



# COTS BASED SYSTEMS ENGINEERING (CBSE)

## ***Course Descriptions***

COTS based System Engineering (CBSE) brings fundamental changes in how Systems Engineers do their work. COTS - Commercial Off-The-Shelf item, can be defined as a non - developmental item (NDI) of supply that is commercial and sold in substantial quantities in the commercial marketplace. Examples of COTS items are: hardware and software assemblies, equipment and subsystems. COTS purchases are alternatives to in-house developments in both the military and commercial domains.

The use of COTS items has been mandated across many government and business programs; as such products may offer significant savings in procurement, development, and maintenance. But In reality, COTS items do not uphold the same quality standards that government - developed systems do. The challenge COTS present to the Systems Engineer is to use these Systems Engineering processes in an environment where the solution space is bounded by the existing functional and physical aspects of the COTS components. This is both a design process and an integration process. The significant aspect introduced by COTS is that the design process is now constrained by a set of pre-existing components, which introduce functionality that may or may not be required by a specific design solution.

## ***Learning Outcomes***

The participants in the course will learn how to engineer new COTS Based Systems and the necessary adjustments to the fundamental principles of Systems Engineering (SE) when dealing with COTS Based Systems. In particular they will learn:

- The key characteristics and concepts of CBSE
- Lessons learnt, benefits and challenges using CBSE
- Processes and lifecycles of CBSE
- Requirement Engineering for CBSE
- Test and Evaluation for CBSE
- Architecture, Design and selection for CBSE
- How to Identify and manage COTS Based Systems Risks
- How to manage CBSE

## ***Who Should Attend?***

Anyone involved in CBSE with some experience in application of SE or Engineering Design Methodology can benefit from this course. This can include:

- Systems Engineers who use COTS components for their designs.
- Suppliers who produce and supply COTS components (hardware and software).
- Program and project managers that use or consider using COTS components.
- Government / Military/ commercial professionals who work or consider working with COTS-based systems.

However, this course is an "Advanced Systems Engineering Design" course. A basic course or experience in Traditional SE or Engineering Design Methodology is a prerequisite for attending this course.

## ***Course Rates***

Early Bird Rates: 1,620 CHF. Regular Rates: 1,800 CHF

## ***Duration***

3 days

## ***Delivered By***



**Amihud Hari**

Dr. Amihud Hari now heads Design Speedovation Inc. He is a facilitator, consultant and instructor of New-Product Development, System Engineering and Engineering Design methods. His experience includes many applications of Engineering Design Methodologies. He also teaches Engineering Design and T&E at the Technion, Haifa, Israel and was an Adjunct Associate Professor at the System Engineering and Evaluation Centre (SEEC) in the University of South Australia.

Dr. Hari has 20 years of experience as an operational manager in manufacturing, research and development, and procurement, for both government and private sector industries.

Dr. Hari has published more than 40 papers and book chapters on engineering design and quality methods, and he is a co-editor of the Quality Language Book. He holds a B.Sc. in Industrial Engineering, a M.Sc. in Quality Assurance and Reliability, and a Ph.D. in Engineering Design, from the Technion, Haifa, Israel.