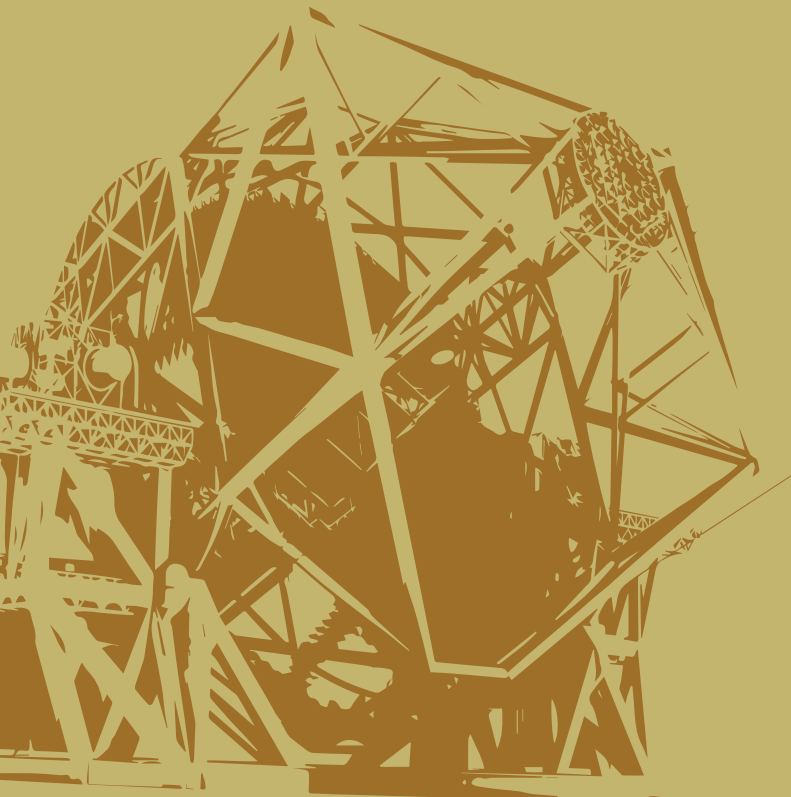


MBSE

Solution for ESO and INCOSE

The Active Phasing Experiment (APE) technology demonstrator for future Extremely Large Telescope (ELT)

- With its 39 m diameter mirror, the E-ELT will be the largest optical/near-infrared telescope in the world: “the biggest eye on the sky”.
- E-ELT will gather 15 times more light than any other telescope today.
- Beginning of operations is expected 2020-2022
- E-ELT will be located in Cerro Armazones, Chile



Challenges

- Apply SysML/MBSE for the Telescope Control System
- Multitude of interacting control loops
Manage complexity:
 - 10000 tons of steel and glass
 - 20000 actuators, 1000 mirrors
 - 50000 I/O points, 700Gflops/s, 17Gbyte/s
- Reuse of blocks
- Integration of heterogeneous distributed components

Solutions

- Use properly SysML language and its elements to represent a system
- Create modeling guidelines and conventions for all system aspects, hierarchy levels, and views
- Create fully fledged SysML model

Results

- APE model, guidelines and best practices
- Model, Model library and SE Profile
- Plug-in for MagicDraw tool
- Input for No Magic and SysML RTF
- Cookbook for MBSE with SysML



Access full APE
model online



Download Cookbook for
MBSE with SysML