

# Compliance with Standards and Legislation through Collaborative Engineering Management

**“We know that we cannot live together without rules which tell us what is right and what is wrong, what is permitted and what is prohibited. We know that it is the law which enables us to live together, that creates order out of chaos. We know that law is the glue that holds civilisation together.”** This quote from Robert Kennedy, brother of President John F Kennedy, virtually defines what legislation is, namely a set of rules that regulate behaviour.

In our context, legislation and standards are quite similar: standards are sets of rules that define an agreed way of doing something. Both legislation and standards are there to make life easier (though it does not always seem that way), to make us healthier, safer, more secure, to help us communicate better, to increase our productivity.

The products and services that we design and build must comply with ever increasing quantities of complex legislation and standards. How can an organisation economically and effectively build compliant products and services and, furthermore, demonstrate their compliance?

We have developed an approach (see the figure to the right) that we have used successfully in managing the interoperability and testing of military communications systems. In this domain, the standards are evolving, they are ambiguous, incomplete, and sometimes even incorrect.

Our approach has the advantages that any problems in the underpinning standards are identified and can be resolved at an early stage and that preparation of test cases, which demonstrate compliance with the standards, is built into the process.

Of course, when dealing with a large and complex standards baseline, none of this is possible without the use of specialist tools. We use the IBM Watson Internet of Things (IBM Watson IoT™) suite of software tools, which records requirements and tracks traceability between different documents, including test documents. We model the standards using the model-based systems engineering tool that links objects in the diagrams with text in the documents to ensure that traceability is maintained and that all the artefacts are consistent with each other.

In this way, we build a composite document containing all the applicable elements of the underpinning standards that can then be combined with other stakeholder requirements as the start of the traditional systems engineering life cycle.

*Collaborative Engineering Management describes SyntheSys' approach to systems engineering with expert personnel and appropriate tool support. We have helped many organisations ensure compliance with legislation and standards through advice on processes, training, and the introduction of software tools. Please contact us to find out more.*

## 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.

