SMART-1

Technology Preparation for the Future

Eike Kircher
Head of Basic Technology Research Programme Section
Technology Programmes Department

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Smart-1 Media Day
ESTEC
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SMART-1

Technology Preparation for the Future

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Role of ESA's Technology Programmes

- Technology is a crucial pillar of ESA's work enabling our missions
- The basic technology research programme, TRP, is part of ESA's fundamental activities, established by the ESA Convention, like the Science Programme
- Technology plays a key role in the ESA/EC Joint European Strategy for Space

ESA's Technology Research & Development Programmes

Key Objectives

- Technological preparation of Europe's future space programmes
- Reinforce worldwide competitiveness of European industry
- Opportunities for innovative technology developments
- Spin-off to non-space applications

Execution in Mandatory & Optional Programmes

Examples of Technology Developments

Preparation of Europe's future programmes

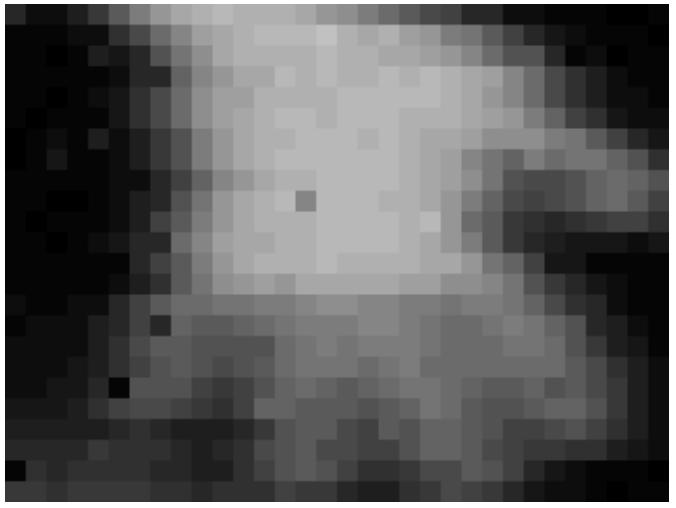
- Key enabling technology for GALILEO
- Rubidium high precision clocks

Reinforce industry's competitiveness

- Production of power amplifier for mobile communications satellite

Innovative technology developments

- Star Tiger Project



The very first image 5th Sept.'02
Human hand at 32x32 pixels
Resolution at 200 Ghz

Spin-Off to Non-Space Applications: Mamagoose Pyjamas for Babies

Space Application :
Study the Respiration of Astronauts

Non-Space Application:
Continuous monitoring of infants during sleep
(an alarm sounds at the first symptoms of a possible unexpected cot death)

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SMART-1 is an Opportunity

Remember …

…It takes 10 years to make a space mission a reality….

…It costs between 10.000 $/kg and 100.000$/kg to launch…

…Nobody will take a risk with unproven technology….

… In-Orbit Demonstration is the best answer….

SMART-1 Technology

- SMART-1 will demonstrate essential technology advances in:
  - Future Propulsion
  - Miniaturisation
  - Autonomy
  - Communication
- Utilisation in future ESA missions

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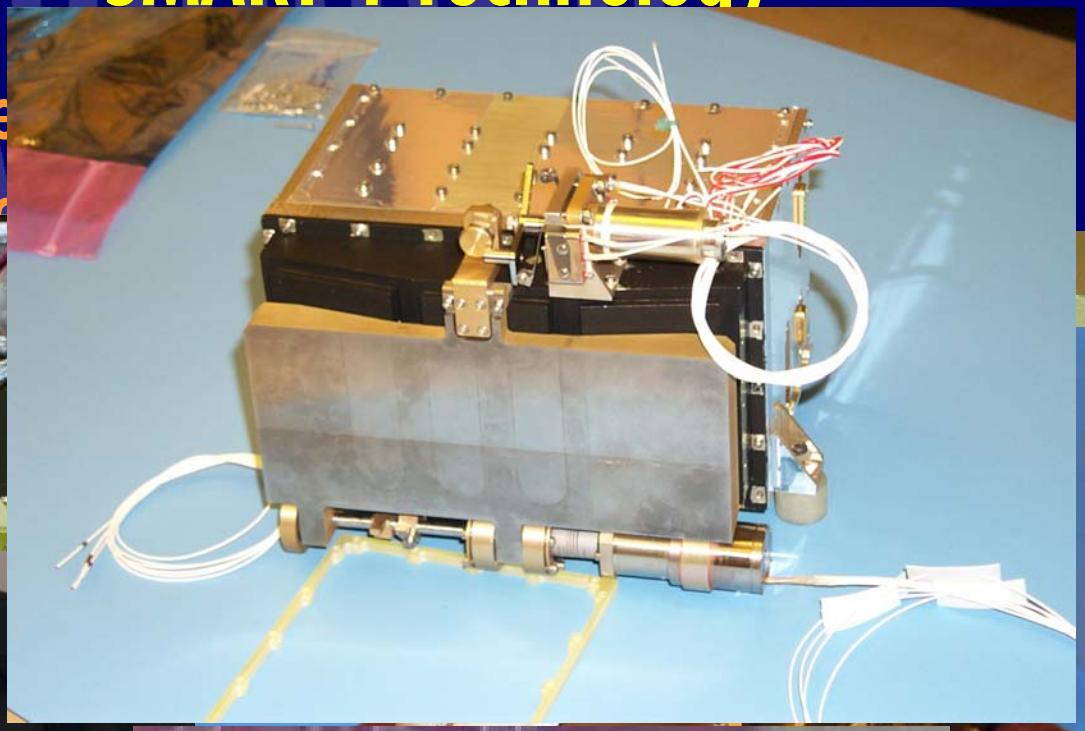

