TERMA
ALLIES IN INNOVATION

SIMULATION SOLUTIONS

MAIN TYPES OF THE SIMULATORS

1. Software Verification Facilities (SVFs)
Focus on the modeling of the OBC hardware to the extend required to allow the real onboard software (OBSW) to be loaded and executed unmodified on an emulator (e.g., TEMU), while the OBSW is being developed and verified.

2. Operational Simulators (OpSims)
Integrated model of the complete spacecraft platform, payload, and its ground segment interfaces to the Mission Control System to allow a closed-loop operational procedure validation and training. The OpSim will run the real flight OBSW unmodified.

Both simulators utilize our own product TEMU (Terma Emulator), that supports the processor types for space applications.

SOFTWARE VERIFICATION FACILITIES (SVFS)

- Supporting all phases of the OBSW development, test, and verification
- Hardware representative level of modelling to allow the OBSW verification and testing

OPERATIONAL SIMULATORS (OPSIMS)

- Provides the simulation capability to perform the operational scenario for training and flight control procedure validation (before launch)
- Used for Anomaly analysis and recovery procedure testing (after launch)

TERMA has more than 20 years heritage in building spacecraft simulators for both, the commercial EO domain and institutional science missions including deep space.

Project Name	Short Description	Industrial Organisation	Role of Terma
ARIEL RTS Simulator	SVF, HITL and TOMS Simulator	No Subs	Prime
Galileo CSIM L3 Maintenance	Maintenance of CSIM in GCS	No subs	Prime for CSIM Mnt
IRIDE Operational Simulator	A SIMLUS based operational Simulator for the IRIDE Mission	No Subs	Prime
EAGLE-1 Operational Simulator	A SIMLUS based operational Simulator for the EAGLE-1 Mission	No Subs	Prime
NAOS Operational Simulator	A SIMLUS based operational Simulator for the NAOS Mission	No Subs	Prime
BMOTT	MSG Operational Simulator Development and now maintenance	No Subs	Prime
RUAG OBC-NG Model	Adapting of PLATO CDMU Model to OHB generic environment and CO2M	No Subs	Prime
PLATO CDMU Model	On Board Computer Model for new RUAG OBC Family – OBC-NG	No Subs	Prime
Euclid Operational Simulator	Operational Simulator for the ESA Euclid program	No Subs	Prime
Euclid CDMU Model	Development of a CDMU Model for the Euclid SVF	No Subs	Prime
Sentinel-4 Instrument Environment Simulator	Development of models for Sentinel-4 UVN ICU	ATOS sub for Hardware	Prime
SARah SMU and uRTU models	Development of SMU and MicroRTU models for SARah	No Subs	Prime
Sentinel-1 Operational Simulator	Operational Simulator for Sentinel 1A, 1B and later 1C and 1D	Sub to GMV	Sub
Integral/XMM	Upgrade of Integral 7 XMM Operational Simulators to SIMSAT 4	No Subs	Prime
MTG SMU Model	Development for MTG Operational Simulator Development of model of (RUAG) LEON-2 based Spacecraft Management Unit (SMU) to be integrated into MTG SVFr	No Subs	Prime
EXOMARS Ops Simulator	Operational Simulator Development for EXOMARS 2016 Mission	Sub to TPZ	Sub
Solo RTS Simulator	SVF, HITL and TOMS Simulator	No Subs	Prime

If you have any questions, please contact our team,

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