PBS INDIA

200 YEAR HISTORY IN HIGH-QUALITY INDUSTRIAL AND ENGINEERING PRODUCTION

COMPANY PRESENTATION

ABOUT PBS INDIA

PBS INDIA

is a part of PBS GROUP, a traditional engineering and manufacturing company of superior quality products for aerospace and defense with more than 200 years history.

PBS PRODUCT PORTFOLIO

- turbine engines
- auxiliary power units
- environmental control systems
- investment casting
- cryogenic technology
- service & maintenance

PBS GROUP STRUCTURE

PBS GROUP

PBS INDIA

Bengaluru, India

- Business and manufacturing activities in the Indian market

PBS AEROSPACE

Atlanta, USA

- Business and manufacturing activities in the USA

PBS Velka Bites

Velká Bíteš, Czech Republic

- Hi-tech manufacturer of power units and other equipment for aerospace industry
- Precision Casting
- Cryogenic Technology
- Surface Treatment

PBS ENERGO

Velká Bíteš, Czech Republic

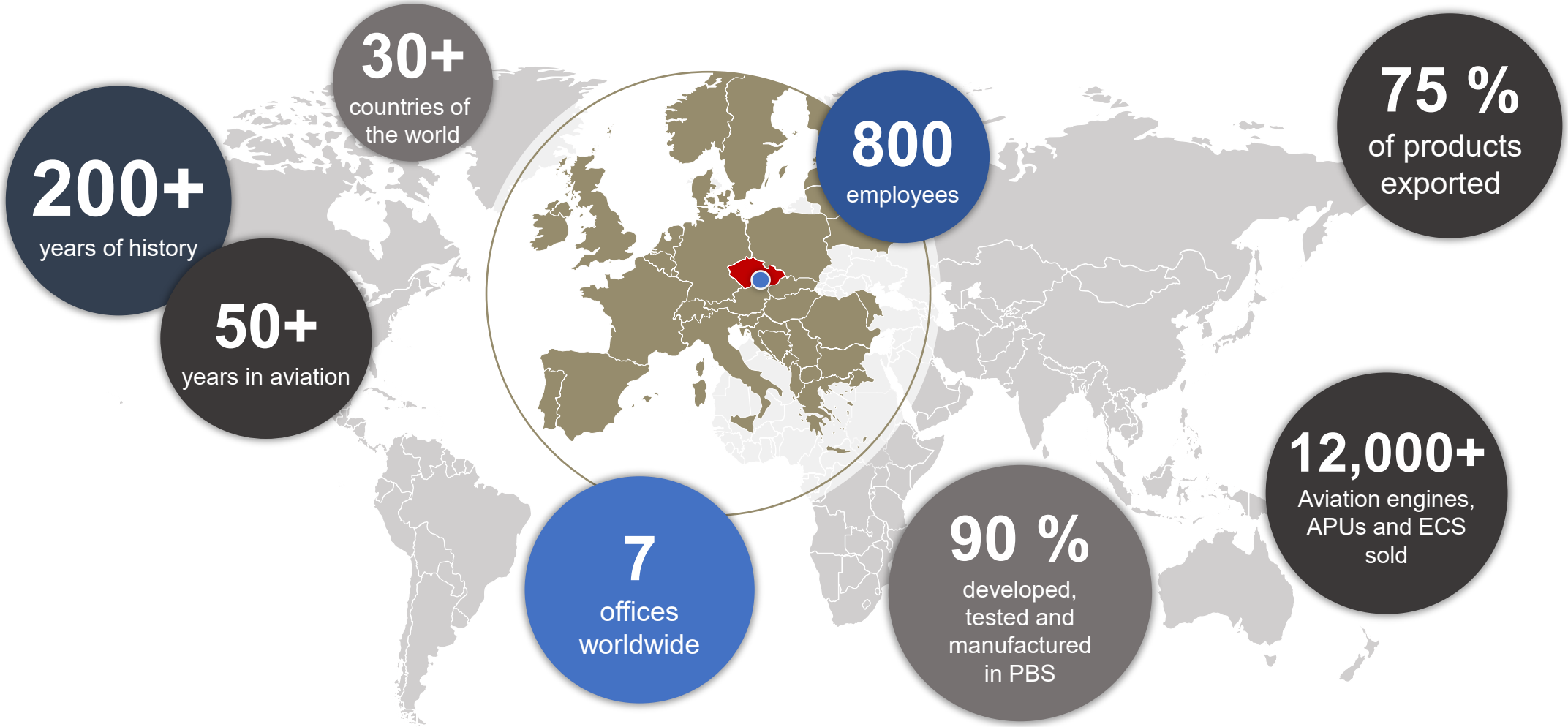
- Solutions for the power industry
- Turbines
- Industrial Boilers

