

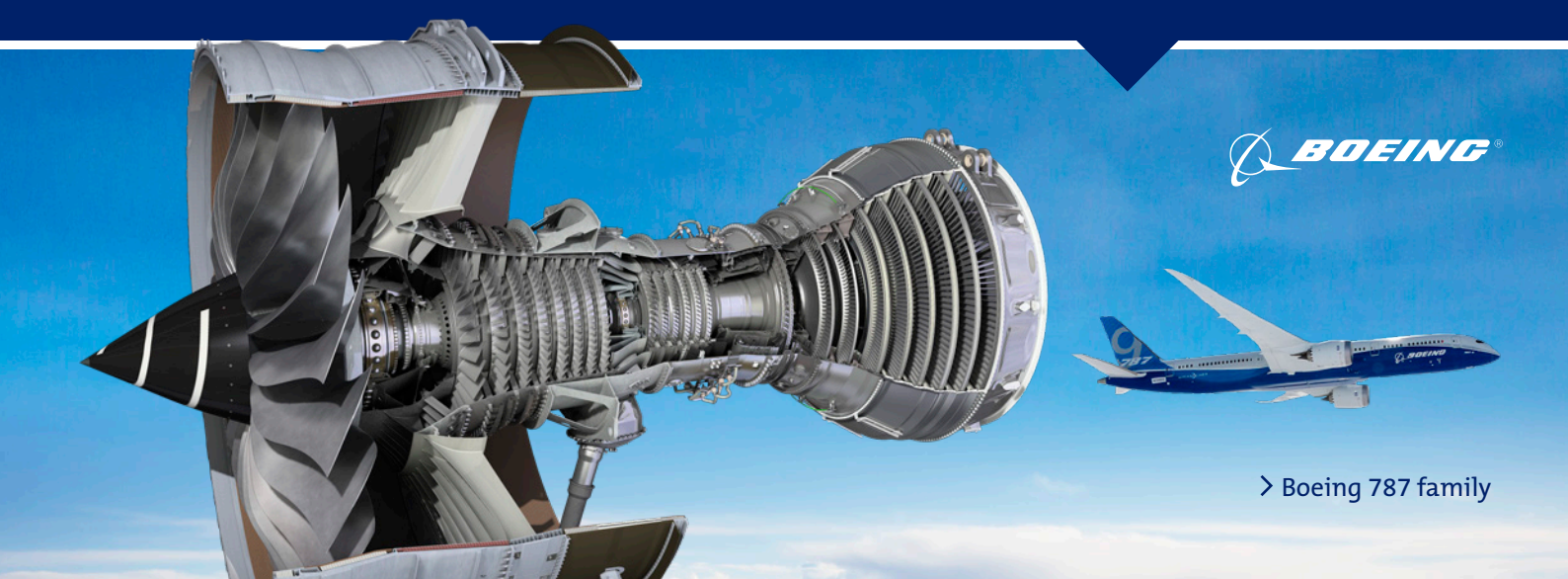


Trent

1000

## Powering the dream

The Trent 1000 is designed and optimised for the Boeing 787 Dreamliner and delivers up to 3% better fuel burn than its competitor, while still being the quietest engine for the airplane - Trent 1000 has the momentum in the market.

