

## CANopen safety certifiable stack SIL 3

In order to meet the needs of applications requiring a certification for the safety of operation, ISIT offers the only "ready-to-use" CANopen stack available on the market with safety extension, in accordance with the EN 50325-5 standard, together with its certification pack. This solution enables the rapid integration of this software component into a product subject to the requirements of IEC 61508 up to SIL 3 or DO-178C DAL B, while enjoying a ROI incomparable with a proprietary solution.

The CAN bus, initiated by Bosch in 1991 and standardized in 1993 (ISO 11898), has experienced uninterrupted growth since its inception, well beyond the scope of the automotive. It has proven by its robustness, reliability, simplicity and the low cost associated with its implementation that it was the ideal protocol for the control of real-time networks, while Ethernet could be dedicated to applications requiring a larger bandwidth for the data. In 2016, 1.5 billion CAN nodes were deployed (CiA source). The CANopen application layer provides flexible and powerful mechanisms for configuring, diagnosing and monitoring the network, with the definition of profiles making it possible to design interoperable products. The design of a system is then greatly simplified.

Safety applications, for which safety is a major issue, need to meet stringent standards and must be certified by an independent organization. This process, which generates significant costs, must be taken into account from the beginning of the project and requires strong expertise.

### About the product:

The ISIT CANopen safety certifiable stack (ISIT\_COSAFE\_LC) meets the needs of these applications and allows developers to use the advantages of the CANopen protocol while benefiting from the necessary elements for the certification of the product with an approved organization: documentary set, unit and integration testing plans, test reports...

Delivered as source C code, independent of the CPU/OS platform, ISIT\_COSAFE\_LC can also operate without an operating system (NullOS).

### Services

Upon request, ISIT can adapt the stack onto a specific system and perform the necessary test sets to approach the certification process with confidence.

### Features and Benefits:

- Pre-certified "COTS" software
- Compliant with the safety extension of CANopen (CiA 304)
- Certification Pack Available
- OS and CPU independent architecture
- Delivery of ISIT\_COSAFE\_LC as source code

### Functions overview:

- Master & Slave
- SDO: Client / Server in expedited mode
- PDO Rx / Tx: Static mapping
- SYNC
- EMCY
- HEARTBEAT
- SRDO: Safety producer / consumer – Static mapping
- Object dictionary:
  - Independent and editable before use
  - Source code generation from EDS file

### Content of the delivery:

- CANopen safety stack: Software provided in the form of source code for the stack and the driver
- Usage and certification documentation:
  - Security manual
  - User manual
- Test plan:
  - Unit
  - Integration (MS Word document)
- Test reports (unit, integration, validation)
- Sample application program for the ISIT\_COSAFE\_LC implementation
- Support and maintenance included for the first year

### Additional services:

- Operating System and CPU porting
- Unit tests
- Integration tests
- Validation tests
- Expertise and support for certification process

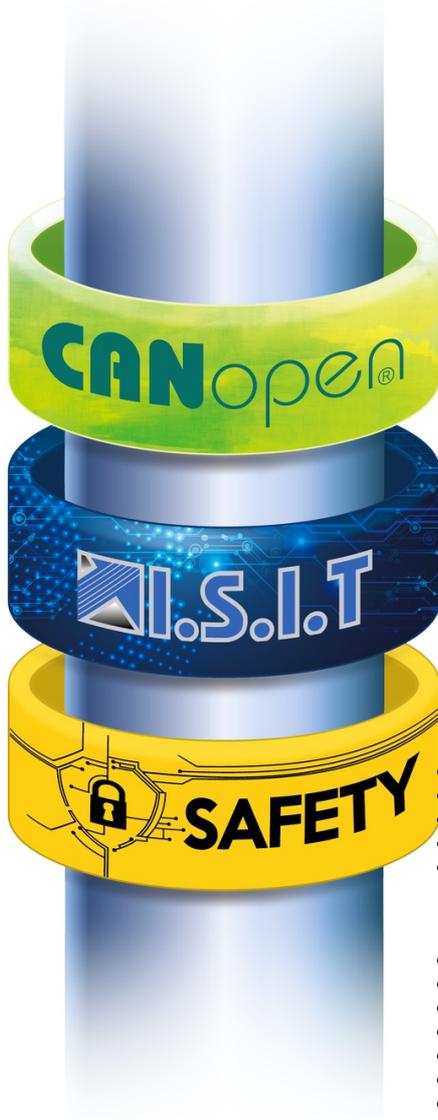
### About ISIT company

Specialized in distribution of hardware and software tools used in electronic design and production sites, ISIT represents in France prestigious brands and market leaders.

With its diversified solutions, ISIT addresses the various sectors where embedded electronics plays a major role, such as aeronautics / space, automotive / transportation, medical, industrial, telecommunications, IoT/IIoT.

For several years, ISIT has developed a strong CANOpen knowledge, offering services covering training, expertise, application development, and customized solutions.

Moreover, ISIT also offers software and services for safety and security compliance.



## Contact



### ISIT

7, Rue André-Marie Ampère, ZA La Mâture  
FR-31830 Plaisance du Touch

Email: [contact@isit.fr](mailto:contact@isit.fr)

Phone: +33 (0)5 61 30 69 00

Web: <http://www.isit.fr>

### Sales Contact

Maurice Lauze

Phone: +33 (0)5 61 30 69 05

Email: [mlauze@isit.fr](mailto:mlauze@isit.fr)

## Features

No features listed.