

## Success Story

# Subcontractor Sees Success with *hyperMILL*®

The path to setting up a subcontract machine shop couldn't have been more obscure than the tale of Ben Goodwin. Three years ago Ben was well remunerated for his dangerous skills as a deep sea welder and fabricator...

...but realising the danger and relatively short life expectancy, Ben quit the day job, bought a machining centre and set up.

With little experience in a machine shop, the odds were stacked against Ben, who at the young age of 25 went out and bought a Hurco 3-axis VM10 machining centre and a suite of low-end CAM software. Taken on a massive learning curve, the small business owner is now making a huge success of his business venture and this is credit to Ben's vision, drive and also the subsequent help of OPEN MIND CAM software. As Ben explains: "I bought the Hurco and a 3-axis CAM package and even with my limited machining knowledge at that time, I quickly realised the first CAM Package I bought was holding me back. The 3-axis software was slow, laborious and despite my limited experience, I was getting frustrated with the tool paths. I needed to upgrade and *hyperMILL*® was the only long-term choice for my business."

### *hyperMILL*® Is the 1st Choice for Ambitious 3-axis Machinists

As an extremely ambitious business owner, Ben has his sights set upon building major success and OPEN MIND's *hyperMILL*® software is a core aspect of this vision. As Ben continues: "Realising the previous CAM software was unsuitable, I did my homework on

the vendors, watched YouTube videos and eventually bought a seat of *hyperMILL*® at MACH 2014. *hyperMILL*® is the most capable, user friendly and prestigious 5-axis CAM package available; so finding it very competitively priced was another huge bonus." The ambition and vision of BRG's owner is evident in his software selection, opting for the leading 5-axis CAM package when only

As a rapidly growing subcontract business, BRG CNC Machining has just purchased more machine tools with further machine acquisitions planned for 2018.



### About BRG

BRG CNC Machining is a privately owned, family run business located in the heart of East Yorkshire, situated between the cities of York and Hull in the North East of the UK. Although the majority of BRG CNC Machining customers come from Yorkshire, the family owned company works with businesses from around the UK to offer a range of engineering services that include project management, CNC milling & turning, 2D machining, 3D machining prototype manufacturing and much more. Accredited to ISO: 9001:2008, BRG CNC works across a host of different industry sectors that include the automotive, agriculture, aerospace, marine and motorsport industries.

> [www.brgcnc.co.uk](http://www.brgcnc.co.uk)





“With *hyperMILL*® we cut programming times from four hours to just 20 minutes. The CAM solution is the marquee package for producing everything from simple 3-axis to full 5-axis parts.”

**Ben Goodwin, Managing Director  
BRG CNC Machining**



having a 3-axis machine. Alluding to this, Ben says: “Despite only having a 3-axis VMC, our business has huge ambition and we will be moving to 5-axis machining in the near future. When we get there, we will be prepared with experience on the leading 5-axis CAM package, which will reduce our learning curve. In addition, *hyperMILL*® is a modular package, so we can add what we need as we progress.”

#### **The Learning Curve**

When the Lloyd’s Register ISO: 9001 registered BRG was set-up, Ben had no concept of M or G-codes on a CNC machine, diving straight into machining with CAM software. Ben remarkably still has little understanding of conversational programming. As Ben continues: “Our very first job was machining and drilling simple side-step plates for ambulances, but my ambition was to progress to high value added complex work. We are now realising this reality by machining complicated automotive mould tools, aerospace engine components and even intricate medical parts. None of this would have been possible without *hyperMILL*®. I see conversational programming as something for producing simple parts or as a learning suite for apprentices whilst *hyperMILL*® is the marquee package for producing everything from simple 3-axis to full 5-axis parts.”

#### **Justifying the 5-axis Package for a 3-axis Machine**

The selection of *hyperMILL*® by the Market Weighton based company is more than just ambition. As Ben continues: “Our selection of *hyperMILL*® is justified in the results from the first couple of jobs we did with the package. One of our first *hyperMILL*® jobs was to produce a trophy for the ‘Best-in-Britain’ Hot-Rod competition. The complicated trophy had a programming time of 4 days with a machining time of 29 hours with our previous CAM suite. With *hyperMILL*® the programming times were slashed to 2 hours 30 minutes and just 9 hours for the machining using the same tools.”

“On a family of P20 steel automotive mould tools for water-pump parts, we cut programming times from four hours to just 20 minutes. The machining time was previously 9 hours for each of the four tools (36 hours total) and the tool paths of *hyperMILL*® allowed us to machine all four tools in just 1 hour 40 minutes. We realised the previous CAM package was limited, but we never knew how impressive OPEN MIND’s *hyperMILL*® would be.”

