

How is Germany Approaching Industrie 4.0 and What Influence is it having on Other Regions?

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Industrial Technology

A number of associations, including DFKI, Bitkom, VDMA, and ZVEI, are leading the charge to smarter manufacturing in Germany. The goal is to promote Germany's expertise as an industrial automation technology, machine design and manufacturing system leader, using this as a competitive advantage against those regions that have in recent years become more of a threat [1].

There are also the industrial networking associations, which serve to promote communication protocols, and are aligned to leading automation component vendors. For example, Siemens and Bosch, leading suppliers of automation technology, support the Profi and Sercos networking protocols, ensuring that a standard communication backbone can be installed throughout the production system. Particularly in discrete manufacturing, the adoption of communication protocols is transitioning from fieldbus to industrial Ethernet, which is aiding integration with the enterprise. This move is slower in process industries, where fieldbus technologies are more entrenched.

Leading industrial automation component suppliers and end-user manufacturers are also partnering with other regional government officials and manufacturing sites to develop smarter manufacturing. The "Plan of Action for Sino-Germany Cooperation", is aimed at helping to drive Industry 4.0 in China, through relationships with German companies [2]. Key focuses are sustainable development, security and even smart transportation, leading to more competitive and flexible production facilities. Early examples of partnerships have already been seen with automotive and semiconductor production facilities. It is expected that other sectors will also benefit from these partnerships throughout 2015, leading to benefits for both domestic and foreign customers. Given increasing labour costs in China, and increasing competition from low cost labour in the Greater Mekong Region, it needs to embrace smart manufacturing to stay ahead of the pack. Germany can play a key role in facilitating.

The Chinese manufacturing sector is an obvious beneficiary of the drive to more flexible and efficient mass production. As labour costs

continue to rise faster in China than in other developing countries in Asia, there is growing incentive to adopt new manufacturing components and technologies that will help to lower production costs through minimising manual labour and downtime.

Partnerships between those companies leading the drive to smarter manufacturing in the west and manufacturers in countries like China or Brazil will play an important role in reducing relocation of manufacturing to regions where labour cost is lower. With investment in hardware, software and knowledge, manufacturing sites in these regions can start to move away from heavily labour-dependent production [3]. More automation, networking of devices and an understanding as to how real-time data can be used to manage production lines more effectively, will lead to greater efficiency, less downtime and lower labour costs.

With annual growth of the Chinese economy stabilising around 7% and excess industrial production capacity still an issue, now is the time for end-users to invest in the future of their facilities. This represents a significant opportunity for suppliers with a strong portfolio or vision as to how best to implement smarter manufacturing technologies. Partnerships between suppliers, focusing on different aspects of the Industry 4.0 initiative overall, will also play an important part; as no individual company can address all pieces of the puzzle.

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