



SYNTHESYS RESEARCH

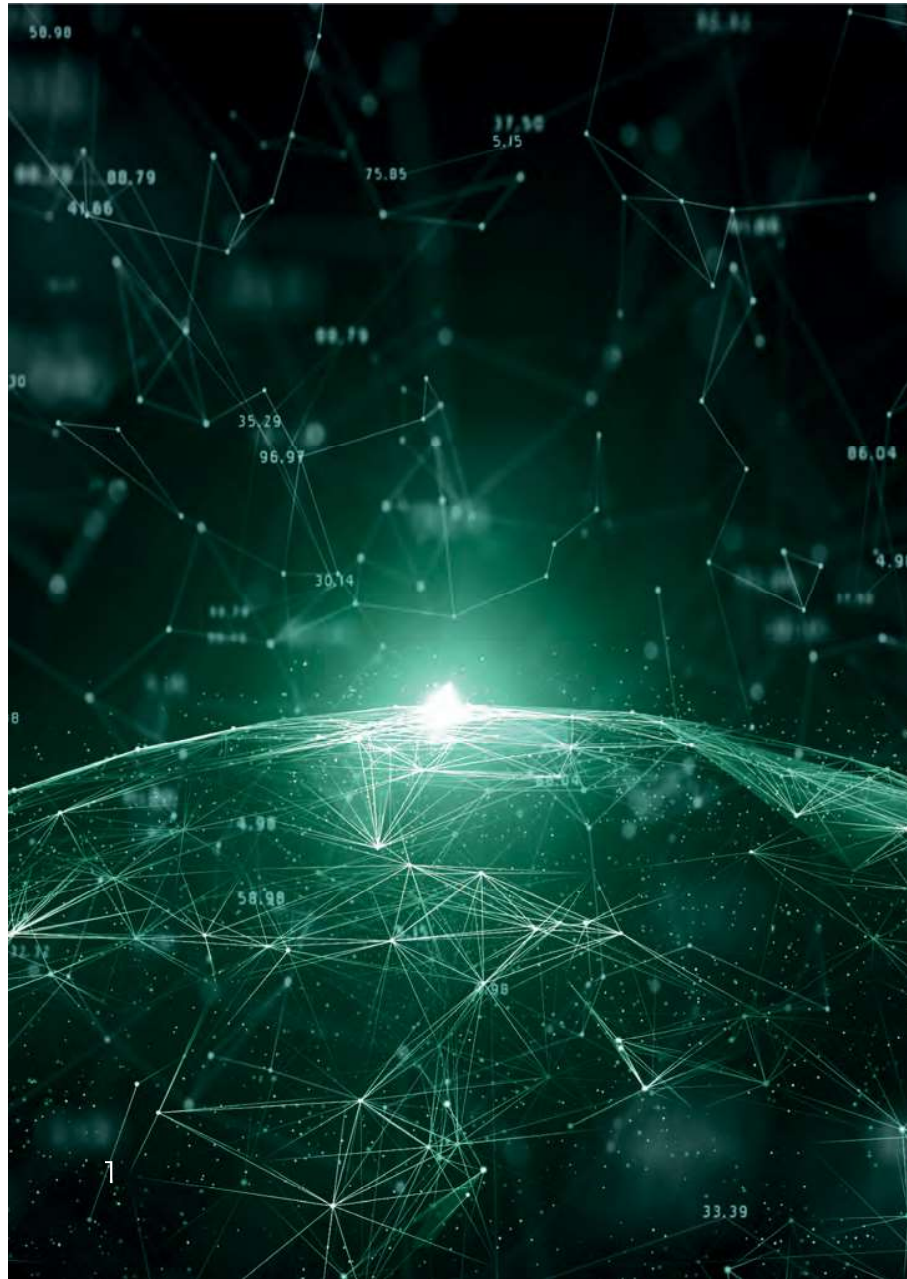
SERVICE OFFERING & VALUE PACK



A CHANGING LANDSCAPE

Competitive pressures to bring products to market faster, slash development costs, maintain quality standards and counter competitor innovations are forcing organisations to change fundamentally the way their engineering teams work.

