

Working-Group Awards *continued*

- Integration, Verification and Validation, Test and Evaluation (I/V&V/T&E) Working Group

- Beginning effective collaboration between working groups and PMI community of practice
- Technical-review-procedure improvement with a new dedicated tool (EasyChair)
- Significant Technical Operations involvement in authoring BKCASE
- Review of SEBoK by all concerned Technical Operations working groups
- Reframing of the project to update INCOSE's *Systems Engineering Vision 2020* with a new document by committing to a very ambitious project plan to produce a first draft for the 2013 International Workshop
- Two revisions of the *Systems Engineering Handbook* (version 3.2.1 and 3.2.2 in 2011)
- Translation of the *Systems Engineering Handbook* into German
- Memorandum of understanding with Taiwan Chapter to translate the handbook into Traditional Chinese and distribute it in Taiwan
- Memorandum of understanding with Japan Chapter to translate the handbook into Japanese and distribute it in Japan
- Staffing all vacant Technical Operations positions ⓘ

# Systems and Software Engineering Standards for Very Small Entities

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At the 2012 International Workshop, the Systems Engineering for Very Small and Micro Entities Working Group continued their progress toward producing a systems engineering standard, through the International Organization for Standardization (ISO), for Very Small Entities (VSEs). The effort is significant for small companies or teams having up to 25 people with the need to implement appropriate levels of systems engineering rigor. By some estimates, small businesses or work teams account for an estimated 80% of the world economy. The effort to develop systems engineering for VSEs is focused on this economic segment.

The working group, established in 2009, is led by an international working group sponsored by INCOSE and AFIS, the French chapter of INCOSE, to collaborate on developing a systems engineering standard for VSEs using the ISO/IEC 15288 standard as the main reference document. The standard is targeted at VSEs that do not have experience or expertise in tailoring and using ISO/IEC 15288.

During the 2011 INCOSE International Workshop, this working group reviewed the ISO/IEC 29110 set of standards targeted at VSEs developing software. The working group proposed modifications to the set of standards to meet their systems engineering needs. In September 2011, the proposal to develop systems engineering standards for VSEs was accepted by twenty countries. ISO working group 24, has been mandated to develop a set of ISO systems engineering standards and guides for VSEs. In November 2011, the new delegates of working group 24 met in Ireland to launch the official development of the systems engineering standards and guides for VSEs. Delegates from Canada, Brazil, France, Japan, Thailand,

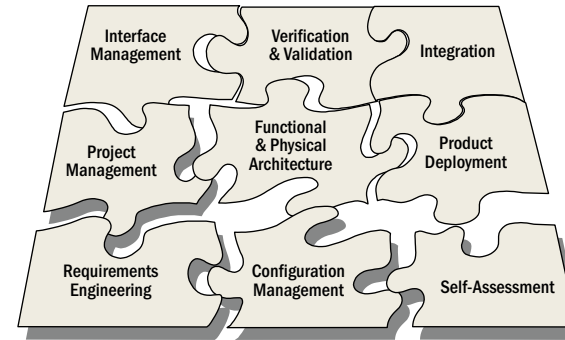


Figure 1. Proposed set of systems engineering deployment packages to support the ISO standard

and INCOSE participated in the first meeting. Claude Laporte has been appointed the Editor of this ISO project.

The draft ISO document was submitted in February 2012 for a first cycle of review by members of ISO and INCOSE. Working group 24 will review the comments in Korea at the next ISO meeting in May 2012.

A second ISO review cycle is planned later in 2012 for this rapidly developing systems engineering initiative.

The INCOSE *Systems Engineering Handbook* will be used as the main reference for the development of a set of systems engineering guides, called deployment packages, to help VSEs implement the standard. The elements of a typical deployment package are a process description (e.g., activities, inputs, outputs, and roles), a template, a checklist, references and mapping to standards and models, and a list of tools. Deployment packages are designed such that a VSE can implement its content without having to implement the complete standard at the same time. Figure 1 illustrates the proposed set of systems engineering deployment packages that will be available, at no cost, on the Internet. The path forward involves VSEs in a multi-national trial period to refine the standards and deployment packages for practical applications. A certification for VSEs that demonstrate conformance to the standard is an ultimate objective.

The following people volunteered to develop a first draft of the deployment packages.

- Gauthier Fanmuy, requirements engineering
- Ken Ptack, project management
- Sascha Ackva, functional and physical architecture
- Jimm Hummer and Randy Schreiner, configuration management

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- Ron Claghorn, verification and validation
- Joe Marvin, product deployment
- Ronald Houde, interface management
- Daniel Dutil, integration

To participate in this exciting transformational project, contact any of the authors of this article. More information about the project can be found at <http://profs.logti.etsmtl.ca/claporte/English/VSE/index.html>. The website of the Very Small and Micro Entities Working Group is <https://www.connect.incose.org/tb/vsme/default.aspx>.

