

ESA Open Invitation To Tender [\[FR\]](#)

AO5184

Title: ON-BOARD MODEL CHECKING

Open Date: 12/09/2006

Closing Date: 24/10/2006

Status: ISSUED

Reference Nr.: [03.1EM.02](#)

Prog. Ref.: TRP EME-019

Budget Ref.: 100061 - Techno Res/Core Activities

Special Prov.: B+DK+F+D+I+NL+E+S+CH+GB+IRL+A+N+FIN+POR+GR+LUX

Proc. Prop: DAC

Tender Type: C

Price Range: 100-200 KEURO

Mots-cles: ELEMENTS COMMUNS DE CHARGE UTILE ET PLATE-FORME / LOGICIELS
EMBARQUES; INGENIERIE / GENIE LOGICIEL ET MATERIEL

Keywords: COMMON SPACECRAFT BUS AND PAYLOAD ELEMENTS / ON-BOARD SOFTWARE;
ENGINEERING / COMPUTER SOFTWARE AND HARDWARE ENGINEERING

Establishment: ESTEC

Directorate: DIRECTORATE OF TECHNICAL & QUALITY MANAG - D/TEC

Department: SYSTEM, SOFTWARE & SYNTHESIS DEPARTMENT / TEC-S





Division: SOFTWARE SYSTEMS DIVISION / TEC-SW

Responsible: Mr MIRO CARRETERO

Last Update
Date: 12/09/2006

Update Reason: Tender issue

Autonomous systems are able to sense their environment in order to take decision according to the current situation. In principle, the decision results into a set of actions that should not harm the satellite. However, when the decision is taken by a fault recovery mechanism, or even more generally, it is safer to verify that the set of actions will not put the satellite into a hazardous situation. In order to do so, it is possible to build a model of the states of the satellite, and to verify that when the actions are put on the model, the resulting state is still safe. This is called model checking. There are several model checking techniques on ground. However, very few have been embedded on board. The purpose of the activity is to exercise on a small but representative case study, model checking techniques to be embedded, and to verify that their performance in terms of memory size, response time and predictability are compliant with space on-board software requirements.

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- ☒  [Letter of Invitation](#), 27126 Bytes
 - ☒  [Statement of Work](#), 669094 Bytes
 - ☒  [Contract Conditions](#), 155773 Bytes
 - ☒  [Tender conditions](#), 84402 Bytes

Transfer selected documents as 

[Current Expression of Interest](#)
