Q&A

**QuantumBasel and EconSight form strategic partnership
to overcome the current limitations of patent analysis**

QuantumBasel and EconSight are pooling their expertise to take the analysis of highly complex patent data to a new level with the help of AI and quantum computing. The aim: to make hidden correlations in fields of innovation visible and strengthen strategic decisions with data support.

Why are patents so important for innovation?

Kai Gramke, CEO EconSight: Patents are considered a reliable indicator of a company's innovative activity. The number of patents is growing rapidly worldwide. By granting temporary exclusive rights or a potential monopoly, they offer companies a very attractive advantage as a strategic instrument.

What makes patents so difficult to understand, even though they are publicly available?

Jochen Spuck, CTO EconSight: Patents are very complex legal documents. They are written in such a way that they only disclose enough to make the invention understandable to a person skilled in the art. At the same time, they should conceal as much as possible so as not to make it too easy for competitors. It's a system by experts for experts and

you must have a lot of specialist knowledge to be able to analyze it. This is what we specialize in.

What is the current status of the patent analysis - and what is no longer sufficient?

Kai Gramke: For years, patents have been an exciting source for measuring the innovative strength of companies. In the past, you simply counted a company's patents and whoever had the most

was the best company. That wasn't true even back then, but there was no better way of doing it. Meanwhile, big data has opened up new possibilities for analysis and the first opportunities for patent evaluation have emerged. That was the time for us to enter the market and develop our own patent database. In recent years, artificial intelligence has provided new opportunities, which we are actively using. This is mainly about analyzing the content of patents

and making a better selection for a specific analytical question.

Why does even AI reach its limits when it comes to patents?

Jochen Spuck: Patents, as we analyze them, are highly complex systems with multidimensional vectors that even AI cannot properly resolve. For us, there is also the extensive analysis of future technologies, which further increases the complexity. AI provides answers - but not always quality. We want precision, not just any result. That's why, even with AI, we are constantly pushing the limits that exist today. In short, we simply need

more than the binary 0 or 1 answers that you get with existing computer systems, and this is where quantum computing comes into play.

What exactly can quantum computing contribute that traditional systems cannot?

Jan Mikolon, CTO QuantumBasel: Quantum computing can recognize complex relationships where conventional systems fail due to binary limits - for example in multidimensional networks of relationships or in AI applications with high dynamics. AI is also almost always about the relationships between things, and these cannot be represented

and analyzed with 2 or 3 dimensions, or even zeros and ones. This is where the quantum computers show their strengths. Just as counting quantities was not enough for patents, the same applies to information. Not very relevant on its own, but highly exciting in relation to others.

What role does QuantumBasel play in this context?

Damir Bogdan, CEO QuantumBasel: 'QuantumBasel is located at the interface of AI and quantum. It is the first commercial quantum computing hub in Switzerland and enables companies to get started in quantum

computing and AI through technology-neutral access to hardware from leading providers. The internationally networked team supports companies from industry, logistics, finance, energy, life sciences and start-ups with projects, training and partnerships to realize innovation potential that they would not be able to exploit on their own.

Why are patents an important topic for QuantumBasel?

Damir Bogdan: Switzerland, and Basel in particular, with its life sciences, excellent universities and competitive SMEs, is one of the most innovative regions in the world. Patents play a central role in this: Switzerland has the highest patent density per capita. QuantumBasel aims to help maintain this innovative strength - and to make even better use of it through new technologies such as quantum computing.

Are there any other areas of application?

Kai Gramke: In addition to strategic corporate projects, the financial sector offers a lot of potential. In recent years, EconSight was the first company ever to

establish patents in the financial sector. We work with the largest companies in the sector. And here, too, it's always about going further, getting even more out of it, doing even better analyses. By combining patents, technologies, AI and quantum computing, we expect significant breakthroughs in this area as well.

What distinguishes this cooperation from other approaches?

Jochen Spuck: Developments in the field of AI and patent analysis are coming from two directions: On the one hand, there are companies from the patent analysis environment that are trying to integrate AI into their products. On the other hand, there are AI specialists who are looking for a field of application and come across patents. The problem is often that neither are familiar enough with the other. As I said, there is always a result, but you also have to classify the result qualitatively, and this is where the gaps become obvious.

Jan Mikolon: We are certainly not the only ones who recognize the current limitations of the system, but we both work at precisely this interface, have years of

experience in the fields and are also geographically close to each other - an extraordinarily rare combination.

What do you focus on in terms of content when working together?

Kai Gramke: A patent usually consists of 50-100 pages, of which only the first page with the easily extractable information such as address, inventor, country, patent classes and citations used to be analyzed. Today, AI and vector similarities are used to analyze and compare the content of the entire patent text, but since patents usually hide more than they reveal, even the most advanced AI fails to perform a high-quality content similarity analysis. Our goal is to provide a comprehensive assessment of content and a comprehensible technical evaluation of relevance and factual connections. To achieve this, all patents must first be structured in such a way that they can serve as a precise basis for analysis.

Are there any other common goals?

Jochen Spuck: At the same time, we are also interested in recognizing, analyzing and structuring the other

non-text-based information in patents. The technical drawings, schematics, abstract graphic objects or chemical formulas. These are, for example, the famous Markush formulas that make life difficult for everyone in the patent world. As a trained chemist, this is of course particularly important to me.

Jan Mikolon: Last but not least, it's also about visually processing all this structured information and thus opening up complex information spaces. We want to link the patents with all other data that companies already have. Patents will

then finally become a strategic data source.

It is obvious that we will have to push the limits of what is feasible, and that is only possible with quantum computing.

So is it primarily a joint research project?

Jochen Spuck: Absolutely not. We have already sufficiently proven the theoretical feasibility. We are primarily interested in practical customer benefits. The first projects with major customers are already in the starting blocks - more on this in 1-2 weeks.

Last question, how did you find each other in the first place?

Damir Bogdan: It had been on our minds for some time, and we had mentioned it in passing at one event or another, but somehow we hadn't gotten around to it. Then, at this year's World Economic Forum, we happened to be sitting in the audience of our respective presentations, seized the opportunity and sat down together. Two people from Basel first had to travel to the WEF in Davos to start a serious conversation - but sometimes good collaboration requires the right timing.

About QuantumBasel

QuantumBasel is a competence center for quantum computing and AI and drives access to commercial quantum computing to foster innovation. QuantumBasel places particular emphasis on technological neutrality and is Switzerland's first commercial quantum computing hub, providing access to hardware from IBM, D-Wave and IonQ. QuantumBasel's team of quantum and data scientists trains and supports companies, conducts projects in quantum computing and AI, and collaborates closely with universities and academic institutions. Through an internationally connected ecosystem, QuantumBasel provides access to advanced know-how and technologies, enabling companies in industrial production, logistics, finance, energy, life sciences, and start-ups to achieve innovations they cannot develop independently. www.quantumbasel.com

About EconSight

EconSight identifies, analyzes, and evaluates the technological performance of companies, countries, and regions in the most important cutting-edge technologies. The EconSight approach is based on sophisticated state-of-the-art patent analysis to identify players with significant innovation potential in more than 600 technologies such as Smart Factory, Brain-Machine Interaction, Fuel Cells or Artificial Intelligence. EconSight supports companies with technology-based strategy and competition analyses, and investors with ratings and assessments as a basis for investment decisions. Furthermore, EconSight develops studies for policy makers, associations, and foundations on global and regional technology trends. www.econsight.com