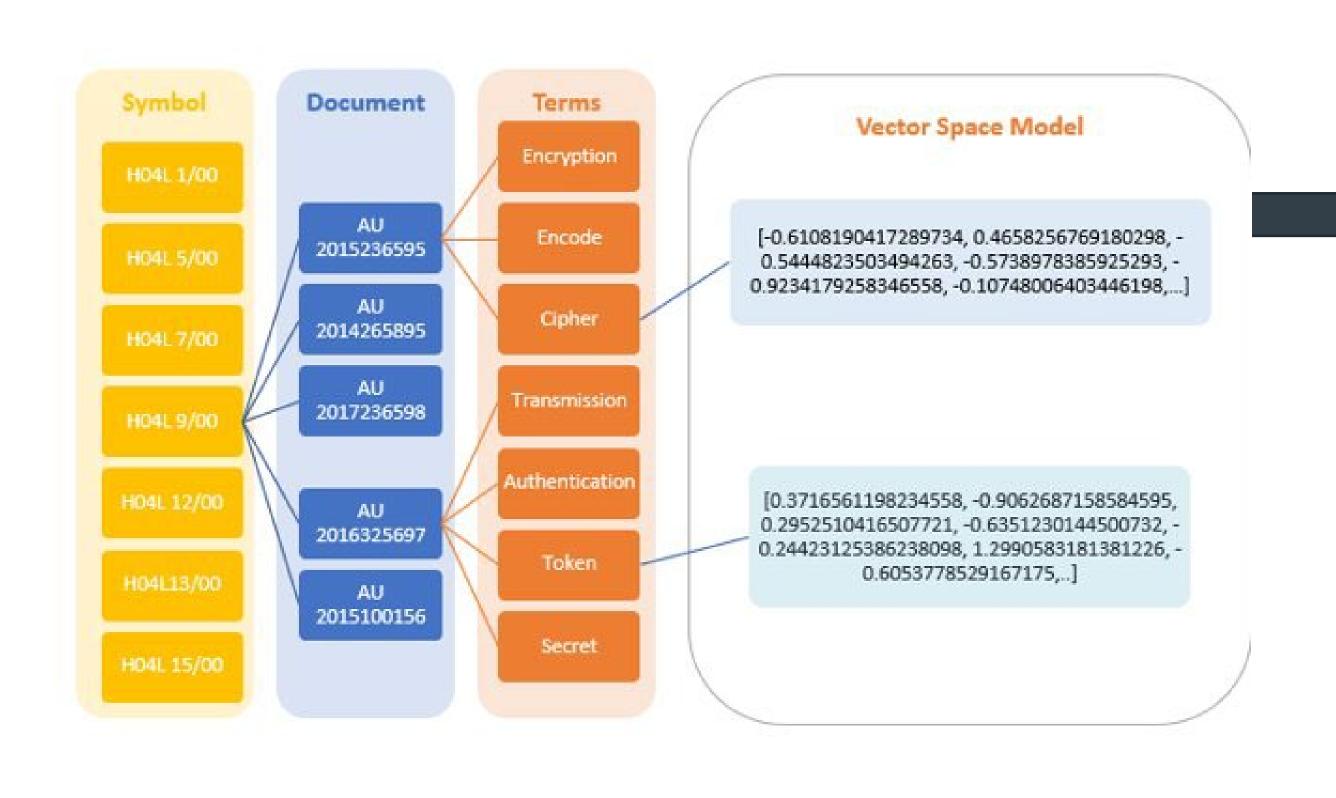




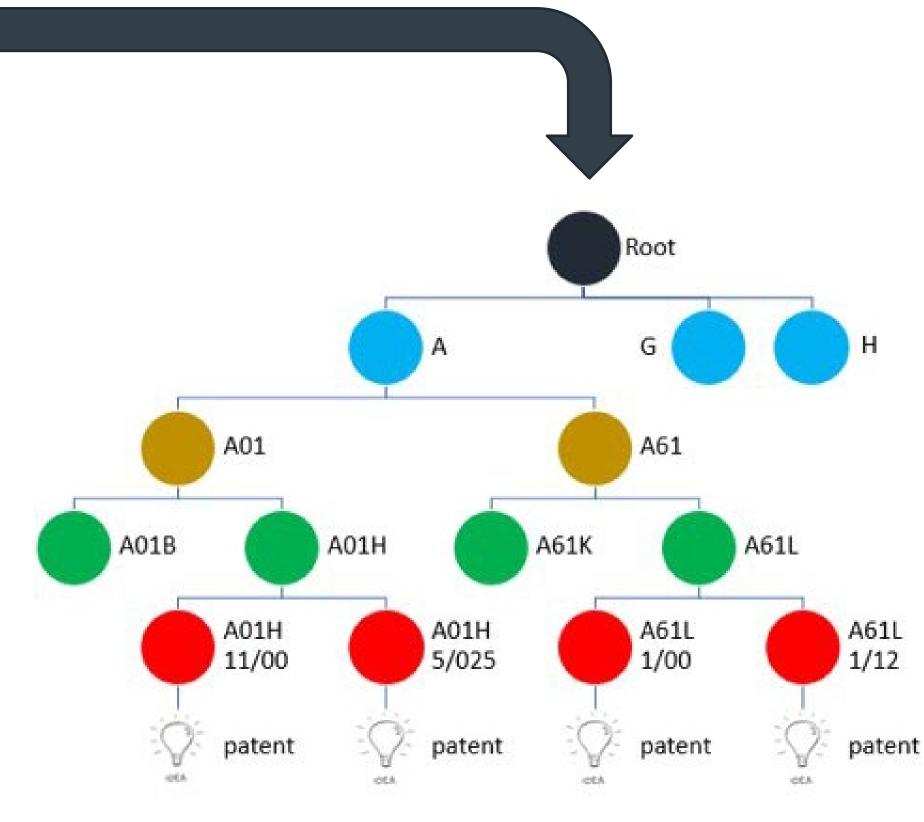




# Pre-classification: Patent Auto Classifier (PAC)



A service using NLP and ML to perform sort applications by allocating IPC main -group level information