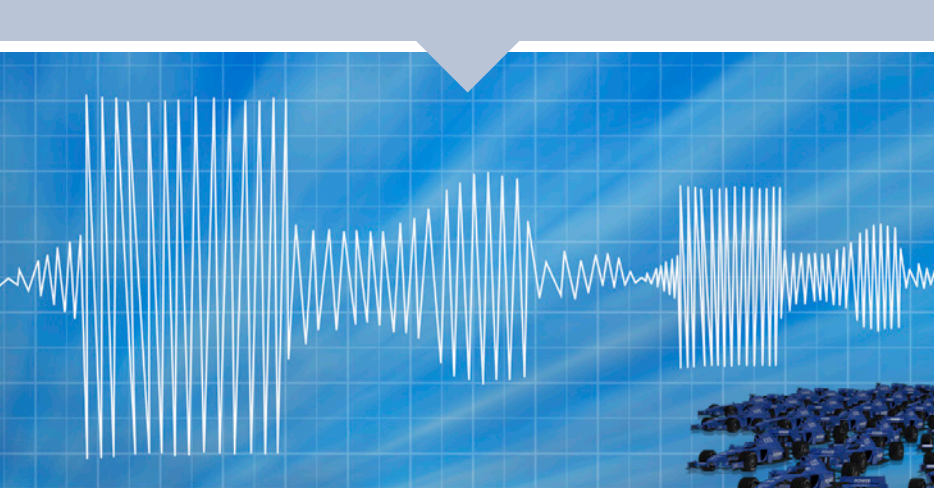


BOEING

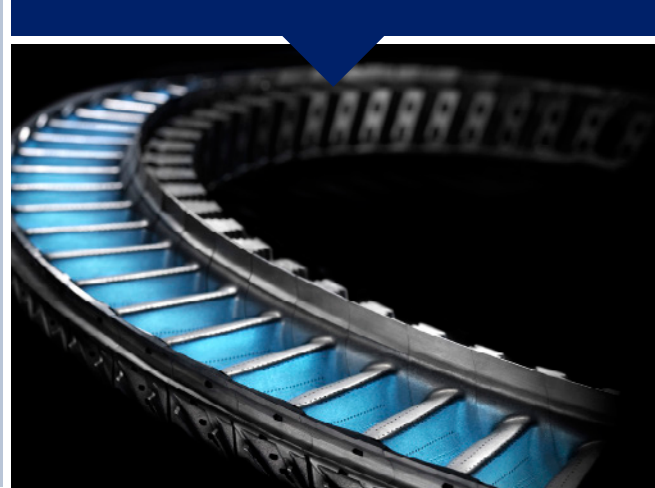
> Boeing 787 family

## halving the noise footprint

A Trent 1000 powered Boeing 787 at full power take off is **3 dB quieter** than the previous generation aircraft



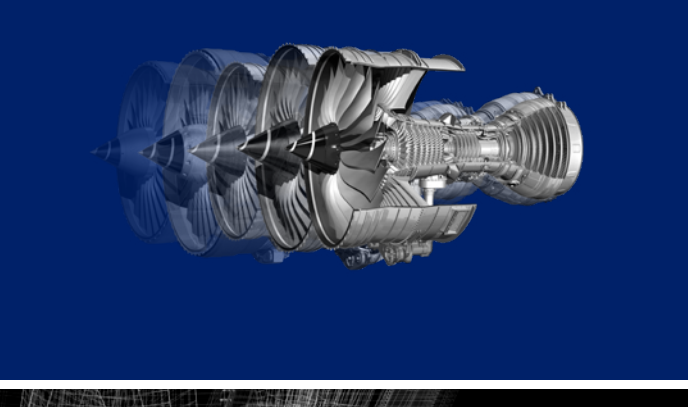
The HP Turbine consists of **66 blades** that rotate at **12,000 rpm**



The HP Turbine generates over **50,000 horsepower** - equivalent to **68 Formula 1 racing cars**

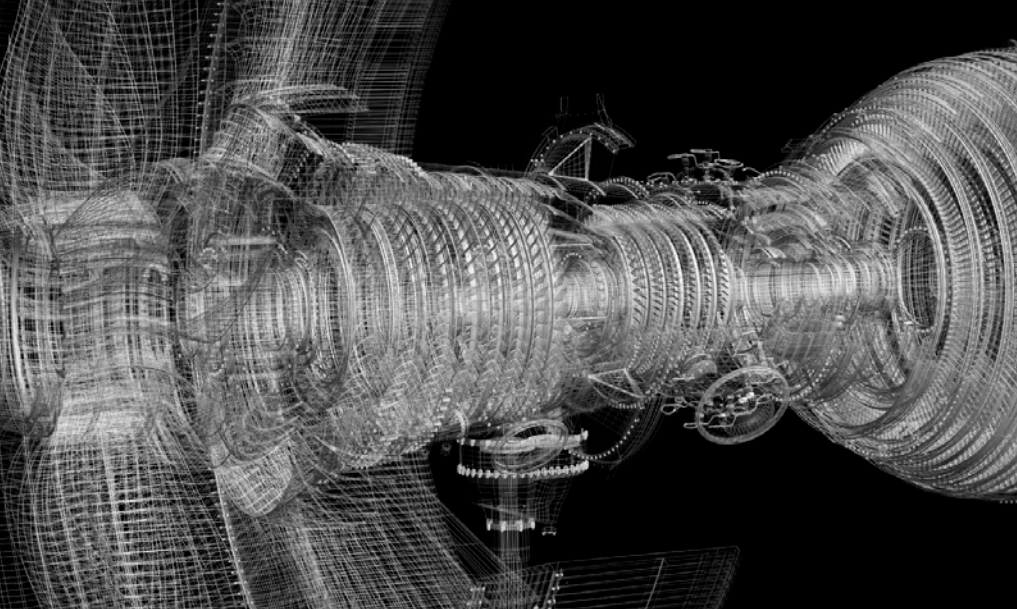


The **fifth** member of the highly successful Trent family



### fan system

At take-off each fan blade carries a load of 90 tons, which is equivalent to **nine London buses** hanging from the tip of each blade.



