Robert Edson, PhD

Candidate for CIO

VISION

In 1973 Rittel and Webber wrote:

> *The professional's job was once seen as solving an assortment of problems that appeared to be definable, understandable and consensual. He was hired to eliminate those conditions that predominant opinion judged undesirable… The accomplishments of the past century in these respects have been truly phenomenal… But now that these relatively easy problems have been dealt with, we have been turning our attention to others that are much more stubborn.* [1] (pg.155)

This is the realm of wicked problems, those which are ill-defined and never solved. It is also the realm "of nearly all public policy issues" (pg. 160). These problems have grown in the intervening 40 years and this is the challenge of today's systems engineer.

While systems engineers continue to help build significant and amazing technological systems, we also find ourselves more and more active in addressing sociotechnical systems of world importance such as healthcare, energy, transportation, finance, and economy. Today the issues seen in these systems are truly wicked.

Given the complexity of the problems we face as systems engineers, how do we make progress? Through knowledge and collaboration!

INCOSE is an organization of nearly fifteen thousand members organized in 67 chapters from 58 countries. That is a body of immense knowledge and tremendous opportunity for collaboration.

INCOSE is 49 technical working groups. That is an incredible group of professionals, academics, and practitioners of all types collaborating to build knowledge.

INCOSE is journals, newsletters, handbooks, and primers. That is explicit knowledge available for enhancing and extending the practice.

INCOSE is symposia and meetings held around the world. That is collaboration and knowledge exchange of inestimable value.

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[1] Rittel, Horst W. J., and Melvin M. Webber. "Dilemmas in a General Theory of Planning." *Policy Sciences* 4, no. 2 (1973): 155–169.

This knowledge and collaboration can and should be enhanced and improved. Information technology is a great enabler and a tremendous multiplier. The public and members websites. Learning and knowledge management systems. Improved collaboration infrastructure. Better enterprise search and access to publications. Working group and chapter specific infrastructure and tools. All are possible areas of improvement for better knowledge dissemination and collaboration.

My goal as CIO is to extend the work that has transpired within the INCOSE IT over the last three years, concentrating on making knowledge more readily available and collaboration easier and more effective. INCOSE is a community of systems engineers. Helping them improve their practice and grow together is one of our most important missions.

BIO

Dr. Robert Edson is the Applied Systems Thinking Capability Lead and a Senior Principal Systems Engineer at MITRE where he works to build their systems thinking capability and practice. Prior to MITRE, he served as Vice President and Chief Information Officer for ANSER and Director, Applied Systems Thinking Institute (ASysT). While at ANSER, he led corporate transformation and strategic initiatives, and the corporate research organization with oversight of all internal research activities, corporate capability development, workforce shaping programs and facility and information systems. As Director of ASysT, Robert lead an institute whose mission was to advance the application of systems thinking principles in the fields of national security, homeland security, intelligence, energy, environment, education, and healthcare. This includes development and application of systems thinking tools and methods

Prior to his current position, Dr. Edson served in a progression of industry technical and management positions in the environment, disaster response, and technology development areas. Robert began his career as a Naval Officer, filling billets in the Surface Warfare, Engineering and Geophysics communities. Robert has been active in several technical areas including CBRNE and environmental sensor development, WMD counter proliferation, radioactive waste and nuclear materials management, and environmental management and assessment. In addition to his technical and management background, Robert has research experience in computational fluid dynamics, numerical modeling, and assessments of complex sociotechnical systems.

Active in INCOSE since late 2006, Dr. Edson initially represented his organization on the Corporate Advisory Board. He is currently the Co-Chair of the System Science Working Group. He has supported the INCOSE International Symposium Practitioner's challenge since 2015.

Dr. Edson received his PhD in Systems Engineering from Stevens Institute of Technology.