

# The Benefits of Reuse— An Introduction to Systematic Reuse

## ESI Training Services:

Technology Introduction  
Courses

## The first course in a series covering a reuse-based approach to SPI

This course introduces the meaning of a reuse-based approach to SPI and helps you to define a reuse strategy adapted to the specifics of your company.

Participants learn how to employ reuse within an organisation with an emphasis on institutionalising reuse practices to ensure that they are systematically employed in the company. The course demonstrates how a software process improvement programme can directly benefit the business objectives of a given organisation.

**This course will help you  
to define a reuse strategy  
adapted to the specifics  
of your company.**

The course will address: the technical and organisational concepts of reuse; the impact of a reuse-based SPI programme on the software processes within a software development unit and throughout the organisation; and the ingredients of a successful reuse-based SPI programme. The course will also demonstrate the benefits of reuse, including increased predictability in the software process, the opening of new business opportunities and a reduction of costs and time-to-market.

Through participation in lectures, exercises and case studies, you will have the opportunity to practice the concepts of systematic reuse in real world scenarios and receive support in transferring these practices to your own organisation. You will be able to identify the potential of systematic reuse in your own working environment and will understand the process, methods and technical knowledge required to implement a successful reuse-based strategy.

## Information & Registration

ESI Training Services  
European Software Institute  
Parque Tecnológico #204  
Zamudio, 48170  
Bizkaia - Spain  
Tel: +34.944209519  
Fax: +34.944209420  
Email: [training@esi.es](mailto:training@esi.es)  
<http://www.esi.es>

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## What is Systematic Reuse?

Systematic reuse is the practice of applying knowledge and experience related to a collection of similar problems and their associated solutions, in a systematic way and in a determined area of business.

Systematic reuse is increasingly seen as part of a natural and irreversible industrialisation process in software organisations. Its benefits come from capitalising on your own experience within a domain or technical application area, to eliminate redundant work and streamline production processes. It supports organisational business objectives and can be evaluated as an investment from which an economic benefit is derived.

**An SPI programme, based on systematic reuse, can benefit the objectives of your organisation**

This course is the first in a series that covers a reuse-based approach to Software Process Improvement (SPI). It will be of interest to practitioners in software intensive industries who are already aware of reuse but wish to learn more about how to assess the benefits of systematic reuse and design a reuse-based SPI strategy to maximize the benefits and reduce the risks.

## Who Should Attend?

This course is suitable as an introduction to systematic software reuse. You should be considering systematic reuse as a means of improving the software development activities in your organisation, to ensure a more rapid time to market and a more cost-effective management of these development activities.

You are probably a project leader, systems analyst or programmer, a software engineer or a technical manager, involved in software development and/or software process improvement initiatives.

## Benefits of the Course

- You will understand the basic concepts of systematic reuse in the context of software process improvement (SPI).
- You will learn about product-line based reuse. This is a product-line approach to software development that capitalises on previous experience in a domain to eliminate redundant work and streamline the production process. You will be able to identify and quantify the benefits, implications and risks associated with the implementation of such a programme.
- You will learn the complete cycle of reuse-based SPI, and will understand all the steps required to implement SPI within your own organisation:

- Systematic reuse – the full cycle
  - Reuse and SPI
  - Implementation steps
  - Roles and responsibilities
  - Strategic planning
  - Risks and management of these risks
- You will learn a model for reuse practices ( a reuse extension to the SPICE model). You will understand how this may be used to assess an organisation's software processes and to support the planning and implementation of reuse-based SPI.
  - You will be able to complete a reuse-based assessment and design an appropriate SPI plan based on the assessment results.
  - You will be introduced to the techniques required to adopt reuse within an organisation.
  - You will have the opportunity to practice a reuse-based approach to software development through case study work.

## Prerequisites

You should have some experience in software engineering, but no previous knowledge of reuse-based technology is assumed.

## Presenters

The course instructors are members of ESI's Continuous Improvement training team and have extensive experience in SPI. They specialise in product-line based reuse and have been working with industry in this area for a number of years. As experienced instructors, their focus will be on helping you translate theory into practical business applications.

## Key Topics

- Introduction to the Concepts of Systematic Reuse
- The Benefits of Reuse
- Reuse-Based SPI
- Reuse Metrics
- R-SPICE for Assessment and Implementation of Reuse-Based SPI
- Definition of a Systematic Reuse Strategy
- Software Development and Reuse – *a case study approach*

The European Software Institute (ESI) is one of the world's leading independent authorities on software process improvement. We help businesses design, implement and measure improvement programmes that achieve real commercial goals such as reduced effort and costs and increased product quality.



## About ESI

Established in 1993 and with its headquarters in Spain, ESI is a non-profit organisation, which offers consultancy and training services, supported by a highly qualified team of experts and an extensive network of international alliances.

ESI offers a broad **training portfolio** that will help meet your needs, whether you are a beginner seeking an introduction to SPI or an expert looking for more advanced SPI diagnosis and implementation programmes.

## ESI's Training Philosophy

Our training is developed in line with ESI's work in emerging, cutting-edge technologies. Our philosophy is always to help turn theory into actual implementation in the work environment, calling on industry experience, case studies and ESI's Best Practice Repository.

In addition to its open programme, ESI also offers in-company training and consultancy packages and is developing a number of Internet-Based Training products.

For further information contact **ESI Training Services Unit**.

ESI can offer in-company training in SPI,  
or combine training with consultancy activities to  
offer an **integrated service** approach  
to support the implementation of SPI  
in your organisation.

