

A large, light blue, stylized graphic of a DNA double helix is positioned on the left side of the page, extending from the bottom towards the middle. It is partially obscured by the text.

NEW TOOLS FOR IP MANAGEMENT

BIOTECH VENTURE PATHWAY

1. Context

An in-depth analysis of the current landscape of artificial intelligence tools applicable to technology transfer and, specifically, to intellectual property (IP) management, has been conducted. This analysis is based on a review of emerging technologies—both general-purpose (LLMs and multimodal assistants) and those specialized in IP protection and assessment activities—identifying tools applicable to tasks such as state-of-the-art (SOTA) analysis, patent review, prior-art searches, report generation and decision-making support.

The study concluded that, given the rapid advancement and diversity of these solutions, it is not efficient to develop proprietary software or invest in closed commercial platforms, whose cost, maintenance needs and useful life may be incompatible with the realistic operational requirements of the TTOs. Instead, it was decided to implement a new procedural system based on the strategic integration of existing AI tools that are secure, reliable and technologically mature, combined with an internal protocol that maximizes their effectiveness at different stages of the IP protection process.

Thus, a “new tool” is effectively introduced—not as a closed software package, but as a new AI-supported IP management system that enhances efficiency, information quality and operational capacity within the unit.

2. Process Followed: Analysis, Selection and Systematization of AI Tools

Research and Analysis of the State of the Art in AI Tools

Given the proliferation of AI tools, an exhaustive approach was required to analyse, classify and evaluate them by task:

- SOTA searches
- patentability analysis
- report generation
- note-taking
- interpretation of complex datasets
- technological market analysis, etc.

The TTOs conducted a comparative evaluation of these categories and examined practical use cases, particularly those linked to day-to-day IP activities: prior-art searches, patent analysis, draft preparation of technical descriptions, dossier synthesis, early identification of applications and continuous monitoring.

Rationale for Deploying a System Based on Existing AI Tools

This approach is supported by several reasons detailed in the document:

a) Access costs for specialized software

The analysis shows that private alternatives or LLM models hosted in private clouds involve high costs. Developing proprietary tools would also require significant investment and would lead to rapid obsolescence.

b) Privacy and espionage risks

Open LLMs may pose risks of sensitive information leakage, including disclosure of inventions. A controlled system for selecting tools and usage protocols minimizes this risk, allowing the choice of models and configurations appropriate to the sensitivity of the data.

c) Institutional policy gaps

The widespread absence of clear institutional policies on AI use makes it advisable to implement flexible and adaptable solutions that are not dependent on a single provider.

d) Functional maturity of tools already available

- Multiple existing tools already cover essential functions:
- patent analysis with NotebookLM
- rapid and verified searches with Perplexity
- insight extraction and literature review with Elicit
- organization, study and synthesis of documents through multimodal AI, etc.

This enables the implementation of advanced processes without the need to develop new software.

3. Internal System Implemented: AI-Based Procedure for IP Management

The new system consists of a structured workflow in which different AI tools are integrated according to the nature of each task. This system constitutes the “new” tool introduced, as it reconfigures and optimizes the unit’s operations by incorporating automation, advanced analysis and systematic monitoring.

Stage 1: Disclosure Intake and Preliminary Analysis

Objective: initial technology assessment, identification of the technical field and first SOTA screening.

Tools: Perplexity AI

Rationale: ability to perform high-precision scientific searches with verifiable direct references.

Key functionalities:

- querying scientific databases,
- rapid synthesis of the current state of knowledge,

- minimized hallucinations due to explicit referencing.

Use in the process: first state-of-the-art search and verification of key concepts to contextualize the invention.

Stage 2: Prior-Art Study and Patentability Analysis

Objective: identify relevant patents, analyse differences, assess novelty and inventive step.

Tools (1): NotebookLM (Google)

Rationale: multimodal capacity to analyse complex documents, including complete PDF patents.

Functionalities:

- comparative analysis across multiple patents,
- explanation of differences between the invention and prior art,
- generation of study guides and summaries,
- creation of “audio summaries” for more agile internal analysis.

Use in the process: reviewing the corpus of relevant patents, identifying novel elements and extracting differential technical aspects.

Tools (2): Elicit

Rationale: automates literature reviews and structuring of scientific data.

Functionalities:

- extraction of insights from scientific articles,
- thematic synthesis,
- identification of gaps in the literature.

Use in the process: supporting patentability analysis by providing scientific background complementary to the patent study.

Stage 3: Report Generation and Technical Documentation

Objective: preparation of draft technical descriptions, supporting reports and structured dossiers.

Tools: General-purpose LLMs (ChatGPT, Gemini, Claude)

Rationale:

- versatility for drafting technical texts,
- multimodal capability to integrate images, diagrams or tables extracted from patents.

Functionalities: assisted drafting, document structuring and homogenization of technical language.

Use in the process: drafting internal reports and preliminary materials that serve as the basis for application preparation.

Stage 4: Technology Watch and Dossier Monitoring

Objective: monitor new publications, related patents and changes in the technological landscape.

Tools: Perplexity + automated periodic query systems

Rationale: its updated search engine is well suited to continuous monitoring.

Use in the process: automated periodic queries to detect relevant developments.

NotebookLM

Rationale: allows loading new patents or documents and comparing them with previously analysed material.

Use: automatic updating of technical-legal difference maps.

4. New Tool Introduced: the Integrated AI System for IP Management

Although no specific software was acquired or developed, a new tool has indeed been introduced in a functional and procedural sense: a structured, systematic and documented system that combines different AI tools, assigns them to specific stages of the IP management process, and creates a new workflow that enhances efficiency, analytical quality and operational capacity.

This system represents an organizational innovation that directly meets the indicator *"new tools for IP management introduced"*, as it:

- incorporates advanced tools previously not in use,
- establishes a new, stable and reusable procedure,
- improves the unit's capacity to conduct complex analyses,
- introduces automation into tasks that were previously manual,
- reduces risks through tool selection and usage protocols,
- and enables functions that were not previously possible with existing resources.

5. Conclusion

The project has introduced a new tool for IP management, understood as an intelligent AI-based system that integrates processes for search, technical analysis, document comparison, synthesis, drafting and technology monitoring.

This system:

- streamlines daily work,
- increases analytical accuracy,
- improves traceability and information access,
- reduces time and costs,
- and provides capabilities that are technically superior to those previously available.

Therefore, the implementation of this procedural system constitutes a fully new IP management tool.





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