

Zircon helps Invensys Rail with verification & validation of data for upgraded control centre in Germany

When Invensys Rail was commissioned to handle a line upgrade project by German rail company Deutsche Bahn AG they asked Zircon to undertake the verification and validation aspects of the job. Despite a number of challenges everything was successfully completed and implemented on time, and Invensys Rail was full of praise for the way the Zircon approached this awkward task.

Background

When the rail system around the small town of Plön needed upgrading Invensys Rail was awarded the contract. Project Manager Vince Dade comments that “We worked on the original implementation in 2004, so it made sense to use us again.”

The upgrade involved changes to four stations, including the one at Plön, as well as alterations to the configuration of routes and signals, plus upgrades to several level crossings. Zircon was asked to undertake the verification and validation of the configuration data used by the control centre.

The challenge

“Verification and validation procedures are always extremely thorough and rigorous” continues Vince, “but that’s especially true in Germany. Their routines are extraordinarily strict, the documentation is incredibly detailed, then everything is checked again by an independent assessor, which in this case was TÜV. Everything must conform precisely to the prescribed way of doing things, to their protocols. One tiny thing out of line and it’s rejected, which means you don’t commission on time.”

“We didn’t have all the necessary specialist resources in-house”, explains Vince. “Some members of the Zircon team were heavily involved in the original project back in 2004. They had the background, and the knowledge - they were familiar with the verification paths, so we had no hesitation in asking them to assist us again.”

“There was also a major issue with this system - the equipment was very old. With the base station we were looking at a system that was Windows NT based, so getting the drivers for the hardware was extremely difficult.”

“They were proactive and on top of what was going on. They didn’t just sit back waiting.”

“The issue of getting the drivers for the hardware was very tricky, but they cracked it...they coped very well.”

“They weren’t aggressive with variations. When additional work was required, they were very fair about it.”

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The solution

Zircon engineers therefore performed all the static correspondence testing, dynamic data testing and dynamic regression testing to ensure that every single modification of the data was properly verified and validated in time for deployment and commissioning.

A Zircon engineer also went to Germany and supported the Invensys team during the commissioning. This involved performing the upgrade to the control centre software and also carrying out a number of reliability tests during engineering hours.

Feedback

The project was successfully commissioned on time, despite the challenges. “Having been involved earlier the guys at Zircon knew exactly what was required” comments Vince, “but I was particularly impressed by the fact they were proactive and on top of what was going on. They didn’t just sit back waiting...they were very good at driving things forward, letting us know exactly where we were, what information they needed to know next. And if there was anything they could do to help us improve our performance as an organisation, they were very quick to tell us about that, and I like that kind of approach.”

“Communication was excellent – we had very good contact with them and saw a couple of their key people on a regular basis. The issue of getting the drivers for the hardware was very tricky, but they cracked it...they coped very well.”

Vince emphasises that “On a project of this nature you are always coming across surprises and snags you couldn’t have anticipated. They were very reasonable when that happened...they weren’t aggressive with variations. When situations like this occurred, and additional work was required, they were very fair about it, and didn’t make life difficult for us. They are just a good bunch of guys who just get on with it, and sort problems out...they don’t create more problems!

Conclusion

Asked whether he would use them again Vince has no hesitation. “Yes, most definitely. This was just phase 1 of a two part project, and we’re planning to use them for phase 2.”