To cope with rising product complexity and significant amounts of data, modern development teams must improve existing methods of working whilst embracing new processes and technologies to maintain a competitive edge.

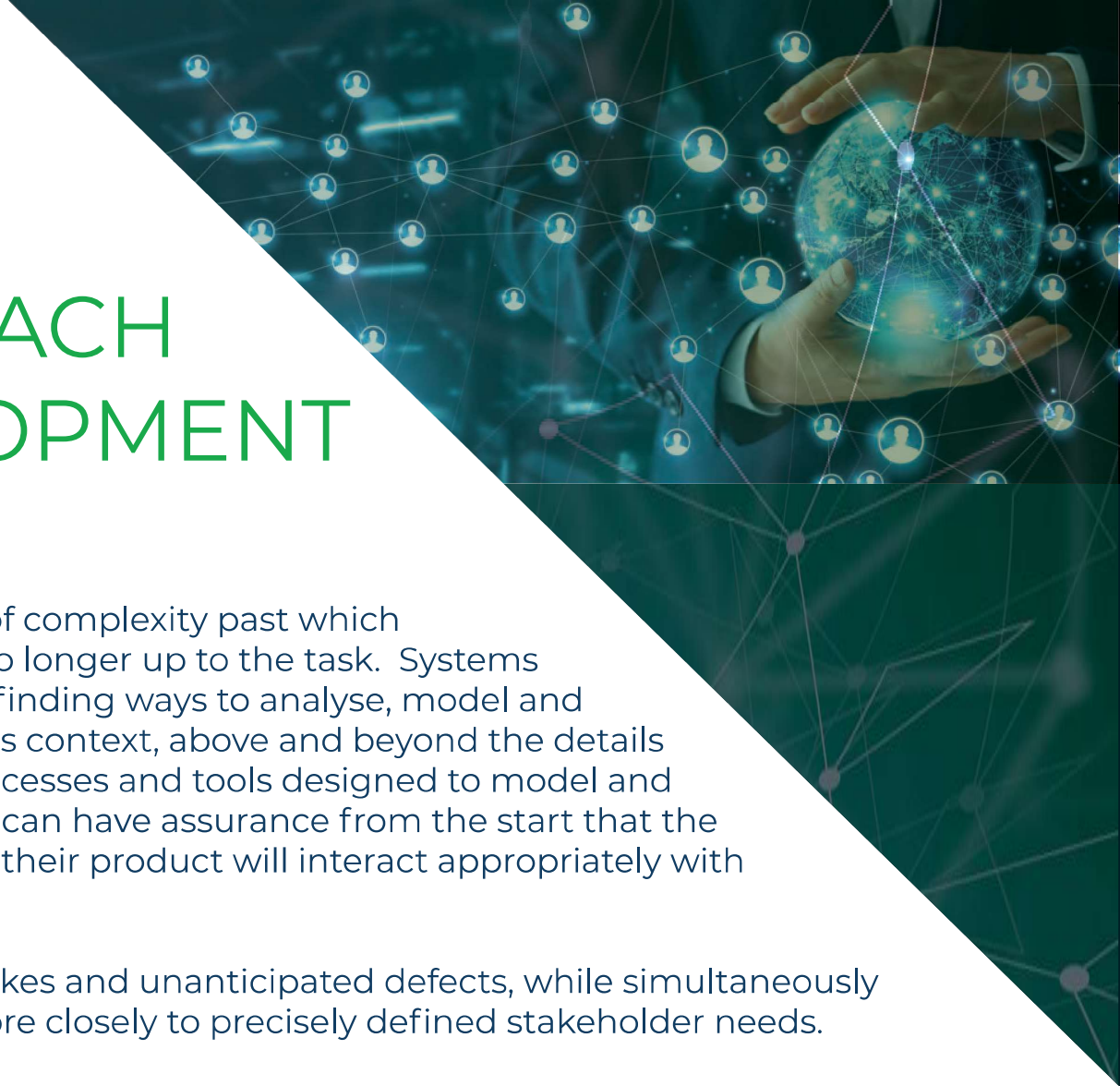


A HOLISTIC APPROACH TO SYSTEM DEVELOPMENT & MANAGEMENT

Many industries have now reached the threshold of complexity past which traditional methods of project management are no longer up to the task. Systems engineering techniques are fundamentally about finding ways to analyse, model and plan the behaviour of a system as a whole and in its context, above and beyond the details of individual components. By having a suite of processes and tools designed to model and anticipate the structure of a system, organisations can have assurance from the start that the right thing is being built in the right way, and that their product will interact appropriately with its context.

This drives down cost by reducing the risk of mistakes and unanticipated defects, while simultaneously driving up quality by tying engineering activity more closely to precisely defined stakeholder needs.

Systems engineering has developed a wide range of processes and tools for modelling and simulation, requirements analysis, scheduling, and all parts of the life cycle, tailored to better manage the development of complex systems. Of particular interest is how systems engineering thinking has produced a robust and scientific approach to requirements management and verification, a greater focus on the full life cycle of a product, and novel modelling techniques for complex emergent behaviour.



