

SUCCESS STORY

Cypris puts Elastic vector search and RAG technologies at the heart of its AI-powered research platform

Cypris strengthens research platform using advanced AI and Elasticsearch

Cypris enables clients in research and development to quickly search the latest patents, research papers, and news using generative AI technology supported by advanced vector search and RAG features in Elasticsearch.

Region
US

Industry
Software & Technology

Solution
Elastic Search



Accelerates report generation from weeks to minutes

- With Elasticsearch, integrated with generative AI, Cypris clients can generate detailed reports and analysis in 15 minutes, a fraction of the time compared with manual research.



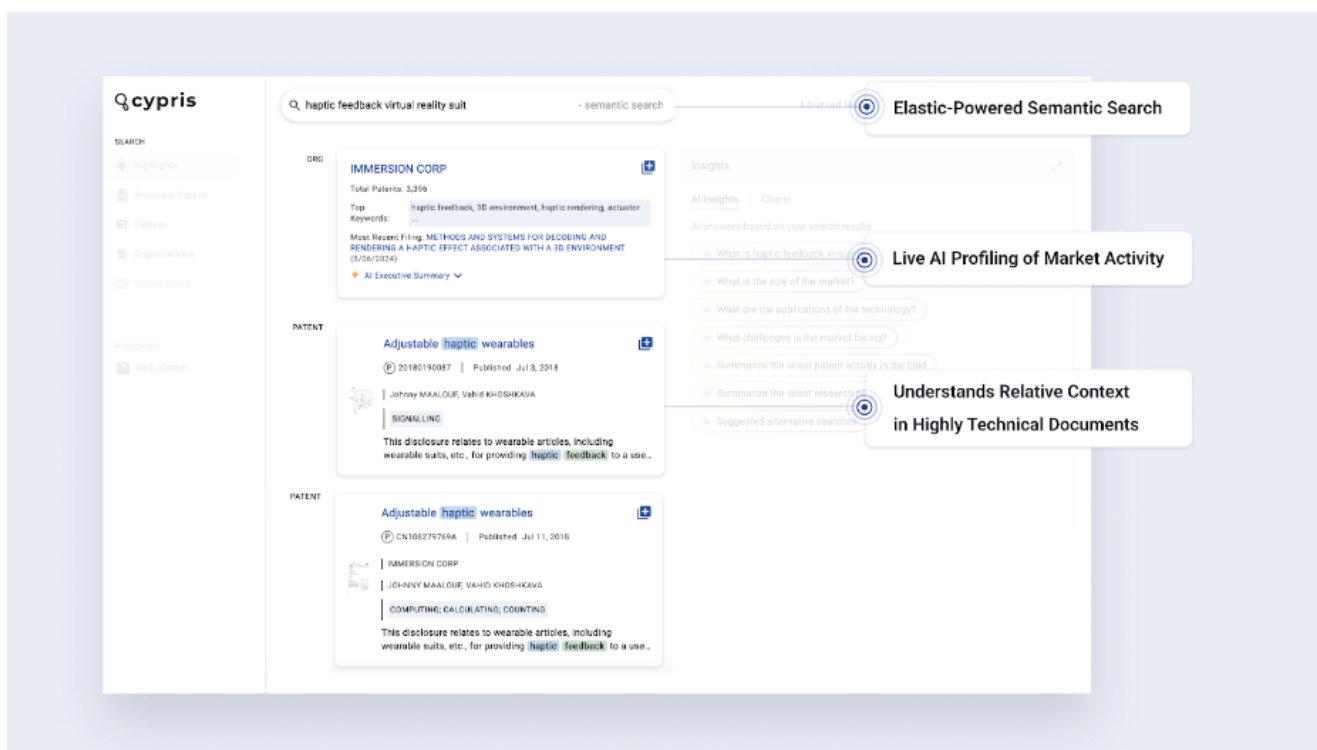
Reduces cost and time of developing AI search

- Cypris significantly reduced in-house development costs while accelerating time to market by using advanced vector features instantly available in Elasticsearch.



Scales fast to support 30% quarterly enterprise growth

- Cypris utilizes Elasticsearch to search over 500 million data points, providing clients with a targeted AI-powered platform that supports their rapid enterprise customer growth.



