

The objectives of the SPAAS (Software Product Assurance for Autonomy on-board Spacecraft) project are to investigate dedicated software product assurance measures to support autonomous functions both for nominal spacecraft operations and for fault detection, identification and recovery management, i.e., how to ensure safety and dependability of autonomous space software and especially of software in charge of autonomous functions dedicated to the spacecraft safety and dependability management. Special attention is put on software product assurance for advanced autonomy techniques (artificial intelligence, self learning techniques, etc.).

The project is split in two phases:

- The first phase investigates the lessons learnt from autonomous non-space applications, the software product assurance requirements and the methods, tools and procedures, for autonomous space systems. Special autonomy software safety aspects are then investigated and an implementation plan is proposed for the second phase.
- The second phase is dedicated to the definition of software functions (on-board and in the ground system) for the safety of spacecraft with autonomy, and to their implementation and assessment through a pilot application.