OPS-SAT Experimenter Information

Eligibility criteria

Experiment ideas will be considered acceptable by ESA if one of the following criteria is met:

1. The proposer is affiliated (e.g. post-doc or professor) to an academic institution i.e. university or research institute
2. At least one partner (academic or industrial) in the consortium is based in a country belonging to the EU, Switzerland or Norway
3. The proposer is affiliated to industry

Selection criteria

We are targeting a wide range of experimenters ranging from established space companies needing to validating new standards through to silicon valley types who have no experience but some disruptive ideas on how to operate spacecraft.

The only criteria is that the experiment should demonstrate a benefit for the operations of future satellites.

Experiments can involve changes in the ground control system, on-board software, on-board firmware (thanks to a reconfigurable FPGA) or any combination of the above.

Experiments can be innovative approaches to the testing and development of ground systems and/or operational products (database, procedures, user manuals etc.)

Experimenter Access

OPS-SAT will

- Include powerful processors (at least 600 MHz) in which the experimenters will be able to change every aspect even down to the operating system. Linux and Java will be supported.
- Include at least one reconfigurable FPGA. This will have a direct connection to the S band transponder so that new coding, encryption, transport protocols can be demonstrated. Experimenters will be able to change the FPGA configuration.
- Provide access to experimenters in the ground control system from the coding layer to application layers. Experimenters needing to demonstrate their experiments using their own control systems will be welcome.

Additional platform details are available in the OPS-SAT CDF report.

Schedule

The PDF questionnaire should be completed and returned by email to opssat@esa.int by 8th April 2013.

There will be a OPS-SAT Open Day which will bring together selected experiment proposers with the winners of the GSTP funded Phase AB1 study at the European Space Operations Centre in Darmstadt, Germany. This will be held in early May 2013. Details will be provided in due time on the ESA website and EMITS. Please indicate by email if you would be interested in attending the OPS-SAT Open Day.

OPS-SAT Questionaire

GENERAL

Contact details

Name of the experiment

Aim of the experiment

Brief description of the experiment

Minimum time required to be run for success

Is the experiment confidential? ◯ ◉ yes/no

GENERAL RESOURCES REQUIRED

Describe any on-board resources/services that the experiment requires exclusive use of

Describe any on-board resources/services that the experiment requires shared use of

Describe any ground resources/services that the experiment requires exclusive use of

Describe any ground resources/services that the experiment requires shared use of

Is real-time commanding required? ◯ ◉ yes/no

Is real-time monitoring required? ◯ ◉ yes/no

Can it be run in parallel with other experiments? ◯ ◉ yes/no

If yes, describe any restrictions/conditions

OPS-SAT Questionaire

CONTROL CORE REQUIREMENTS

Specify which operating system(s) are required

Specify which application language will be used

Does it use an FPGA ? ○ ◉ yes/no

If so, specify preferred type and model

PERIPHERAL REQUIREMENTS

Does it use a camera ? ◉ ○ yes/no

If so, specify requirements (video, still, pixels, focal length etc.)

Does it use a GPS unit? ○ ◉ yes/no

If so, specify requirements (raw, processed, time information etc.)

Does it use an advanced ADCS unit? ○ ◉ yes/no

If so, specify requirements

Does it require access to mass memory? ○ ◉ yes/no

If so, specify requirements

Are there any other peripherals required ? ○ ◉ yes/no

If so, specify requirements

COMMUNIATION REQUIREMENT

Please specify any requirements in terms of communication links between the control core (processors, FPGAs), subsystems (ADCS, TT&C etc.) and peripherals (cameras, mass memory etc). This should include protocols, data rate, data volume, connectivity etc).

TESTING AND VALIDATION REQUIREMENTS?

Please specify what would you expect from the space/ground segment in order for you to test and validate your experiment before running it?

ANY OTHER REQUIREMENTS?