One step to perfection
Being a brand of Germany’s leading engine manufacturer, MTU Aero Solutions can draw on nearly 100 years of aircraft engine background. MTU Aero Engines ranks among the global players in the industry being a leader in major engine areas.

Precise Electrochemical Machining (PECM)

Customers expect advanced engines to be more efficient, burn less fuel and emit less carbon dioxides. To meet these requirements engine manufacturers are challenged to provide innovative solutions, such as more complex airfoil designs, and develop novel materials that are capable of withstanding higher temperatures.

Improvements in the compressor area include an optimized transition from the blade to the annulus, twisted airfoils, contoured leading edges and increased use of nickel-base alloys.

Conventional manufacturing processes can no longer be used here as they have reached the limits of their capabilities, both in terms of technical feasibility and cost-effectiveness.

The solution offered by MTU is PECM, the only manufacturing technique that permits complex airfoil geometries to be produced accurately and with a satisfactory surface finish in one single step. The surfaces thus produced do not require manual finishing and fully meet the customers’ requirements.

Major advantages of process at a glance:
• manufacture of complex airfoil geometries
• good surface finish
• cost savings