

Automotive Functional Safety (ISO 26262)





Helping the automotive industry cost-effectively implement the requirements for the ISO 26262 standard.

Electronic systems carry out many functions in modern automobiles, including driver assistance functions, vehicle dynamics control, and active/passive safety systems. The complexity of electronically-driven operations, especially safety functions, makes predicting safety performance extremely difficult. More action will be required, furthermore, to reduce the risks of systematic and random hardware failures as system complexity continues to increase.

ISO 26262

ISO 26262 is a functional safety standard intended to be applied to the development of software for electrical and/or electronic (E/E) systems in automobiles. ISO 26262 is an adaptation of the broader IEC 61508 safety standard, which has been used to derive safety standards for the nuclear power, machinery, railway, and other industries. It is aimed at reducing risks associated with software for safety functions to a tolerable level by providing feasible requirements and processes.

Let Us Help You

Our global network of experts are familiar with all aspects of ISO 26262. Our clients include everyone from OEMs to Tier One suppliers to tool vendors. Our team of industry-leading consultants have over 500 years of combined knowledge. This unique combination of technical depth and hands-on experience enables exida to provide practical solutions to address your most difficult challenges.



ISO 26262 Services.

exida offers tools, training, consulting, testing, and certification needs across all automotive safety related electronics including:

- Functional Safety Management
- State of the art Hardware architectural strategies to achieve the ISO 26262 targets
- Software methods and audit requirements
- Semi-conductor requirements for the upcoming ISO 26262:2018 release
- Training
- Certification

We offer everything from project specific templates to use for certification, documentation, and product marketing of safety features as well as the execution of any of the disciplines in ISO 26262 including:

- Architecture
- Software methods, tools, HAZOP and FTA
- Hardware FTA and FMEDA
- Reliability metric calculations
- Review and identification of dependent fault and sources of common cause of failure

exida specialists can review, check, enhance, and create analysis to support in-house activities as well as decomposition and co-existence criteria identification and validation.



Certification & Assessment.

Through our extensive and on-going research, exida has developed advanced analysis tools that provide the most accurate results, save the project time and cost, and provide essential customer information.

exida is ANSI accredited to ISO/IEC 17065, the general requirements for bodies operating product certification systems.

The Clear Market Leader

With strong global acceptance and a growing base of technology, exida has become recognized as the global leader in functional safety & cybersecurity certifications. In the overall market, exida has done more than all other major certification bodies combined*.

** Source: ARC Advisory Group, Nov. 2015*



Automotive Safety Integrity Level (ASIL) is a risk classification scheme defined by ISO 26262

Determining an ASIL Level

Automotive Safety Integrity Level (ASIL) is a risk classification scheme defined by the ISO 26262 - Functional Safety for Road Vehicles standard. This is an adaptation of the Safety Integrity Level used in IEC 61508 for the automotive industry. This classification help define the safety requirements necessary to be in line with the ISO 26262 standard. The ASIL is established by performing a risk analysis of a potential hazard by looking at the Severity, Exposure and Controllability of the vehicle operating scenario. The safety goal for that hazard in turn carries the ASIL requirements.

There are four ASILs identified by the standard: ASIL A, ASIL B, ASIL C, ASIL D.

ASIL D dictates the highest integrity requirements on the product and ASIL A the lowest. Hazards that are identified as QM do not dictate any safety requirements.

exida is an ANSI accredited certification body that has proven we get the job done effectively and efficiently. Our staff have helped write industry standards and are actively involved on the committees. It's these cutting edge activities that help make the world smarter and safer.



exida Academy.

exida Academy provides comprehensive automotive functional safety training for today's industry professional. Our courses are available on a variety of platforms, from open enrollment to onsite workshops to self-paced online training.

Any listed course can be customized for the customer's needs. Offering courses at the beginner, practitioner, and expert levels, our goal is to share our evolving knowledge and skills with our students with the intention that they will use this knowledge to cost effectively design, build, operate, and maintain optimally safe and secure automation systems as applicable to their functional responsibility.

Practitioner Certificate Programs

All attendees can earn a Functional Safety Practitioner (FSP) certificate by attending any of the training classes below and passing a subsequent exam.

Code	Title
AUT 101	ISO 26262 Road Vehicles Functional Safety – For Leaders
AUT 211	Automotive ISO 26262: Road Vehicles Functional Safety
AUT 212	ISO 26262 Road Vehicles Functional Safety - Hardware Development + Analyses
AUT 213	ISO 26262 Road Vehicles Functional Safety - Product Development at the Software Level
AUT 214	ISO 26262 Road Vehicles Functional Safety - Guideline on application of ISO 26262 to semiconductors

For more information and global open enrollment schedules, please go to exida.com/training

Tools.

exida offers ground-breaking, state-of-the-art software tools to help meet Functional Safety (IEC 61508, ISO 26262) & Cybersecurity Standards (IEC 62443).



