

INCREASING THE IQ OF IT

Semantic technologies are changing the way we use information and knowledge in companies. SAP Research is investigating how this technology will make our lives easier in the future.

If you run a search for the word “mouse” on the Internet, you are likely to get hits on both the rodent and the computer device – even if you actually only wanted to know about the rodent. And if you plug the word “cars” into a search engine, you won’t find any of the documents that contain the word “automobiles.” With semantic technologies, however, computers can search more intelligently: They enable systems to recognize that “cars” and “automobiles” mean the same thing and that the word “mouse” can have two different meanings. Search results can be grouped as the user originally intended. Although still in the early stages of development, semantic technologies will soon be making life a lot easier for us all – both on the Internet and in business systems.

Deducing implicit information “We’re trying to make computer-based access to company information more intelligent,” says Ralf Ackermann, senior researcher. His team of 14 based at SAP Research Centers in Dresden, St. Gallen, and Zurich want to put semantic technologies to use in retail, logistics, and IT support. One of the projects the team is currently working on is Aletheia, a project sponsored by the German Federal Ministry for Education and Research. Researchers want to enable systems to gather and harmonize information from a variety of sources, such as handbooks, Web forums, wiki pages, and databases, to deduce implicit information from their findings. To fulfill customers’ needs and find new business models, SAP is working closely with partners from

Improved Access to Information

SAP Research is participating in several projects that aim to improve access to product information using semantic technologies. In addition to the PROCESSUS and Aletheia (semantic federation of comprehensive product information) projects, researchers from the team are also working on SemProM (Semantic Product Memory) and ADiWa (alliance for the digital flow of goods), which focus on topics from the Internet of Things and the Internet of Services.


industry and science. Everyone involved shares the same objective: to quickly provide end users with **product information** that is tailored to their requirements.

Intelligent results To give an example: A maintenance technician is called to a machine because someone has reported a leak. He can use his cell phone to search for the cause of the problem on the Internet. The Aletheia system sifts through maintenance manuals, Web forums, and articles to return only the most **relevant information** to the technician. “He doesn’t have to spend his time searching through various sources of information,” explains Frithjof Dau, a researcher in Ralf Ackermann’s team. Since the system knows that the user is a maintenance technician, it knows he is not interested in marketing materials and shows him only the most relevant sections of the longer texts – including new information that the system has deduced itself, thanks to the new **semantic technologies**. “This means the user gets answers that are not explicitly available on a Web site or in an article; this is implicit information that the system has deduced by combining other sources of information,” says Frithjof. As part of another project known as THESEUS and its application scenario PROCESSUS, a team is researching how semantic technologies can be integrated in software systems. Here, the focus is on supporting business processes used by information workers. The researchers predict that, in the future, these systems will play the role of experienced colleagues, supporting users by learning from old processes and intelligently passing on their knowledge. This will benefit, for example, sales employees who create quotations or technical authors writing product documentation.

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 More information on ALETHEIA:
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 THESEUS and application scenario PROCESSUS:
www.theseus-programm.de/anwendungsszenarien/processus/default.aspx