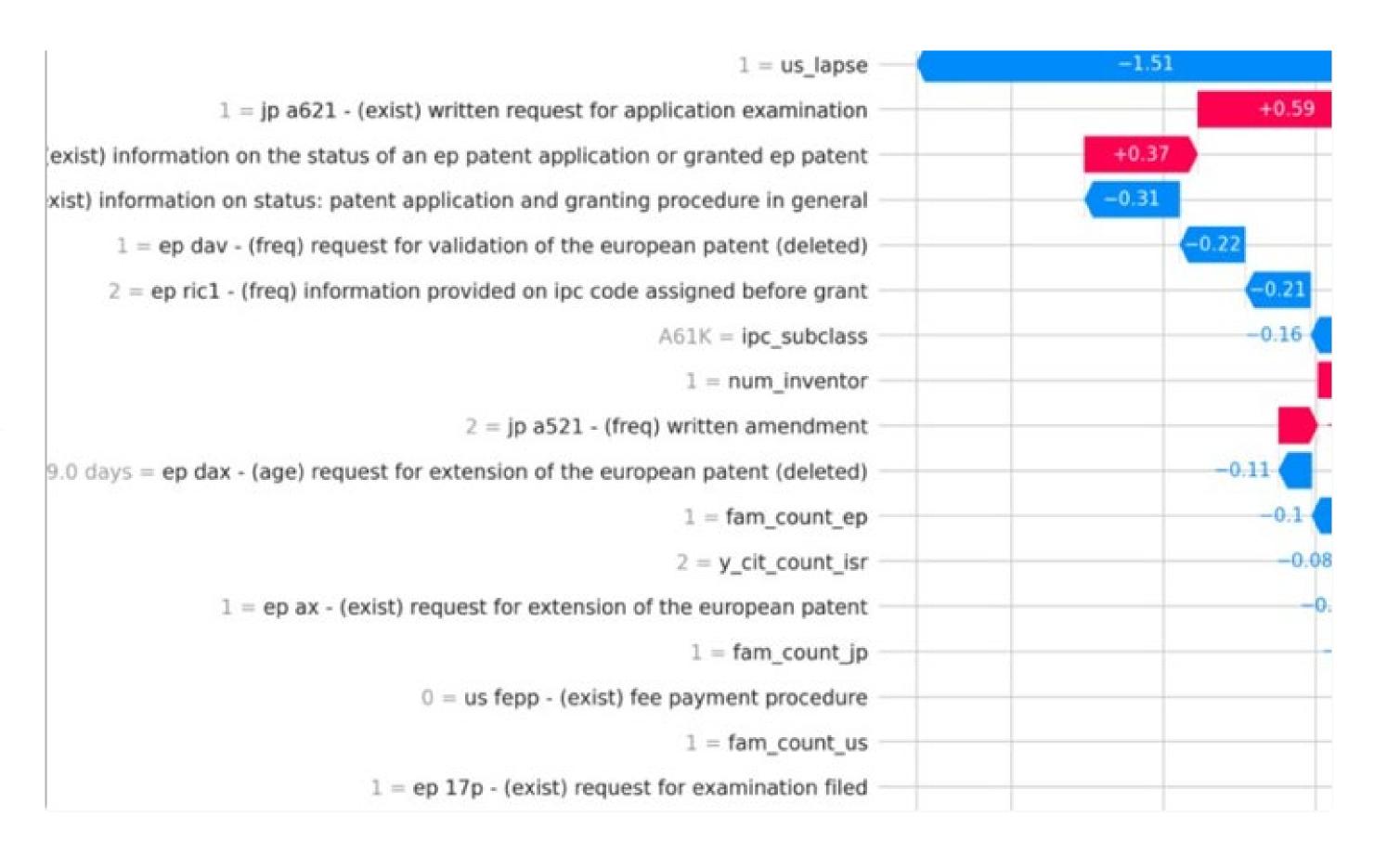






## Direction to Request Examination: Outcome Based Direction (OBD)





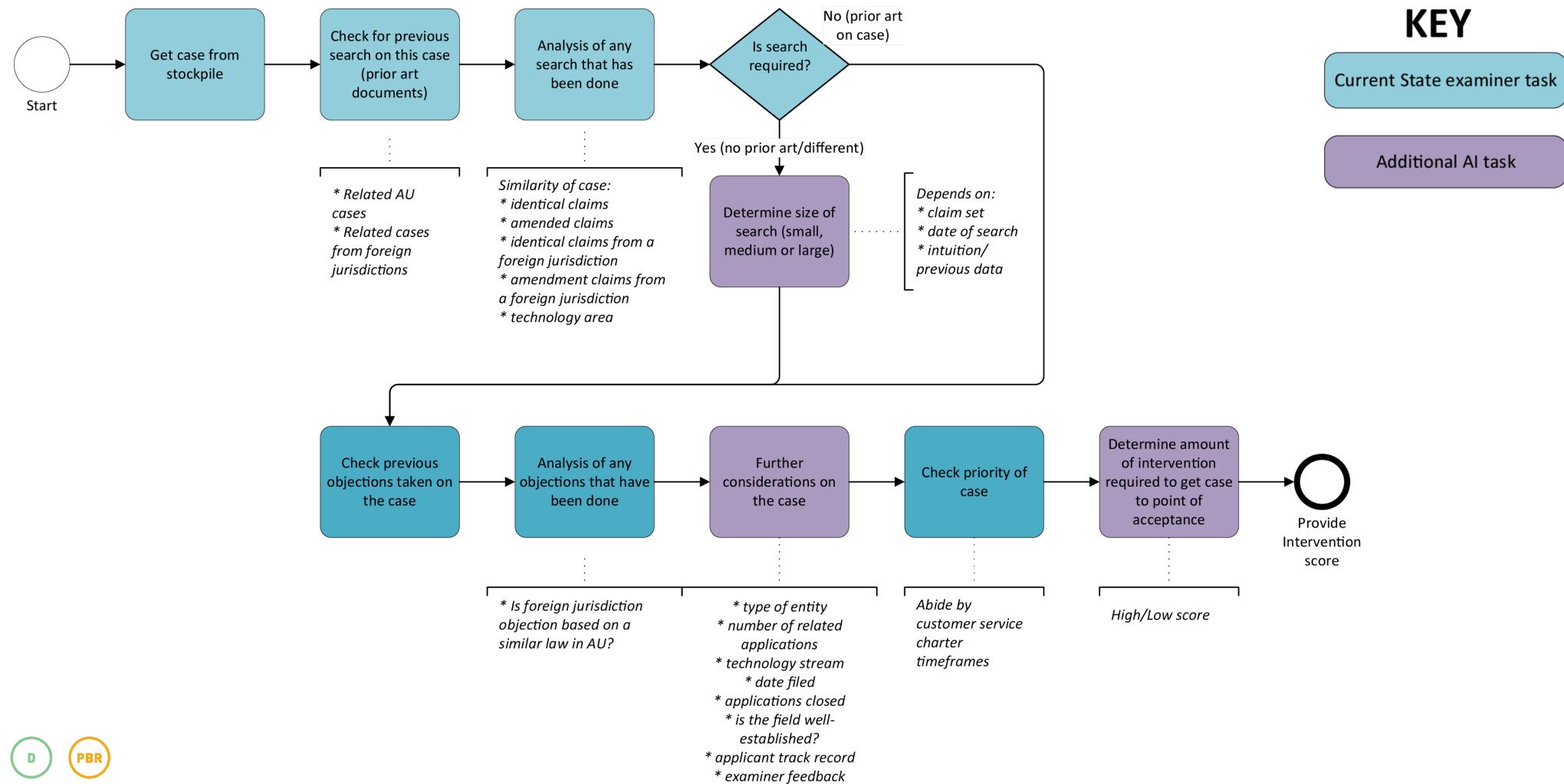








# Section Work Allocation: Examination Risk and **Complexity Modelling (ERCM)**



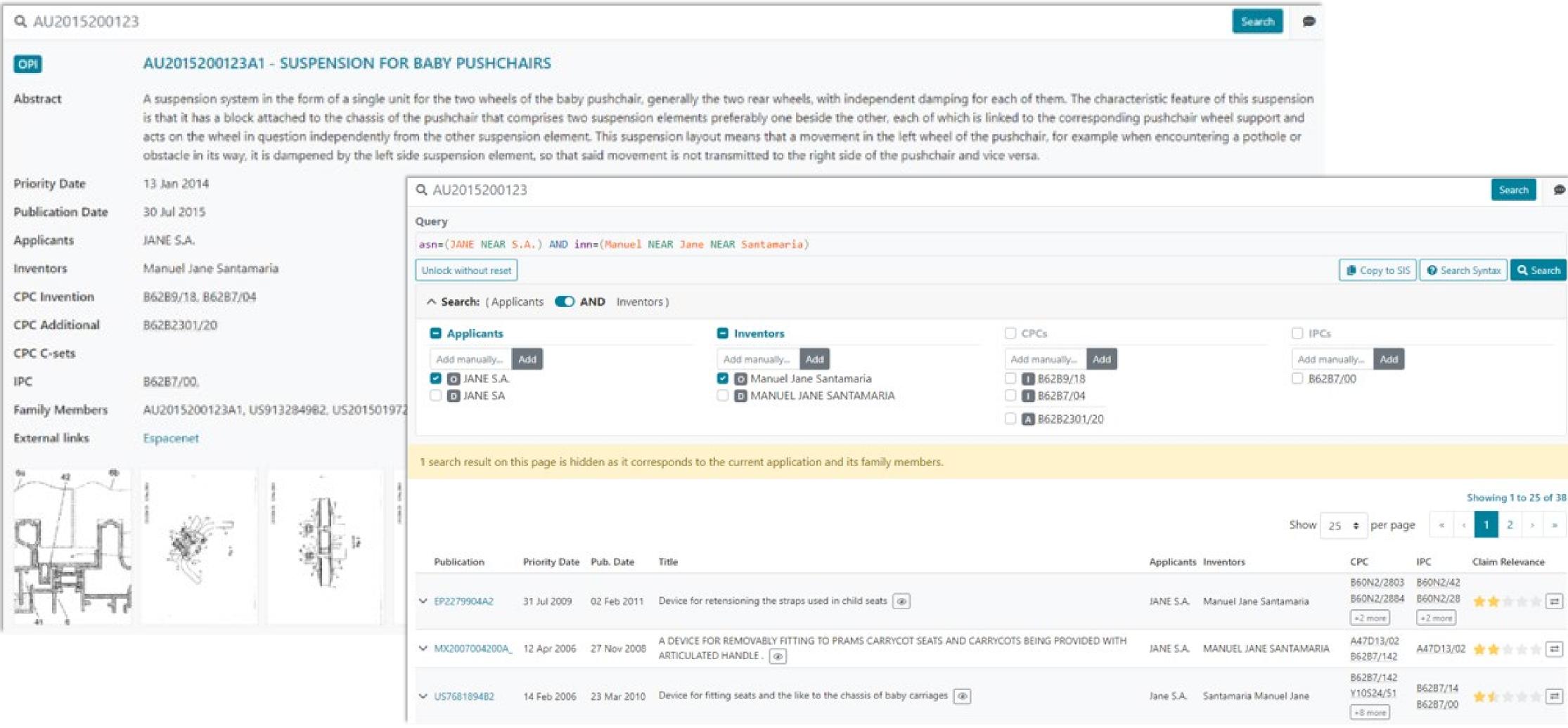








## **Exam: Automated Preliminary Search Tool (APST)**



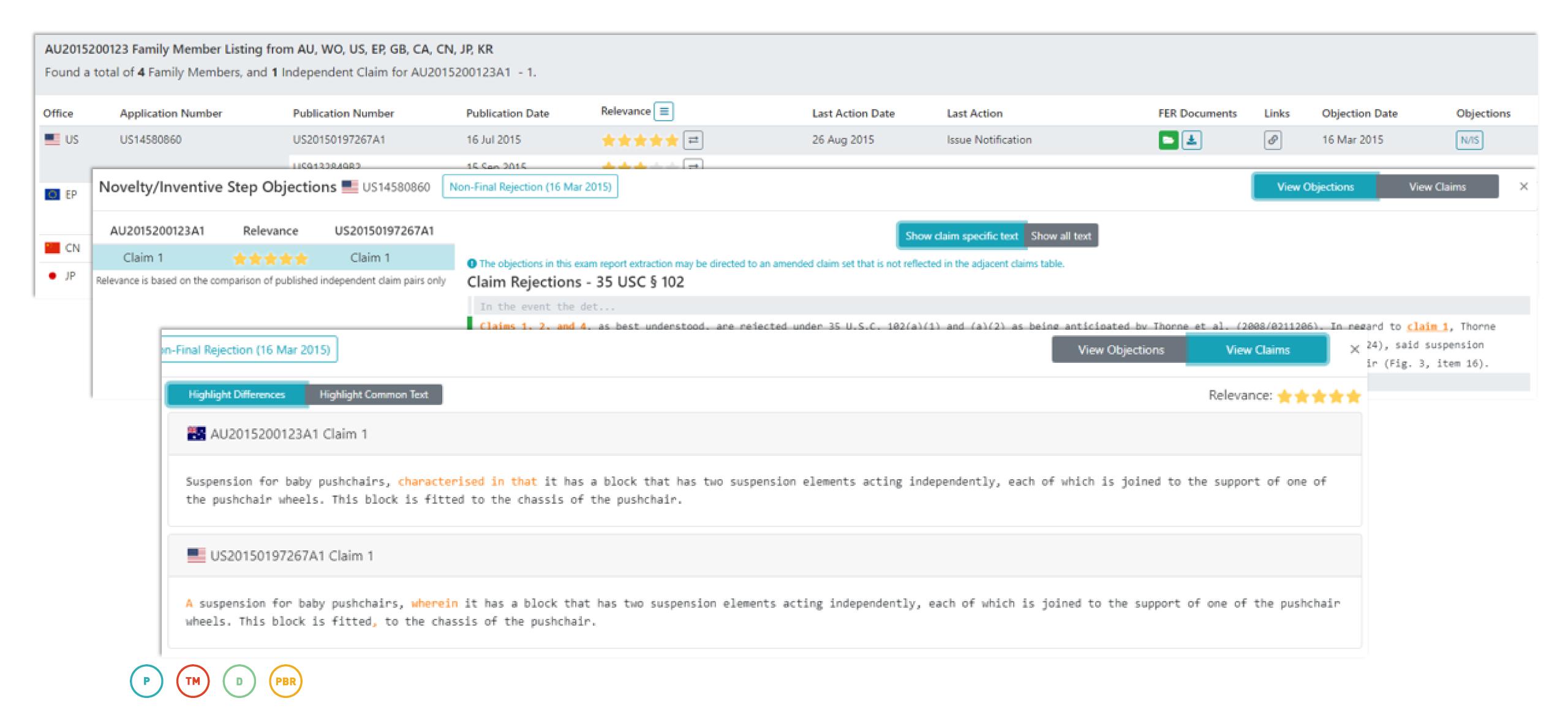