SYNTHESYS RESEARCH

SyntheSys Research enables organisations to respond to challenges associated with increasingly complex system design, acquisition, test and maintenance needs.

At the heart of our services is a technical team that holds a wealth of experience in highly-complex industries and provides a specialist technical consultancy service around Systems-of-Systems approaches, programme management, systems and software development and systems engineering.

Our services and value extend throughout our training course portfolio, where we offer a range of formal and bespoke training packages which will empower your people to drive innovation in your organisation. Our approach focuses on cultivating the power of collaboration and we team with complementary specialist business partners in addition to our active memberships with industry bodies.

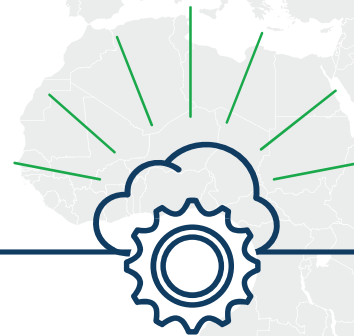
SERVICE CAPABILITIES

SYSTEM-OF-SYSTEMS (S-O-S)

Modelling
Verification & Validation
Architecture Frameworks

SYSTEMS ENGINEERING

Project Management Consultancy
Requirements Management
Test & Evaluation
Compliance & Standards



TOOLS AND TECHNIQUES

Collaborative Hybrid Agile Systems Engineering
(CHASE)
System Process for Interoperability Requirements &
Implementation Testing (SPIRIT)
Testing Solutions

TRAINING

Systems Engineering
Software Development
Project Management / S-O-S
INCOSE Certification Training
Tool Training