# Papers and Posters for the 2012 International Symposium: A Great Variety of Topics

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This year's International Symposium will offer a wide variety of papers, touching on all 9 sector categories and all 29 enabler categories made available to the submitters. Non-traditional sectors are growing in importance within the systems engineering community and now represent almost half of the contributions. This includes "Other SE Application Sectors," "Transportation," "Energy," "Biomedical, Health and Social Services," and "Consumer Products and Services." The most popular Sector is "Government and Defense," scoring twice as high as the second highest sector, the general category for non-traditional sectors called "Other SE Application Sectors."

The most popular enablers, represented by over 40 accepted papers and posters, are "MBSE," "Systems Thinking," "Architectural Design," and "Processes."

It is especially interesting to see the combinations of sectors and enablers selected by the authors for the planned papers and posters. For instance, some enablers are more represented in one sector versus the others. This

raises the question of to what extent the paper and poster topics reflect the interests of the broader systems engineering community. (In figure 4, AS00 and SEE00 mean that a sector and enabler were not selected, respectively.)

Now the work in the Technical Committee continues with the design of the technical program for the 2012 International Symposium in Rome. Authors were notified of paper acceptance on 22 February 2012. The program took shape in March.

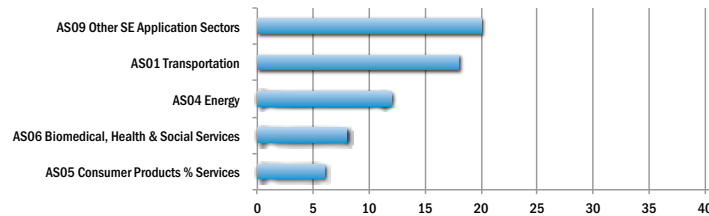


Figure 1. Non-traditional sectors of planned papers and posters at IS2012

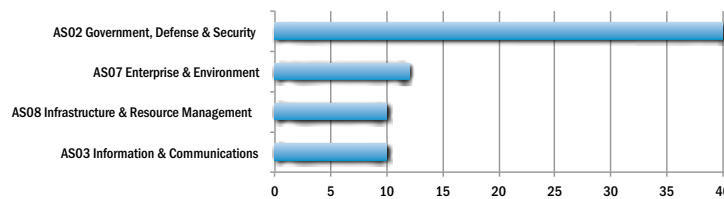


Figure 2. Traditional sectors of planned papers and posters at IS2012

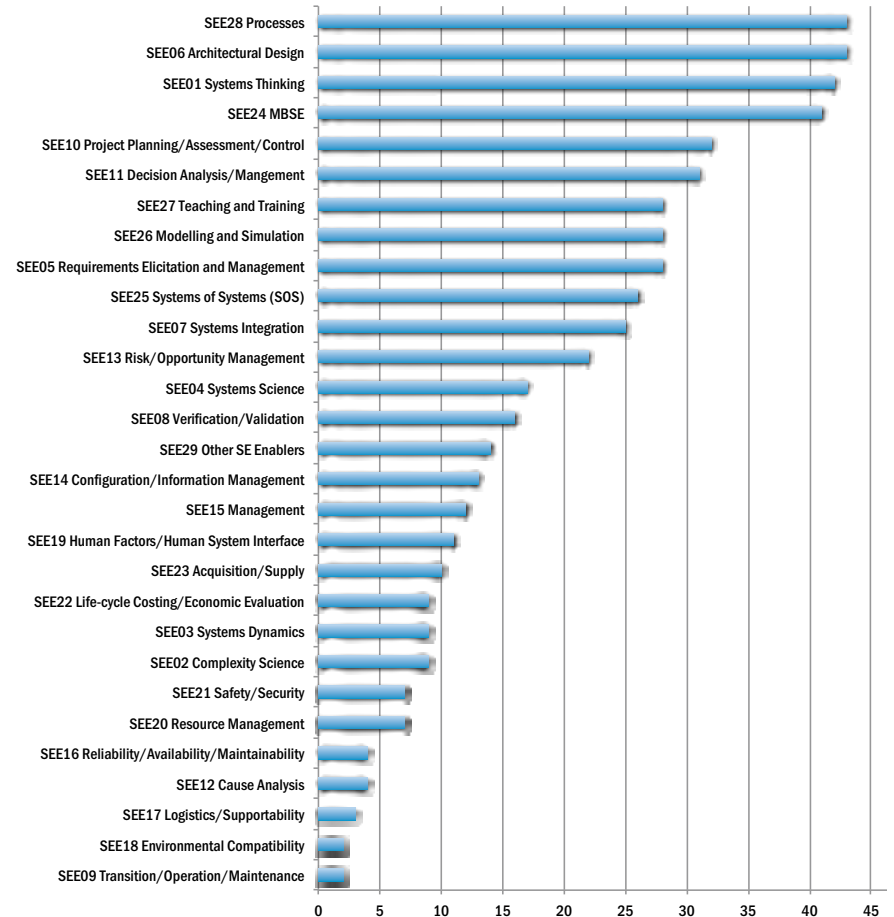


Figure 3. Enablers of planned papers and posters at IS2012