

# How to Influence Colleagues & Decision Makers - the Need, the Path, the Habits

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**Abstract.** Systems Engineering is about interfaces: product interfaces and organizational interfaces. Systems engineers must cultivate an increasingly sophisticated set of socio-technical skills and experiences to meet new challenges. To enable useful solutions, the systems engineers must be able to influence their peer team members and orchestrate work in more creative and collaborative ways. Many Systems engineers also need to influence customers and company executives regarding the need for and depth of Systems Engineering for an initiative. Thus, the ability to influence will become the most critical skill of the systems engineer, with success measured by management's answer to the question: "Can I put my systems engineer in front of the chief executives of my organization?" At the peer level: "Is this person an collaborator? An enabler of the right solution?" This panel discusses the need, the skills and how to develop them

## Biography

**Virginia Lentz** (IBM/UTC retired) - [vlentz1@nc.rr.com](mailto:vlentz1@nc.rr.com)

Ms Lentz is an INCOSE Past President and Founder. Over a 40 + years career at IBM Federal Systems Division (IBM FSD), Loral, Lockheed Martin, United Technologies Research Center and Otis Elevator, she was doing Systems Engineering long before she helped write the IBM FSD job description. Her legacy system is the Global Positioning System where she was the Systems engineering Manager from initial capability with 6 satellites to full operational capability. During a 30 year career creating and fielding unprecedented computer based systems, her jobs ranged from Integration, test and maintenance, to development as a Chief Programmer, site installation and retirement, to technical marketing (analysing the operational needs and creating functional architectures for implementation) and program management .

**John Thomas** (CEO & President John A Thomas & Associates LLC) - [john.thomas@john-a-thomas.com](mailto:john.thomas@john-a-thomas.com)

John A. Thomas is President INCOSE and a retired Senior Vice President and Chief Systems Engineer of Booz Allen Hamilton. John is a leader, whether his role is as engineer, program manager, mentor, multi-disciplinary team member, or business man. He has delivered both IT and Hardware intensive systems and is recognized as a developer of people. As a senior consultant, John provides systems engineering and integration services to clients across Defense, Security, and Transportation communities. In a career spanning more than 40 years, Mr. Thomas has worked with the application of technology to mission problems. First, a technician, and then officer in the US Air Force, retiring from the USAF Reserves in 1998. Mr. Thomas also is an executive coach and mentor to senior technical and management professionals and a sought-after spokesperson to both professional, lay groups, and media for systems engineering. He raises community awareness of the positive leadership impact of the systems engineer and the relevance of the discipline of systems engineering for addressing stakeholders complex and challenging problems. John has been an INCOSE member since 1998 and has received INCOSE's ESEP certification. He also is a member of IEEE, NDIA, PMI, the Armed Forces Communications and Electronics Association (AFCEA), and the International Test and Evaluation Association (ITEA). He holds a M.S. degree from the Air Force Institute of Technology and a B.S. from Michigan State University. Both degrees are in Electrical Engineering.

**Duncan Kemp** (UK Ministry of Defence) - [Duncan.kemp735@mod.uk](mailto:Duncan.kemp735@mod.uk)

Duncan is the Engineering Skills Development Team Leader in Defence Equipment and Support (DE&S) in the UK Ministry of Defence. He is responsible for the professional development of DE&S\_ 5000 professional engineers from recent graduates to retirement. In particular Duncan runs the DE&S\_ Initial professional development of 180 graduate engineers\_ Apprentice training scheme for 160 apprentice engineers\_ Development of generic engineering training, learning and development\_ Guided development scheme to develop up to 500 junior engineers into suitably qualified and experienced engineering decision-makers Fellowship scheme to reward, recognise and harness the DE&S\_ top engineering talent Duncan's previous role was as Chief Systems Engineer for rail in the Department for Transport, where he initiated the Rail Value for Money Study, working as the lead on the Asset Management, Supply Chain Management and Whole System Programme Management chapters of the Study. Duncan is a Chartered Engineer and Fellow of the Institute of Engineering and Technology.

**Nigel Murphy** (Atkins) - [Nigel.Murphy@atkinsglobal.com](mailto:Nigel.Murphy@atkinsglobal.com)

Nigel Murphy is Principal Project Director for the Rail and Transit sector of Atkins North America based in Atlanta, Georgia. Nigel's early career experience was in front line, general management and policy/standards setting roles in heavy rail in the UK over 19 years. He is a Professional Rail Operations and Safety Specialist who has been involved in the planning, development, assurance and approval of a wide range of rail systems and rolling stock projects over a career of over the last 20 years with the last 10 being in consultancy work with Atkins. He has worked on assignments in Europe, the Asia-Pacific region and in the US as well as in the United Kingdom. On many of these projects he focused on the operational integration of new or complex systems to deliver enhancements and performance improvements to rail and transit networks. He is not an engineer but values working with engineers to encourage systematic consideration of the users\_ requirements, issues of operability and systems 'mission' on the projects he works on. With others, Nigel has also pioneered use of Systems Engineering approaches to \_soft projects\_ such as operations procedural requirements, design, integration and operational validation. In July 2012 he gave a joint Paper to INCOSE Rail Interest Group in London, UK exploring these themes: \_Systems Engineering - Railway Operators get it too!\_ Nigel is a Fellow and founding member of the Institution of Railway Operators, a Member of INCOSE and currently co-chair of the Transportation Working Group and an Associate of the IRSE.

**Lane Desborough** (Medtronic) - [lane.desborough@medtronic.com](mailto:lane.desborough@medtronic.com)

Lane Desborough is Product Strategist for the Diabetes business unit of Medtronic, Inc. He is focused on the development of safe and effective therapies such as the artificial pancreas, connected care technology, and clinician decision support, leveraging his experience in oil refinery automation and smart grid system remote monitoring / decision support. Lane is also applying learning from these other domains to reduce the burden of diabetes through the application of technology to benefit patients, caregivers, healthcare professionals, and society. Prior to joining Medtronic, Lane worked for General Electric in a nascent systems engineering group, and most recently served as product manager for remote monitoring and diagnostics. Lane also spent 13 years with Honeywell, implementing and remotely monitoring automation in complex, hazardous, software-intensive systems such as oil refineries and chemical plants. Lane has a BS and MS in Chemical Engineering from the University of Waterloo and Queen's University in Canada, respectively.

**Stephen Guine** (Northrop Grumman Aerospace) - [stephen.guine@ngc.com](mailto:stephen.guine@ngc.com)

Stephen is the SE Section Manager for the B-2 Stealth Bomber, responsible for people, processes, tools, and training. He has additional 20 \_+ years of SE management and delivery experience in battlefield communications, public utilities, healthcare, and community-based nonprofits. He has leveraged his multi-domain SE experience to develop strategic and tactical SE training programs to ensure that his teams can simultaneously execute SE from multiple viewpoints and utilize methodologies not common to their current domains. These training programs have included soft skills