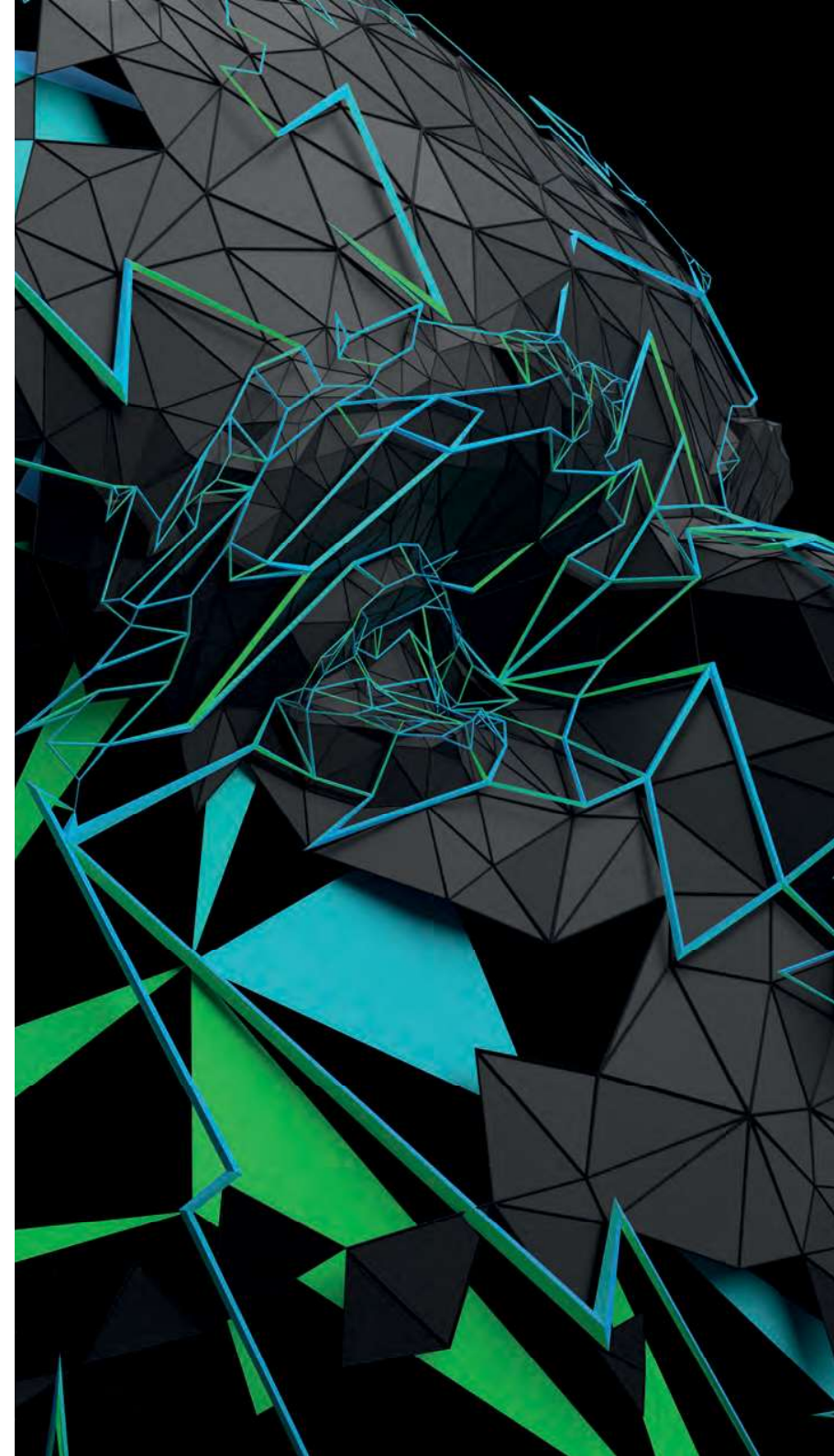
SYSTEM-OF-SYSTEMS

MANAGE COMPLEXITY

SyntheSys has a unique depth of knowledge in the area of System-of-Systems engineering methods which focus on how programme teams can embrace big-picture thinking in systems development whilst allowing for interfaces and component systems to be engineered independently.

We have undertaken fundamental research into System-of-Systems Engineering that has given us a unique insight into comprehensive, cost-effective, and practical processes that we apply on behalf of our Customers.

Our solutions and methods offer end-to-end life cycle coverage and allow teams to better specify, implement, test and sustain complex systems. By working with us, our customers gain better control, develop a sophisticated approach to governance and are able to demonstrate compliance through the use of systems engineering as an over-arching management method.



SYSTEMS ENGINEERING



PROJECT MANAGEMENT CONSULTANCY

Managing a high-degree of complexity with end-to-end project services.



