

## ***PRESS RELEASE***

20 September 2012

MWC 3865

### **MOLLART CHALKS UP £100,000 GRANT SUPPORT TO FURTHER DEVELOP ABRASIVE FLOW MACHINING PROCESS**

The Technology Strategy Board has dug deeper into its Smart grant support scheme to help fund Mollart Engineering's development of abrasive flow machining parameters for use on internal elements of highly complex featured components. The process will use for the first time a combination of collected statistical data paired with advanced fluid dynamics simulation.

Said Managing Director of Mollart Guy Mollart: "Due to the nature of the deep hole drilling process combined with multi-axis turn-milling and five-axis machining that is carried out at our Chessington and Resolven in South Wales subcontract facilities, deburring and the creation of break edges and corners can be left to open interpretation and opinion by the operator, supervision, quality control departments and the customer. It is our intention, with the valuable assistance and support from the Technology Strategy Board, to make this process predictable and repeatable over batches of high value work."

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The £100,000 'Proof of Concept' grant will span 18 months during which the Mollart development team will work as project leaders with Brunel University acting in a consultancy role to capture data from the abrasive flow process installed at Chessington. They will analyse how the fluid behaves and create a virtual environment to determine the machine setting parameters and simulate the process.

Abrasive flow machining uses a viscoelastic silicone-based polymer (putty-like consistency) material that acts as a carrier for the abrasive particles to grind the internal surfaces of a component under hydraulic pressure. The abrasive flow is able to process materials as diverse as hard plastics through to high grade alloy steels. In Mollart's case it, provides valuable assistance to the deburring of deep cavities and intricate intersections of internal galleries within a component which, in some cases, could add 15 per cent to the pricing of a manual operation.

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As a result of the Mollart development programme effective simulation should eliminate most of the current trial and error techniques when setting the process. It will also increase confidence in the process, the process capability and create a more consistent level of agreement and satisfaction between supplier and customer due to the controlled generation of burr relief, corner radii and surface finish against agreed samples.

The Smart scheme supports research and development projects in strategically important areas of science, engineering and technology from which successful new products, processes and services could emerge. Earlier in the year Mollart Engineering successfully gained a two-year grant through the scheme worth £250,000 to help support the development of the deep hole drilling process whereby the path of the drill can be effectively steered.

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Said Mr Mollart: “The support of the Technology Strategy Board is proving invaluable in helping us to look into the future and develop world-leading technologies that will serve industry.”

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With compliments:

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