

# ½ day Systems Engineering Awareness Session

## Workshop Description

Systems Engineering is the systematic application of Systems Thinking to the design and introduction of new systems. Applied correctly Systems Engineering provides considerable strategic advantage to an organization by reducing introduction times, improving system performance and reducing through life costs. Its relevance is the only proven approach to handling risks associated with the creation of highly complex products and services. Good Systems Engineering demands a thorough understanding of the “customers” problem to ensure the selection of the correct solution. This drive towards understanding before solution is often at odds with project pressures and demands strong leadership to support a culture where Systems Engineering is enabled and expected.

The aim of the ½-day Awareness Session is to brief attendees on what is Systems Engineering and its benefits, how it is deployed within an organization, and through a simple case study how it is done.

## Course Numbers and Who Should Attend?

The ½-day Systems Engineering Awareness Session can be delivered to up to 20 attendees. The workshop is aimed at all engineers and people from adjacent functions such as commercial, project management, manufacturing, operations, test and quality.

## Benefits to the Individual and Business

During an intensive half day of teaching and practical ‘hands on’ exercises, attendees will be challenged to develop the mindset that can be applied to any system design irrespective of type, scale or context.

At the end of the session attendees will:

- Have an understanding of the principles of Systems Engineering and how it applies to the creation of a new system through the appropriate blend of people, process and tools.
- Be provided with a common language and approach to addressing complexity.
- Understand the critical role of requirements in engineering.
- Have an appreciation of the process and tools that are used.

## Learning Approach

This course can be delivered remotely online or face-to-face on the client’s site or preferred venue. The learning approach is based on the Kolb learning cycle with a significant proportion of the course set aside for exercises to reinforce the learning. Indeed, many of the small group exercises involve a case study that provides a practical focus for the course and enables the delegates to practise the methodology and tools presented. We offer a number of case studies that can be selected to reflect the client’s organization.

## Session Agenda

Time	Session	Outcomes
0830	Introduction and Objectives	Attendees know the aims and objectives
0845	What is Systems Engineering and why do it?	Participants: <ul style="list-style-type: none"> <li>• understand the concept of emergence as a key driver of System Engineering</li> <li>• know the causes of undesirable emergent behaviour and the need for a systems approach to engineering and how it differs from traditional engineering</li> </ul>
0930	An Introduction to Systems Thinking	Participants: <ul style="list-style-type: none"> <li>• have had explained the concepts of systems thinking</li> <li>• understand and appreciate the importance of key systems properties of: purpose, context, boundary and environment</li> </ul>
1045	Systems Engineering in Practice	Participants: <ul style="list-style-type: none"> <li>• recognise the key ingredients to Systems Engineering as People, Process, Tools and Infrastructure</li> <li>• understand that Systems Engineering is a fractal top-down process</li> <li>• understand the engineering lifecycle and governance through design and other reviews</li> </ul>
1230	Summary and Close	

## Session Costs

The cost of delivering the ½-day Systems Engineering Overview Session, excluding delivery tutor accommodation and expenses, but including all session materials is **£1,700**. VAT will apply at the prevailing rate. The Session can be tailored to suit the individual customer's operation.



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