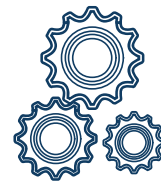
REQUIREMENTS MANAGEMENT

Fundamental to successful system and software development.



COMPLIANCE & STANDARDS

Demonstrate compliance with industry standards.



TEST & EVALUATION

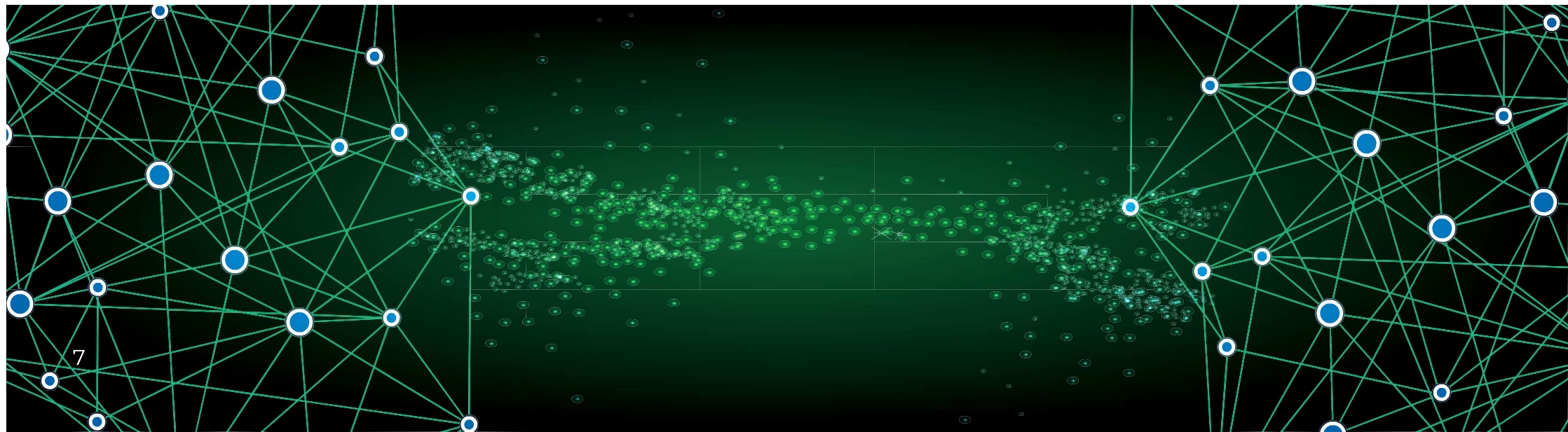
Test against requirements with high assurance.

PROJECT MANAGEMENT CONSULTANCY

END-TO-END PROJECT SERVICES

Our personnel have first-hand knowledge and experience of managing complex Information & Communications Technology projects at all stages of their life cycle, from concept and assessment, through design and manufacture, to acceptance and in-service maintenance.

We will take responsibility for the delivery of entire projects or can undertake project management support roles as an integrated part of our Customers' project management teams.



REQUIREMENTS MANAGEMENT

FUNDAMENTAL TO SUCCESSFUL SYSTEMS & SOFTWARE DEVELOPMENT

Requirements Management can be defined as the subset of systems engineering concerned with discovering, developing, tracing, analysing, qualifying, communicating, planning, monitoring and controlling requirements that define the system at successive levels of abstraction.

With years of experience in assisting key players in the defence, automotive, rail and energy sectors to improve, enhance and automate Requirements Management procedures, SyntheSys Research offers a blend of training, engineering development tools and consultancy services which enable organisations to formulate, maintain and improve good Requirements Management practices.

COMPLIANCE AND STANDARDS

DEMONSTRATE COMPLIANCE WITH INDUSTRY STANDARDS

With increased complexity comes increased data; with increased data comes more stringent industry standards. Demonstrating compliance with published standards is notoriously costly to achieve. So how do you comply with increasingly strict and complex standards whilst fulfilling customer and market requirements?