## Exam: Family Member Analyser (FMA)





# Trade Mark Process Automation

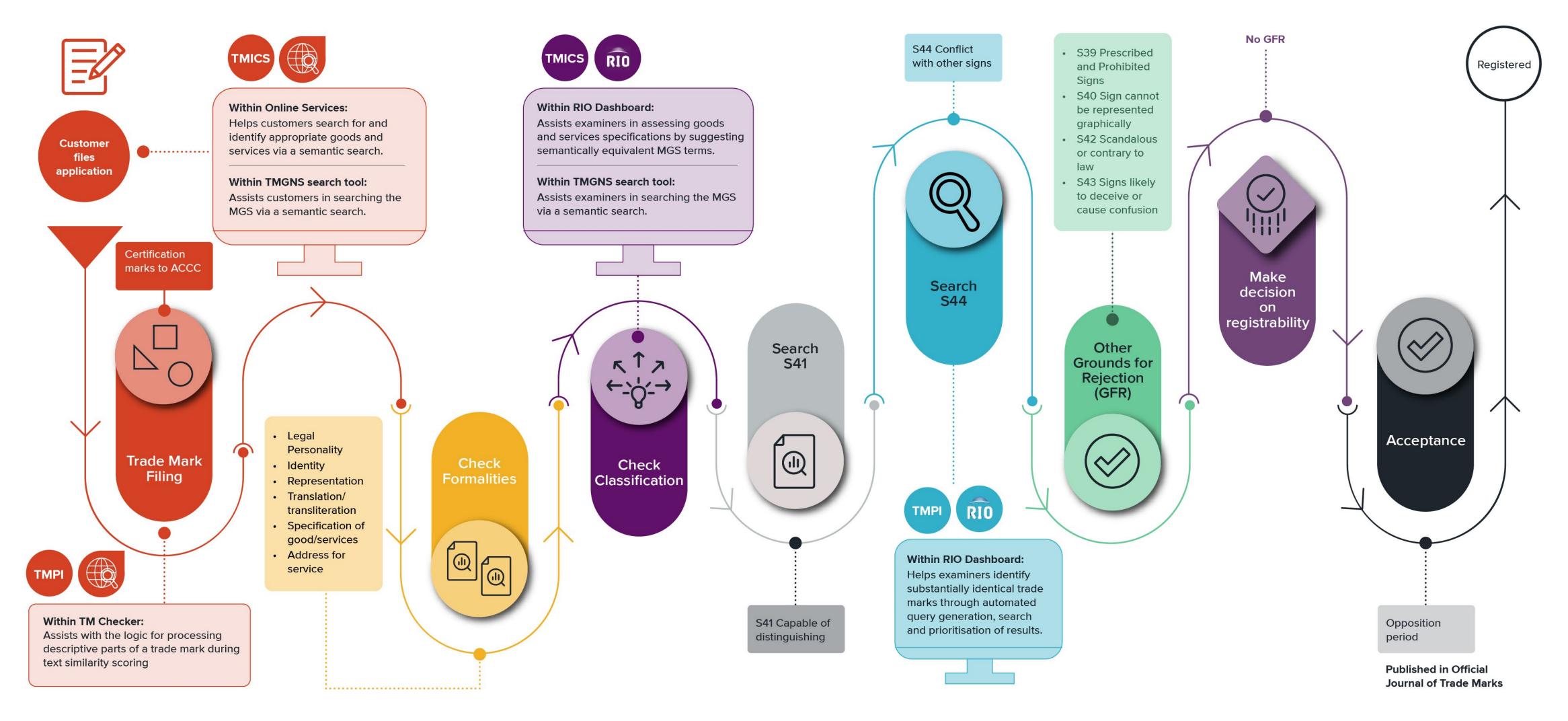








# Trade Mark – Lifecycle map



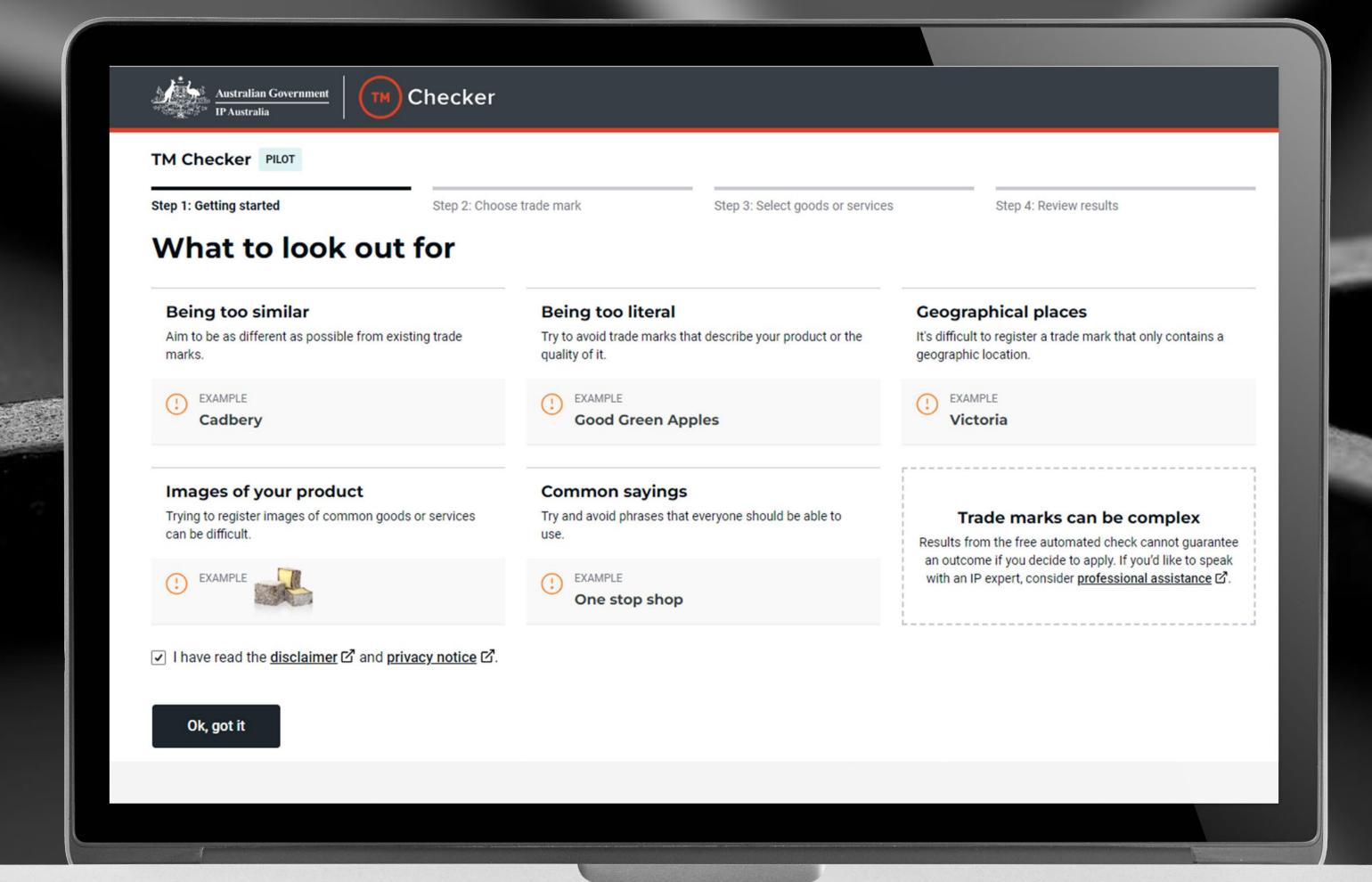








### TM Checker



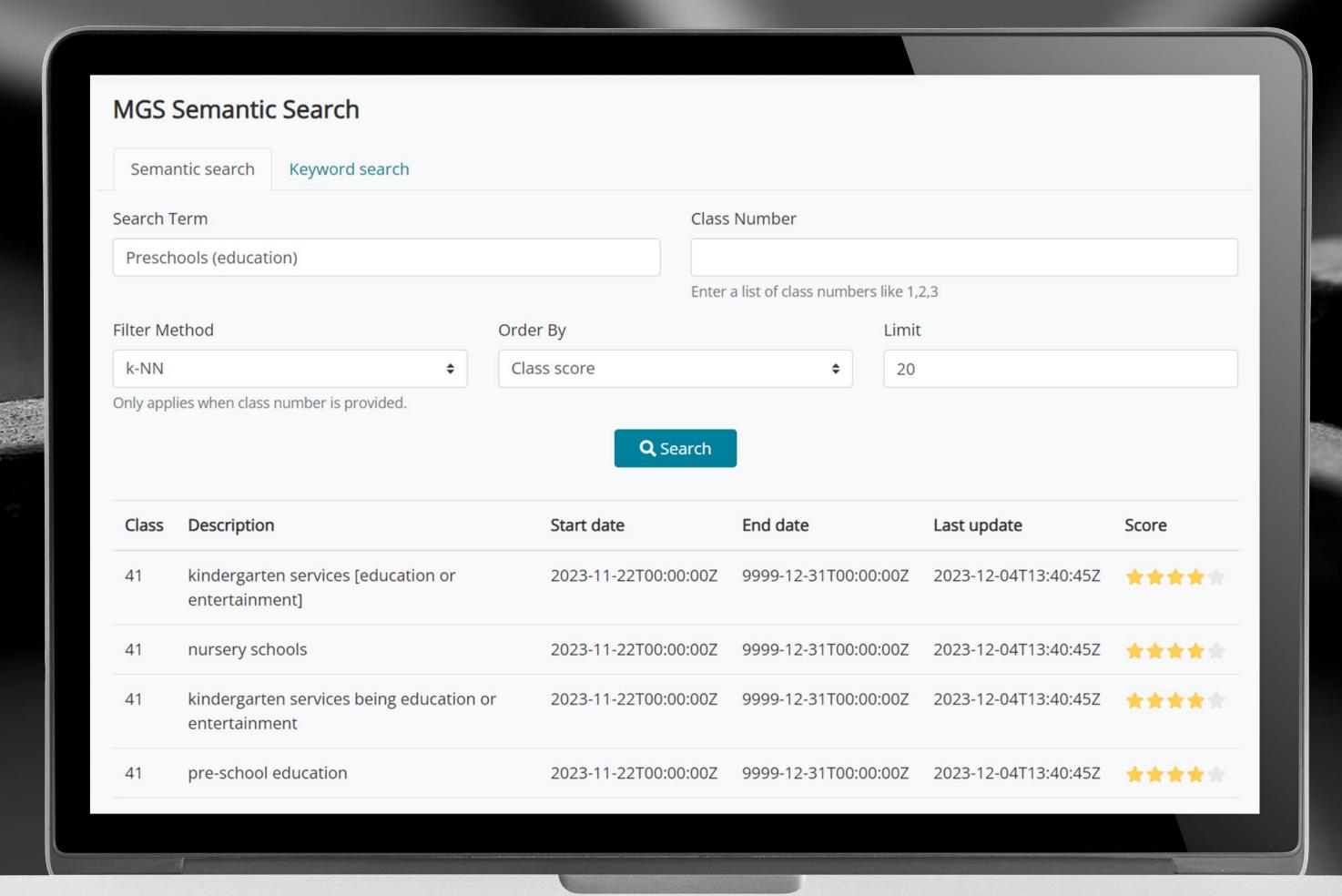








### Trade Mark International Classification System (TMICS)



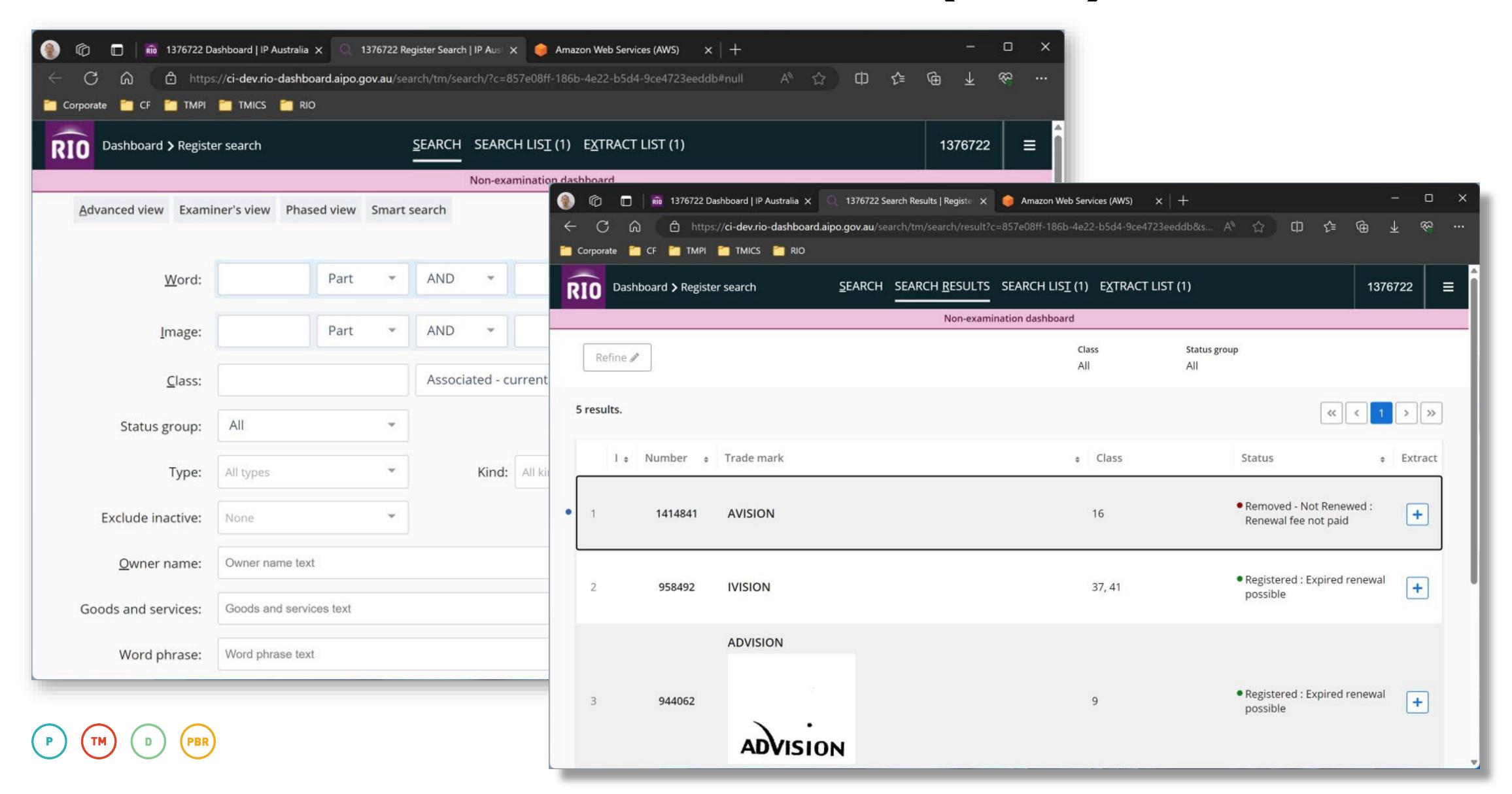








