

Riding together on board trains all over the world

The Far Systems Company in Verona, specialized in the manufacture of on-board train control electronics, within the scope of the transformation of its business model, chose straton by COPA-DATA to reach their goals.





■ The Far Systems Company was founded over 20 years ago. Bought by the Tosoni Industrial Group in 2006 the company has always had a strong presence in the railroad communications industry, especially in on-board train systems. After the acquisition, there was a strong push towards product innovation and market diversification. This led to the development of six product families: Desk & Drive, Bus & Communications, Safety, Control & Diagnostics, Energy & Services and Information & Entertainment.

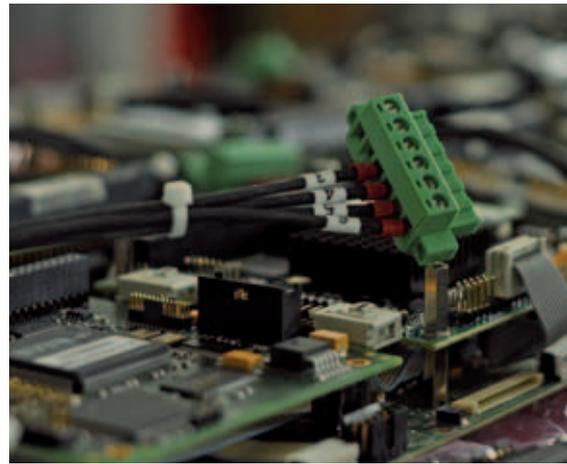
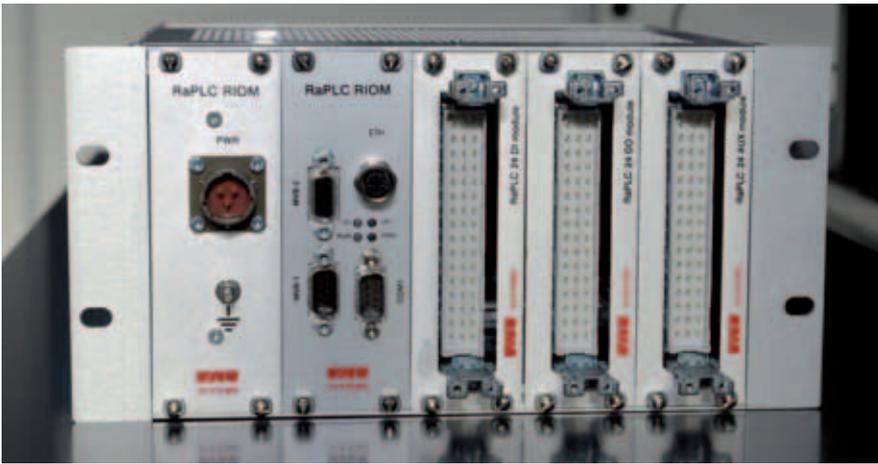
In regard to the Bus & Communications and the Control & Diagnostics products, Roberto Bonomi, Sales Manager at Far Systems added: “For us, the Bus & Communications family of products is one of our most important lines because it has enabled us to gain a competitive advantage over our rivals. In this family there is a whole series of gateways and communication devices, internationally certified pursuant to UIC556 standards, along with an entire set of communication controllers, which enable different on-board systems, even those from different manufacturers, to connect to the train network. Far Systems is one of the few companies that guarantee interoperability among rail cars from different manufacturers because it provides internationally certified gateways. The other line, Control & Diagnostics, is significant because it is here that straton, the PLC IEC 61131-3 platform by COPA-DATA, comes into play.

This family includes a whole series of programmable devices, which we have decided to equip with straton. Here there are modular products called RaPLC (Railway PLC), which include simpler devices equipped with just a field interface on up to those with different types of railroad I/Os (inputs/outputs).” Through these devices Far Systems is capable of offering complete solutions and railway automaton.

A NEW BUSINESS MODEL

A few years ago the Far Systems Team brainstormed on what the best business model would be for the manufacture of electronic devices for the railroad industry.

Their original strategy was one that nearly all companies implement: listen to customer requirements and create “customized” designs. The advantage of this strategy lies in the fact that the customer obtains precisely the product required; the disadvantage lies in keeping this product updated during its service life cycle. Bonomi pointed out: “It is clear that if there are not many customers, very little effort is required, but if there are many, the need to keep many different devices updated over time means keeping design engineers working on maintenance rather than on new product development. Custom design introduces the problem for the company of maintaining these features, focused and verticalized, over many customers”.



It was from here that the idea to create a family of standard products covering a broad range of requirements specific to the railroad industry arose, whilst creating a development environment directly programmable by the customer using standard languages and easy-to-use development platforms. To implement this new strategy the Far Systems Team decided to obtain a “soft-core” PLC to be included within its own devices and to use a standard programming language, such as IEC 61131.

**THE IDEAL SOFT PLC
IEC 61131-3 ENVIRONMENT**

“We did a market analysis to understand which software solution would be best for our requirements. We wanted to take an innovative leap. We were seeking advanced and evolved software with a user-friendly development environment, for MS Windows platforms, that would support our customers’ different languages, with powerful debugging capabilities and a multi-platform, multi-language runtime motor. We chose straton by COPA-DATA because, besides having all of those features, it is particularly flexible compared to other Soft PLCs on the market. Far Systems also creates specific protocols for the railroad industry, such as, for example, TCN standard (MVB-WTB); straton has proven to be the best platform on which to integrate these, making them easy to configure.” added Bonomi.

Once Far Systems made the choice it added its two decades of railroad know-how and created an ideal environment for the development of railroad applications. This was how PRISMA-IDE was born: our platform for high-level software development, for testing and debugging of Far Systems railroad industry products. Because of this software platform it is now possible to program RaPLC devices from the Control & Diagnostics family of products and for all Far Systems products in the near future.

INDEPENDENCE AND CUSTOMIZATION

Owing to the implementation of this new business model, Far Systems offers its customers the possibility of having independently configurable devices, equipped with a whole series of railroad technology software programs, with a simple and programmable development environment using standard languages, such as IEC 61131. This means that the end user will be able to develop applications specifically calibrated to their individual needs. These may be customized, without having to assign technological details to dedicated software development experts. Personnel who are capable of programming with standard languages, with the specific application as a single focus, are all that is required.

This also gives customers the possibility of reusing or changing previously created projects. Therefore the approach



to development has shifted. The designer no longer needs to concentrate on the software, the languages or on the details, but solely on specific application requirements. Details (rules for the different communication protocols) are managed transparently by the IEC 61131 programming languages with a high-level approach as well as graphically.

Another huge advantage that this solution offers customers is total independence from suppliers. Before, each time a project needed to be changed or a new one created, the customer was obliged to go to the manufacturer, being unable to proceed independently.

FAR SYSTEMS' ADVANTAGES

"Far Systems' main advantage is that now we can create a family of standard products, each supplied with different characteristics, which respond completely to railroad industry requirements. Manufacturing costs have dropped significantly. Now we no longer create many highly customized products that required long-term commitment of resources. In addition the implementation of this new business model has enabled us to develop a new series of services we can offer our customers: we have created a new e-learning platform, we organize training sessions and courses to instruct them, enabling them to independently design and create their own applications.

Regardless, Far Systems still makes all of its expertise available to its customers in order to support their specific needs.

Choosing straton enabled us to bring our project to a conclusion: a transformation of our business model. The results we are achieving are the confirmation of our having made the right choice." concluded Roberto Bonomi, Sales Manager at Far Systems. ■■■

