

# PRODUCTION ENGINEERING SOLUTIONS



## Swiss precision

Good things in small packages from Mikron Tool

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the centre of the  
vibration and  
coolant ducts  
efficient cooling  
edges.

## Trials acts

Technology Centre,  
2015 adds a further  
to the company's  
portfolio enabling  
to test tools,  
prototype pieces and  
issues on behalf  
of customers. Seven  
members of staff  
at the centre.  
Being more and  
and for customer  
ing and project  
ains Mikron Tools'



head of R&D, Alberto Gotti, "so the Tech Centre has become a vital part of our operations. So far, we've invested around 3.5 million CHF in equipment and technology which includes

multi-axis machine tools and turning centres, coordinate measurement machines, a 100,000x electron microscope with EDX microanalysis, CAD/CAM workstations, measuring

"The aim is to replicate our customers' manufacturing facilities as closely as possible, even down to aspects like cutting fluids so we can prove out new tooling and processes with 100% confidence that they'll work," he affirms. "Each machine has a camera and screen installed so we can capture results on film and send to the client. Currently we undertake around 150 - 200 customer tests per year in this facility.

"We also use the Tech Centre for our own R&D - 50% of our resources in terms of people, machines and time is dedicated to developing our own new generations of products," he explains. "This

cutting geometries."

## Home truths

In terms of the UK market, Lee Wilkinson's short and medium term plans are clear: "My objective is to further develop close working partnerships with a network of selected technical partners. We have already started some interesting collaborations in different regions and continue to look for more.

"In the longer term, the goal is to cover all of the UK with regional partners while working directly with key accounts."

**Mikron Tool**  
[www.mikrontool.com](http://www.mikrontool.com)

## RIGIBORE

your boring operation becoming a puzzle?

Rigibore has the answer

<sup>1</sup> S					<sup>2</sup> C	P	K
<sup>3</sup> C	Y	C	L	E			
R							<sup>6</sup> Z
<sup>4</sup> A	U	T	O	<sup>5</sup> M	A	T	E
P				I			N
				C			I
				R			T
				O			H
				N			

cross

Measure of process capability improved through closed-loop boring.

Automatic adjustment in the machine reduces \_\_\_\_ time.

An Industry 4.0 approach adjusting the tools cutting edge without operator intervention.

Down

1. Automated boring eliminates risk of \_\_\_\_ from oversize bores.

5. Automatic cutting edge adjustments to an accuracy of one \_\_\_\_ on diameter.

6. Rigibore's Automated Boring Solution.

## A case in point

According to clamping technology specialist **Andreas Maier Fellbach (AMF)**, its **Zero-Point clamping system can reduce set-up times by as much as 90%.**

This has been well-received by machine tool manufacturer Matsuura - on its hybrid machines which combine additive and subtractive methods, the cost-effective AMF Zero-Point system ensures that productivity is maximised.

"The system makes setting-up processes on our Lumex range of machines repeatable, accurate, reliable and efficient," says Holger Hermann, head of application engineering for additive manufacturing technology at Matsuura Europe GmbH in Wiesbaden, Germany.

Matsuura's Lumex hybrid additive manufacturing systems effectively unify laser sintering (SLS) and high-speed milling (HSM). Through

this combination, components can be fully processed on one machine with additional finishing work only necessary in special circumstances.

In the method developed by Matsuura on two Lumex machines, metal powder is turned into 3D shapes through layered selective laser melting in the powder bed. In this process, a mirror galvanometer precisely directs fibre lasers - 500 or 1,000W in strength, depending on the design of the machine - to the intended point.

After each pass, the scrapers re-distribute the metal powder on the machine table that has been moved downwards and away. On first impressions, this is a conventional 3D printing process, however, after ten powder layers each with a thickness of 50µm, something different happens - the base or substrate plate doesn't move downwards again to apply the next layer of powder.



Matsuura's Holger Hermann (left) with AMF sales manager Manuel Nau



**Zenith**  
Automatic boring tool  
compensation system

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