Advanced research platform, powered by generative AI and Elasticsearch, supports critical breakthroughs in product and business development

[Cypris](#) is revolutionizing the research and development (R&D) sector. Its cutting-edge AI platform enables R&D teams to analyze more than 500 million technical & market level data points in seconds.

Elasticsearch, a powerful search engine that organizes and indexes vast amounts of content, sits at the heart of the Cypris platform. Once the data is retrieved, a state-of-the-art generative AI platform processes it, delivering tailored reports and dashboards in a matter of minutes. This significantly reduces the need for manual research, saving valuable time and effort.

This [retrieval-augmented generation \(RAG\)](#) method has been widely adopted by Cypris clients across industries, including manufacturing, defense, and pharmaceuticals. Cypris CEO Steve Hafif says, “By simply entering a few keywords, you can gain a comprehensive understanding of the latest innovations in fields like nuclear energy or electric vehicles within seconds, answering key R&D questions. Cypris extracts critical information from a wide array of technical and market-focused data points to profile organizations, identify unique trends, and predict where sectors are evolving.”

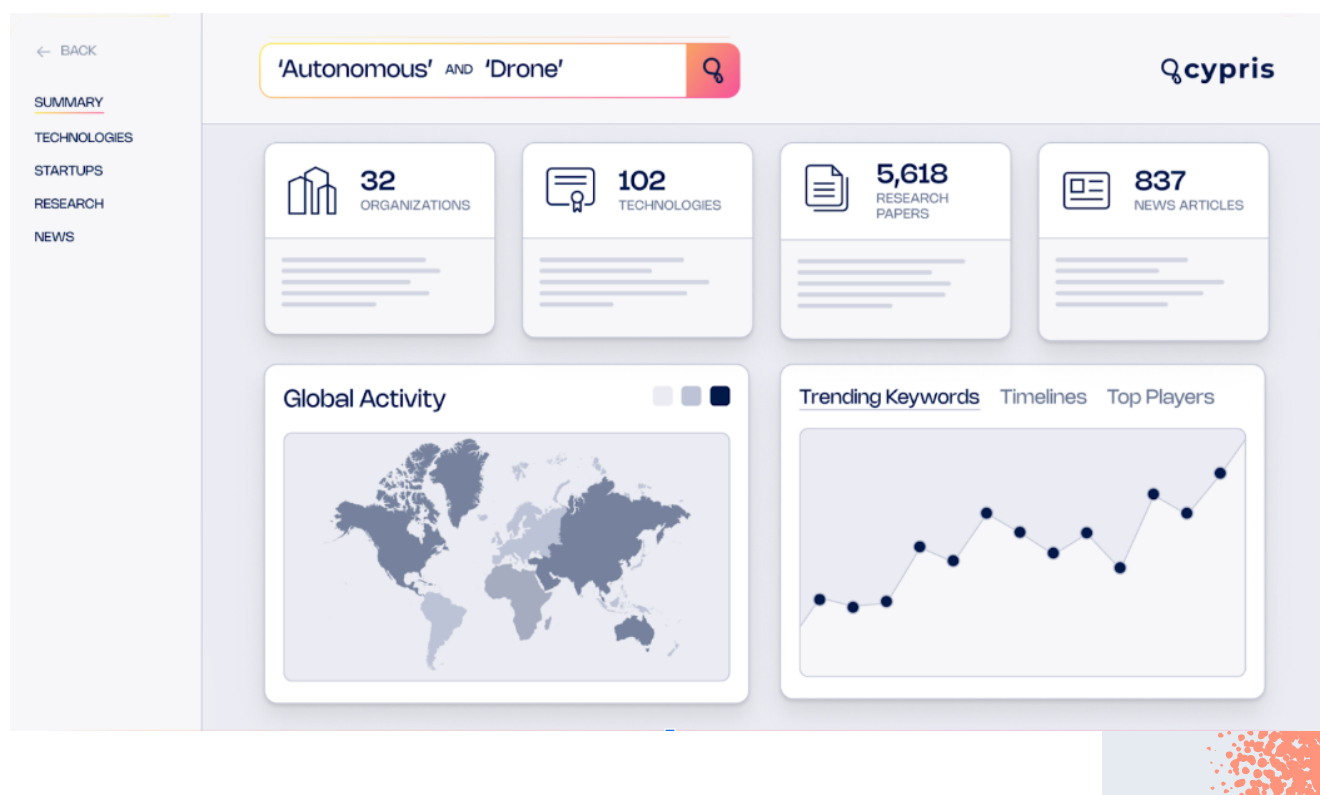


Unlike traditional chatbots that hallucinate and offer limited visibility into underlying data, Cypris narrows the [large language model's](#) context window to its real-time, innovation-focused database, with continuously updated data from global patents, scientific literature, funding institutions, organizations, news, and more. This seamless integration streamlines the research process, allowing researchers to build live reports on the state of global innovation in their research areas.



Effectively leveraging semantic search to identify relevant context for an external LLM is key to our RAG solution. Using Elastic instead of building our own vector-based search engine saved us a considerable amount of time and resources.

Steve Hafif
CEO, Cypris



Elastic: A strategic partner for AI search

Cypris' decision to adopt [Elasticsearch](#) was driven by its advanced capabilities and commitment to [customer success](#). Elastic's tooling around semantic search inference pipelines and dense vector queries proved useful for their text-based search applications compared to other search solutions. "Having the option to search through a large corpus of documents with BM25 and/or vector similarity ultimately led to more complete and relevant responses," Says Principal Engineer Logan Pashby who spearheaded the search and RAG projects.

Having a native vector database in Elastic helped them quickly go from zero to one on semantic search. They chose the dense vector approach to utilize a model that encodes a rich representation of their data. Support for third-party model weights enables Cypris to fine-tune search while continuously growing with Elastic as the database improves.