PBS Brno

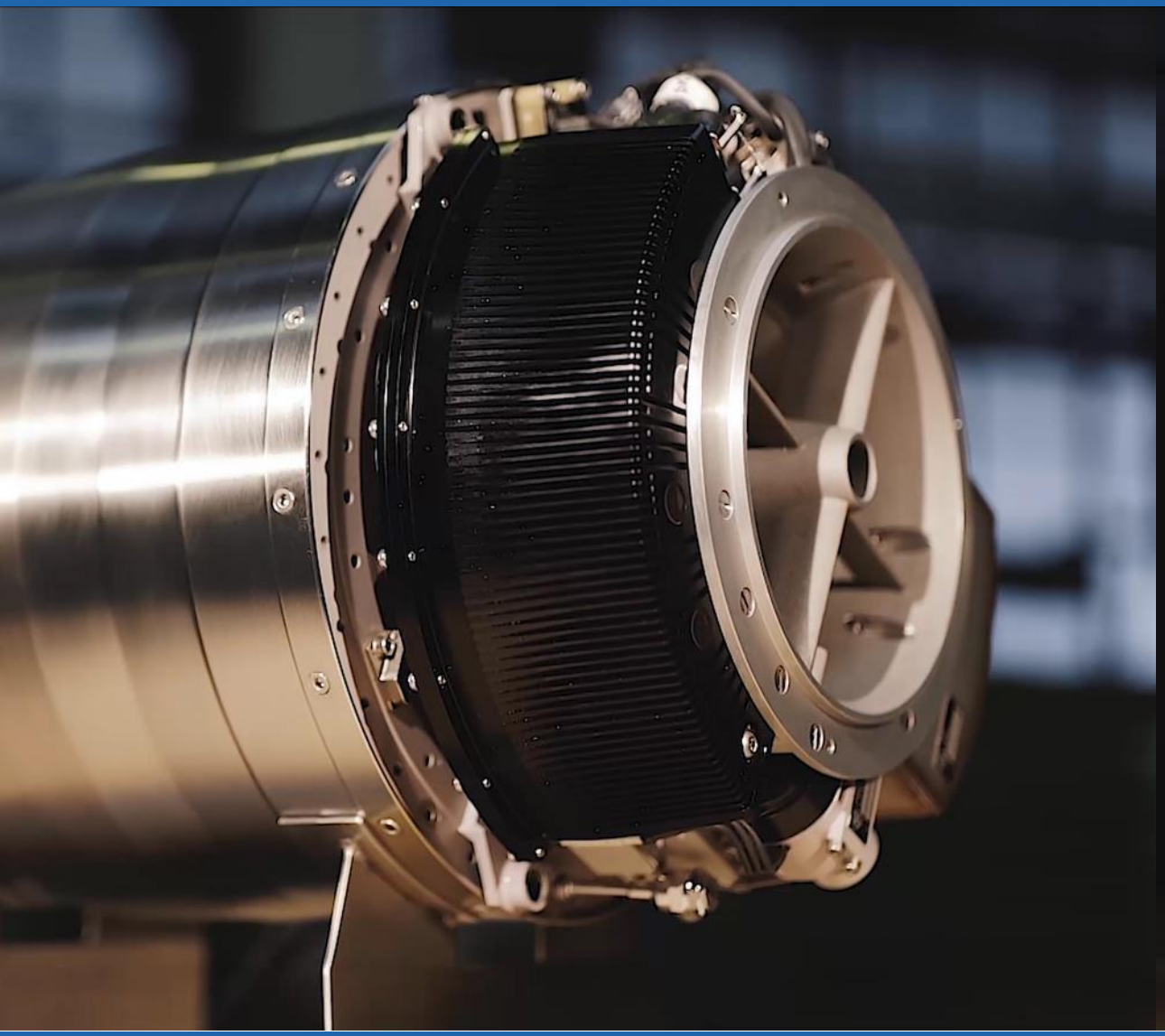
Brno, Czech Republic

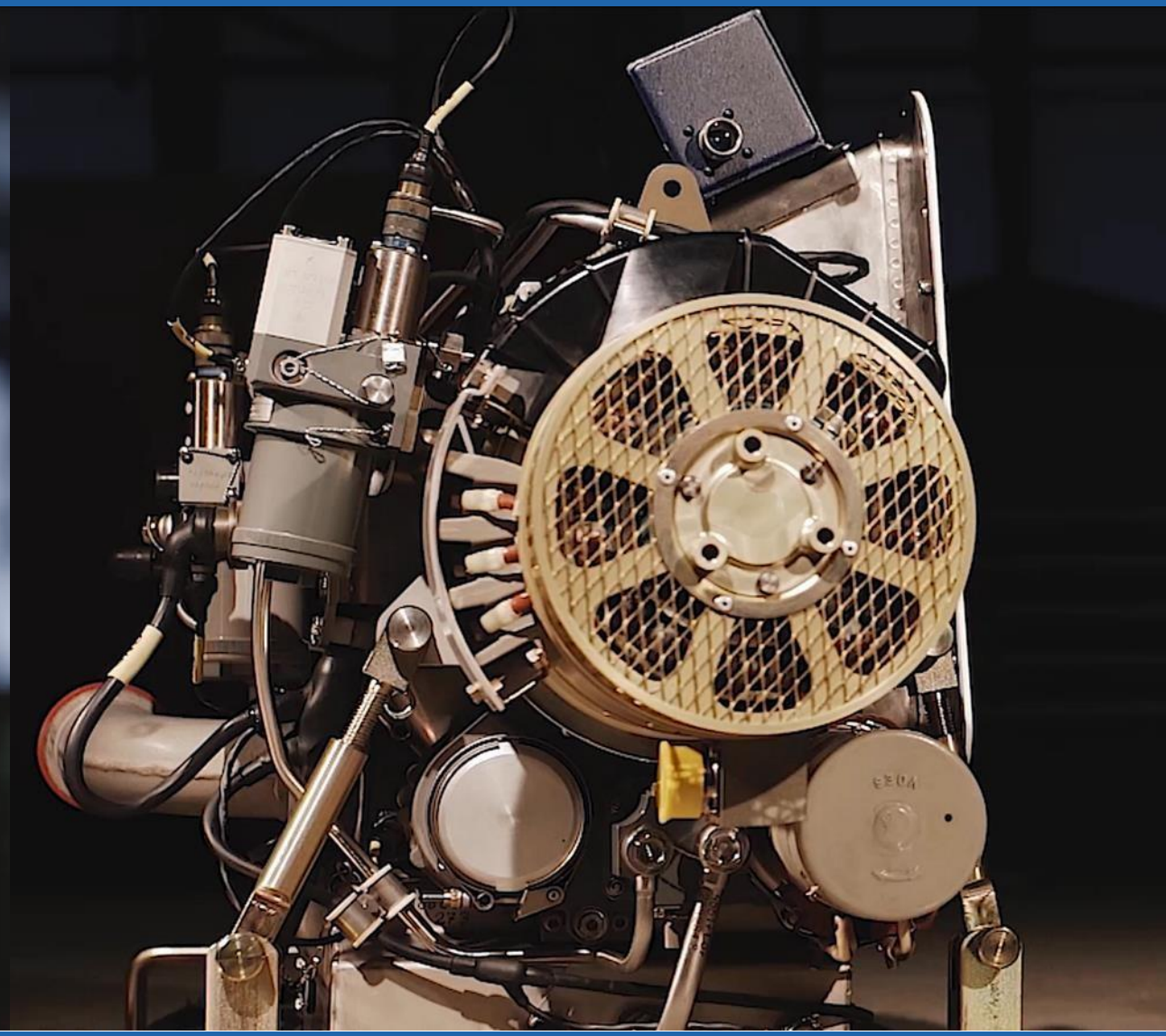
- Services concerning the construction of power generation and district-heating units

