P²ROTECT



Prediction, Protection and Reduction of Orbital Exposure to Collision Threats

2nd Dissemination Workshop

1st day: 9th September 2013

Welcome and opening remarks - Piero Messidoro (TASI)

Morning seminar - PROTECT project & vulnerability tools presentation

Chairperson: Gérard Brachet

- P²ROTECT project presentation
- Methodology for vulnerability evaluation at S/C and mission levels •
- Demonstration of the tools •
- Vulnerability for LEO missions: The Sentinel-1 type example
- Vulnerability for MEO and GEO missions: The Galileo and MTG type examples

Visit of TAS-I facilities

Afternoon seminar - Improvements of space missions' vulnerability

Chairperson: Luisa Innocenti (ESA)

- Invited presentation: The ESA CLEANSPACE initiative technology aspects
- Methods for better prediction of space conjunctions
- Methods for better protection of space missions (configuration changes, shielding)
- Methods for better debris environment

Social evening buffet

2nd day: 10th September 2013

Morning seminar - Space missions' future scenarios and vulnerabilities Chairperson: Christophe Bonnal (CNES)

- Invited presentation: CNES activities related to space debris
- Cleaning the debris environment: system aspects and technologies
- Scenarios for debris environment
- Scenarios for vulnerability analysis: LEO, MEO and GEO
- Vulnerability evaluations for improved systems, future scenarios and future trends: LEO, MEO and GEO

Afternoon seminar - Synthesis and conclusions

Chairperson: Thérèse Donath (ONERA)

- P2ROTECT What we have learnt, what we could have done, what we should do in the future?
- Synthesis and discussion



The P²-ROTECT project is funded by the European Commission via the Framework Programme 7 under contract number 262820

9th-10th September – Turin, Italy At Thales Alenia Space - Italia www.p2rotect-fp7.eu

P²ROTECT



Prediction, Protection and Reduction of Orbital Exposure to Collision Threats

2nd Dissemination Workshop

The P²-ROTECT project aims at:

- Assessing the risks associated with on-orbit collisions with space debris and to recommend possible solutions to reduce vulnerability of missions
- Defining a vulnerability index to quantify the efficiency of solutions with respect to trackable and untrackable debris effects

At the two-day workshop, the main results of the project will be presented:

- Methodology for the evaluation of vulnerability to space debris at S/C and mission levels with demonstration of specific tools developed during the study
- Examples of the results obtained for the reference cases: the LEO mission Sentinel-1, the MEO mission Galileo, the GEO mission Meteosat Third Generation (MTG)
- Proposed improvements to reduce the space mission's vulnerability
- Future scenarios to assess the long term evolution of space mission vulnerability to orbiting debris

Invited talks will cover topics as Active Debris Removal options, the ESA Cleanspace initiative, long term sustainability of activities in space.

The program will include a visit to the TAS-I integration facilities in Torino



Second announcement

Workshop contacts: <u>roberto.destefanis@thalesaleniaspace.com</u> lilith.grassi-somministrato@thalesaleniaspace.com

> The P²-ROTECT project is funded by the European Commission via the Framework Programme 7 under contract number 262820

9th-10th September – Turin, Italy At Thales Alenia Space – Italia www.p2rotect-fp7.eu