### Trade Mark Precedent Identification (TMPI)





# Cognitive Futures (AI) Strategy

"Enhance service delivery by leveraging the power of cognitive technologies"

Initially developed in 2016-2017, most recently reviewed for 2022-2024.

#### Current focus:

- Text analysis/search (Natural Language Processing)
- Classification
- Image analysis/search











#### **Improve** efficiency

Identify opportunities to be more efficient and effective in our business processes to drive value for customers



#### Key **Objectives**



#### **Enhance** quality

Improve the quality of our products and reduce errors in the administration and examination of IP rights



#### Develop greater insights

Leverage data assets to better serve our customers and inform our staff



#### Build organisational capability

Equip our workforce with the knowledge and skills to derive optimal value from cognitive computing systems

# Cognitive Futures (AI) Roadmap

Pending (Has dependencies) Annual Review Strategic Review FY 2023/24 (Current) FY 2025/26 FY 2024/25 TMICS - Productionisation & TMICS - V2 API revisions integration TMICS - RIO & TMGNS updates TMPI - P1 RIO TMPI - P2 TMPI - P1 search PoC TMPI - Phase 3 PoC enhancements integration TMPI - Training Acad, PoC Smart Services for Designs - PoCs Trade Mark Automated Research - PoC ERCM - MVP FMA - FERST PAMS/RIOP Integration FMA - PATFAM Replacement PBR - VCK identifier PoC PBR - TM PoC PEAR Idea 7 PoCs CPC Prediction MVP (non-prod) OBD - Refactor & Retrain





Projects / Major

**BAU** initiatives





TMICS - Refactor

RIO Specificity

(TMICS prereg)

