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Space Simulation Reference Architecture
Panel Discussion

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What is a Reference Architecture?

- A **reference architecture** provides a proven template solution for an **architecture** for a particular domain (wikipedia)
    - Solutions to address commonly encountered problems in building through life-cycle space system simulations
    - Provides common vocabulary
    - Can be defined at different levels of abstraction

- Understandable to both **system** and **simulation engineers**

- Domain concepts should be **independent**, but **mapable** to the ECSS SMP Simulation Platform (separation of concerns)

- Must support model **reuse** across the project life-cycle (ETM-10-21)
    - Reduce global cost and schedule

- A building block of the **virtual spacecraft** approach

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Challenges to define a Proven Ref. Architecture

- Avoiding Over Specification

- Alignment with existing Implementations / Solutions

- Achieving Adoption – Standardisation?

- Managing Evolution

- Need Reference Projects

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Supplier Side View

- Will it not reduce the level of available business?
    - Budgets are anyway being squeesed – need to improve productivity to have a sustainable business
    - May also bring increased opportunities

- Isn't the reference architecture and SMP just an unnecessary overhead? Give me back my C models and vi!
    - Investment into training, tools and processes is required
    - Longer term benefits

- Will higher competence levels not be required?
    - Yes – particulary to set-up tools and processes
    - Reduce overall effort – higher levels of automation
    - Skills can be reused elsewhere

- Can I use the reference architecture in other domains?
    - Lower ECSS SMP layers are generic
    - Techniques used in the reference architecture are applicable outside of space

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