

System Software Co-engineering, Methods and Tools

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Importance of software in the system



- Software implements (more and more of) the **system behaviour**
- System **complexity** increases → software size increases
- **Software schedule** is squeezed within the system schedule
- Software is the last **flexibility** of the system at the end of the life cycle
- Software is a candidate for **subcontracting** policies
- Software touches many parts of the system. It has **interface** everywhere (ground – hardware – avionics – payloads – sensors – actuators – egse – security)
- Software uses a **lot of data** from various system functional chains (centre of gravity, temperature, health status, voltage)
- Software has several **users** (system – AIT – operation)

Software factory content



lower TRL

higher TRL

System/Software tools:

- Trade-offs (hw/sw co-design)
- Verification (dependability)

REQUIREMENT ENGINEERING:

- Doors <high TRL>
- Feature editors

MODELING:

- Editors
- "Model compilers"

CONFIGURATORS

Database

SYSTEM

SOFTWARE

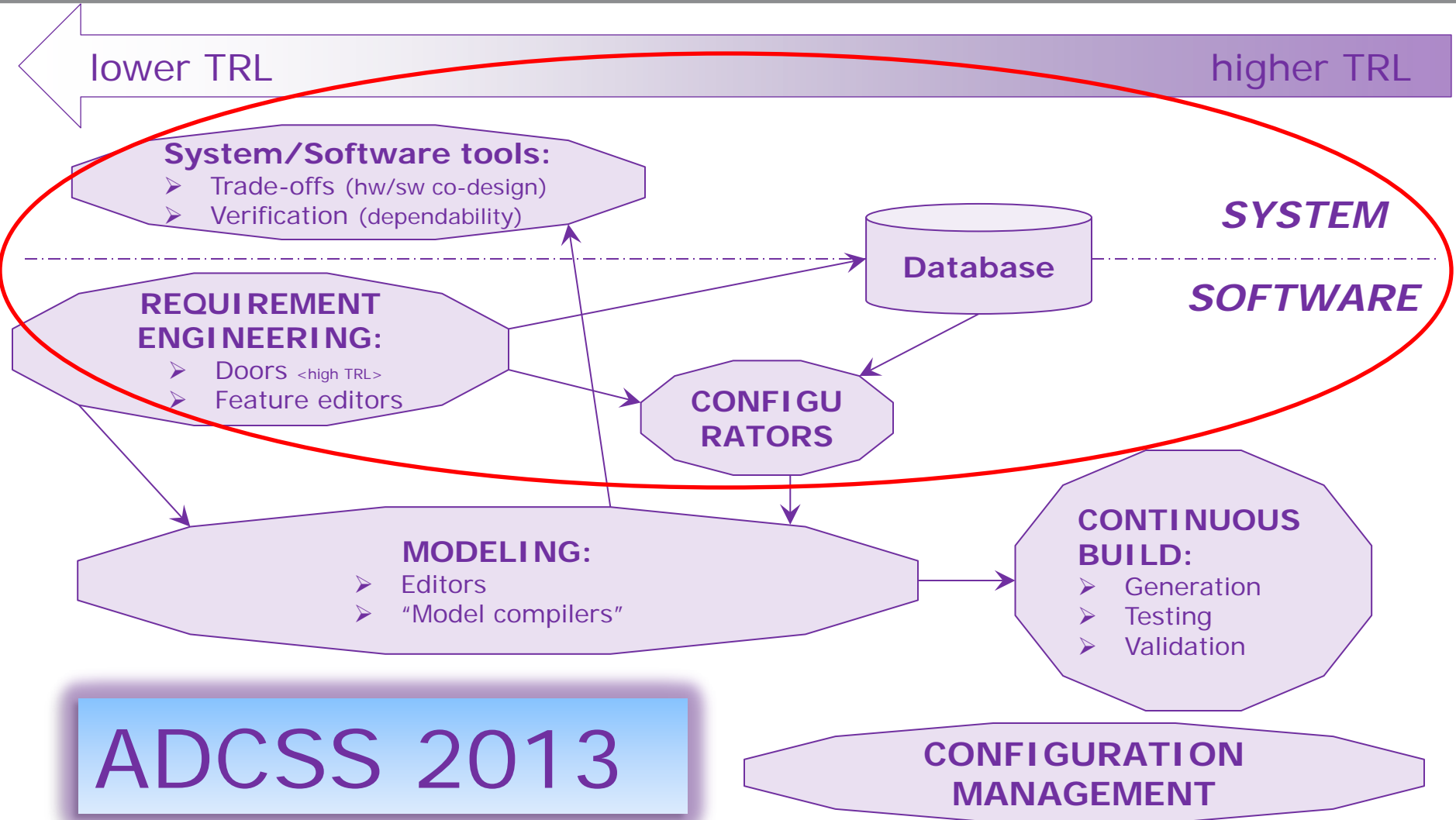
CONTINUOUS BUILD:

