dream

Validation of radical engine architecture systems

the **alternative** solution for a cleaner future

The DREAM project is the response of the engine community to commercial and environmental pressures that have come about mainly as a result of two main factors:-

- **The political pressure to reduce CO_2 has increased considerably since the publication of the ACARE goals**
- **Future availability and cost of Jet A1 fuel. Recent fuel prices have oscillated significantly, but the future trend is likely to be upwards**

Objectives

The DREAM objectives are for the engine and pylon in isolation

- CO_2 - 9% over and above VITAL/EEFAE TRL4/5 (7% better than ACARE or 27 % better than Year 2000 engine)
- Noise - 3dB per operation point (~ –9dB cumulated on 3 cert points) versus the Year 2000 engine references at TRL4 with improved methods, materials and techniques developed on past and existing noise programmes
- NOx - will be reduced accordingly with engine specific fuel burn reduction

Additional noise reductions may also be possible at an aircraft level with noise shielding effect from the aircraft architecture but there may be a corresponding increase in weight.

Project Structure

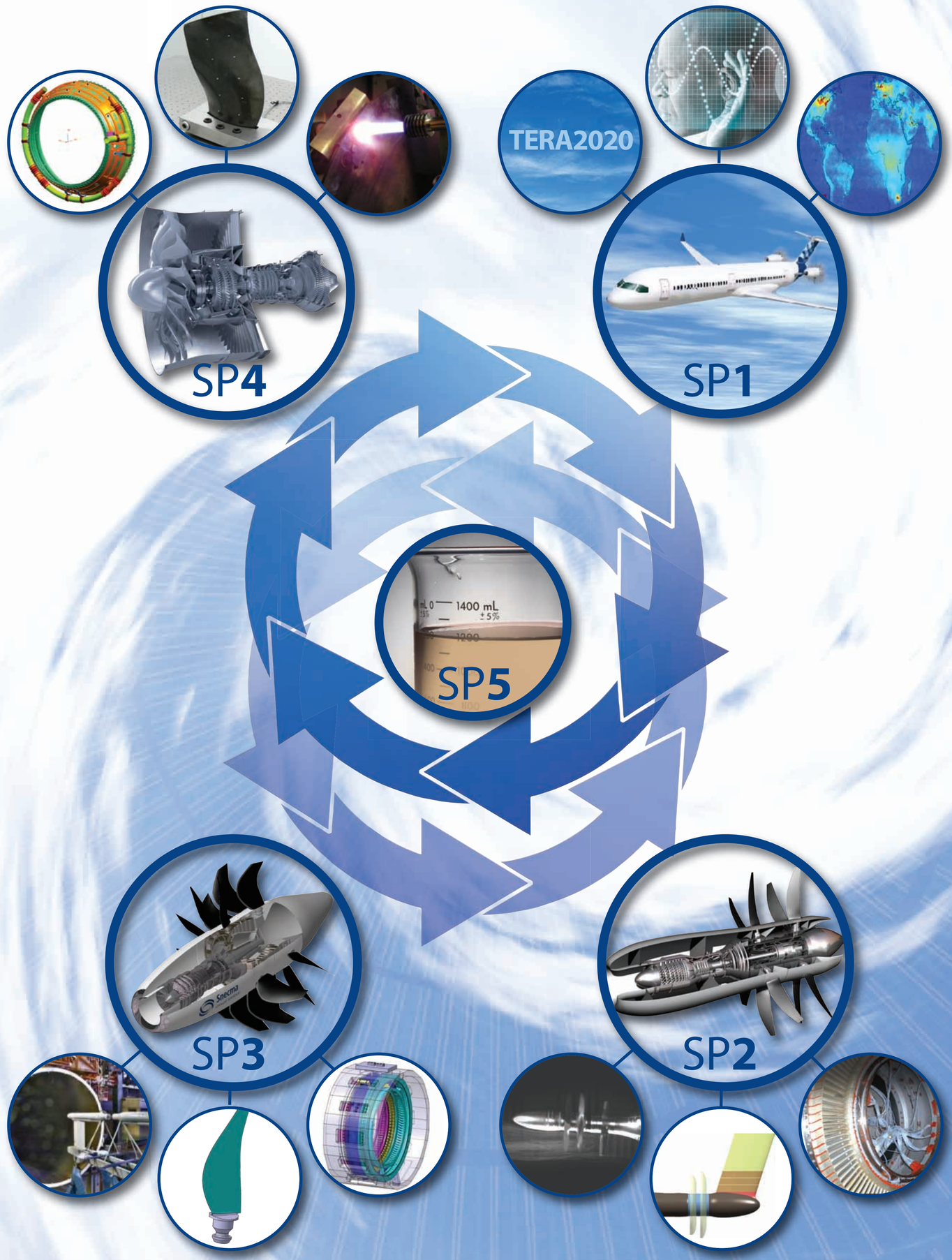
DREAM comprises of 6 sub-programmes:-

SP**0** – Management and dissemination
SP**1** – Whole Engine Architecture
SP**2** – Geared Open Rotor
SP**3** – Direct Drive Open Rotor
SP**4** – Innovative Systems
SP**5** – Alternative Fuels Demonstration

Project Organisation Overview

The DREAM project is supported by 44 partners from 13 countries who provide the best aeronautic expertise and capability from within the EU, Russia and Turkey.

The variety of organisations involved in the project including larger OEMs, SMEs, Universities and Research establishments will be best able to harness and apply the varied capabilities that exists to achieve the project objectives.



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SEVENTH FRAMEWORK PROGRAMME

AIRBUS · ARTTIC · Avio aerospace propulsion · Cenaero · CHALMERS · CIAM · Cranfield University · DLR Deutsches Zentrum für Luft- und Raumfahrt in der Helmholtz-Gemeinschaft · DOWTY Part of GE's Aviation Business · ETH · EMPA · EPFL · BUSCH · eurocopter an EADS Company

ITP Industria de Turbo Propulsores,S.A. · isae · ITLR · University of Southampton Institute of Sound and Vibration Research · MAGNA STEYR SPACE TECHNOLOGY · MTU Aero Engines · NLR · ONERA THE FRENCH AEROSPACE LAB · PARS MAKİNA LTD. Power And Rotary Systems · POLITECNICO DI MILANO Dipartimento di Chimica, Materiali e Ingegneria Chimica "G. Natta" · POLITECNICO DI TORINO · Progesa

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