The Value of Transparency

The rail industry has always required thinking about the long term. Almost any rail project is better thought of as enhancing an existing system rather than creating a new one, and once a system is integrated into the network, it's generally required to last a very long time. Adapting to the interface with legacy systems at the same time as futureproofing your own designs is always a difficult balancing act, and the rail industry has to think in longer time horizons than most.

The complexity of this task is only going to grow, and traditional project management and construction management processes could be supplemented by techniques developed by industries which have always faced this level of interdependence and sensitivity to change.

The value case for these techniques is often just a matter of helping you get it right earlier and more often, but the tools developed to support these processes can have significant benefits to project control, enabling you to continuously track and optimise the value you are delivering for your rail customer.

Transparent, real-time information on your project is critical to ensuring that you are delivering on spec, on time and on budget, and traditional tools have often been of limited use in providing that, especially when a project is being delivered through or assisted by multiple subcontractors or a complex supply chain.

Systems engineers have developed many procedures and tools for managing project information in a way that guarantees rigour in your objectives, your process and your quality assurance. Research has shown that systems engineering activity has a significant, quantifiable return on investment, which can be as high as 7:1 in projects where little or no systems engineering activity has been employed at all.[1]

What's more, systems engineering tools can help you control your project, and ensure you are delivering the value you planned to deliver. By making your process more transparent to ongoing value engineering, not just for the full duration of your and your partners' work, but throughout the full life cycle of your product, these tools can help you enhance quality, mitigate risk and lower costs.

What these tools enable you to do is maintain a single source of truth about the project, which persists not just along the full life cycle of the project but across all stakeholders and partners who are working to achieve it. By moving these tools into the cloud and enabling cross-compatibility, different teams, including those from partner organisations, can all feed into and draw from the same, real-time feed of project information.

Delivering value is easier and less risky when those who need to know have a clear picture of what's actually going on.

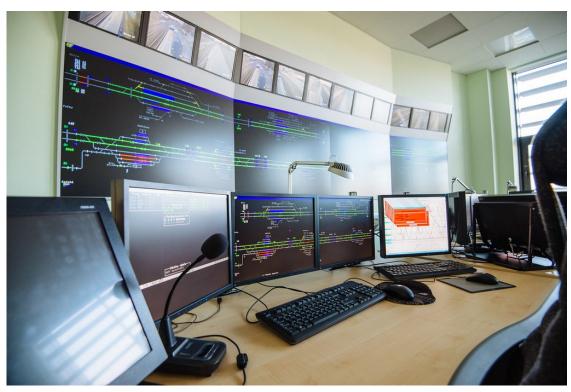## Ivensys Rail Dimetronic: Cutting Time to Market by 40% with a Single Source of Truth

Implementing European Rail Traffic Management System signalling is a safety-critical smart railway project underway throughout Great Britain and set to take up to 30 years.

Invensys Rail Dimetronic was involved with the development of the underlying systems from a very early stage and wrote around a million lines of code in the course of those projects.

That code was handled by multiple teams spread across global locations, so making sure everyone was on the same page was an extremely challenging task.

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[1] Honour, Eric. "Systems engineering return on investment", PhD diss. University of South Australia.

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By implementing tools which enabled them to maintain a single source of truth – in their case, a precursor to IBM® Engineering Lifecycle Management – they were able to streamline information sharing considerably.

Using these tools enabled them to reduce time-to-market by up to 40 percent, and by moving away from manual testability and traceability they were able to focus their people and resources on product goals like safety instead of more tedious tasks.

A single source of truth also allowed them to be sure that what they were doing at the highest levels was integrated with the lowest levels, provide people with real time access to information, obtain very accurate and personalised reports about the state of the project, and link project requirements directly into the code.

Transparent Tools

The key to unlocking this level of transparency is in tools which enable an instantaneous real-time view of your project at every stage of its life cycle: integrating a single source of truth across requirements, design, configuration, workflow management and all aspects of quality, as well as generating repeatable templates that allow you to retain improvements between as well as within projects.

Transparency is ensured by providing access to those features through a dashboard that gives you a real-time view of what's going on at every stage of the life cycle across specialised and fully integrated applications.

IBM® Engineering Lifecycle Management is designed with these objectives in mind. Breaking down walls between your value engineering experts and the real-time data they need to do their best work can ensure you really are delivering the best value you can for your customers and bring everyone in to making that a reality.

This information sheet is an excerpt from SyntheSys Technologies White Paper about Maximising Value in Rail Supply. Read the full White Paper [here].

About SyntheSys

SyntheSys provides defence systems, training, systems and software engineering and technical management services over a spectrum of different industry sectors. Along with distinct support and consultancy services, our innovative product range makes us first choice provider for both large and small organisations. Established in 1988, the company focus is on fusing technical expertise with intuitive software applications to solve common industry challenges.

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