PBS GROUP IN NUMBERS



AEROSPACE PRODUCTS





AEROSPACE PRODUCTS

› **Turbojet Engines**

› **Auxiliary Power Units**

› **Turboprop and Turboshaft Engines**

› **Environmental Control Systems**

PBS TURBINE ENGINES

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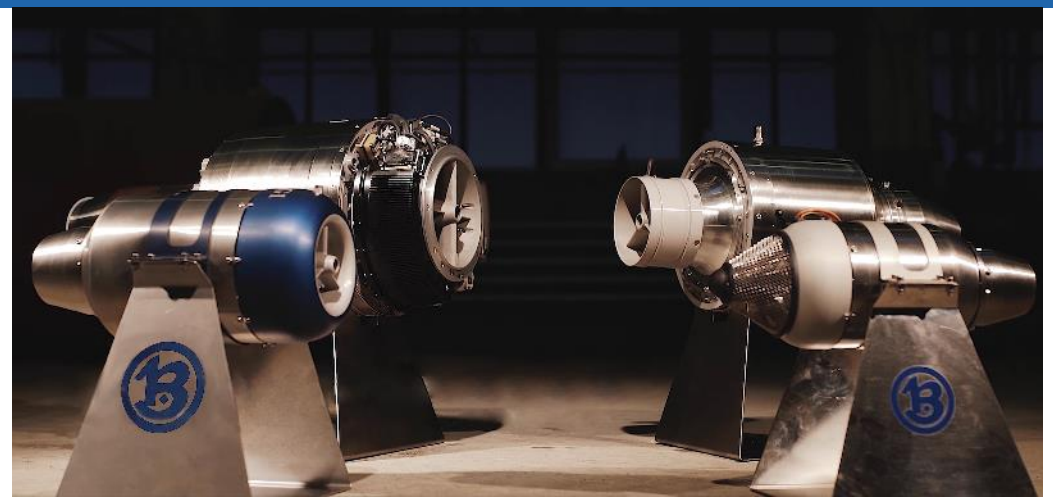
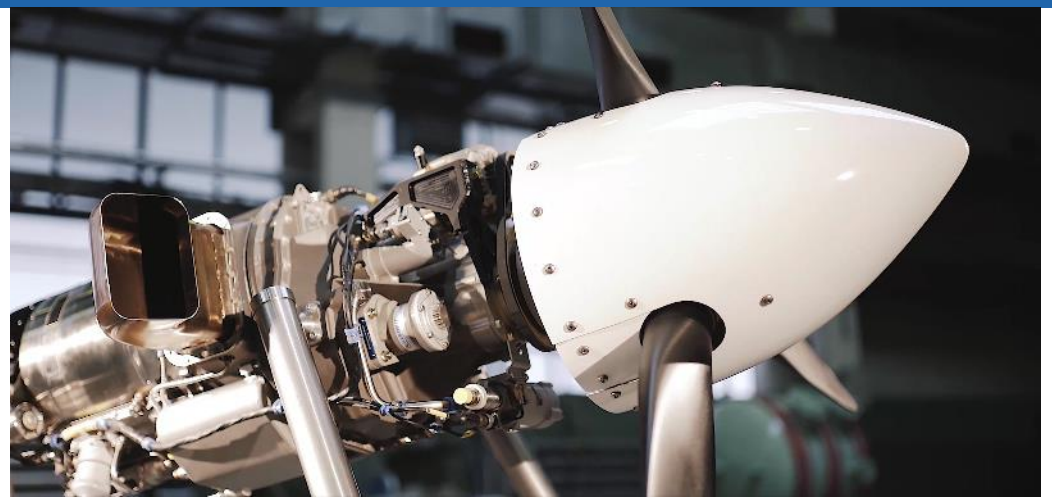
PBS TURBINE ENGINES





› Turbojet Engines

- Excellent weight/thrust ratio
- Compact design
- Low fuel consumption
- El. starting system, short starting sequence
- Ground and in-flight restart in any positions
- Salt water recovery versions

