3rd November 2011 – London, United Kingdom
Session: The Commercial World: Corporate countermeasures

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THE OPERATIONAL SCENARIOS

- **LEO/MEO**
  - Most of the population resides in LEO/MEO or crosses
  - Essentially institutional missions
  - The re-entry problem: prediction and ground security
  - Security problem monitored by agencies

- **GEO**
  - Several profiles
    - Well located operational payloads
    - Relocation and moving satellites
    - De-orbiting
    - Debris
    - Collocated scenarios
  - Essentially commercial missions
  - Security problem may require external support

- **JSpOC / SSA**
  - Monitor everything
THE ROLE OF INDUSTRY

In the institutional scenario
- Support agencies in their institutional mission
- Develop and implement technologies
- Propose innovative solutions

In the commercial scenario
- Apply the technologies from the institutional scenario
- Develop ad-hoc solutions
- Support operations with respect to payloads security

What industry can/should not undertake
- Procurement of the data to feed the solutions (any)
- Coordination of available assets (ownership, federation, ...)
- Assume operational responsibility
IS THERE A SOLUTIONS CATALOGUE?

- Institutional solutions
  - NASA, ESA, CNES, DLR
  - Other ... certainly but probably not disclosed/exposed
- Commercial solutions
  - AGI → SDA
  - GMV → SSA (CRASS/\textit{closeap})
  - Other ... certainly but in competition
- Where is the difference?
  - Support and level of trust in the provided solution
  - \textbf{Access to the observational data}
    - Agencies vs. industry
    - TLE is not a sufficient solution
    - Data ownership (the JSpOC scenario)
  - Undertaking capabilities (SSA/SDA vs. small initiatives)
- Crossing the Europe/USA border (e.g. ITAR)
GMV’S APPROACH

- Support to ESA in the SSA program
  - Algorithms/software for collision assessment
  - Planning capabilities (technologies reuse)
  - Orbit determination and cataloguing
- Technology reuse in commercial market
  - Specialise/generalise solutions
  - Operational software integration (**cloeap** in **focusgeo**/**leo**)
- Standardisation
  - CCSDS navigation messages
  - Contribution to CDM development
- Operational support to operators
  - Facilitate data gathering, ingestion and interpretation
  - Support to JSpOC interaction
SUMMARY

- Industry capabilities are limited with respect to agencies
  - Requires agencies initiative (SSA)
  - Require operators initiative (SDA)
  - Requires governmental undertaking (JSpOC)

- There is a place for industry in space security
  - Industry role like in any other space business
  - Innovating solutions and support

- Scenario may change with more open data access policies
Thank you

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