

Embracing Change in Rail Supply

Information Sheet

An Introduction



Things are changing fast in the rail supply chain. With £35 billion expected to be spent on new services and equipment in the United Kingdom (UK) alone – a supply chain expansion of 140 percent – the market looks set for a steady period of growth.

This investment comes at a time when the British rail network is being transformed by technologies like cab signalling and the digital rail ecosystem. With things changing so fast, rail supply businesses need to become more adaptable to compete. There is a huge amount of investment to be won right now, but in rail every feast costs you a famine. Ill-considered long-term investment in your engineering capabilities can leave you exposed when the good times stop.

Improved technology is driving a lot of current growth, but with this comes pressure to look to the bleeding edge and make difficult decisions about unproven innovations. Which technologies are going to make the most progress toward decarbonisation? Is the industry going to be ready to embrace the full potential of augmented reality and automation? Will the pace of change in smart cities, the Internet of Things and 5G be so fast that rail suppliers will have to embrace them now?

Rail projects, from upgrading the remotest level crossing to the digitalisation of the network as a whole, are getting much more complicated. With this complexity comes a need for suppliers to be flexible and adaptable: ready to respond to, anticipate and plan for change. With the right skills, the right process and the right tools, rail suppliers see opportunities today to adapt to a more dynamic approach to engineering, enabled by the rigorous, modular definitions and models needed to change direction without slowing your pace. The skills and tools needed to make this a reality are out there, developed by industries which have faced conditions like this before. Rail engineering could do a lot, today, to better manage the changes it faces now and in the future, through the greater application of systems engineering techniques.

It could have a more integrated supply chain, with clearer and more active coordination in projects that have to be ready to adapt and change direction. It could have a development process which is better able to anticipate project risks, and prevent incurring costs when a failure is spotted too late. It could have the measurement capabilities it needs to proceed with confidence and speed on the journey of continuous improvement. It could approach design and refurbishment with a military-grade approach to configuration management developed to anticipate how changing part of the system will change the whole. And most importantly, it could improve its development processes to better anticipate and smoothly adapt to change.

This information sheet is an excerpt from SyntheSys Technologies White Paper about Embracing Change 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.