Our services provide the mechanisms you need to develop, test and reconfigure to comply with evolving industry standards. Furthermore, you will be able to do this faster, more reliably and more streamlined than you've ever done before.

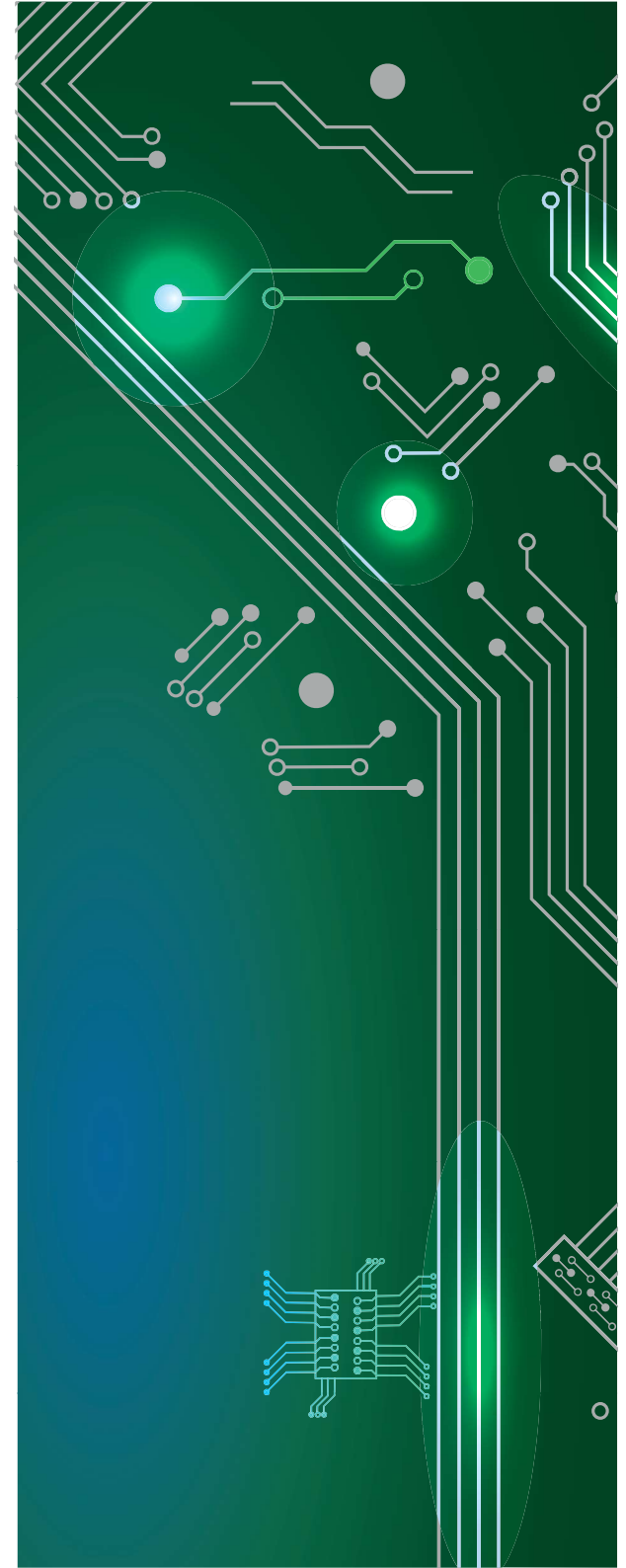
TEST AND EVALUATION

TEST AGAINST REQUIREMENTS WITH HIGH ASSURANCE

System testing presents many challenges for platform project managers, requirement managers, engineers and operators, which is why many programme development teams find systems testing increasingly difficult to manage as a primary function. A lack of resources, time, subject matter expertise or funding leaves many project teams with a gap in system quality and capability.

