



Using a combination of proven railway industry electronics and software building blocks and with our specialist team of railway design engineers, OEM Technology Solutions provides custom design services for new product developments and to help solve our customers obsolescence management problems.

Railway Electronics

Custom Design Services

If our customers require a new product developed or they are suffering an obsolescence management issue, they call on OEM Technology Solutions to design, manufacture and certify the perfect solution via our Custom Design Services team.

Railway Industry Electronics and Software Building Blocks

After 20+ years of supplying standard products to the railway industry, OEM Technology has a large suite of reference designs and software libraries to kick-start our customer's product development projects.

Our key in-house design capabilities includes:

- A cost-effective Multi Vehicle Bus (MVB) FPGA design that has been certified by Alstom, Bombardier and Siemens
- Proven railway compliant I/O circuitry for all common on-train digital and analogue signals.
- Support for typical voltage references such as 24Vdc, 72Vdc and 110Vdc
- TMS hardware and software libraries for IPTCom, CIPTCNOpen, CANOpen, LONWorks, and all major RS485 TMS Protocols.
- An IEC61131-3 software kernel and user friendly development environment
- 3G Modem hardware and software designs, including an inbuilt interface to the OEM Cloud
- WiFi hardware and software designs

Design Services to EN50155 and RIA-12

The design team at OEM specialises in product design and validation to EN50155 and RIA-12, including certification to the EN50155:2007 Standard, including formal testing for:

- Class TX Operating Temperature (-40°C to +85°C)
- EFTB Immunity (EN 61000-4-4), Surge Immunity (EN 61000-4-5) and ESD Immunity (EN 61000-4-2)
- Conducted Disturbances RFI Immunity (EN 61000-4-6) and Radiated Disturbances RFI Immunity (EN 61000-4-3)
- Radiated and Conducted Emissions (EN 55011)
- Shock and Vibration (EN 61373–Category I Class B)

Railway Industry Obsolescence Management

The lifetime of electronic products used in the railway industry will typically stretch over decades. In order to achieve the required level of performance and maintainability, structured maintenance can only be achieved via the availability of replacement parts.

Electronic parts obsolescence is inevitable and cannot be prevented, however, careful planning and proactivity can minimise its impact and minimise the potential high costs of product replacement programmes.

OEM Technology Solutions Custom Design Services team offers our customers technical and functional capabilities to help them with their electronic product obsolescence management Issues.



Thermostat replacement product development

Some of the design and development services offered by the team include:

- Product obsolescence review – both functional and technical
- Electronic product design, development and product management
- Development and execution of Product Obsolescence Risk Management Plans
- Specialisation in MVB product design and certification (EMD, ESD+ and OGF)



Custom on-board computer with 3G, GPS and I/O

OEM Design Process

SOLUTION EXCELLENCE
THROUGH A COMMITMENT TO
QUALITY MANAGEMENT

With a commitment to process rigour OEM is focussed on developing the best products and solutions to meet our customers' needs. While embracing the concepts of ISO 21500 – Guidance on Project Management, OEM's own in-house design process is based on three key fundamentals:

1. Customer Needs

All OEM projects start with our customers and their specific set of needs and requirements. With our breadth of industry experience and commitment to understanding our customers and their specific market segments OEM prides itself in its ability to translate these requirements in a project brief and address these needs in the design of our systems and products.

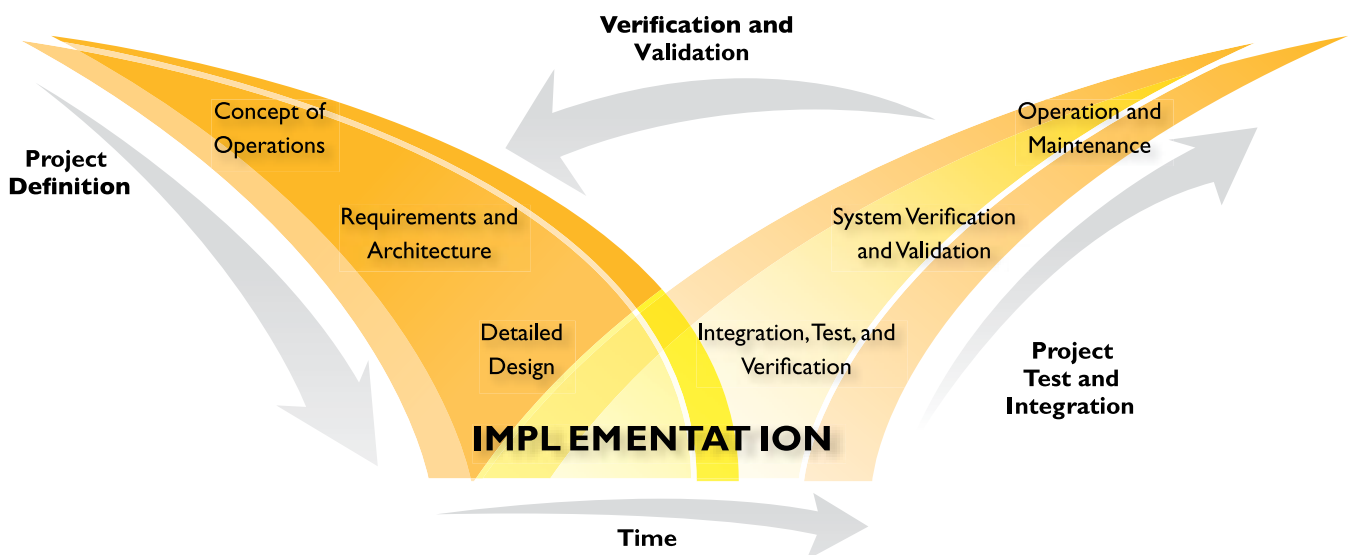
2. Quality Management

Based on the universal "V-Model" of systems development OEM's Integrated Management System details the steps we follow to deliver against our customers' requirements and has been certified to comply with ISO 9001 for quality management.

3. The Best People

Finally, there are the OEM engineers themselves. Each engineer is a specialist in his field – a prominent global innovator with an inherent sense for good engineering practice. Good design, as OEM and its engineers see it, is never at the expense of a competitive price. Our Reliability, Availability, Maintainability and Safety (RAMS) management system is used to avoid costly mistakes in the planning phase.

The outcome of OEM's commitment to process and innovation has been not only the development of robust, functional solutions for our clients but also innovative and practical design that has been recognised and awarded by our professional peers. We are justly proud of these numerous accolades over the years which include the Engineers Australia Engineering Excellence Award.





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