faster, cheaper, safer

custom avionics
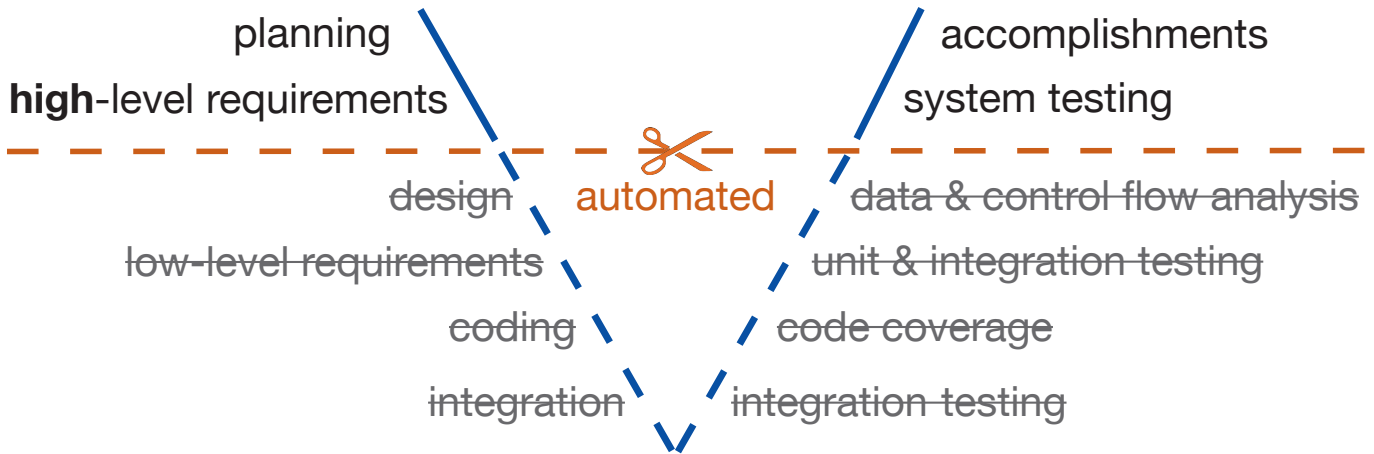
automated DO-178C compliance

(UN)MANNED

certified intelligence

AUTOMATING DO-178C

planning   accomplishments

high-level requirements   system testing

- - - - - - - - - - - - - ✂ - - - - - - - - - - - - -

~~design~~   automated   ~~data & control flow analysis~~

~~low-level requirements~~   ~~unit & integration testing~~

~~coding~~   ~~code coverage~~

~~integration~~   ~~integration testing~~

The Sol methodology allows to specify the system requirments allocated to software as high-level requirements in the Sol Requirement Language. The Sol compiler automatically generates a binary, any certification documentation you need. You go straight into system integration testing, greatly reducing the time, cost and risk typically associated with avionics.

The patent-pending **Sol** methodology is accepted by **EASA** and other Civil Aviation Authorities for airworthiness certification of both **manned** and **unmanned** aircraft, up to **DAL A**.

CUSTOM AVIONICS

Avionics designed for your specific needs on your manned or unmanned aircraft. Automated airworthiness certification with complete certification evidence set

All aircraft flying in controlled airspace require airworthiness certification. This requirement extends to all components related to safety of flight, and especially to software-driven hardware.

The complexity of avionics design and certification, and the associated long development cycle has traditionally required high budgets. This has limited aircraft designers in their capability of using custom avionics in new aircraft. The constraints of budget and time, combined with the unrelenting quality requirements, results in delayed projects and budget overruns.

This significantly increase the risk of the overall aircraft program.

For new aircraft designs, particularly for low volume series, a glass cockpit application usually becomes a patchwork of standard components coupled with some traditional instruments.

But everything changes with the Sol avionics solution suite.

Classical waterfall V-cycle is eliminated by going straight from high-level requirements to executable application. Sol is a high-level requirement language that is combined into a binary file.

(UN)MANNED provides DO-254 pre-certified hardware, running the DO-178C pre-integrated and pre-certified SolOS runtime. Simply upload the compiled high-level requirements to the Sol computer, and you are ready for integration testing.

Now, any manufacturer can customize the avionics suite for their particular aircraft, for both manned or unmanned systems. Even small volume series down to 3 aircraft had their custom-built EASA-certified avionics systems using (UN)MANNED Sol.

(UN)MANNED
certified intelligence

All Sol hardware includes the OS and software platform. Simply add your application requirements, written in the Sol IDE. Or we can port the Sol suite to your hardware.

HARDWARE

SolAero
DO-254, DO-178C & DO-160G compliant, ruggedized Sol computer for onboard avionics of fixed wing and rotary wing aircraft.

SolRack
DO-254 & DO-178C compliant 19" rackmount Sol computer.

SolDesk
DO-254 & DO-178C compliant Sol computer for ground station operator consoles.

SOFTWARE

SolOS
DO-178C compliant runtime software for certified avionics on aircraft and in simulation.

Sol Compiler
DO-178C qualified software to convert the high-level requirements into binary. No code generation.

Sol IDE
Integrated Development Environment for rapid development of Sol applications.

SERVICES

Sol Training
Customer-specific, applied training, allowing your engineers to develop with Sol. Usually provided in-house at (UN)MANNED's offices in Bruges, Belgium

Sol Jumpstart Service
Rapid development of custom avionics applications to your specifications by (UN)MANNED's experts.

- ✓ Full Custom Glass Cockpit Displays
- ✓ Primary Flight Display (PFD) incl. Synthetic Vision
- ✓ Navigation Displays
- ✓ Engine Indicating and Crew Alert System (EICAS)
- ✓ Unicode text incl. Chinese, Cyrillic, ...
- ✓ Stanrdard avionics interfaces:
  ARINC-429, ARINC-702, ARINC-735, ARINC-708, ARINC-664 P7, UDP & TFTP, discrete I/O, PWM, serial busses, and more.
- ✓ Video: HDMI out, HD-SDI out, HD-SDI in

- ✓ DO-178C DAL B UAV ground control stations
- ✓ 19" rackmount DO-254 hardware with standard RJ45 110-220V power, and HDMI
- ✓ DO-160 compliant embedded avioncis with pre-integrated SolOS for onboard flight criticial control systems
- ✓ Certified terrain awareness & DEDT processing
- ✓ Certified Jeppensen database loading & ARINC 424
- ✓ Flight path verification
- ✓ Headless avionics applications
- ✓ Training simulators

smart

small series

program

specific

cost

effective

(UN)MANNED NV

An independent avionics supplier, based in Bruges, Belgium

certification automation
certified computer intelligence

info@unmanned.aero
www.unmanned.aero