



IDE[®]
SYSTEMS

**INNOVATION &
DESIGN
ENGINEERING LTD**

**SYSTEMS & SAFETY
ENGINEERING**



OUR MISSION IS TO EMPOWER
CLIENTS IN TRANSITIONING TO
A WORK PACKAGE DELIVERY
MODEL

OUR VISION IS TO RELEASE
THE POWER OF THE UK
ENGINEERING SKILLS POOL TO
REALISE OUR CLIENTS' NEEDS

An introduction to IDE

IDE is an independent consultancy operating in highly regulated industries including nuclear, aerospace, airspace, maritime & land. We provide an integrated approach delivering systems safety engineering, analysis and management, systems thinking and systems engineering.

We utilise systems thinking and systems engineering techniques to build upon the traditional failure model of safety, thus enabling the management of end-to-end risks for extant and future complex systems, be they standalone, autonomous or a fully integrated system of systems (SofS).

IDE have developed an exceptional community of independent subject matter experts collaborating within a defence assurance risk tool (DART) accredited IT infrastructure.

This network of systems engineers, safety engineers and P3M specialists enables IDE to plan, manage and execute whilst maintaining the agility to expand the team to meet the emerging challenges of delivering today's complex projects.

To fulfil our mission, our network of SME's has positioned IDE uniquely in the industry, to challenge the conventional project delivery approach, by empowering our clients to move to a work package delivery model thus releasing the power of the UK national engineering skills pool and to deliver our clients' vision.





“

Our business model is unique

We have created a community of outstanding subject matter experts with knowledge sharing at the heart of how we work. The value we bring is not just in the work we deliver but in the knowledge we share.

”

Systems thinking

The IDE network provides expertise in aiding their clients to dissolve their messes or wicked problems through the application of systems thinking methodologies.

Depending on the need, these can be applied as discrete methodologies e.g. systems engineering or soft systems methodology (SSM), or as a multi-methodological approach combining two or more complementary methodologies e.g. SSM, viable systems model and critical systems heuristics.

Systems safety engineering

We provide expert practitioners who have experience of recognised safety-related standards. These include but are not limited to:

- UK MoD Defence Standard (Def Stan) 00-056 Safety Management Requirements for Defence Systems
- MIL-STD-882E, Department of Defense (DoD) Standard Practice System Safety
- IEC 61508:2010, Functional safety of electrical/electronic/programmable electronic safety-related systems
- ISO 26262:2011 Road vehicles - Functional safety

Systems engineering

Defining and delivering the product or service solution we provide expertise across all the process areas of the systems lifecycle to ISO15288, from concept through to disposal.

We focus on application of model-based approaches, to ensure integration with both leadership and design teams and therefore the wider delivery and stakeholder organisations.



Dedication to excellence

We take pride in our commitment in delivering first-class services. With our extensive network of SMEs, we have redefined project delivery, moving away from the traditional resource replacement model. Instead, we focus on assembling high-performing rainbow teams to deliver defined work packages. Our dedication to excellence shines through in the following core services.



Elevating your vision through model based systems engineering (MBSE)

IDE is your partner in bringing your vision to life. Our systems engineering service utilises model based systems engineering (MBSE) to accurately and comprehensively capture and communicate your system design whilst being able to support traditional document based approaches as well. We apply cutting-edge methods and tools to ensure that your system design is delivered efficiently and is also adaptable to your evolving needs.

Pragmatic safety solutions for regulated industries

In highly regulated sectors such as defence, nuclear, and aerospace, safety is paramount. IDE is your trusted ally in these critical domains. Our systems safety service specialises in the delivery of pragmatic safety cases that meet the rigorous standards of these industries. With meticulous attention to detail, we help you navigate complex safety requirements, ensuring compliance and peace of mind.

