

■ Beijing Foton Cummins Engine Co., China

Keys to Success

The tools provided by Solutions for Powertrain – Transline give the management of this Chinese automaker confidence in high machine and plant availability, as well as optimal productivity.

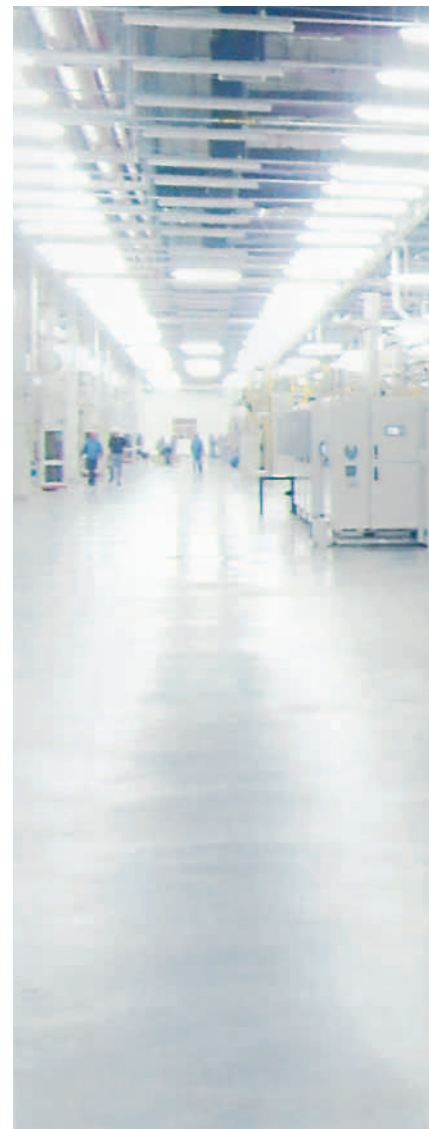
Siemens Solutions for Powertrain – Transline is a special system-integrated solution for the automobile industry. The solution is based on modularization and standardization. It is broadly used in the powertrain field and has already set up a standard for powertrain customers. Transline is successfully used in the Foton-Cummins engine project, to produce two types of Cummins light-duty, high-performance diesel engines in their Beijing manufacturing plant. The plant has an annual capacity of 400,000 units and will produce Cummins 2.8-liter and 3.8-liter diesel engines, which will meet worldwide emission standards, including Euro IV and Euro V. The project is based on a joint-venture between the two companies Beiqi Foton Motor Company and Cummins Inc., forming Beijing Foton Cummins Engine Company Limited (BFCEC). BFCEC represents a further expansion of Cummins' product line in China, where the company is the leading foreign producer of heavy-duty and mid-range diesel engines already. While Cummins is a leading diesel engine supplier, Foton Motor is a strong player in China's commercial vehicle industry. The engines will be used primarily in commercial trucks, pickups, multi-purpose and sport utility vehicles. Certain types of light-duty construction and industrial equipment will also be served by these engines.

Smooth integration within an existing technology framework

BFCEC decided to support the new manufacturing lines and processes by implementing Solutions for Powertrain – Transline from Siemens. The solution was chosen partly because of its many successful installations around the globe. This gave the management confidence in Siemens technology and deployment expertise. The company also preferred Siemens extensive process management functionality, as well as its ability to work with the company's

Transline minimizes the total cost of ownership with a modular automation concept based on standardized hardware

range of product information formats. In addition, the flexibility of Transline was important to ensure smooth integration within BFCEC's existing technology framework. The Transline concept decreases technical risk and complexity and enhances the ability to manage change. The project included a cylinder head machining line, a cylinder block machining line and an engine assembly line. The MAG machining centers are equipped with Sinumerik 840D. The drive-based control system offers graduated performance: from simple positioning tasks to complex machining processes, with up to 31 axes and 10 channels. Its versatility ideally equips this CNC to machine powertrain components in the automotive industry. Safety functionality provides reliable personnel and machine protection without additional monitoring devices. The assembly line equipment from Dalian Haosen is supported by Simatic S7-300. This PLC is also used in the Sinumerik 840D CNC systems. With performance from various central processors, the system is capable of resolving complex control tasks. Real-time communication opens up a range of options for data exchange within the process. Handling is simplified by integrated functions, such as automatic parame-





Beijing Fobon Cummins Engine Co.

terization, expanded diagnostic options, passwords and ease-of-assembly. Furthermore, Moby Identification Systems and other Siemens motion control systems are integrated.

Solutions fitting for individual needs

The automation concept Solutions for Powertrain – Transline can be integrated into global production concepts. It is based on a flexible modular system consisting of standard components. It covers project management, which relieves customers of time-consuming coordination work as well as services for the entire operational phase leading to sustainable cost reduction, heightened machine availability and increased productivity. The Siemens Joint Venture, SFAE, with its well-trained service engineers is very close to their customers to ensure this availability and productivity.

The objective in production today is disciplined versatility. Automation solutions are on the one hand, custom-made and on the other hand, based on proven, yet innovative standards. Transline is such a concept that has been developed specifically for

automotive powertrain mass production. The modular design concept principally manifests itself in quicker commissioning, minimized spare parts requirements, efficient service, lower training costs, and a more flexible workforce. For example, the use of a component list reduces the number of automation components employed, thereby minimizing the necessary spare parts stock. Standardized interfaces greatly facilitate data communication with the control level, while uniform operating screens provide control panels with a consistent look and feel.

Solutions for Powertrain will not only improve product quality, but also reduce project lifecycle costs and time-to-market. At the same time, it will also provide the company with a high level of efficiency necessary for succeeding in an increasingly competitive market. The management believes that the successful implementation will be the foundation for a long-term cooperation between Siemens and BFCEC. ■

info
contact

www.siemens.com/transline
voss.carsten@siemens.com