

## An alternative to injection moulding for small parts



moulding for small items.

"The viability of using SLS as an alternative to injection moulding really kicks in with smaller items; there are no set-up fees, only a unit cost, so for small parts with volumes of up to 10,000, it's a no brainer," says Nick Allen, founder of 3DPRINTUK.

He added, "The more complex the part the higher the viability as equivalent tooling cost becomes astronomical. We had a breakeven point for some electrical connectors we produced at 20,000 units for print vs. mould. These really hit the mark for our set up as they're both small and complex. Using our free polishing service, the parts are near injection mould quality as well."

The company offers free samples for production runs based on a refund of the test models up to the cost of the minimum order if an order is placed. It is also there to offer advice with the design process if required.

T 0208 692 5208  
www.3dprint-uk.co.uk

Thousands or tens of thousands is a quantity barely explored in the additive manufacturing arena. However, 3DPRINTUK is making waves in the field of low to mid volume batch production with its bank of in house SLS printers.

Having developed a method for packing and cleaning production run parts, the team at 3DPRINTUK have been able to drop their prices and lower their minimum part cost to levels way below their competitors. Focused on production runs, 3DPRINTUK has been able to bridge the gap between additive manufacture and injection

## Practical Aspects of PROFIBUS, PROFINET and IO-Link Seminar



Manchester - Wed 20/06/2018 8:45am-4pm

This free-to-attend seminar addresses the key practical issues arising from the use of digital communications technologies in automated manufacturing and process industry application.

Covering key application areas such as mechanical handling and logistics, automotive engineering, electrical and electronics assembly, energy management and more. Supported by an exhibition with demonstrations of actual tools used in configuration and maintenance, the seminar will be valuable to Designers, Production/System Engineers, & Instrument Technicians/Engineers involved in the design, operation and maintenance of modern automated factories and process plant.

**Draft Agenda, subject to change:**

08:45 - 09:15 Registration and refreshments  
09:15 - 09:30 Welcome and introduction to exhibitors, Andy Smith, E+H  
09:30 - 10:00 PROFIBUS International and basics of PROFIBUS and PROFINET, Mark Freeman, Siemens  
10:00 - 10:30 PROFIBUS DP/PA network design, TBA  
10:30 - 11:00 Coffee and exhibition  
11:00 - 11:30 PROFIBUS network design, Andy Williams, Siemens  
11:30 - 12:00 PROFIBUS and PROFINET EMC Guidelines, Peter Thomas, Control Specialists  
12:00 - 12:30 Industrial network commissioning and testing, Dave Tomlin, Hitex  
12:30 - 13:00 PROFIBUS and PROFINET device configuration tools, Phil Waterworth, Endress + Hauser  
13:00 - 14:00 Lunch and Exhibition  
14:00 - 14:30 IO-Link technology, Russell Smith, Balluff  
14:30 - 15:00 Industrial networks safety & security, Mark McCormick, Siemens  
15:00 - 15:30 Industry 4.0 and the Industrial Internet of Things, Derek Lane, Wago  
15:30 - 16:00 Close

This seminar is ably presented by specialists from PI UK member companies. The event will provide delegates with an excellent networking opportunity and the ability to speak to experts.

Places are limited so don't delay - book today!  
www.profibugroup.com/category/events/

## Mapping the world of CIP, bio-waste treatment & critical process solutions

Processing solutions specialists Suncombe has released a Product Map to explain, in visual format, its strengths and capabilities in the technologies of Clean in Place (CIP), Bio-waste decontamination treatment and other critical process solutions. The company has an extensive portfolio of equipment and wanted to offer a visual representation of the main areas of expertise it offers.

Explaining the reasoning behind the Product Map's creation, Steve Overton, Suncombe's technical director said, "In the increasingly specialised world in which we operate, many clients come to us for very specific products and solutions and never really get to see our other capabilities. So the Product Map is a very easy way for us to show in more detail the range of our equipment - which has been exclusively developed over more than 50 years of operation. Because of the very complex regulatory and operationally challenging environments that we typically work in, it can happen that a client has to operate in a 'silo' for a specific project - quite understandably. So he or she only knows us for a particular process or solution. The Product Map is an easy way to show how much more we are able to offer, which can be of value in other areas of the processing facility," he added.

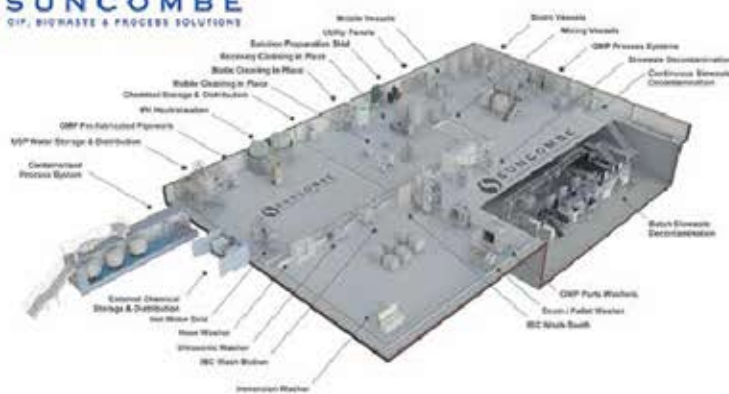
The Product Map takes the form of an 'exploded' floor plan where equipment from storage and distribution vessels,

through mobile and static CIP, skids, mixing vessels, various decontamination units and finally parts and IBC washers are laid out in a logical process operational format.

