

The Instructors

John FAVARO has more than twenty years of experience in the information technology field. After spending several years at CIT-Alcatel in Paris and Siemens AG in Germany working in the area of software engineering environments and telecommunications, he joined Intecs as project leader for the European Space Software Engineering Environment. He now coordinates R&D activities at Intecs, and is on the steering committee for the International Conference in Software Reuse. Mr. Favaro took his degrees in computer science at Yale University and the University of California at Berkeley.

Andrea MUSONE is Deputy R&D Coordinator of Intecs. He has some 12 years experience in software engineering and software quality. He has contributed to the definition of software standards for large space programs such as Hermes. He has been ISO 9001 and software engineering consultant to International Organizations and other relevant Companies. He also contributed to the definition of a number of ESA space software standards in the PSS series. He has also a large technical experience in several software domains, such as GIS and Earth Observation.

The Company

Intecs is a Software-House providing leading-edge technological support to the major European organizations in the design and implementation of complex electronic systems. It operates at the forefront of the software market, where innovation, complexity and quality aspects are essential to determine the company success.

Intecs was founded in 1974. Today Intecs has about 200 employees. Its headquarters are in Roma with branches in Pisa, Naples and Toulouse (France).

Intecs has been one of the first Italian software firms to obtain the ISO-9000 certification in 1994. The current certification is **ISO 9001:2000 for software development of defence, space and civilian applications.**

General Information

Location

Courses may be arranged in-house at the customer site upon request.

Contact

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ECSS E40B Software Engineering Standards

A two-day modular course

The course material has been prepared and formally approved by ESA/ESTEC.

ECSS Software Engineering Standards

In June 1994, the ESA Council adopted resolution ESA/C/CXIII/Res 1 (Final), confirming the Agency's commitment to the transfer of the PSS system of ESA space standards to the new set of standards prepared by the European Cooperation for Space Standardization (ECSS).

Software is addressed by two standards: ECSS-E-40 for Software Engineering and ECSS-Q-80 for software Product Assurance. They are both based on ISO/IEC 12207 and available at the ECSS Web site: <http://www.estec.esa.nl/ecss/>. They are applicable to software activities of ESA projects, although it is not required to apply them retroactively to projects already using ESA PSS-05-0.

The Course

The objective of the course is twofold: one is to present the basic principles of the ECSS-E-40 software engineering standards (E-40 and related level 3 standards), and the other is to provide a detailed knowledge of the ECSS standards and the required software engineering processes and activities.

The course is organized in two days:

- Day1: An overview of the ECSS software standards. This includes a recall on the ECSS family of standards, the role of software in the overall system, a roadmap to E40 and the software documentation.
- Day2: A detailed look at the E40 level 3 standards, the keys to tailoring, and migration from PSS-05 to ECSS, basic rules and the overall principles of space project management and engineering.

Intended audience

At least Day 1 should be selected by:

- project managers and system engineers who need to understand how the software standards can help them to manage the software part of their project or system,
- software project managers and software engineers who need to understand the software standards, with a view toward tailoring and applying them in their project.

Both Day 1 and Day 21 should be selected by:

- software project managers who want to have in addition a deeper view and knowledge of the new standards and be able to tailor them and applying them in their project,
- software engineers who will be operationally involved in the requirement analysis, design, development and test of Space software systems.

Prerequisites

The participants are expected to be familiar with the fundamental concepts of software project management, software standardization, the ESA PSS standards and other software standards. Some experience as a practicing software development engineer is also assumed.

Benefits

The Day 1 course will primarily familiarize the managers and engineers with the specific approach and terminology found in the ECSS standards as well as the structure and nature of the inter-relationship between software processes and system processes, so that they will be able to interact with higher-level project managers, and with their development teams. They will know where to find more detailed material when necessary for further study in an operational context.

In the Day 2 course software project managers and software engineers will understand the most important concepts and terminology of the ECSS standards suite.

Material

The participants are provided with copy of the following material:

- course and tailoring exercise handouts
- ECSS-E-40 Standard

Course Outline

Day 1

An Overview of the ECSS Standards	9.00
The Role of Software in the Overall System	9.30
A Road Map to the E40B Standard (first part)	10.00
Break	10.30
A Road Map to the E40B Standard (second part)	11.00
Break	12.30
A Road Map to the E40B Standard (third part)	14.00
Break	15.30
Documentation	16.00

Day 2

Level 3 Standards for Software Engineering	9.00
Break	10.30
Overview of Migration from PSS-05 to ECSS	11.00
Tailoring the E40B Standard	11.30
Break	12.30
Space Project Management	14.00
Break	15.30
Space Project Engineering	16.00