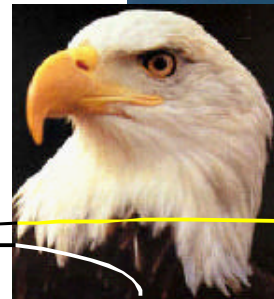
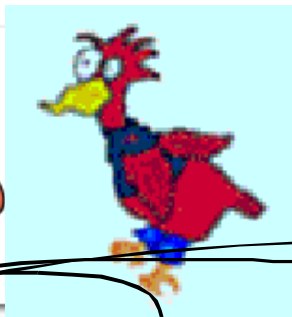




The European Commission

**Advanced Long
Life Blade
Turbine Coating
Systems**

ALLBATROS



3 under par !

ALBATROS- OBJECTIVES OF THE PROGRAM

To answer to the calls for proposals within the Energy, Environment and Sustainable development program of the FP5.

Key action 5 : Cleaner Energy systems, including renewable energies

5.1.3. More energy efficient gas turbine

target : efficiency $>60\%$ (medium term) and $>65\%$ (long term) lower heating value for combined cycles, or other advanced gas turbine cycles, above 50% for open systems (advanced gas turbines), above 35% for small scale gas turbines, with low maintenance aiming at $>90\%$ availability and 95% reliability (on an annual basis) for the short and medium term, and 97% reliability for the longer term.

ALLBATROS

CONTRACT N° : ENK5-CT2000-00081

- **PROJECT COORDINATOR :**

ONERA F

- **CONTRACTORS :**

- TURBOMECA F

- NUOVO PIGNONE I

- ALSTOM POWER Sweden AB S

- ALSTOM Power UK UK

- CHROMALLOY France F

- INPT } F

- CNRS } F

- Cranfield University UK

- Linköping University S

duration : 48 months -01/01/01-31/12/04

ALLBATROS- Description of work to reach the target

i.d. to increase efficiency, reliability and maintainability of industrial gas turbine blades and vanes by

- developing coatings that can warrant a 50000 hours life, i.e. twice more than the usual life, to the hot components (800-1100°C) even with the use of renewable sources as biomass gas or recovery incinerator gas i.e. low-grade fuels with high pollutant levels,
- characterizing advanced existing coatings to assess lifetime and performance of coatings and coated materials,
- providing material coating data and design criteria to use coating as a design element,
- increasing fundamental understanding of the behavior of coated materials, their degradation, fracture mechanisms and engineering because there is a strong need for a mechanism-based modeling of durability.

Graphical presentation of the project's components (PERTH Diagram)