A Trent 1000 engine is made up of around **18,000** individual components

The fan diameter is **112 inches**, the same diameter as the fuselage of the **Concorde** supersonic jetliner



The only engine for the airplane that delivers up to **3 per cent better fuel burn** than its competitors



1. Our ultra-efficient swept fan enables a quieter operation and optimum engine core protection.

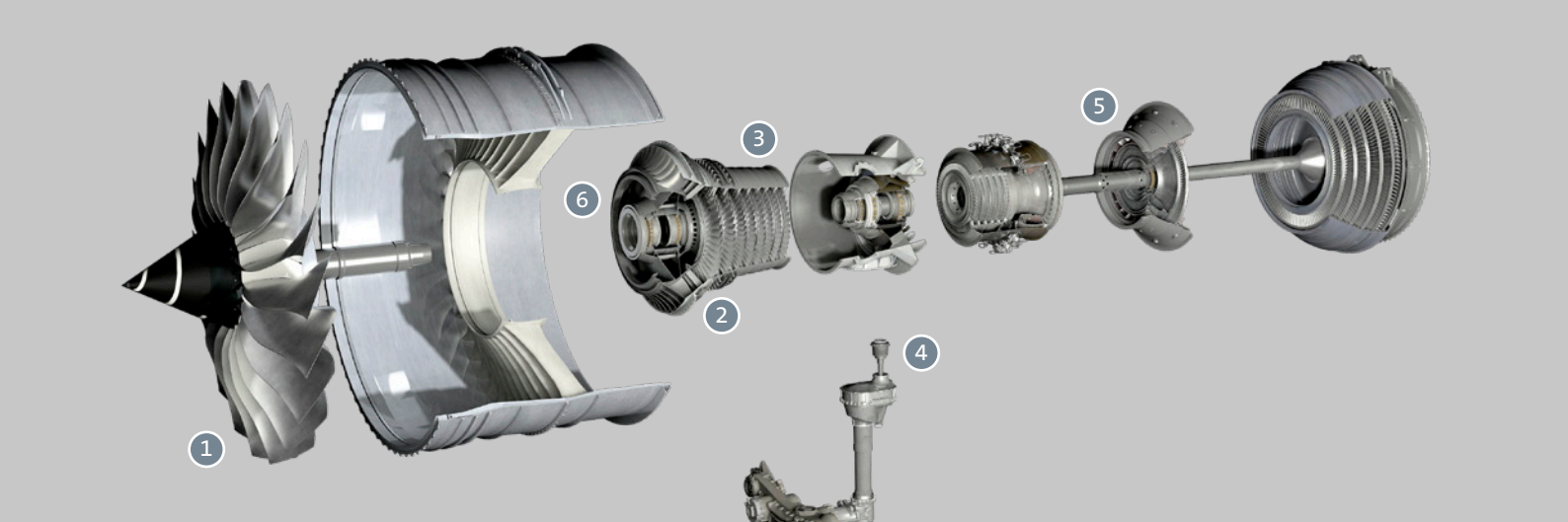
2. The low risk design of our 3D bladed compressors delivers a more efficient compression system.

3. Contra-rotation provides much improved core efficiency and means fewer and lighter parts.

4. IP power off-take efficiently drives the aircraft electrical systems while improving engine handling and operability at low power.

5. Modulated HP Air system lowers fuel burn and gives more engine performance retention.

6. Heated Engine Section Stators (ESS) deliver advanced ice protection, reducing operational burden.



**Trent 1000 Technical Data**  
Configuration: Three-shaft turbofan  
Thrust: 53,000–78,000 lbf  
Bypass Ratio: >10:1  
Overall Pressure Ratio: 50:1  
Fan: 20 blades, 112" diameter

Intermediate Pressure Compressor: 8 stages  
High Pressure Compressor: 6 stages  
Noise: QC 0.5 departures/ QC 0.25 arrivals  
High Pressure Turbine: Single stage  
Intermediate Pressure Turbine: Single stage  
Low Pressure Turbine: 6 stages

© Rolls-Royce plc 2017

The information in this document is the property of Rolls-Royce plc and may not be copied, or communicated to a third party, or used, for any purpose other than that for which it is supplied without the express written consent of Rolls-Royce plc.

Whilst this information is given in good faith based upon the latest information available to Rolls-Royce plc, no warranty or representation is given concerning such information, which must not be taken as establishing any contractual or other commitment binding upon Rolls-Royce plc or any of its subsidiary or associated companies.

TotalCare® is a registered trademark, Life®, Term® and Flex® are registered in the European community. Trent® is a registered trademark.  
VCOM 16775 November 2017

www.rolls-royce.com



Rolls-Royce