Systems Engineering for Very Small Enterprises

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Small enterprises have a pressing need to develop their products efficiently, effectively, and with high quality. With the current trend of outsourcing, it is critical for customers to be able to depend on these enterprises to deliver their expected products on time. It is equally important that the businesses perform well while making a profit.

The goal of Working Group 24, to "develop profiles, guides, and examples to assist [very small enterprises] to become more competitive," is very compatible with two of INCOSE's stated goals:

- to provide a central point for disseminating systems engineering knowledge, and
- to assure the establishment of competitive, scalable professional standards in the practice of systems engineering.

The working group conducted a survey to find out more about the small enterprises that they want to help. There were 345 companies that develop software from 30 countries that responded. Here are some notable results of the survey:

- Over two-thirds of the responses were from Brazil, Columbia, India, and Thailand.

Type of software being developed
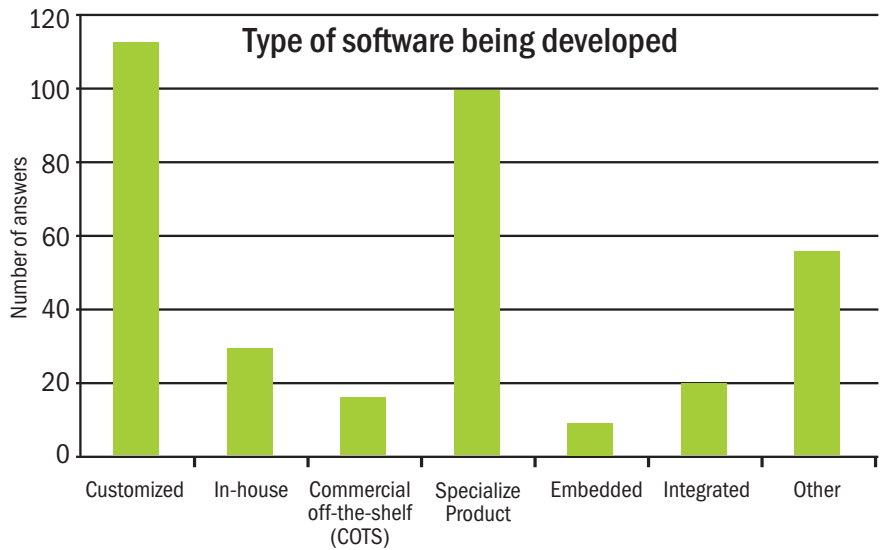
- Over half of the companies employ fewer than twenty-five people.
- Two-thirds of their products are either customized or specialized products.
- Seventy-five percent are developed in environments that are regulated or are life- or mission-critical.

Building on the results of this survey, INCOSE will further achieve growth and expansion by

- focusing on new countries where there is a known need for systems engineering,

- further expanding INCOSE into a new community of small businesses, and
- Continuing to support and enhance those who develop key products that are used in especially sensitive or critical areas.

Working Group 24 is planning to develop several products to give small enterprises a better opportunity to develop high-quality products on time and to make a profit in the process. They hope to create an overview, framework, profile, and taxonomy, leading to a standard that will enable development of guides for engineering, management, and assessment.

The working group plans to publish these products by the end of 2009. To enable this quick development schedule the group is jump-starting their efforts by selecting and modifying a standard that is currently in use in Mexico. Portions of this standard (*HMC-059-NYCE-2005: Information Technology – Software / Models of Processes and Assessment for Software Development and Maintenance*) have been selected to be key inputs for the *Guide of Engineering and the Guide for Management.*

INCOSE's support to this working group is an opportunity for increasing our awareness of the needs of very small enterprises and for identifying potential new individual and corporate members.

Countries that responded
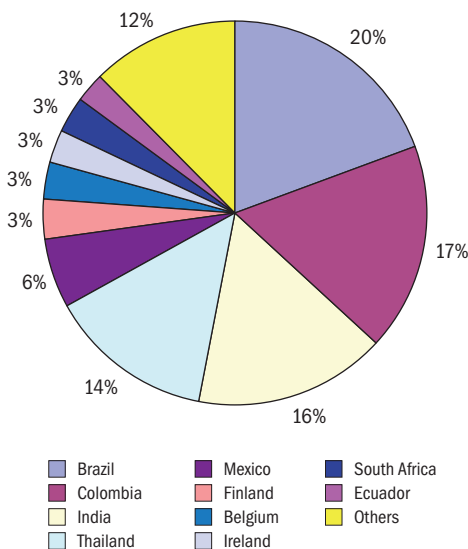
Size of companies that responded