

More and more UK companies are looking to improve productivity through automation, so an increasing number of production managers new to the concept are in need clear advice and support. Sarah Gray, WDS Component Parts Ltd. Sales and Marketing Manager, says the big picture includes far more than robot arms and PLCs.

The Office of National Statistics calculates that productivity in the UK is 18 percentage points lower than the average for the rest of the G7 advanced economies. This alarming figure, coupled with the market uncertainties being created by Brexit, is encouraging many manufacturing companies to look at automating some or all of their processes in order to ensure they are competitive in global markets.



This increased demand for automation equipment and expertise is further extended because other companies are considering upgrading existing automated systems, or introducing new processes that will be automated from the outset. Some are developing automated facilities so that they can repatriate offshore operations.

As a general rule, production engineers have mechanical and/or electrical qualifications, rather than electronic or control, so may be unfamiliar with the high tech end of automation. However, the good news is that a large part – probably the majority – of automation systems' design and build is mechanical and electrical engineering, mixed with a good measure of simple common sense.

While industrial robots can be mesmerizing to watch and other automation systems can perform repeat actions at mind-boggling speeds, an analytical eye will soon spot that there is quite a lot of simple engineering involved.

For instance a robot arm can pick up a workpiece and move it to a work station where it may be drilled, formed, sprayed, welded or assembled with other parts. The robot knows' where this workpiece is and picks it up confidently. But the reality is that the robot is programmed to go to exactly the same pick-up point every time, where a perfectly positioned workpiece is awaiting collection – and this positioning of the workpiece has probably been achieved by simple guides and stops.

Taking this example further, the robot's hand can delicately manoeuvre the workpiece, exerting just enough pressure to hold it securely but not enough to crush or damage it. In reality the robot is probably fitted with a bespoke gripper that is profiled to the shape of the workpiece and the gripping pressure is controlled. This example illustrates that an automated work station needs as much simple mechanical engineering as high-tech robot programming and motion control profiling. In fact it clearly demonstrates that automation projects are no more daunting than any other engineering undertaking.

WDS has been supplying engineering components and mechanical parts to industry for many years, often on next day or same day delivery and in any order quantity. Part of the advantage of working with WDS is that there is a team of knowledgeable people able to assist at every stage from product selection and specification, bespoke manufacture, order, dispatch and post purchase assistance.

WDS's range of products is vast, and encompasses many of the mechanical components needed to build an automated production cells, from guides and stops, to gas struts, levers, pushbuttons, hand wheels, steel and aluminium profiles, transfer tables, anti vibration mounts, hydraulics, hinges, location and positioning elements.

The majority of these are manufactured in house and all WDS products are supported with 2D and 3D CAD models that can be downloaded free of charge from the WDS website. The site also hosts technical information, helpful videos and provides helpline telephone numbers.

In recent years it has become apparent to WDS that many of its UK customers are automating or semi-automating previously manual processes, so the company is moving to ensure that it is able to fully support this trend. Its engineers and technical staff are constantly training and retraining and its catalogue is being expanded to make sure all commonly required parts are available with the expected high quality WDS back up services.