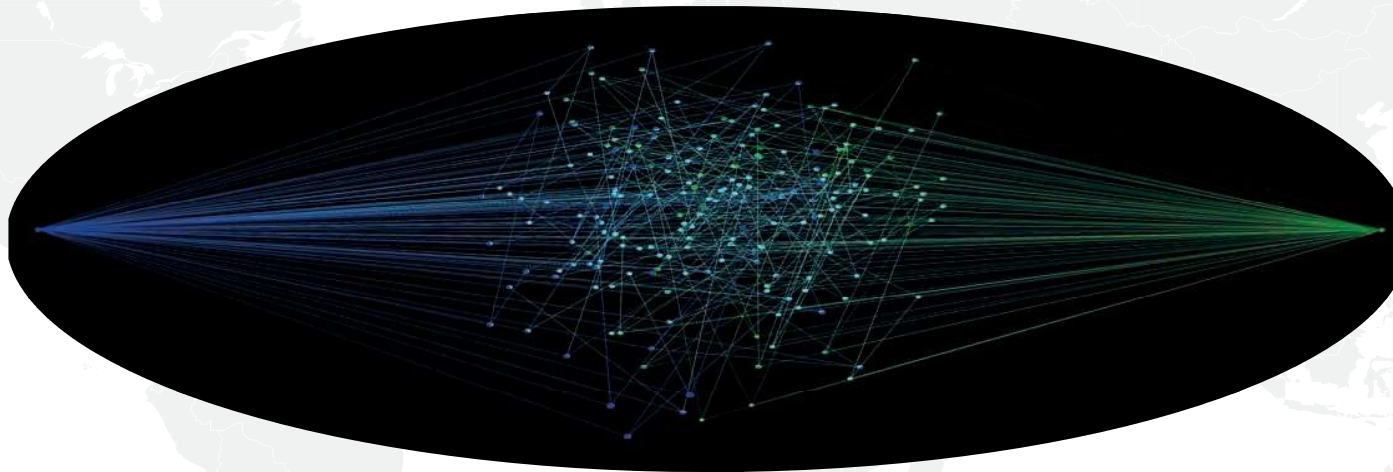
Our clients come to us because we enable them to solve common testing challenges in a cost-effective way. We apply quality systems engineering processes, and our extensive experience, to establish evidence that systems operate effectively which improves performance, functionality and interoperability.

We offer flexible testing services which can be provided either individually or as an end-to-end package; our independent services are tailored to your requirements. Our testing services empower development teams to focus on the overall programme and technical management, and this minimises the risk of platform non-compliance with specifications.



CHASE

COLLABORATIVE HYBRID AGILE SYSTEMS ENGINEERING



CHASE is our approach to bringing the best of agile and systems engineering philosophies together to deliver the value benefits of both.

CHASE combines both agile and systems engineering processes, a unique tool configuration, and skills among team members to allow these techniques to work together effectively.

We believe it is a major step forward for many high-growth and complex industries.

SPIRIT

ACHIEVE SYSTEMS & SOFTWARE INTEROPERABILITY

Achievement of interoperability requires a structured approach, a clear expression of information exchange requirements, auditable compliance to requirements standards and through-life support.

System Process for Interoperability Requirements & Implementation Testing (SPIRIT) is a holistic, integrated approach to the specification, installation and testing of complex data interfaces.

SPIRIT is SyntheSys' process for system and platform through-life interoperability management, offering a systematic process for multi-platform specifications, test creation and management. The tool allows teams to manage standards, requirements and implementation with one end-to-end solution.

The SPIRIT approach focuses on the definition of an integrated and self consistent set of standards, which define how the individual systems within a system-of-systems coordinate and report actions.



----- SOFTWARE DEVELOPMENT

----- PROJECT MANAGEMENT

----- SYSTEMS ENGINEERING

----- COMMUNICATIONS
SYSTEMS & SECURITY

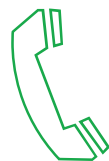
----- DEVELOPMENT TOOLS

----- SIGNALS, PROPAGATION
& PROCESSING

LET'S TALK



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