Turning vision into reality through strategic planning

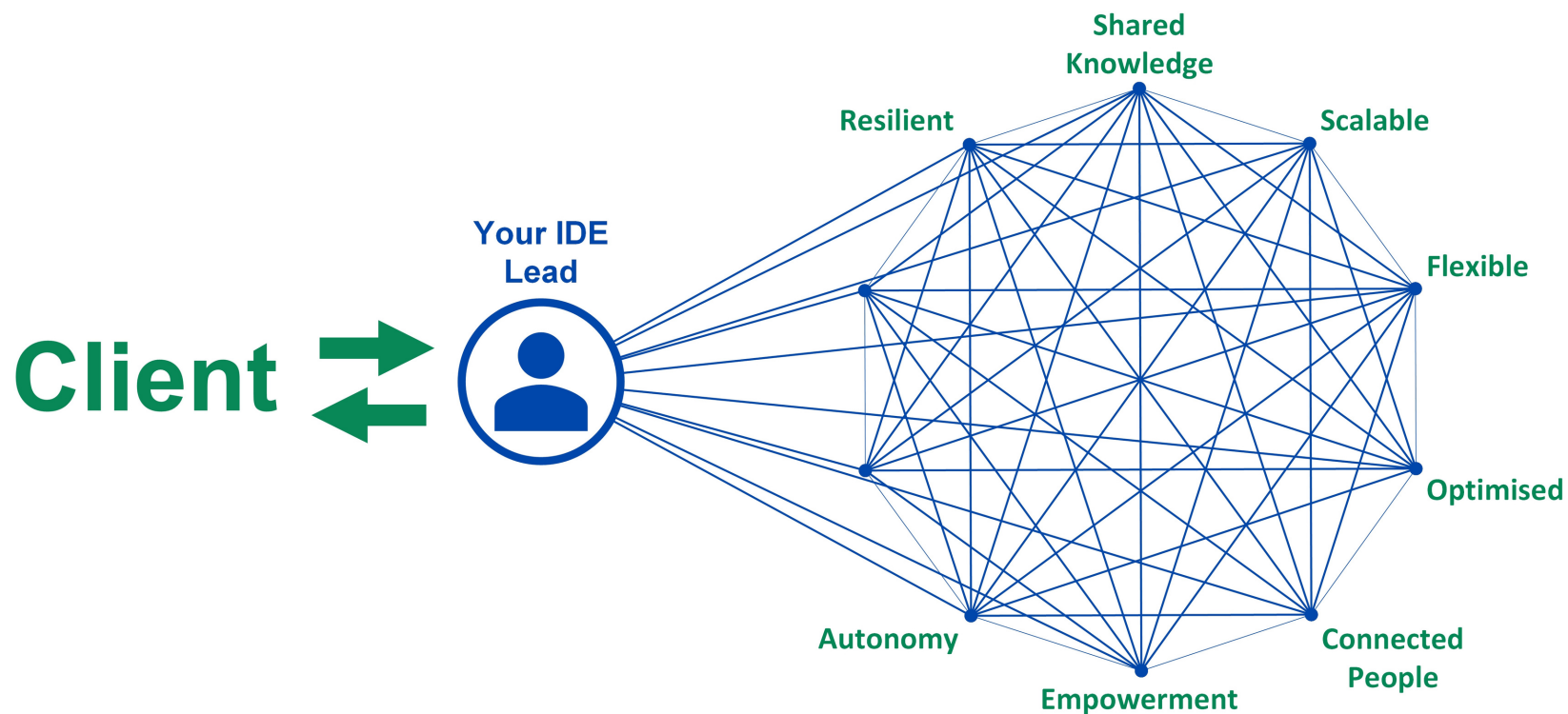
We understand that effective project management is key to success. Our strategic planning service is dedicated to the development and delivery of complex projects. We excel in translating your vision into actionable plans and, more importantly, into deliverable work packages. Our strategic approach ensures that your projects are executed efficiently, on time, and within budget.

How we work

Traditional resource-based manpower substitution has not provided the required flexibility or ready access to the national skills pool. Therefore, to better deliver specialist engineering services there must be a move toward a defined work package business model.

This enables micro and small businesses to utilise their excess capacity away from single source contracts and into the wider market.

Consequently, IDE have developed an exceptional community of independent SMEs. They collaborate within a DART accredited IT infrastructure to deliver your needs to the required time, cost, and quality. This network enables IDE to plan and manage the delivery of complex projects and programmes whilst maintaining the agility to expand the delivery team to meet today's needs and tomorrow's challenges.



This collaborative approach provides resilience to delivery by ensuring that the project is not solely reliant upon a single individual whilst providing access to niche skill sets. This community combines the agility, flexibility, and value for money of a small to medium sized enterprise with the resource pool and reach back capability of a larger organisation.

