What is the Solution for Functional Safety?
The Solution for Functional Safety consists of:
> Consulting services
> AUTOSAR basic software MICROSAR Safe
> Design of safety-related systems with PREEvision

Overview of Advantages
> The Vector Group offers a complete portfolio for consulting, software tools and embedded software for all aspects of functional safety
> Broad know-how from hands-on projects with companies worldwide
> Effective and efficient implementation of international safety standards
> Competence development towards delivering proven safety-critical software

Consulting
Vector Consulting Services is the preferred supplier on functional safety for many companies. You benefit from our consulting portfolio:
> Introducing methods and processes for functional safety based on standards such as IEC 61508, ISO 26262-2:2018 and SOTIF PAS 21448
> Vector SafetyCheck: Gap analysis on your methodology, processes and competences in the interpretation and implementation of ISO 26262
> Interim safety manager and virtual safety support
> Development, specification and verification of safety requirements

Designing Safety-Related Systems with PREEvision
Functions and Features
PREEvision is the premier tool for model-based development of distributed, embedded systems. To minimize the effort for development and maintenance of safety-related systems as per ISO 26262, PREEvision offers consistent development support including editors, diagrams, and report templates. PREEvision supports the entire safety process, from system design to safety case:
> Item definition
> Hazard and risk analysis (HAZOP, HARA)
> Functional safety concept (FSC)
> Technical safety concept (TSC)
> Hardware-Software-Interface (HSI)
> Qualitative and quantitative safety analysis (e.g. FTA, FMEA, FMEDA)
> Verification and validation
> Safety case
Advantages
> Integrated approach from system design, through safety analyses, to the safety case
> Consistent modeling of all systems and components in a single tool
> Transparency and traceability for all involved persons
> Automatic consistency checks
> Libraries for functions, malfunctions and operating situations and modes
> Generation of reports including the safety case report
> Adjustable template for the safety plan

Functions
> Memory protection and safe context switching
> Process control of safety-relevant software components
> Secure inter-ECU communication with E2E
> Secure intra-ECU communication
> Optimizing the number of partitions with the complete BSW according to the highest ASIL level

Testing and Calibration of Safety-relevant ECUs
Safety Manuals are available for the Vector products CANoe, CANalyzer, vTESTstudio and CANape. These contain exemplary classifications - created according to ISO 26262 methodology - as well as information on the qualification of our tools based on generic, cross-customer applications. By using the respective Safety Manual, you can use the mentioned products for testing and calibrating safety-relevant ECUs.

More Information: www.vector.com/safety

AUTOSAR Basic Software MICROSAR Safe According to ISO 26262 ASIL D
Properties and Advantages
> Enables freedom from interference (FfI) in mixed-ASIL systems to assure that safety-related software parts and non-safety-related software parts can be run free of interference on the same ECU
> Additional safety requirements can be mapped to other basic software modules
> Also available for multi-core microcontrollers
> Efficient solution for interaction between different memory partitions and microcontroller cores
> Developed and certified according to ISO 26262 / ASIL D (Automotive Safety Integrity Level)
> Based on many years of experience in the field of Functional Safety from Vector