› Turboprop & Turboshaft Engines

- TP100 – in both tractor and push configurations
- Stable operation in high altitudes and at high temperatures
- Ability to start in cold conditions as below as -30°C without preheating
- Low weight

PBS TURBOJET ENGINES – MAIN PARAMETERS

- **PBS TJ150**

- **PBS TJ100**

- **PBS TJ80**

- **PBS TJ40**

MAIN PARAMETERS:

- Excellent weight / thrust ratio
- Compact design
- Low fuel consumption at its power category
- Electric starting system
- Possibility of ground and in-flight restart
- Short starting sequence
- High variability of engine positions during start
- Variability according to customer requirements

PBS TURBOJET ENGINES IN UNMANNED AIRCRAFT SYSTEMS

PBS TURBOJET ENGINES IN MANNED AIRCRAFT

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PBS TURBOPROP AND TURBOSHAFT ENGINES APPLICATIONS

PBS AUXILIARY POWER UNITS AND ENVIRONMENTAL CONTROL SYSTEMS

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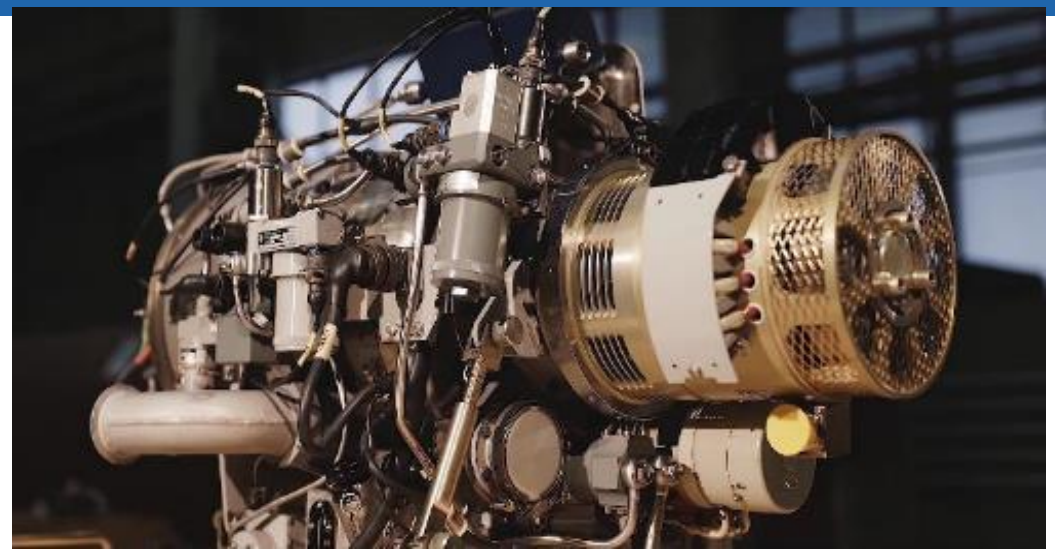
PBS AUXILIARY POWER UNITS AND ENVIRONMENTAL CONTROL SYSTEMS



› APU

- Simultaneous supply of electric power and compressed air
- Nominal power up to 100 kW
- Unlimited number of main engine starts
- Continuous operation for up to 6 hours
- Supply of bleed air of suitable cleanliness for ECS

› ECS

- Combined cooling and heating system
- Minimum electricity consumption
- Compact design, Low weight
- Easy installation
- Ecological operation – no refrigerant
- Long service intervals

PBS IN INDIA

CRYOGENICS PRODUCTS

- Rotary machines operating at low temperature of gas and liquid up to -265 °C
- Cryogenic compressors, cryogenic pumps are used in research, healthcare or industry as helium liquefier actuators
- Helium expansion turbines used in gas liquefaction processes in small helium liquefiers

Linde

HZDR

HELMHOLTZ ZENTRUM DRESDEN ROSSENDORF

CERN

Institute for Plasma Research
प्लाज़्मा अनुसंधान संस्थान

PRECISION CASTING PRODUCTS

› **Reliable supplier** of castings for the power, transportation, aerospace and glass industries