Capability

Our team brings knowledge, skills and experience acquired across a myriad of domains, platforms and systems.

Alongside our technical SMEs, the IDE team have particular expertise in engineering management across multiple domains. The collaborative network contains leaders in their field, having previously held the roles of:

- Head of Systems Engineering at BAE Systems, Naval Ships
- Head of Functional Safety at Northrop Grumman
- Head of Safety, Environmental & Delivery for Advisory Services for QinetiQ
- Project Safety Engineering Managers for Maritime and Land Defence projects.

IT infrastructure

Our Organisation is:

- Cyber Essentials & Cyber Essentials Plus certified
- DART accredited, with a UK domiciled, cloud-based IT infrastructure to manage UK Sovereign Defence data up to Official Sensitive
- Accredited to enable live sharing with the MOD, partners and SMEs across our IT collaborative workplace
- Supported by encrypted email accounts for secure communication up to Official Sensitive



Working in highly regulated industries

Working within highly regulated industries is exceptionally challenging due to multiple regulatory frameworks, high consequence of failure, rapid technological advancements, interdisciplinary complexities, extended system lifecycles, security imperatives, and resource constraints.

These sectors demand an unparalleled commitment to precision, reliability, and risk mitigation, necessitating a multidisciplinary approach to navigate the intricate interplay of technologies, regulatory compliance, and security concerns.

Nuclear

The IDE network has experience in both civil and defence nuclear Systems and Safety Engineering in accordance with the ONR and DNSR guidance, for example:

Defence

- Strategic deterrent and facilities
- Orion laser facility for high energy density plasma physics
- Periodic Safety Review to SSG25 SF8, 9 and 14 for Rolls Royce Nuclear
- Periodic Safety Review Faslane

Civil

- National Fusion Technology Platform (NFTP) programme
 - NFTP - H3AT Hydrogen3 Advanced Technology facility
 - NFTP - Fusion Technology Facility FTF
- Horizon Nuclear Power

Working in highly regulated industries

Defence

The IDE network has experience of delivering major defence projects across multiple domains.

Land

- Warrior
- Challenger II
- Tracer/ FRES/Ajax
- C Vehicle Fleet
- Apache - Land System & Weapons

Maritime

- Submarines – Vanguard, Astute, Dreadnought, SSNR, Isaac Pearle S-80
- Surface Ships – Type 45, Type 26
- Submarine Common Combat systems
- Principle Anti Air Missile System (PAAMS) - Sea Viper

Electronic warfare

- Mobile EW and Radar test system

Aerospace

- Rotary - Merlin All Mks inc. Crowsnest, Lynx Most Mks, Wildcat, Chinook All Mks, Dauphin, AW109, Apache, Sea King
- Fast Jets - Tornado GR4/4A & F3, Harrier, Hawk AJT, Alpha Jet, Typhoon weapons configuration
- Heavies - Hercules J & K, A400M, Nimrod, Voyager, BAe 146, P8 Poseidon MRA1, Sentinel
- Mirach UAV

WOME

- FASGW Light and Heavy, Brimstone and Dual Mode Brimstone, Paveway, CRV7, Hellfire, Meteor BVRAAM
- Rapier BIM
- M3M, GPMG, M60, Mini Gun AC & DC, RAMICS.

Airspace

- ATC, Tac ATC ATS, ANSP.
- VHF/UHF GA/GG Comms.
- Tactical Data Links.
- Radar – Watchman, TYPE 93, 94, 101, 102. TPS -77, STAR 2000, PAR
- SSR, WAM
- ILS
- RVR/IRVR
- VCS/VCCS
- IUKADGE ASACS, NATO ACCS
- BACCS, DACCS
- VCR, ACR, Remote ACR
- Consoles/Operator user positions
- DF, RDF, DRDF
- TACAN
- FPS
- WAN
- Wind Turbine Mitigation
- Flight Test AOR coverage



Let's work together

w: www.ide-systems.com

e: info@ide-systems.com

Tel: (44) 0845 527 0370

Follow us on:



© 2023 by Innovation & Design Engineering Limited. All rights reserved.

Company No. 05297465

Contains public sector information licensed under the Open Government Licence v3.0.