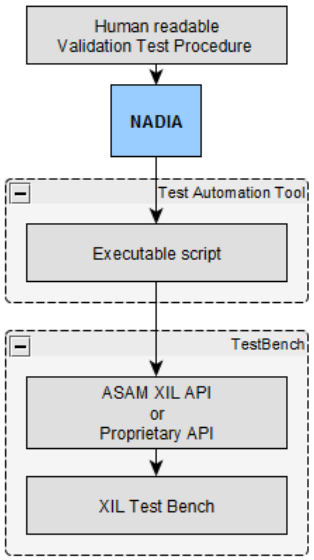
NADIA

Nearly Automatic Developer's Intelligent Assistant
Human language system testing tool

NADIA improves the efficiency and effectiveness of the Verification and Validation (V&V) process for Real-time Embedded Critical Systems. It translates human readable Validation Test Procedures to executable scripts to be executed on systems-In-the-Loop (XIL) in order to run testing simulations.

System Engineers do not necessarily have programming skills, **NADIA** assists them by automating script generation.



User Friendly

- Embedded procedure editor
- Advanced editor in an Eclipse RCP environment with syntax highlighting, auto completion and error detection
- Command-line mode for pipelining and automatization

Straightforward Test Procedures

- Human language (English, French...)
- Regular grammar support: punctuation, synonyms, common extraneous language
- Complex structures support: actions, action qualifiers, conditions, comments, minimum/maximum
- Direct access to ARINC, CANbus and external I/Os
- Human syntaxes independent of target language preventing to rewrite all procedures if target changes
- Code snippet can be inserted

Target Flexible

- Generated scripts aim to test Real-time Embedded Critical Systems to be run on existing XIL-systems: PIL (Processor-in-the-Loop), SIL (Software-in-the-Loop) and MIL (Model-in-the-Loop)
- Implements ASAM XIL API vendor-independent interface between test automation tools and test benches, such as ControlDesk®, AutomationDesk®, Platform API Package® from dSPACE®, ETAS LABCAR-OPERATOR® and AUTOMATION® from ETAS®, ECU-TEST® TraceTronic®, ECU-Test® (TestCASE®) Softing Automotive Electronics®, CANoeVector® Informatik®, VeriStandNational® and TestStand® from National Instruments®, RTMaps® and Dataloggers® from INTEMPORA®, CCA® CS1-10GViGEM®, DYNA4TESIS® and veDYNATESIS® from DYNAware®
- Generation of scripting languages (Python, C#)

Highly Configurable

- Possibility to create new human syntaxes 'on the fly'
- Simulation parameters definitions (name, units, min, max, rate, type...)
- Constant and alias definitions
- Manoeuver
- Break Out Box mapping
- Configuration files version identification embedded in each generated script for traceability

NADIA was successfully deployed within the aerospace industry to support compliance with DO-178C.
NADIA won UbiMobility 2017: Business France and Bpifrance Accelerate 8 Innovative Start-ups and SMEs in the US Autonomous Vehicle Sector.
NADIA's readiness has been demonstrated for the automotive domain where Real-time Embedded Critical Systems verification and validation are required.

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