TMDG

POBIPG/PEG

PSG

Industry sector patent

concordance PoC - Hub

ERCM

PoC

TMPI - P2 RIO

integration

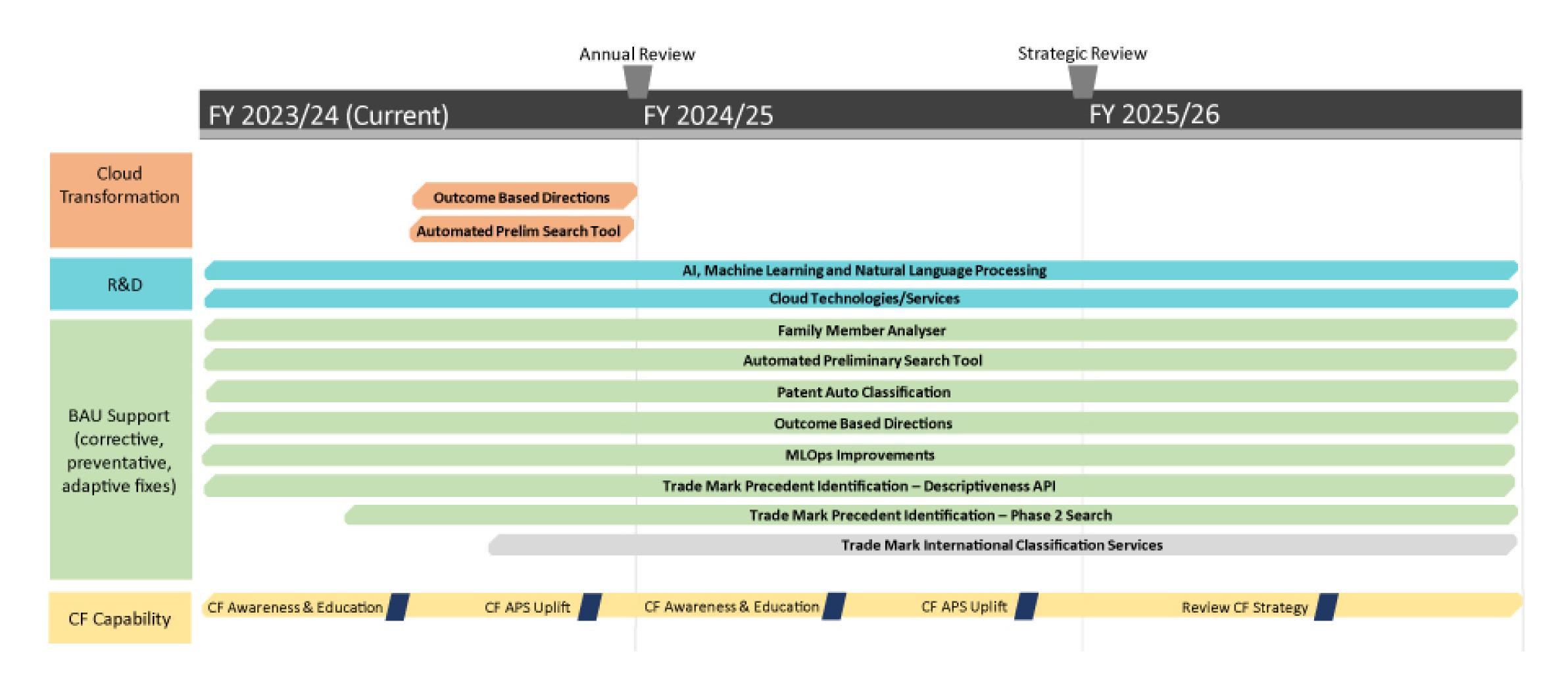
ERCM - Pilot

FMA - FERST Phase 1

ISPC PoC extension/revision

Wellbeing Indicator PoC

# Cognitive Futures (AI) Roadmap











# Automated Decision Making Framework & Policy

Created in 2018. Currently under review.



IP Australia's legal obligations relating to automated decisionmaking (ADM) systems



Global best practices for government regulation of ADM systems, including business efficiencies



Incorporation of recommendations into a revised framework and policy













# Challenges



- Maintaining good governance
- Meeting legislative requirements
- Coordinated implementation strategies
- Finding the correct level of transparency for ADM use with customers and stakeholders



#### **EXTERNAL**

- Keeping internal policies/frameworks aligned with;
  - ongoing technology developments
  - global best practices for governance strategies
  - whole of government (Australia) advice and guidelines











# Where are we headed?

IP Australia are actively taking steps towards the adoption and implementation of safe and responsible AI. This includes addressing risks and policy areas, such as:

- Public trust
- Bias and discrimination
- Transparency and accountability
- Privacy
- Security
- Capability and maturity
- Pace of change.







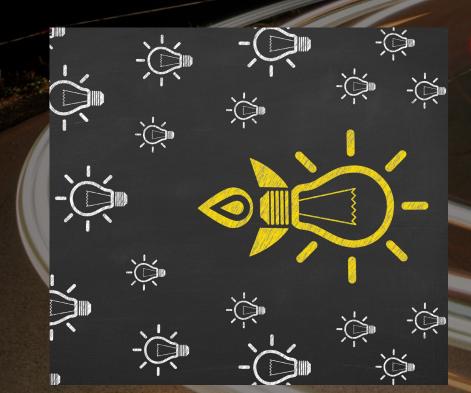


### **Generative AI**





November 2023



P TM D PBR



IPA
Ventures
team

- The GenAI working group is made up of staff across various business groups and knowledge areas to maximise its impact across the organisation.
- We have discussed use cases and are looking at a range of proof of concepts to implement GenAl in areas such as the creation of position descriptions, content, or code.
- As these use cases mature, the working group continues to make recommendations to the Executive for the implementation of these tools across the organisation.

### **Possible Initiatives**

#### Classification

Assisted or full

#### **Searching**

- Synonym and search query generation
- Automated AI text, image, chemical searching

#### **Specification** analysis

- Formalities, clarity, lack of unity etc.
- Prohibited words, subject matter, traditional knowledge

#### **Other initiatives**

- Virtual assistant
- Improved technology forecasting











### Contact us

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