"While many of our customers need custom solutions, these are all based on the expertise our 'in house' design and build teams have developed and our basic, core products," according to Dave Adams, director for the company. "We would like existing customers as well as potential new clients to appreciate that we offer a wide range of process solutions - from basic, almost 'entry level' equipment, through to the most sophisticated and tailored systems. The Product Map is a very quick and easy reference point for that," he explained.

The full range of Suncombe equipment, including details of its project planning expertise, validation and traceability of all aspects of production, and the range of machine options can be found at: www.suncombe.com

T +44 (0)208 443 3454  
mail@suncombe.com  
www.suncombe.com



# KINGSTON ENGINEERING

## Specialist Power Screw Products

- ▶ Ex stock power screws & nuts
- ▶ Precision-machined components
- ▶ Self-reversing screws and followers
- ▶ Accredited by Aerospace, Nuclear & Chemical customers
- ▶ Specialist leadscrew & power screw products

**Call 01482 325676**

Kingston Engineering Co (Hull) Ltd,  
Pennington Street, Hull, East Yorkshire, HU8 7LD, UK  
Fax 01482 216438 Email: sales@kingston-engineering.co.uk  
www.kingston-engineering.co.uk

## RD Casting's high-speed machining centres

Zinc and aluminium high-pressure die casting specialist RD Castings has used Japanese-built, high-speed, twin-pallet machining centres from Brother since 1989 and currently has nine of. Since the mid-90s, the 30-taper machines have replaced manual milling, drilling and tapping.

Running the company are siblings Anthony and Michael Pateman, who were interested when Brother's UK agent, Whitehouse Machine Tools, suggested they see a demonstration of the machine manufacturer's new ISO control with 12-inch colour LCD screen, the CNC-C00, a significantly faster and more user-friendly CNC system fitted to its latest machines.

After they visited the agent's Kenilworth showroom and technical centre at the end of 2016, they came away with another Brother machining centre, a Speedio R650X1 with Nikken rotary 4th axis. Numerous facets make the machine particularly applicable to machining light castings, one being its outstanding speed. Workpiece changeover is completed entirely within the 3.4-second rotation of the twin-pallet Quick Table, as the 21-pocket magazine's 0.9 second tool change time, 50 m/min rapids in XY and Z, and rotation of the 4th CNC axis are carried out simultaneously.

Michael Pateman commented, "The speed of tool change on the R650X1 mirrors that of our Brother 324N and R2A machine models, where the tool carousel encircles and travels with the spindle, which does not have to move away to pick up a new cutter as on the Brother TC32A and 32B machining centres that we also have on-site. It results in very high productivity that is enhanced by faster processing of existing programs in the new CNC-C00 control."

Anthony Pateman pointed out another advantage of the R650X1, namely the generous axis travels of 650 x 400 x 305 mm in X, Y and Z. The table accepts RD Castings' 500 x 350 mm base plates on the trunnion fitted to both machines, allowing multiple components to be fixtured for 2-axis and 3-axis machining, relieving the load on the 324Ns and R2As which are always filled with work.

He added, "There is a trend towards larger castings these days and we have

just installed a 500-tonne casting machine to meet the requirement. In order to machine them, the ability of the R650X1 to swing our 400 mm diameter parts in the rotary axis means that we are often able to finish these bigger castings in one hit and save on a second set-up operation." Simon Hale, CNC machine shop manager, stated that productivity of another part - an aluminium die cast housing for the rail industry - has been nearly doubled using the larger machine.

The increase in output is partly because, by routing coolant at the uprated 30-bar pressure on RD Castings' latest machines through an indexable-insert drill rather than employing a twist drill, it is possible to produce larger holes above 18 mm diameter in one spindle movement, rather than having to spot and then peck drill the holes multiple times.

Michael Pateman states, "By employing ultra-high-speed machining techniques on 30-taper rather than 40-taper machines, with extensive use of polycrystalline diamond inserts clamped in dynamically balanced tool holders, the cost of producing a casting is now about the same in Middlesbrough as it is in China - and we are winning back business as a result."

"All of our Brother machines work flat out eight hours a day and their speed, accuracy and reliability are fantastic. Coupled with the high level of support from Whitehouse, it has been an unbeatable package for us."

www.rdcastings.co.uk

