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Change History				
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CEN18800046	30/08/2026	CEN188V1.001	all	document creation

Senior FMEA Engineer and Functional Safety FMEA 及功能安全高级工程师

Working place: Tianjin

Recruiting number:1

Role overview

As a Senior FMEA Engineer and Functional Safety Engineer, you will take end-to-end responsibility for failure mode analysis and functional safety engineering of high-voltage components and systems for battery electric and plug-in hybrid vehicles. You will lead FMEA activities (DFMEA/PFMEA) according to the AIAG-VDA methodology, perform hazard analyses and risk assessments, support the definition of functional safety concepts according to ISO 26262, and drive the derivation and tracking of safety measures across the full development lifecycle. Working closely with system design, hardware, software and testing teams as well as OEM customers, you will ensure that potential risks are systematically identified, assessed and mitigated, and that all safety-related work products comply with ISO 26262 and customer requirements.

Key Responsibilities

- Lead the planning, preparation and moderation of Design FMEAs (DFMEA) and Process FMEAs (PFMEA) for HV components and vehicle systems according to the AIAG-VDA FMEA methodology.
- Perform Hazard Analysis and Risk Assessment (HARA) for HV systems and support the development of functional safety concepts, including ASIL classification, safety goals and top-level safety requirements.
- Conduct safety analyses such as FTA (Fault Tree Analysis), FMEDA and dependent failure analysis to identify failure modes and derive safety requirements for hardware and software.
- Coordinate functional safety activities across engineering disciplines and project milestones, and track the implementation and closure of actions derived from FMEA and safety analyses.
- Review design and test documentation regarding functional safety aspects, and support safety-related root cause analysis and issue resolution during development.
- Manage safety-related communication with OEM customers and suppliers, including safety case documentation, safety audits and assessment support.
- Ensure all FMEA and functional safety work products comply with ISO 26262 and applicable industry standards, and maintain up-to-date methodological knowledge (e.g., AIAG-VDA, interfaces to ISO 21434).
- Provide technical guidance and mentorship to junior FMEA and functional safety engineers, and drive continuous improvement of analysis methods, templates and processes.

Qualifications & Requirements

Education

- Bachelor's degree or Master's degree in Electrical Engineering, Automotive Engineering, Mechatronics or a related field.
- Excellent fresh graduates with English as a working language are also welcome.

Professional Experience

- 4+ years of professional engineering experience in FMEA and functional safety in the automotive industry, ideally for HV systems or power electronics; OEM or Tier 1 supplier background preferred.
- Proven track record in leading FMEA workshops (AIAG-VDA) and performing safety analyses (HARA, FTA, FMEDA) for battery electric or plug-in hybrid vehicles.
- Solid project experience covering the full vehicle development lifecycle from concept phase to series production launch.

Technical & Tool Proficiency

- In-depth knowledge of the AIAG-VDA FMEA methodology, including the seven-step approach, and of FMEA applications in automotive development.
- Strong understanding of ISO 26262 functional safety, including HARA, functional safety concepts, ASIL decomposition and hardware metrics.
- Proficiency in safety analysis methods such as FTA, FMEDA and dependent failure analysis; experience with tools like APIS IQ, IQ-FMEA or medini analyze is preferred.
- Good understanding of HV system and ECU hardware/software architectures and their typical failure modes.
- Basic knowledge of ISO 21434 automotive cybersecurity and its interfaces with functional safety is a plus.
- Familiar with MS Office and requirements management tools; experience with documentation of safety work products.

Language Proficiency

- Native proficiency in Chinese.
- Fluent command of English (speaking, writing and reading) for cross-team and cross-border technical communication.
- German language skills are a strong plus.

Core Competencies

- Strong analytical and systems thinking ability to assess complex technical risks.
- Structured working style, highly detail-oriented with strict standards for design quality and technical accuracy.
- Excellent moderation, communication and coordination skills to align FMEA and safety topics across teams and with OEMs.
- Proactive problem-solving mindset, able to independently identify risks and drive mitigation measures.
- Highly motivated, fast learner with an open mindset, able to manage multiple priorities in a fast-paced environment.

