

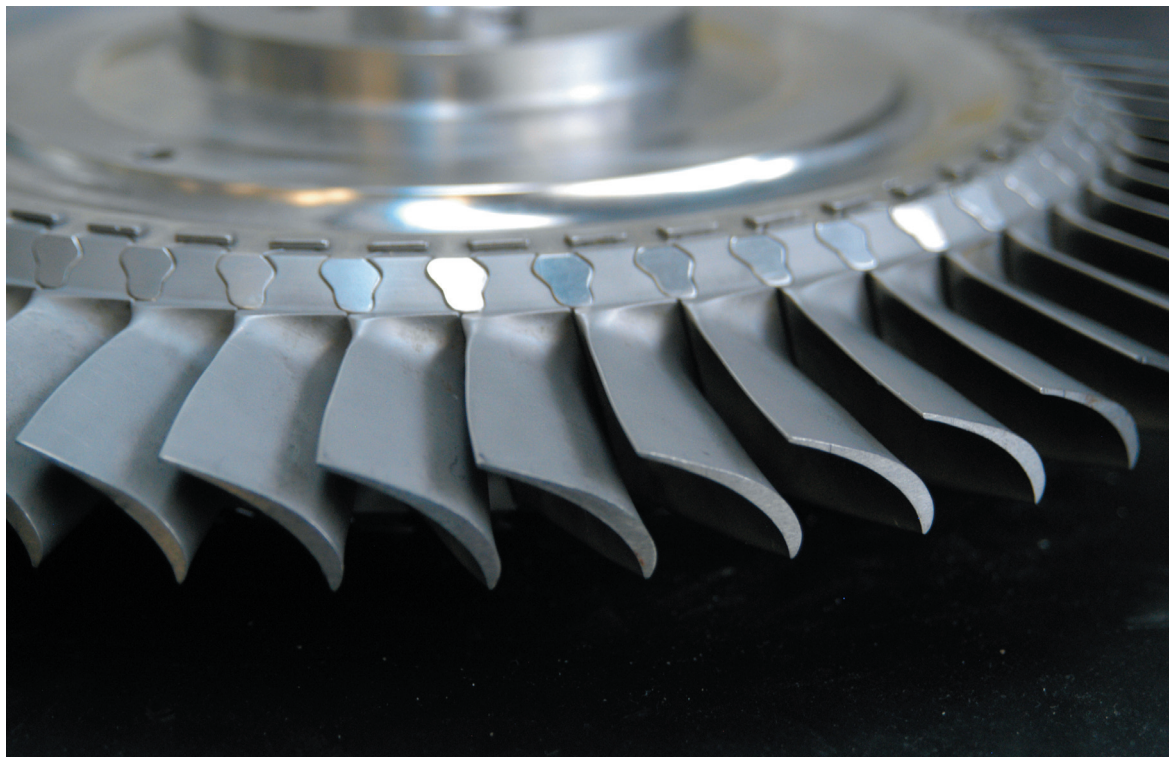


RobotStudio™

Case Study: Centrax Ltd

02/2005

Centrax is an approved supplier to many of the major Original Equipment Gas Turbine engine manufacturing companies (OEM's) world-wide for Civil and Military Aerospace and Industrial gas turbines applications as well as for Military Auxiliary Power Units.



Blade polishing is a tricky process. The quality demand of the turbine blades to the engines delivered to the Air force is extremely high.

Blade polishing on a high level...

World class manufacturing

Since it was founded in 1946, Centrax have developed innovative state of the art machining techniques currently utilizing a range of CNC machining technology and robust production management methods to provide a world class manufacturing solution. Their Turbine Components Division specializes in compressor and turbine aero foils, discs, shafts, casings, associated hardware including sub assemblies and engine modules.

Meeting the customers requirements

Kevin Vickers is an electronics and software engineer at the research and development department of Centrax Ltd. He is also responsible for introducing robotics to the company. Centrax chose to investigate in robotics because they are under continuous pressure from low-cost economies. "Our customers are constantly asking us to reduce our prices and we hope that the introduction of robotics, aided by RobotStudio, will enable us to meet their requirements", says Kevin Vickers.

Precise positioning

Centrax did not have a practical method of creating programmes for a blade-polishing application. In order to polish an airfoil it was necessary to generate a scanning path across the surface which on each side of a large blade might require the definition of typically 1200 precisely-positioned and aligned targets.

Complex cell design

"We had no facility for programming in such a way. ABB developed a special-purpose add-in in RobotStudio, to our specification, which enabled us to do the job", explains Kevin Vickers and continues:

"RobotStudio enables us to design a complex cell with complicated tooling and be certain that there will be no reachability or collision problems when we implement the cell for real."

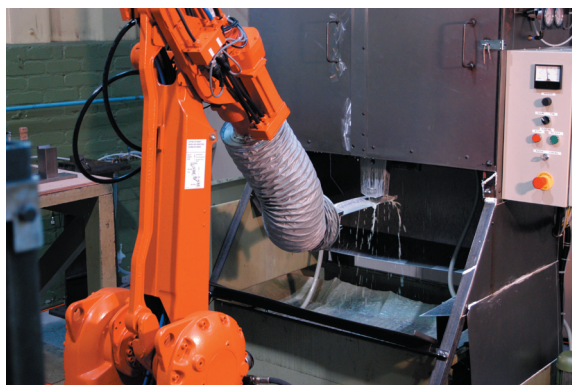
Minimal risk

Centrax were new to robotics and it became apparent to them at an early stage that RobotStudio would enable them to design robotic cells with minimal risk of wasting money.

"I have been using RobotStudio in three projects now and I can't imagine designing a robot cell without it", says Kevin Vickers.

Kevin Vickers found the learning process a little difficult to begin with but after a training course at ABB's Milton Keynes facility he knew just about everything he needed to know. The training course set him on the right path:

"Once you've passed the initial learning curve, Robot Studio is very user-friendly", establishes Kevin Vickers.



The robot at Centrax is programmed offline in RobotStudio.

RobotStudio - the differentiator

Centrax were looking at different robotics solutions. Finally their choice fell on ABB. "We were looking at competitive robot manufacturers and the fact was that their robots were nearly as good as the one from ABB, made no big difference really. It was RobotStudio and the genuine knowledge of the ABB personnel when it comes to offline programming that made us choose ABB", says Kevin Vickers.



"I can't imagine designing a robot cell without RobotStudio".
Kevin Vickers, Electronics and Software engineer, Centrax Ltd

More interesting work

RobotStudio allows Centrax to be sure there will be no reachability or collision problems when they implement a new robot.

"RobotStudio also allows us to design and test a robotic cell without having to commit ourselves to having tooling manufactured which may turn out to be incorrect", says Kevin Vickers.

Centrax hope that with RobotStudio on the shop floor they will relieve people from having to do mundane and sometimes dangerous jobs and free them to increase their skill level to do more interesting work.

Prove the principles

Kevin Vickers is currently working on a machine tending application. RobotStudio is proving essential to creating a test cell where we he will prove the principles that he intend to use. RobotStudio will be used to model the real cell.

"With RobotStudio we will improve our time to market, reduce risks in production and increase our productivity", ends Kevin Vickers.