

Introduction to Agile

| | |
|-------------------------------|---|
| Course category | Agile for Embedded |
| Training area | Agile for Embedded |
| Course code | AE-101 |
| Duration | 1 days |
| Course date | 14th February 2020, 26th June 2020, 13th November 2020 |
| Price exc VAT | £850.00 |
| Additional information | We can accept credit card payment. Please contact us for details. |

Introduction to Agile for Embedded

This course is a broad overview of the current state of Agile.

This course is fast paced introducing both Agile processes and techniques. It is aimed at people requiring an understanding of Agile software development, but is not intended to go into the depth required to apply these Agile process and techniques without further consultancy/training.

Course objectives:

- To understand the principles of Agile Software Development
- To appreciate Agile for Embedded is different from Agile for non-Embedded
- To identify the tools required to support Agile Software Development
- Guideline to how Agile can be applied to software for High Integrity Systems development
- The challenges and pitfalls of Agile

Pre-requisites:

Attendees should have a good understanding of software development, including aspects such as design, coding and test.

Duration:

One day

Agile Introduction

- Manifesto
- Principles
- The Agile Onion

Agile Process Overview

- Foundations
- Scrum
- Lean
- BDD

Scrum

- Roles
- Artifacts
- Events

Agile Techniques (XP)

- Core
- Pair Programming
- Test-Driven Development (TDD)
- Simple Design
- Refactoring
- Middle layer
- Collective Ownership
- Metaphor
- Sustainable Pace
- Coding Standard
- Continuous Integration
- Outer Layer
- Whole Team
- Planning Games
- Small Releases
- Customer Tests
- Scrum and XP

TDD and Mocking in Principle

- TDD Foundations
- Test Construction
- Unit isolation
- Testing APIs with Mocks

Versioning

- from centralised to distributed
- workflows

Continuous Integration / Delivery / Deployment

- goals
- Architecture
- Isolation of Application from Platform
- Build System
- Workflow and builds

The Embedded Agile Toolkit

- Dump the IDE
- Code related
- Test frameworks
- Version Control
- make tools
- Build Servers
- Build environments
- Metrics
- Documentation
- Team workflow

Agile and High Integrity Systems

- Agile assumptions and Embedded Systems
- Software and Quality
- Standards and plan-driven development
- What Agile can address
- What's missing
- Adapting Scrum - SafeScrum

Why is 'Agile' so difficult?

- Common agile [Scrum] pitfalls
- Dark Scrum
- Flaccid Scrum