The optimised tool paths and strategies of *hyperMILL*® has drastically reduced non-cutting times and the software enables the

This mould tool was manufactured for a globally renowned automotive manufacturer. Using *hyperMILL*®, the programming time has been drastically reduced and the superior surface finish is a credit to the ingenious tool paths and strategies of *hyperMILL*®.



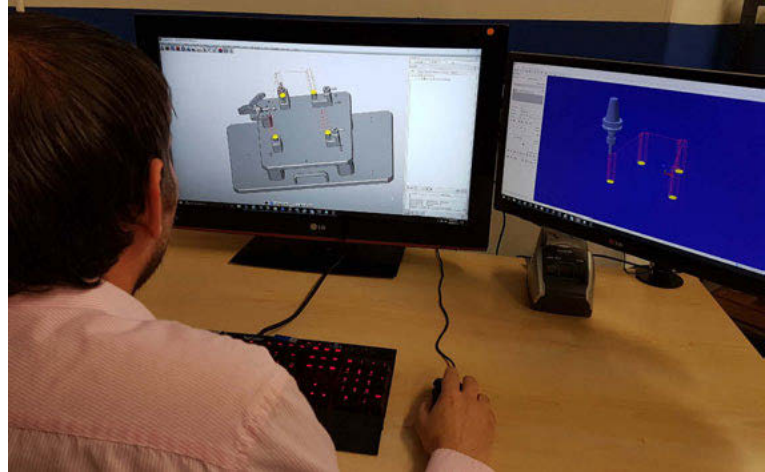
Yorkshire subcontractor to maximise the capabilities of its SGS solid carbide end mills and Chick One-Lok vices to truly drive productivity gains.

### The Difference with *hyperMILL*®

For BRG the simplicity, safety and ease of use is built into almost every feature of *hyperMILL*®, as Ben continues: “Our previous system and many other 3-axis CAM packages are 32-bit operating systems that are slow to calculate and process information. *hyperMILL*® is a 64-bit system that churns through the data at lightning speed to reduce idle times and speed up programming times by at least 80% compared to our previous package.”

The speed of calculating data is matched by *hyperMILL*® features that slash programming times for the end-user. This includes the ability to use multiple work planes whereas alternate systems have one fixed datum point. “The ability to set work planes from two different points around the job delivers huge time savings when programming. The multiple work plane feature also calculates how much material has been removed from each surface.”

Safety is a critical factor for BRG and the collision detection on *hyperMILL*® is faultless, as Ben mentions: “The *hyperMILL*® collision detection is unparalleled and this is underpinned by the comprehensive tool database system that allows us to put the tool holder, collets and the drills or end mills into the database. This gives us a complete picture of our set-up and the tool overhang, which works in conjunction with the collision detection feature to give us complete confidence that we won’t crash our machines.”



BRG Managing Director Ben Goodwin using *hyperMILL*® to programme components and their positioning on fixture plates.

Adding to this confidence is the *hyperMILL*® MAXX Machining high performance package, which also has enhanced features such as Arbitrary Stock Roughing that allows the customer to define exactly what features they wish to machine and the step-over parameters. “We are using most of the features at present and we’re tentatively trying *hyperMILL*® MAXX Machining. As a company we are delighted with *hyperMILL*® and the support from OPEN MIND has been first class. The package has put us way beyond our competitors in terms of turnaround times and also our ability to manufacture extremely complex parts. The ability to machine complex geometries on a 3-axis machine has put us in a great position with Tier 1 and OEM manufacturers, which wouldn’t have been possible without *hyperMILL*®.” ■

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### About OPEN MIND Technologies AG

OPEN MIND is one of the world’s most sought-after developers of powerful CAM solutions for machine and controller-independent programming.

OPEN MIND develops optimized CAM solutions that include a high number of innovative features not available elsewhere to deliver significantly higher performance in both programming and machining. Strategies such as 2.5D, 3D as well as 5-axis milling/mill turning, and machining operations like HSC and HPC are efficiently built into the *hyperMILL*® CAM system. *hyperMILL*® provides the maximum possible benefits to customers thanks to its full compatibility with all current CAD solutions and extensive programming automation.

OPEN MIND strives to be the best and most innovative CAD/CAM manufacturer in the world, helping it become one of the top five in the CAM industry according to the NC Market Analysis Report 2017 compiled by CIMdata. The CAD/CAM solutions of OPEN MIND fulfil the highest demands in the automotive, tool and mold manufacturing, production machining, medical, job shops, energy and aerospace industries. OPEN MIND is represented in all key markets in Asia, Europe and America, and is a Mensch und Maschine company.



We push machining to the limit

[www.openmind-tech.com](http://www.openmind-tech.com)