- Generation
- Testing
- Validation

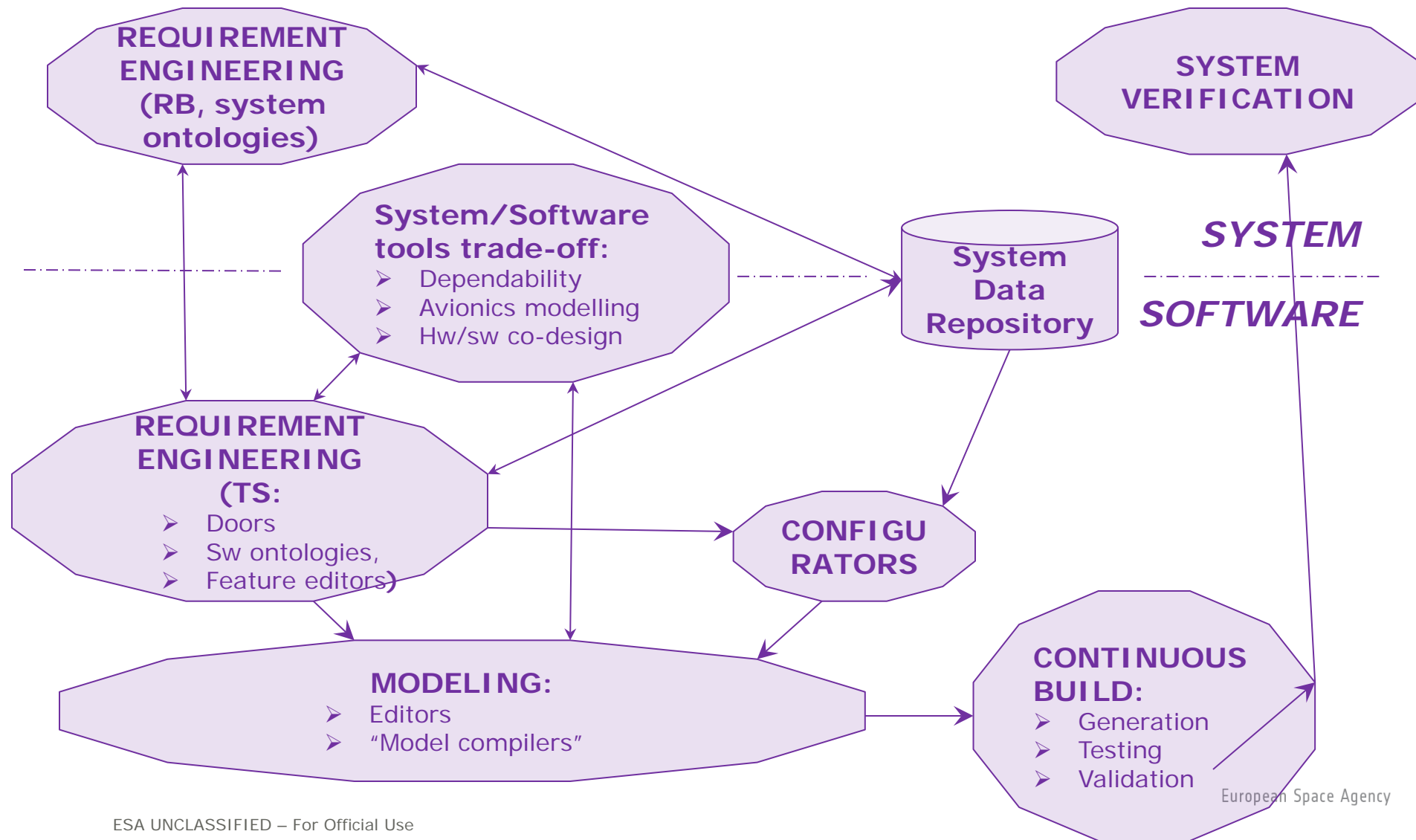
ADCSS 2013

CONFIGURATION MANAGEMENT