Turbocharger wheels

Gas turbine blades

Circulation and distribution wheels

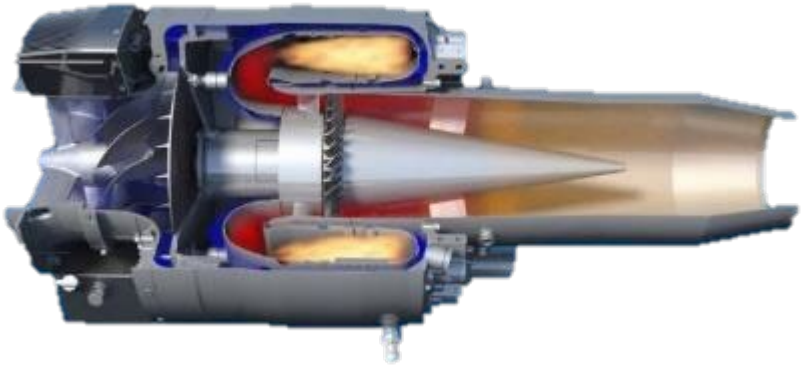
Spinner discs

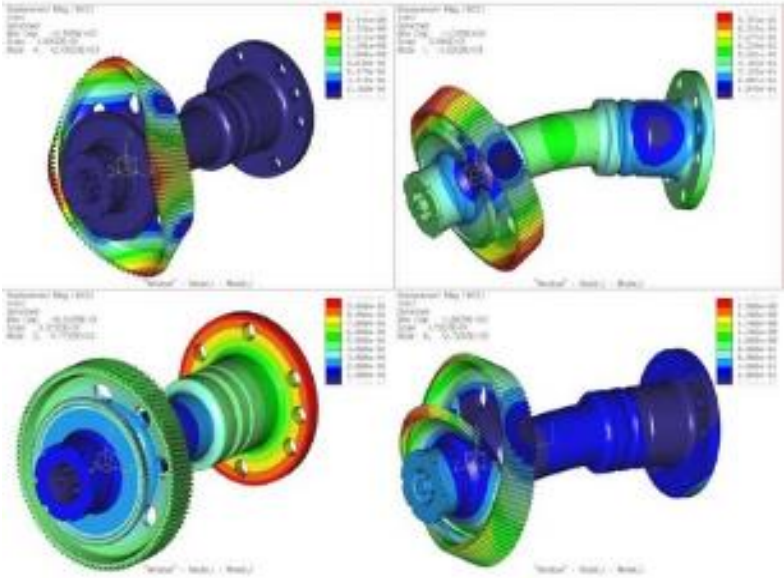
SERVICE & MAINTENANCE

- Customer support
- Testing
- Maintenance
- Repairs
- Overhauls

RESEARCH AND DEVELOPMENT

- **Internal R&D capabilities**
- **Internal experienced engineers**
  - Innovation of existing products
  - Development of new products
  - Thermodynamic and aerodynamic calculations
  - CFD simulations
  - Strength calculations and simulation
  - In-house developed SW for design of flow parts





LICENCES AND CERTIFICATES

- Approval to design, manufacture and maintain turbine machines and equipment **EASA – DOA, POA, MOA**
- Certificates: AS 9100, ISO 9001, ISO 14001
- Certificate for manufacturing and maintaining the military aerospace products MAA 056 and MAA 076 from the Ministry of Defence
- Civil authorities certificates
- NADCAP for non-destructive testing (PT, RT) and chemical processes
- Certificate of Conformity of the quality system with the requirements of ČSN EN ISO 9001:2009 and ČOS 051622 (AQAP 2110) from the Defence Standardisation, Codification, and Government Quality Assurance Authority

PBS INDIA

PBS INDIA PRIVATE LIMITED
No. 303, 'Pushpak, MES Ring Road, Jalahalli Village,
Bengaluru, Karnataka 560013, India

www.pbsindia.com

RAVI HAZARIKA
Sales Director

+91 8971583318
+91 8197206600
hazarika@pbsindia.com

PETR MOTÝL
Member of the Board of Directors

+420 608 303 206
motyl@pbsindia.com