The hybrid search capabilities make Elastic even more powerful. Being able to score relevance as a combination of vector similarity and traditional Elastic queries like multi-match, filtering, and fuzziness empowered Cypris to support their more niche search use cases.

Beyond its technical capabilities, their team was impressed by Elastic's proactive support and commitment to collaboration. "Our successful implementation of semantic search was sped up by the expertise of Elastic's team," he says. "Their willingness to provide insight, even down to the lowest level of the dense vector search execution, demonstrated their dedication to our success."

Elastic's reliability and scalability were crucial in Cypris' decision to adopt Elasticsearch. After encountering scalability problems with their previous search provider, Elasticsearch proved to be a game-changer. Timeouts and cluster failures are now a thing of the past, even during peak usage. With Elastic, Cypris can effortlessly scale its search infrastructure without technological constraints. This robust scalability has allowed the company to manage over 500 million documents, totaling more than 10 terabytes of data.



Security and scalability: The cornerstones of growth

Cypris' commitment to security has been instrumental in securing high-profile clients within the U.S. Department of Energy and Department of Defense. These organizations conduct rigorous security audits, scrutinizing every aspect of Cypris' systems, including those that use Elastic.

Hafif emphasizes Elastic's exceptional security record. "There has never been an issue with Elastic. Their strong security practices and U.S.-based operations provide us with the utmost confidence when winning government contracts," he says.

Beyond security features, Elasticsearch has significantly enhanced Cypris' commercial appeal, driving quarterly customer growth of nearly 30% and attracting multi-million-dollar investments from venture funding partners. "Our business metrics are ultimately driven by successful, satisfied clients," says Hafif. "With Elasticsearch at the heart of our technology stack, we can continue to deliver an unrivaled research experience."

Looking to the future, Elasticsearch remains the foundation for rapid growth—both data storage and client acquisition. Cypris anticipates surpassing a billion stored documents by the end of the next year through growing their data partnerships and expanding their existing core database, all of which will be running through Elastic.



Elastic is the ideal AI partner for our business. They ensure that the initial semantic search is highly accurate and efficient so that we can optimize the performance of subsequent integrations with large language models.

Steve Hafif
CEO, Cypris

Build cost-effective and secure AI apps that are accurate and relevant using Elastic's vector database, out of the box semantic search, and transformer model flexibility.

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