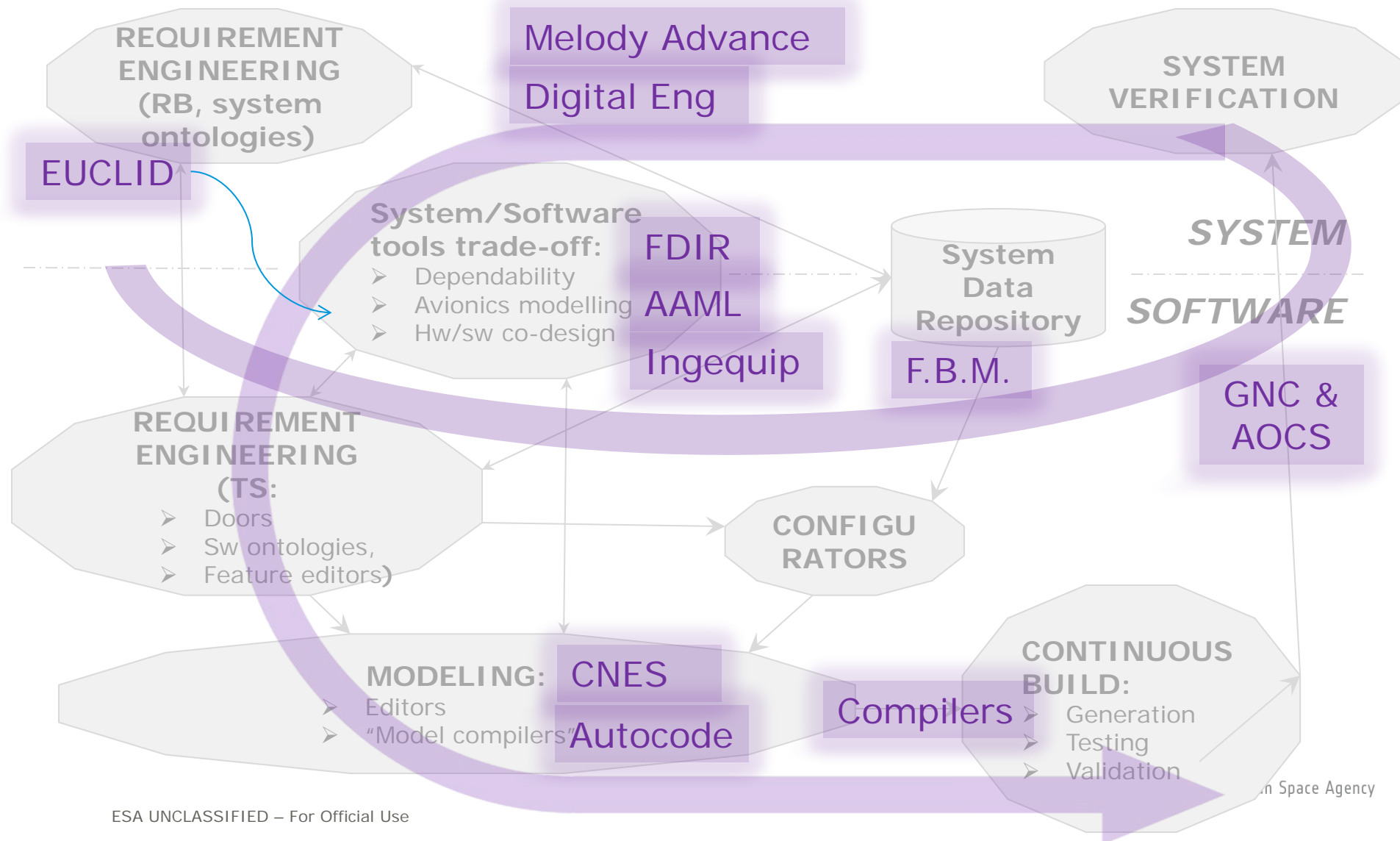
Software factory content



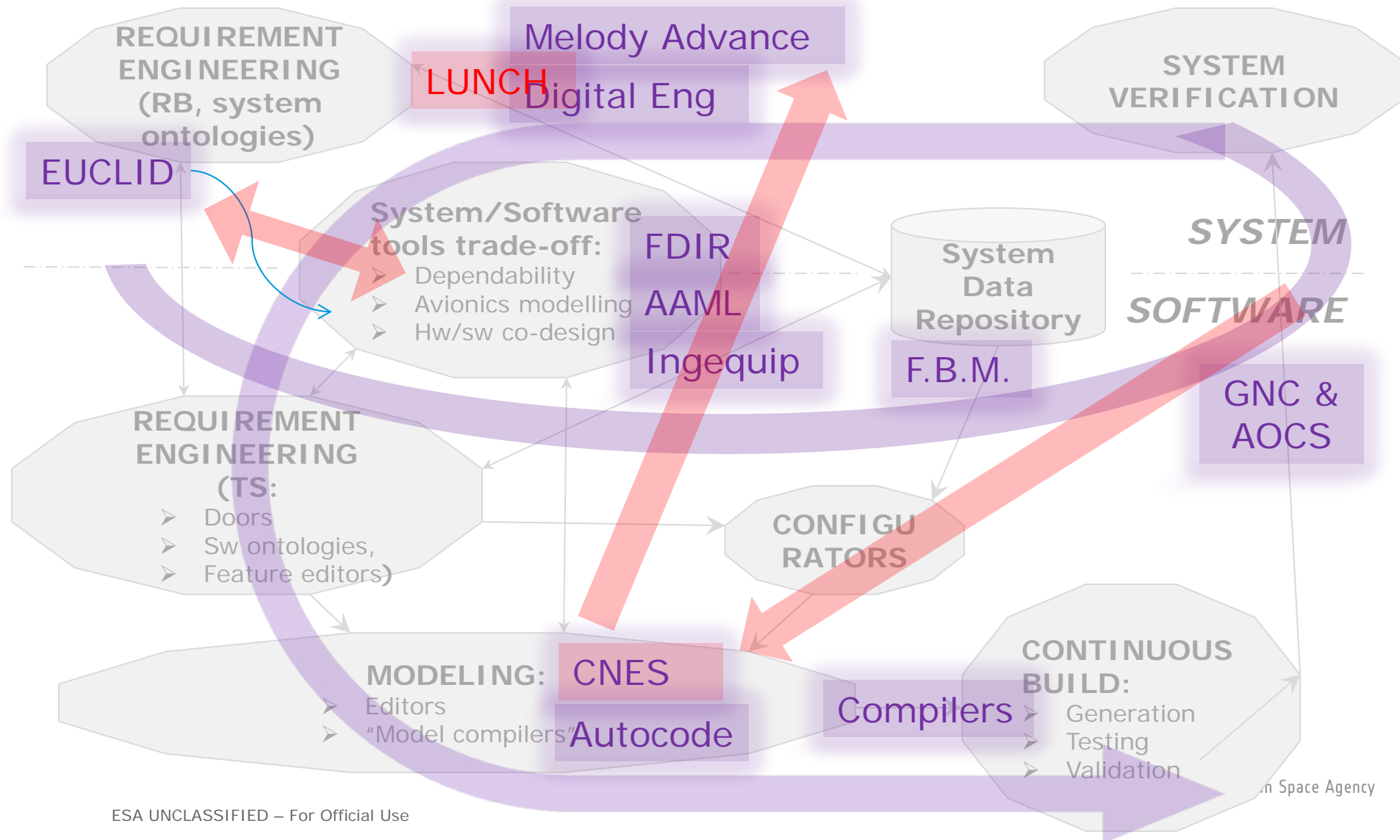
System - Software relationship



The presentations



Schedule change!



Schedule change!