Is your computer system architecture well designed and documented? Does your design meet functional safety and cybersecurity standards? ARCHx provides the engineering tool needed for effective, integrated design analysis.

ARCHx will allow designers and independent evaluators to analyze high level computer system design architectures for safety and availability along with potential cyber vulnerabilities. The system may be comprised of any combination of software and hardware (including the content of FPGAs and custom ICs).

Compared to conventional FMEA and HAZOP tools, ARCHx provides an improved alternative for architecture design that captures more information in a more structured easy to use common data format that facilitates multiple analysis methods.

For more information visit: exida.com/archx

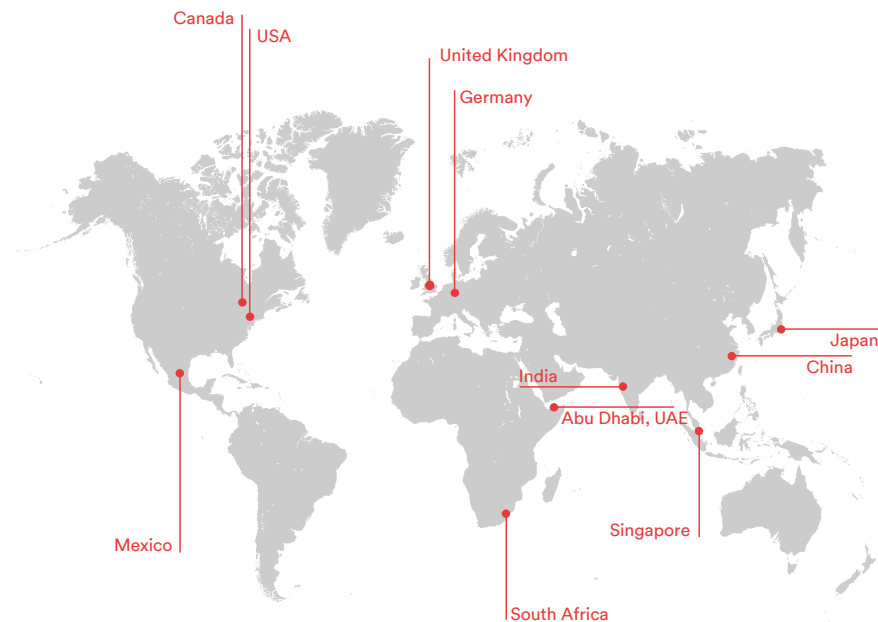


Do you want failure rate and failure mode data predictions for ISO 26262 compliance? Does your FMEDA failure database have all components needed? With all known failure modes?

FMEDAx Auto provides an integrated the engineering tool needed for effective, integrated design analysis.

Failure Modes Effects and Diagnostics Analysis (FMEDA) is a failure rate prediction technique invented by engineers at exida that uses component failure rates chosen per a given design strength profile in combination with an operational profile which specifies an application and environment.

For more information visit: exida.com/fmedaxauto



exida has offices all over the world.

North America

USA

80 North Main Street
Sellersville, PA 18960
United States

Phone: +1-215-453-1720

Mexico

Giorgione No. 6
Col. Nonoalco Mixocac
Mexico, D.F. 03700
Mexico

Phone: + 52-55-1-5-18-05-73

Canada

452 Aqua Drive
Mississauga, Ontario L5G
2B6
Canada

Phone: +1-215-453-1720

Europe

Germany

Birkensteinstr. 53
83730 Fischbachau
Germany

Phone: +49-89-49000547

United Kingdom

Lake View House
Tournament Fields
Warwick
CV34 6RG
UK

Phone: +44 (0) 19-266-76125

Asia

Singapore

51 Goldhill Plaza
#21-08/09
Singapore 308900

Phone: +65 6222-5160

India

Awfis Space, 3rd Flr Modi
House, Dalia Industrial Estate,
Off New Link Road, Andheri
West, Mumbai 400053
India

Phone: +91-99-30-250-104

Japan

Shin-machi 1-31-10
Ome, Tokyo, 198-0024
Japan

Phone: +81 50-5539-9507

Africa

South Africa

2 Brendon Lane,
Westville,
3629,
Durban,
Kwa-Zulu Natal,
South Africa

Phone: +27 31 2671564