

**ESF-ESA 'Forward Look' TECHBREAK
Technology breakthrough for scientific progress
KICK-OFF CONFERENCE, 29-30 NOVEMBER 2010**

Scientific Challenges and Technological Limitations
in Space industry

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Technological Policy

- Scientific missions require cutting edge technologies
- This implies a high level of risk
 - ✓ Technological risks
 - ✓ Financial risks
- Such risks must be managed
- This is part of technological policy

customers (current M€)

- Who should bear the risk?
 - ✓ Industry
 - ✓ Scientific Programmes
 - ✓ Technological Programmes

programmes: overview (current M€)

- Industry

- ✓ Can bear assessable risks
- ✓ Technological risks can only be assessed by the end of Phase B
- ✓ Issue of procurement policy

details (current M€)

- Scientific Programmes
 - ✓ Should bear the minimum risks
- When to decide programmes?
 - ✓ Once all required technologies have been qualified?
- This is part of Science policy

Technology Programmes

- Technology Programmes
 - ✓ Integrate the needs of future missions
- Roadmapping
 - ✓ Is essential to plan technological developments
 - ✓ Very good assessment of needs done by ESA
- Maturation of technologies is key
 - ✓ Technological programmes focused on early stages

What must be achieved

- Right level of performance
 - ✓ R&T plans
 - ✓ Testing
- Required level of maturity
 - ✓ Roadmapping
 - ✓ Technology maturation programmes
- Affordable conditions
 - ✓ For the programmes