

# Developing Safe Automotive Systems

## System and Safety Engineering know-how and culture

TRW Conekt has an established record of delivering robust analytical services that enable our customers to successfully develop safety-relevant products. The scope of our services ranges from providing specific safety analyses to managing the development of fully approved safety cases - with particular relevance to the realisation of complex electronic and electromechanical products. Our knowledge of state-of-art safety standards (e.g. ISO 26262) is reinforced through disciplined use of core Systems Engineering principles for acquisition, interpretation and management of requirements. We consistently interpret and assimilate relevant standards, regulations and best practices.

## Standards

Applications that include one or more electrical and/or electronic safety-related systems, intended for series-production passenger cars now require to be developed in accordance with the principles of ISO 26262 – the first international standard on functional safety for road vehicles. It is anticipated that most vehicle manufacturers will expect their suppliers to comply with this.

Whilst Conekt continues to use principles of other functional safety methodologies (e.g. IEC 61508 or MISRA Safety Analysis guidelines) where appropriate, ISO 26262 is central to our business. Application of this new standard helps to deliver a strong safety management lifecycle based on system engineering methodologies – effort to comply with it provides prudent mitigation, or defence, against potential product-liability claims. That said, incorporating ISO 26262's principles within existing processes can present challenges with potentially significant implications – which will most likely require companies to re-think their approach to safety management.

As an operating division of TRW Automotive, Conekt has responded vigorously to the introduction of ISO 26262. With hands-on experience of applying it to a number of safety-relevant automotive systems, we are able to provide support and advice on its practical implementation – relevant to component/sub-system suppliers and vehicle manufacturers alike.



## Analysis

We are able to deliver a variety of analyses including:

- System/Item description
- Argumentation structures
- Hazard Analysis And Risk Assessment
- Fault Tree Analysis (FTA)
- Failure Modes and Effects Analysis (FMEA)
- Common Cause Analysis
- Sneak circuit Analysis
- Maintenance Safety Analysis



## Management

In addition to discrete or multiple packages of safety analysis, Conekt has experience of managing all aspects of a safety lifecycle, with particular attention to elicitation, traceability and verification of requirements.

## Automotive safety-relevant product experience

Our experience of automotive systems is significant and includes:

- Electric Steering
- Automated Parking System
- Hydrogen Conversion System for road-vehicle applications
- Electric Parking Brake
- Advance Driver Assist Systems (ADAS) such as
  - Lane Keep Assistance
  - Adaptive Cruise Control

For more information about Conekt's Automotive Safety services please call us on +44 (0)121 627 4242 or send an e-mail to [conekt-enquiries@trw.com](mailto:conekt-enquiries@trw.com) with "Automotive Safety" in the subject line.