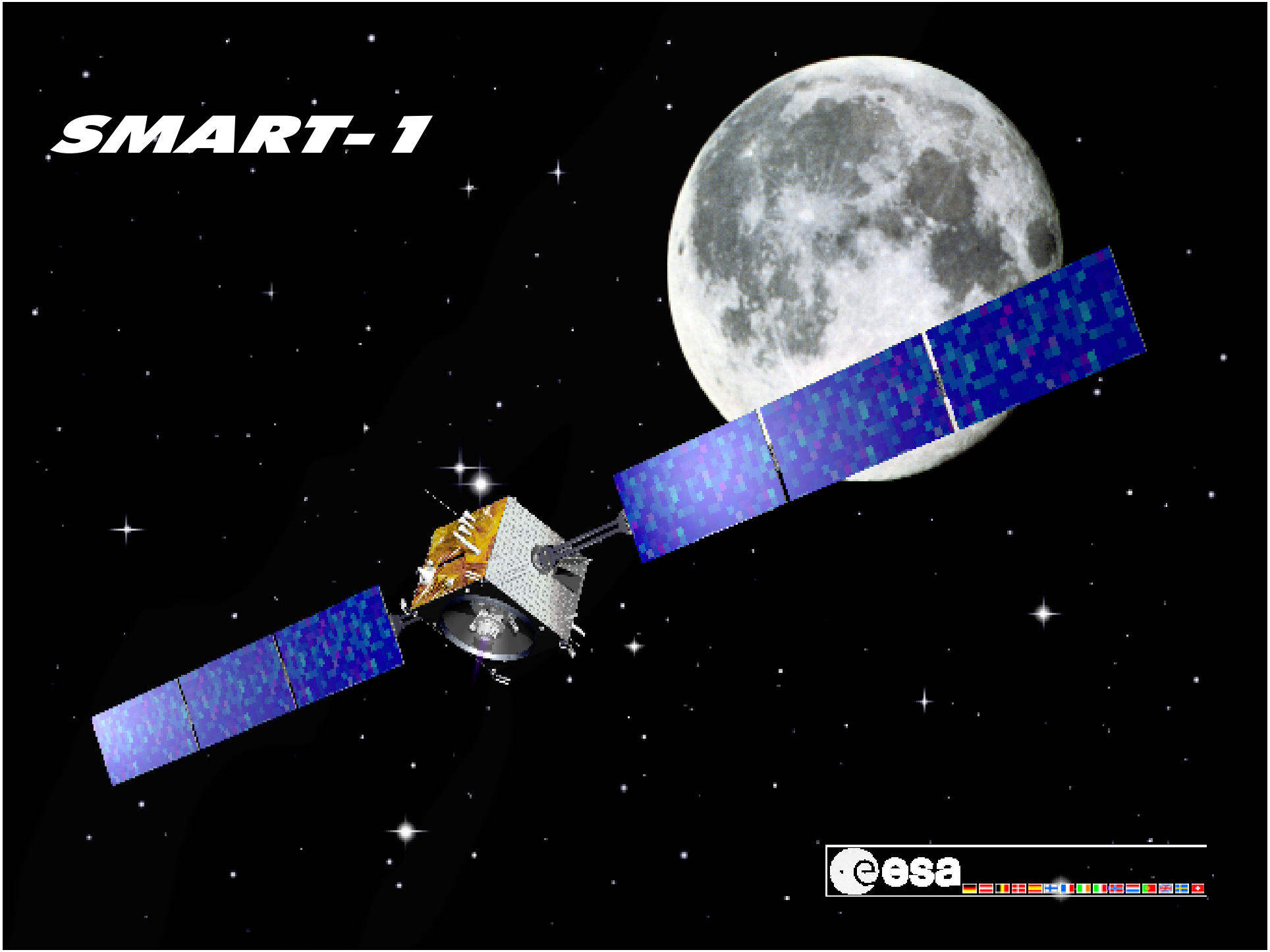
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