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# ABB drives cut £20,000 off energy bill for GKN

ABB low voltage AC drives are saving GKN £20,000 a year in energy costs on its Toyota component production line.

GKN AutoStructures Ltd (ASL), based in Telford, produces components for many of the world's leading vehicle manufacturers. The Toyota line makes many thousands of chassis cross members a week for the Toyota Auris and Avensis vehicles. An important part of the process is welding and the line uses an extraction system to remove welding fumes from the area.

ABB contacted GKN ASL with a proposal to investigate energy usage at the plant and determine if low voltage AC drives could make a difference on any motor-driven applications. Ade Stone, Energy Champion for GKN ASL, identified the fume extraction on the Toyota line as a likely candidate and agreed to a trial of ABB drives.

Says Stone: "With the increasing price of energy, we are obviously looking for any viable energy saving technique and we will look at any approach with the potential to cut our energy bill."

The production area for the chassis is divided into two sections, one for the Auris and one for the Avensis. Each line has an air intake and air extraction fan, driven by motors of 55 kW and 30 kW respectively. These were oversized for the applications and were not drawing their rated power. In a two week trial, Nigel Cook of ABB installed two temporary drives of 55 kW and 30 kW and turned the speed of the motors down until they were extracting a sufficient air volume to maintain the proper air quality for the workers in the production area.

The optimum speed was found to 42.5 Hz. This produced an average saving on power use of 55 percent, with one fan motor seeing a peak saving of 64 percent.

"We are very pleased with the project," say Stone. "Now that the full system is installed we are set to save around £20,000 on our energy costs, with a payback of between six to nine months. This is far better than our target figure for these types of projects of 12 months, so we are very pleased with the results. Also there was no effect on air quality so staff working on the line are not affected."

ABB also provided training for GKN ASL maintenance staff so that they could keep the drives working at optimum performance. "We are in the process of rolling out ABB low voltage AC drives to other areas of the plant," adds Stone, "and we have recently installed five ABB drives on the Land Rover Defender line and are looking to install another in our compressor house."

As well as the energy savings, the low voltage AC drives have also reduced the noise produced by the motors. Mounted outside the building, the motors can cause an environmental nuisance to residents living near the plant. Reducing the motor speed cut the noise levels, saving GKN ASL the expense of moving them to an indoor installation.

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished

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**Caption:** ABB low voltage AC drives are saving GKN £20,000 a year in energy costs on its Toyota component production line.

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