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A Guarantee for Secure Data Exchange in China

PROSTEP
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The German/Chinese joint venture company BBA has been working with the data exchange solution OpenDXM GlobalX from PROSTEP since the beginning of 2014 and is currently connected to over 300 exchange partners. Photo: BBA

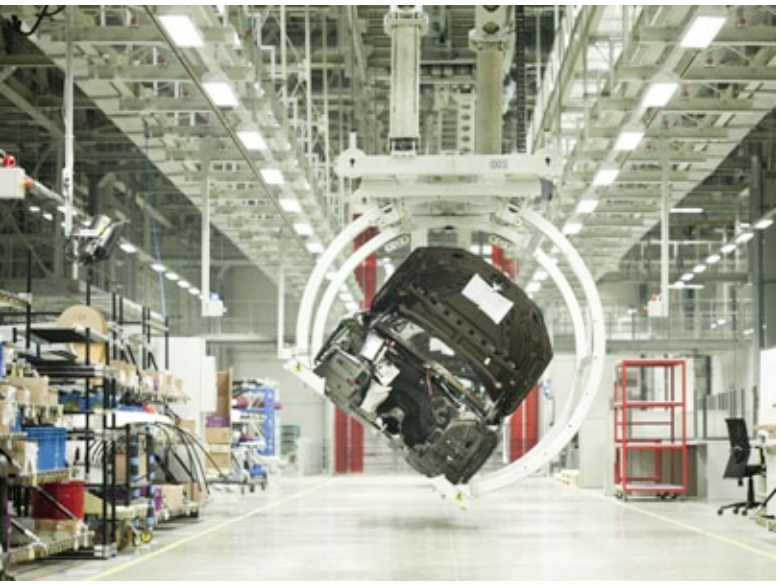
Series production of a new ZINORO, with a new energy vehicle concept, will start in autumn of this year. It represents a major milestone for BMW Brilliance Automotive Ltd. (BBA), the joint venture between BMW and Brilliance China Automotive. The OpenDXM GlobalX software from PROSTEP guaranteed a secure data exchange between BBA and its partners during the development of the new ZINORO.

Different countries, different customs: Wealthy Chinese want their cars to offer their families more space and greater comfort, and they sometimes have themselves driven around by chauffeur. That is why a long version of many of BMW's series is available on the Chinese market. „The Chinese have a great affinity for applications and want more infotainment options. That is why for example the infotainment software, can be different to the German market" explains Thomas Efinger, Manager Process IT ItO (Product Engineering) for TDM and PDM at BBA.

The joint venture, which has its headquarters in Shenyang, was founded 13 years ago in order to manufacture BMWs for the Chinese market. It now provides employment to over 16,000 people, and also develops special vehicle parts as well as the needed manufacturing equipment for the long versions by themselves.

Dedicated IT infrastructure

BBA works together with numerous local partners on both developing the vehicle modules and producing the manufacturing equipment. The development partners are partly Chinese branches of major German engineering service providers, but mostly local Chinese engineering service providers. That is the reason why there is a great need for collaboration today. This was not



„OpenDXM GlobalX is an important component that makes it possible to handle processes such as designing manufacturing equipment possible at BBA," stresses Thomas Efinger. Photo: BBA

„An important aspect for using the PROSTEP solution was also Teamcenter integration, which allows users to send their CAD data directly from the PLM system," says Thomas Efinger from BBA. Photo: Ralf Kopp

always the case. It is only in recent years that BBA has established such an extensive network of partners and assumed responsibility for the manufacturing equipment.

When it came to IT, BBA was able to implement an infrastructure of its own, when the R&D division was built up. BBA uses the PLM system Teamcenter from Siemens in combination with CATIA V5 as the backbone for managing geometry. A decision was also made to use a dedicated data exchange solution for BBA

Multi-level security concept

The basis for the decision in favor of OpenDXM GlobalX was provided by a benchmark involving a number of different data exchange solutions. Important requirements for the benchmark was security, usability, performance and stability to ensure an efficient collaboration with development and manufacturing partners. In both cases BBA need to provide large amounts of data to its partners and in many cases data also need to be sent back to BBA. „When it came to the range of functionality, OpenDXM GlobalX was best able to meet all requirements without any need for add-ons," says Efinger. „A crucial point was also the Teamcenter integration, which allows users to send their geometrical data directly from the PLM system."

The most important factor, however, was the level of security provided when exchanging data, since highly sensitive data is involved, and this data needs to be protected even when it is sent in neutral formats. OpenDXM GlobalX provides a multi-level security concept for this purpose which allows not only the line, over which the data is being sent, to be encrypted but also the data itself. This can be done on different security levels depending on the customer requirements. BBA performs regularly penetration test to verify the reliability of the security architecture. As Efinger says, „It was a key prerequisite to fulfill the high security standards at BBA for exchanging geometrical data with partners".

The data exchange solution from PROSTEP also offers special functions for sending large volumes of data via unstable data lines with low bandwidths. Without the „resume" function, which resumes data exchange at the point at which it was interrupted due to an interruption in the line, BBA would not be able to provide its manufacturing partners with multi-gigabyte packages of data because connections via the Internet from outside China sometimes could break down. To ensure a high level of performance, the company established its own server infrastructure and installed the data exchange platform locally.

Fast partner integration

OpenDXM GlobalX has been in use productively since the beginning of 2014. At the moment, more than 300 exchange partners have been set up, half of which are BBA own employees and the other half are employees working at external partners. "There are no external partners with whom we automatically exchange data. The individual BBA engineer decides which data is to be provided to which person and in which formats. That's why new partner relationships can be set up quickly and easily, thanks to special templates." says Efinger.

Not all the exchange processes are initiated in Teamcenter. For instance the design of manufacturing equipment in particular also will be done file-based. In cases like this, the engineers uses the web client to upload the files to the platform. The intuitive

BBA uses the PLM system Teamcenter from Siemens in combination with CATIA V5 as the backbone for managing geometry data. Photo: BBA

usage of the web interface is very important to ensure a high level of acceptance of the solution, not only in the business departments at BBA, but also at the external partners.

Open to other use cases

On the one hand, OpenDXM GlobalX is used to exchange vehicle data with external development partners, on the other, it is used to send data to the producers of the manufacturing equipment. A relatively new use case is exchanging layout plans as drawings with suppliers. In this case, OpenDXM GlobalX serves as a kind of collaboration platform, which means that the data is made available in a central location so that all the suppliers involved can access it and return their own data to this location.

Efinger does not want to exclude the possibility that the data exchange platform might, in the future, be used for completely different use cases: „OpenDXM GlobalX is a very powerful tool that is not only suitable for exchanging geometry data. There are, for example, requirements from different departments, which wants to be able to exchange Office documents with its partners securely. The Office integration provided by OpenDXM GlobalX, which allows data to be made available directly from the e-mail application via the protected exchange platform, could be of interest to this circle of users.

A key strength of the data exchange solution from PROSTEP is that it is secure but nonetheless very easy for users to operate, as Efinger says in conclusion: „OpenDXM GlobalX is an important component that makes it possible to handle processes such as designing manufacturing equipment at BBA. Without the solution, we would not be able to handle such processes with the same efficiency like we do today."

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