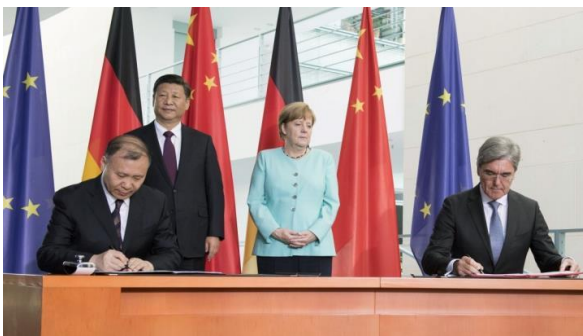


One workshop for 100,000 varieties

In Guiyang, south China, cloud manufacturing has moved beyond the drawing board and into reality!

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With the aim of building a future-oriented industrial ecosystem, Siemens entered a strategic cooperation with CASIC (China Aerospace Science and Industry Corporation) in 2017. The partnership exemplified Germany's "Industrie 4.0" and China's "Advanced Manufacturing" combined together to enable transformation and upgrade of the manufacturing industry.



Joe Kaeser, President and CEO of Siemens AG, and Gao Hongwei, President of CASIC signed a strategic cooperation agreement on industrial internet and intelligent manufacturing in July

2017, witnessed by Chinese President Xi Jinping and German Chancellor Angela Merkel.

Siemens worked together with CASICloud and Guizhou Space Appliance (GSA) which are subsidiaries of CASIC group. They built the world's first pilot intelligent workshop with cloud manufacturing capabilities in the precision electronics component industry. Featuring multi-variety, small-batch and customized productions, the pilot enabled a new order-driven production mode which was lean and flexible.

Unlocking the potential of intelligent manufacturing

GSA started exploring the field of automation nearly two decades ago. "However, automation is unable to solve the challenge of flexibly producing multiple varieties and small batches of products," said GSA President Chen Zhenyu. "As the company develops, we are beginning to move ahead with intelligent manufacturing."

The pilot project started with digital enterprise consultancy led by Siemens. Making digital enterprise a reality is like building a house: it has to be constructed according to architectural drawings. The comprehensive consultancy made it possible for successful implementation to occur later.



The world's first pilot intelligent workshop with cloud manufacturing capabilities in the precision electronics component industry

With Digital Enterprise solutions, Siemens built a “digital twin” of intelligent manufacturing throughout the entire lifecycle of the workshop, enabling end-to-end integration. CASICloud applied its competence of industrial internet platform and cloud manufacturing. Based on “INDICS (Industrial Internet Cloud Space) + CMSS (Cloud Manufacturing Support System)”, the workshop achieved collaborative design, intelligent production scheduling and industrial big data analysis. GSA built a networked intelligent production line which allows flexible assembly and intelligent precision detection. Such innovative business models, technologies and management drove the enterprise development.

The intelligent manufacturing pilot project has achieved leaps and bounds in all aspects. Its production efficiency is expected to increase by 50%. The rate of non-conforming products is estimated to drop by 56%, the operations cost to shrink by 21% and the time to market to be shortened by 30%.

On top of those, talent development was another prominent achievement. The skill sets of people involved in this project developed rapidly. GSA set up a new department especially for intelligent manufacturing. Lyu Jiangtao, a software engineer at GSA, participated in the building of the pilot project, and has grown to become manager in charge of intelligent manufacturing. Many of the talents trained in this project are now taking lead roles in other intelligent manufacturing projects.



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This pilot marks the first step of a journey into new realms with endless possibilities. Siemens' work with CASIC will continue to create value for both parties, and help to write a new chapter of Sino-German cooperation in intelligent manufacturing.

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