

# Hand tools for hi-tech robots

## Traditional manufacturer heads into space

A LEADING Sheffield hand tool manufacturer is looking for new opportunities in the aerospace sector, with the help of a multi-million pound research programme, spearheaded by South Yorkshire's Advanced Manufacturing Research Centre.

Footprint Tools has made specialist tools for servicing aero-engines, but now it is looking at making large aerospace components, using new technology as part of an international research programme, backed by the European Commission.

The Commission is pumping £3 million into a strategic research project by the Advanced Manufacturing Research Centre (AMRC), which is run by Sheffield University and aerospace giant Boeing.

The project, studying the rapid production of large aero-

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space components, centres around Shape Metal Deposition (SMD) - a technology developed by Rolls-Royce.

It involves building up components from layers of metal wire, which are put in place and welded together using robot arms.

Conventional methods involve using machine tools to remove metal from a solid work-piece, generating expensive scrap when exotic materials are involved.

SMD can produce components which are close to, if not actually, their final shape and size, generating a minimal amount of scrap.

The system has already been used to make titanium engine cowlings up to three feet across to demonstrate its potential.

"Footprint Tools recognised the potential of developing SMD to gain entry into the aerospace market," said AMRC research director, Prof Keith Ridgway.

"We are confident that, working with Rolls-Royce and Footprint, we can take SMD to the next level and improve the control systems so the process can run completely automated.

"When we do this, the process can be used for making large batches of production parts."

Footprint Tools managing director, Christopher Jewitt, said "We are delighted that our project has been successful.

"It will assist us in refocusing our traditional tool-making expertise on a new emerging technology market.

"We are a traditional manufacturer of hand tools in Sheffield. We make very fine hammers and chisels that are the best you can get."