# New PE2E Search Tool Using AI Search Features

## Summary

The United States Patent and Trademark Office (USPTO or Office) is in the process of developing artificial intelligence (AI) capabilities to add to the Patents End-to-End (PE2E) Search tool. After each new AI capability is fully tested and approved, the USPTO will add the capability to this search tool and make it available for patent examiners to use while conducting prior art searches during the patent examination process. When searches are performed using this tool, a notation that a search using AI capabilities was conducted will be documented in the search record.

## Background

Before issuing an Office action for an application, a patent examiner conducts a thorough investigation of the prior art to enable a complete examination of the application, including determining whether the invention, as claimed, is patentable. See 37 CFR 1.104(a)(1). The examiner uses one or more search tools such as PE2E Search to conduct the prior art search. The USPTO is continuing to develop PE2E Search, which includes new features available to patent examiners.

PE2E Search is a modern, web-based platform with a focus on performance and adaptability. This tool provides features similar to legacy USPTO patent search tools, but allows for additional search functionalities. For example, unlike legacy systems, PE2E Search currently provides access to more than 69 million foreign patent documents with full machine translations in English.

In addition to providing access to the expanded foreign patent document collection, the USPTO is in the process of prototyping various AI search capabilities for integration with PE2E Search. A beta version of the AI search capabilities was released to a small subset of examiners in March 2020[1] for assessment and refinement. Additional AI search capabilities may be incorporated into PE2E Search and will be tested and approved before they are released to all examiners.[2]

## AI Search Features

Currently, PE2E Search is being developed to support AI search capabilities that will assist examiners in searching. The "More Like This" feature is the first AI search capability that will be released to examiners in PE2E Search. "More Like This" uses AI algorithms to generate a list of domestic or foreign patent documents that are similar to a specific patent document. To use this feature, an examiner selects a domestic or foreign patent document generated during a prior search as an anchor document

[1] A limited group of examiners searched approximately 700 applications in parallel using the beta version of the AI search capabilities while also performing searches for the preparation of Office actions using USPTO patent search tools available at the time. The prototyping of additional AI search capabilities for PE2E Search is ongoing.

[2] As new AI features are developed for PE2E Search, they are tested by a limited group of examiners. Data gathered during that testing is used to improve the quality and performance of these AI features, which use PE2E Search as a platform from which to operate. Public availability of the AI features depends, in part, on the availability of PE2E Search. Currently, the USPTO plans to make some search functionalities in PE2E Search available to the public in fiscal year 2022. Due to contract and cost issues, the AI search tool will not be accessible by the public. However, after a period of initial testing, during which the USPTO welcomes public feedback, the agency will revisit the possibility of public access. The USPTO plans to provide updates on the PE2E Search tool, its evolving AI capabilities, and public accessibility as new information becomes available.



**Ningde Amperex Tech. Exhibit No. 2014**
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(Anchor); the "More Like This" feature will return a list of patent documents that are most similar to the Anchor. The AI algorithm determines whether a patent document is similar to the Anchor based on the full text and metadata of a patent document. The AI algorithm is trained from public and proprietary measures of similarity extracted from worldwide examiner citations, classifications, applications, and human-rated similarity. "More Like This" may yield additional patent documents that were not included in the search results from the examiner's prior search.

In addition to "More Like This," the USPTO is in the process of developing and testing other AI search capabilities for future integration with PE2E Search. For example, AI features that generate suggestions for prior art references, refine document sorting, add insight into AI reasoning, and provide additional Cooperative Patent Classification suggestions are currently being tested in a beta version by a small subset of examiners. As the development of other AI search capabilities continues, additional AI-based features may be added to PE2E Search.

**Search Recordation**

As the USPTO advances the AI search capabilities from beta versions to integrated elements within PE2E Search for the examining corps, the Office will ensure that search history recordation is consistent with the Manual of Patent Examining Procedure 719.05. An examiner should use professional judgment in determining when the use of the AI search capabilities is appropriate.

When an examiner uses the "More Like This" feature of the PE2E Search tool as part of a search for an application, the examiner's PE2E Search history will indicate that AI search capabilities were used so the public receives clear notice that aspects of the examiner's search were performed using AI. Any additional documents yielded from the use of the "More Like This" feature will also be identified in the PE2E Search history for that application.[3]

**Contact Information**

Inquiries and feedback concerning this notice may be submitted to ai_for_pe2e@uspto.gov, or by mail addressed to: Commissioner for Patents, Box Comments-Patents, Post Office Box 1450, Alexandria, VA 22313-1450, and marked to the attention of Jonathan Horner.

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Andrew Hirshfeld
Performing the Functions and Duties of the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office

[3] The recordation of searches performed using the "More Like This" feature has been automated, so documents yielded from the use of this feature will be recorded in the search history generated by PE2E Search. When the "More Like This" feature is used, the examiner's PE2E Search history will indicate the Anchor the examiner selected and the specific documents the "More Like This" feature provided as being most similar to the Anchor.



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