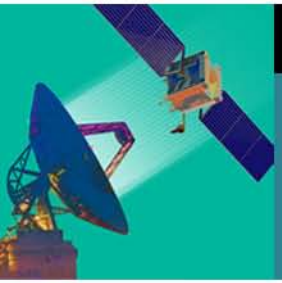
Working Group Outbrief

Ground System Architectures Workshop

Session 11A

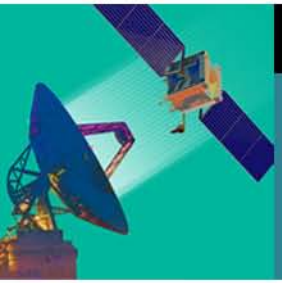
Why Does it Take So Long to Deploy New Technologies in Ground Segment Data Systems?

Nestor Peccia, European Space Agency/ESOC



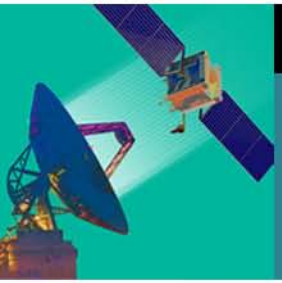
Session Goals

- The main goal of the WG was to set a forum to discuss between Space Agencies, Space Organizations, Industry and Universities their technologies strategies, their long term plans, how technology is deployed in SW products and (most important) the critics received and lessons learned.



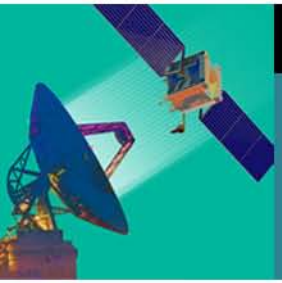
Presenters/Panelists

Institutional View	
Aerospace Corporation	R. Donelly
NASA JPL	L. Dubon
ESA	N. Peccia
Industrial View	
Integral Systems	P. Gaffney
GMV Space	G. Garcia



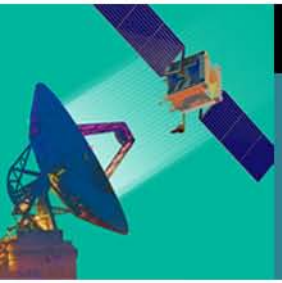
Key Points

- Commercial (cost / schedule driven) vs Government / DoD (process driven)
- Programmatic and organizational structure
- Constraints, Context, barriers to deploy technology
- Cost, ROI
- Acquisition approach (FFP vs Cost+)
- Risk management
- Technology insertion speed
- Human factor
- Reference architecture, business model, APIs
- COTS and Open Source
- Customer feedback



Conclusions for Technology Insertion

- No silver bullet (i.e. a palette of solutions)
- Technology Insertion enablers:
  - Capabilities as opposed to requirements (functional vs. detailed requirements)
  - Use of Frameworks (Ref. Architecture, Infrastructure, Standards)
  - Acquisition approach
    - Done by operators (commercial) or by SW engineers (institutional ➔ slower)
    - FFP or Cost+
  - CONOPS (more flexibility by commercial customers)



Conclusions for Technology Insertion

- Satellite design drives the ground design (Leading edge vs commercial type satellite)
- Risk management adaptability (i.e. benefits accrued) + risk aversion
- Availability of Tools (on certain technologies)
- Customer feedback on a commercial Product base enriches the product for the whole community