



Embedded software

We provide customised solutions for real-time railway and industrial applications. Our core business is implementing safety-related systems - however, we can support you throughout the development process in order to implement the right embedded-software solution for the real-time application that meets your individual needs.

Safety-related systems

PROSE performs comprehensive software development in line with European railway and industrial safety standards (EN 50128 and IEC 61508 part 3). By defining both functional and safety requirements, we support you from the start of this process. To guarantee the correct operation of the safety-related system and so to ensure safety, we assist you throughout the life cycle of safety-critical software - from the writing of source code, through software architecture and module design.

Embedded real-time software

PROSE engineers develop embedded real-time software applications that monitor, respond to, or control an external environment for railway, industrial and space systems. Using real-time operating systems, we support you in the development of these extremely reactive software applications so as to meet their challenging timing constraints.

Communication protocols and drivers

Our embedded software group is specialised in the definition and implementation of the most common communication protocols, such as CAN bus, Ethernet bus, MVB bus and RS485 bus. The group's engineering staff also includes specialists in implementing software drivers for electronic devices as well as customised design of electronic boards for interfacing sensors and measurement tools.

- Embedded software for safety-related systems
- Embedded real-time software
- Communication protocols and drivers
- Railway application software
- Simulators and automated test equipment
- Offering in-house designed software products
- Desktop applications
- Web applications
- Mobile applications
- Data warehousing

[Contact us](#)

Railway application software

Our engineers possess both knowledge of railway systems as well as experience in the design and implementation of software algorithms. As your partner in software development for railway applications, we can assist you in managing the most important electronic devices for railway applications, such as train control and management systems (TCMS), brake controls, traction system controls, fire detection systems and door systems.

Simulators and automated test equipment

You can trust us with the development of hardware and software for simulators and of automated test equipment. We understand the importance of testing electronic devices and executing test campaigns for railway and industrial applications in close collaboration with our customers.

Products

The following are PROSE's most recent products, designed and developed for the railway market.

VisualCSV

VisualCSV is a one-stop diagnostic and statistics tool that visualises train runs and investigates train operation on Google Maps.

This is an integrated software solution for the analysis and processing of data logger and Juridical Recording Unit (JRU) files of rail transport companies. It correlates a huge amount of uncorrelated miscellaneous data – making your rail transport more transparent, reliable and plannable and less prone to interruptions. VisualCSV has been developed by PROSE's international team in Italy.

Presentation Maker

Presentation Maker was developed to support communication inside companies, to advertise products and share news with stakeholders. It is a software product which gives users the opportunity to combine different elements (video, images, texts, live data from internet, etc) into multimedia-based animated slide shows. It consists of two modules – the builder and the player. The builder has the function of an editor – and serves to design and publish information, even remotely. The player runs the different media at the pre-defined time – even on big screens. Presentation Maker has been developed by PROSE's international team in Italy.

Generic software

As your partner in addressing generic software issues, PROSE responds to growing modernisation needs and offers immediate support for all kinds of engineering processes. We analyse your processes and develop customised software that helps you achieve your objectives.

We define the functionality of the end product in close collaboration with our customer. This yields highly usable applications. Given the importance of developing consistent brand identities, we also provide full interface design. When setting up sophisticated test environments and simulations, we support our cloud architecture with rack servers, integrated backup systems and redundant connectivity.

Desktop applications

We build complex and structured applications for data analysis and reporting. The core business of our software team is to develop custom Windows environments, based on the latest Microsoft .Net Framework 4.5, in the following areas:

- Console: high-performance batch procedures, either one-off or scheduled
- Desktop: applications with advanced graphical interfaces, whose integration within Windows

and Microsoft Office is seamless

- Windows Services: services for server-based systems for mission-critical tasks that can run in the background in off-peak periods

Our object-oriented approach ensures high reusability of code, flexible architectures, high performance and high reliability.

Web applications

PROSE is also active in the world of web applications. A central tool for us, ASP.NET, brings advantages in terms of the distribution, updating and accessibility of business applications. We offer you standard as well as highly customised solutions.

PROSE designs web applications with software architectures that guarantee the separation between presentation layer, business logic and database. We create architectures that interface different platforms and leverage remote executions for better scalability. To ensure maximised portability and to optimise interface styles and features before a final release, we test all our web applications on the most popular browsers and mobile devices in our lab.

Mobile applications

As new mobile technologies, such as smartphones emerge, our software team develops applications for iPad, iPhone, Android, and Windows Phone, working closely with our customers to achieve their mobile service goals. We are offering various ways of analysing and reporting data on and from mobile devices.

PROSE integrates the latest development environments into Microsoft platform systems. This allows us to offer A-Z customer-oriented services. For code development, we use just one platform. This accelerates application design, code writing and general maintenance.

Data warehousing

In the field of data warehousing, PROSE uses the latest technologies, including Entity Framework and LINQ in the Microsoft environment and SQLite for mobile devices. Our analysts and programmers can design your database from scratch or interface it with your legacy systems, in batch or real time. PROSE has expertise with relational database management systems (RDBMS) such as Microsoft SQL Server and MySQL. You can trust us to successfully assist you in advanced reporting based on the analysis of large amounts of data.