We are looking forward to your application! Please send us your complete application file in English mentioning your earliest possible entry date by e-mail to: careers@cenergy.asia

工作地点: 天津

招聘人数: 1 人

岗位概述

作为 FMEA 及功能安全高级工程师,你将全面负责纯电动及插电混动汽车高压零部件与系统的失效模式分析与功能安全工程的端到端工作。你将按照 AIAG-VDA 方法论主导 DFMEA/PFMEA 活动,开展危害分析与风险评估,支持按 ISO 26262 定义功能安全概念,并在全开发周期内推动安全措施的推导与跟踪闭环。你将与系统设计、硬件、软件、测试团队及主机厂客户紧密协作,确保潜在风险被系统性地识别、评估与缓解,并确保所有安全相关交付物符合 ISO 26262 及客户要求。

主要工作职责

- 按照 AIAG-VDA FMEA 方法论,主导高压零部件及整车系统设计 FMEA (DFMEA) 与过程 FMEA (PFMEA) 的策划、准备与主持。
- 开展高压系统的危害分析与风险评估 (HARA), 支持功能安全概念的制定, 包括 ASIL 分级、安全目标及顶层安全需求定义。
- 执行故障树分析 (FTA)、FMEDA 及相关失效分析等安全分析方法, 识别失效模式并推导软硬件安全需求。
- 跨工程专业与项目节点协调功能安全活动, 跟踪 FMEA 与安全分析所导出措施的落实与闭环。
- 从功能安全角度评审设计与测试文档, 支持开发阶段安全相关问题的根本原因分析与解决。
- 管理面向主机厂客户与供应商的安全相关工作沟通, 包括安全证明 (Safety Case) 文档、安全审核与评估支持。
- 确保所有 FMEA 与功能安全交付物符合 ISO 26262 及相关行业标准, 持续更新方法论知识 (如 AIAG-VDA、与 ISO 21434 的接口)。
- 为初级 FMEA 与功能安全工程师提供技术指导与带教, 推动分析方法、模板与流程的持续改进。

任职资格与要求

教育背景

- 电气工程、汽车工程、机电一体化或相关专业本科及以上学历。
- 能将英语作为工作语言的优秀应届毕业生也可投递。

专业经验

- 4 年以上汽车行业 FMEA 及功能安全领域工程经验, 有高压系统或电力电子方向经验者优先, 有主机厂或一级供应商背景优先。
- 具备主导 FMEA 研讨会 (AIAG-VDA) 及开展安全分析 (HARA、FTA、FMEDA) 的成熟项目经验, 覆盖纯电动或插电混动车型。
- 拥有覆盖从概念阶段到量产启动全整车开发周期的项目经历。

专业技能与工具能力

- 深入掌握 AIAG-VDA FMEA 方法论 (含七步法) 及其在汽车开发中的 FMEA 应用。
- 深入理解 ISO 26262 功能安全, 包括 HARA、功能安全概念、ASIL 分解与硬件指标。
- 熟练运用 FTA、FMEDA、相关失效分析等安全分析方法; 有 APIS IQ、IQ-FMEA、medini analyze 等工具经验优先。

- 深入理解高压系统与 ECU 软硬件架构及其典型失效模式。
- 了解 ISO 21434 汽车网络安全及其与功能安全接口者优先。
- 熟练使用 MS Office 及需求管理工具，具备安全交付物文档编制经验。

语言能力

- 中文母语水平，听说读写流利。
- 英语流利，可胜任跨团队、跨国界的技术沟通与文档工作。
- 具备德语能力者优先。

核心胜任力

- 优秀的分析与系统思维能力，能够评估复杂的技术风险。
- 工作方式结构化，注重细节，对设计质量与技术准确性有严格标准。
- 出色的主持、沟通与协调能力，可在跨团队及与主机厂之间高效对齐 FMEA 与安全议题。
- 积极主动的问题解决思维，能独立识别风险并推动缓解措施落地。
- 自驱力强，学习速度快，心态开放，能在快节奏环境中管理多项优先级任务。

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careers@cenergy.asia