

winbrogroup.com

In addition to our UK headquarters and USA facilities, Winbro Group Technologies has a number of partner companies strategically located to provide local sales and service support.

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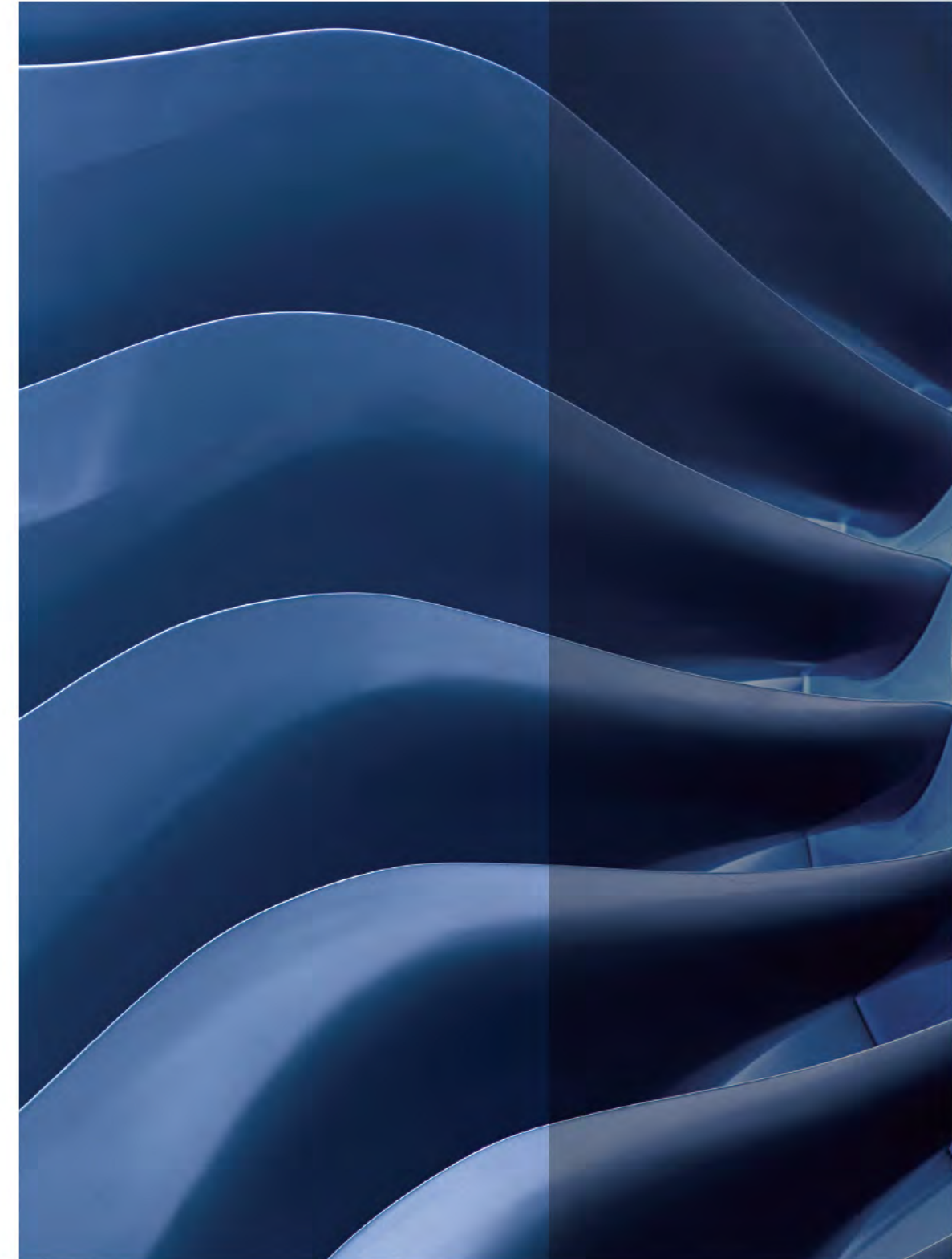


Profile

Company / Turbine Manufacturing Solutions  
Component Production / Accreditation

## Turbine Manufacturing Solutions:

- Machine Systems
- Component Production



Profile





Winbro manufactures advanced machines and develops technologies based on non-conventional processes used in the production of cooling holes and forms in components used within aero and industrial gas turbines.



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Dedicated to serving these markets for over 30 years, Winbro Group Technologies has acquired intimate knowledge of the individual components used in the most demanding part of a turbine engine. Our cooling hole machining processes are fundamental in satisfying the demands for reduced noise emissions and increased fuel efficiency on the latest generation turbine engines.

**Company**

Our company philosophy has the sole purpose of helping clients achieve the optimum solution to their application and delivering that solution in a friendly yet no-nonsense manner. Our success can be measured by the fact that we enjoy long-term relationships with many of the leading aero and industrial gas turbine manufacturers across the world.

**Turbine Manufacturing Solutions**

Winbro's expertise in the Aerospace and Industrial Gas Turbine markets is reflected in our high technology multi axis machining systems. Always at the forefront of machine and process development, our systems are configured as either single process machines or combination machines, incorporating dual complimentary processes, some of which are unique, to provide a no-compromise solution to industry machining requirements.

**Component Production**

Winbro Group Technologies has always embraced the philosophy of providing a total solution to customer's requirements. Combining our intimate knowledge of turbine components with our expertise in turnkey machining systems, we have created WAM (Winbro Advanced Machining).

WAM provides our customers with a range of machining facilities which can be used to define and refine process and machining parameters, produce production level components ahead of the delivery of a new machine, or provide a second source for component production where additional capacity is required.

**Approvals**

- Winbro Advanced Machining (WAM) certifications include:
- ISO9001 2008
  - AS9100 Rev B
  - Accreditation with Nadcap for non-conventional processes
  - Winbro has also achieved independent accreditation with many of the industry's blue chip OEM's.

**Machining Systems**

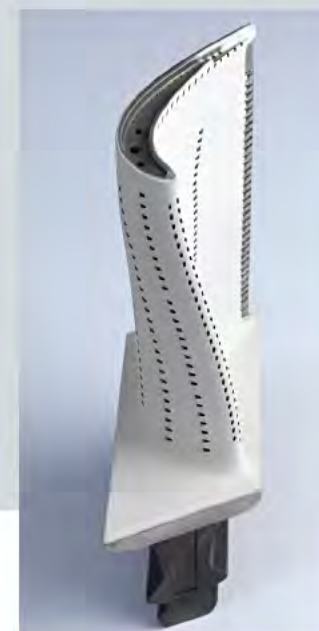
Machine	Process	Application & Components
HSD6-III	High Speed EDM Drilling	Aero and Small IGT components
HSD6-GT	High Speed EDM Drilling	Large IGT components and Aero Combustors
800 Series	Combined Process Machining	Aero and Small IGT components
LaseDrill	Laser Drilling / Ablation	Aero and Small IGT components
Delta	Laser Drilling / Cutting / Ablation	Aero Combustors and Large Aero / IGT Components
STEM	Shaped Tube Electrolytic Machining	Drilling IGT axial, radial and trailing edge holes
CD4A	Capillary Drilling	Aero Blade, trailing edge drilling
Twin Ram ECM	Electro Chemical Machining	Forming of compressor Blades and Vanes
Blisk ECM	Electro Chemical Machining	ECM forming of airfoils on a Blisk



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1. Turbine Blade  
 2. Renshaw Probe  
 3. Installed line of HSD Machines  
 4. Laser drilling on the fly (DOF)  
 5. Delta Laser Machining System  
 6. Industrial Gas Turbine Blade