

Making intelligent use of large data volumes

As part of the EU project "BIG," scientists from Corporate Technology are researching the use of very large data volumes, known as Big Data. They are focusing on the three areas of healthcare, transportation and energy.

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Countless technologies and applications are generating vast volumes of data these days: safety cameras, monitoring systems for complex production processes or plants, intelligent energy grids, climate research, nuclear physics, social networks and, increasingly, gene technology. This data must not only be recorded and stored but also quickly analyzed. Medical diagnoses must be made, hazardous situations identified, and predictions made regarding network stability. But this is almost impossible to do with the databases and analytics that are commonly used today.

As part of the funded BIG project, scientists from Corporate Technology (CT) are therefore working to get an overview of other opportunities that are currently available and the developments that will be necessary to analyze large volumes of data. They are identifying technologies for data analysis and are developing new business models that will enable them to store, process and use the constantly increasing volumes of data from the areas of healthcare, transportation and energy. To this end, the experts are asking a large number of data users about their needs for Big Data technologies between now and 2020, and are analysing suitable technological solutions.



BIG project manager Yi Huang, from the Business Analytics and Monitoring (BAM) technology area, explains: "We are doing these studies to determine where the Siemens sectors have similar needs for Big Data technologies. We then want to present the results to the staff in these sectors in the form of workshops." This funded project thus fits in well with the efforts of Siemens to do more business in the future using vertical software. Big Data was also one of the top subjects at the European Data Forum 2013, held this week in Dublin, Ireland, where Gerhard Kress of Siemens Strategic IT Coordination gave a presentation and participated in a discussion panel.

Huang's colleague Sebnem Rusitschka expects BIG to have an influence on future funded projects: "This will be ground-breaking in terms of the development of Big Data solutions in Europe and future funding for them by the EU Framework Program for Research and Innovation, Horizon 2020." Besides Siemens and the IT service provider Atos, nine other partner entities from the fields of economics and science are involved in this two-year project.

Some examples from Siemens businesses: Experts expect an explosion in genetic data from the clinic. Smart grid technologies that provide intelligent control of energy grids involve the simultaneous monitoring and control of large numbers of energy producers and consumers. Smart meters are therefore no longer read only once a year, but every 15 minutes. The scientists are conducting expert interviews on these and many other issues relating to Big Data. With regard to healthcare, for example, doctors, patients, pharmaceutical companies as well as the developers of medical devices are being surveyed. Because the subject of Big Data is also being intensively investigated in the U.S., the EU project is concentrating particularly on European considerations such as the many different languages being used or the highly developed public transport systems.

As part of the Siemens in-house Business Intelligence project, Gerhard Kress is dealing with the question of using large volumes of data. He sees major business potential in a data-supported service: "The appeal lies in the fact that, in the future, we can use data to model complex systems or plants. This will make results of the analyses available more quickly, even quickly enough for the answer to be relevant in terms of system optimization. Processing different types of data will give us a more comprehensive picture of the analysis results. In other words, we will get them in context."

This will help Siemens improve its customer processes, support decisions in real time and better focus on its customer investments. “As a result, we will be able to draw on analyses to improve our software product range (for example, to ensure electricity grid stability in the face of increased use of renewables), offer new services to our customers or, in some cases, take over their operational risks (such as guaranteeing device availability).”

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Further Information

- Business Analytics & Monitoring
- European Data Forum 2013
- Big Data Public Private Forum