GE Grid Solutions
Asset Management
Training Courses Offering
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Asset Management Training

Introduction
Educating staff to properly operate, configure and maintain information systems is key to realising the productivity gains achievable from new technology. GE Power’s training is a service offering designed to assist clients in applying our applications as effectively as possible.

GE Grid Solutions offers a complete curriculum for end users, administrators and application developers of our software product suites. The standard training package offers instructor-led sessions in a classroom setting, at your site or ours, using presentations with associated hands-on exercises in a workbook format.

GE’s Cambridge Training Centre

Classroom format training can be hosted at local GE Offices or at customer sites. Alternatively, the materials can be used to offer training through a series of scheduled teleconference sessions. Remote learning is flexible, quick to set up and has the advantage of minimising disruption to staff schedules and reducing costs.

We also offer a bespoke approach by adapting the materials to conform to customers own business processes. Our consultants will work closely with key users to identify appropriate scenarios as a basis for the materials and is accepted as the best means of providing high quality, relevant training.

Training is typically a stage in one of our implementation projects rooted on GE’s FastWorks; a set of tools and processes to develop new products quickly, achieve better outcomes for our customers, and drive quality and competitive advantage. By using these new set of tools GE Power Digital aims to deliver the right solution faster, within budget and with a quicker return on investment for our customers.

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Industry Proven Business Processes

Bespoke Training Courses
For bespoke user training we review with our customers how they plan, design, build, optimise and roll out network infrastructures against a set of industry recognised business processes. These business processes have been created by GE Grid Solutions over 20 years of working with more than 350 global electric utility customers.

These business processes form the backbone of the solution delivery, with all aspects of configuration, testing and training aligned to ensure the solution delivery matches the customers’ business practices. The adoption of this approach maximises scope within cost constraints whilst successfully implementing next generation technologies with increased organisational efficiency.

GE Power asset management solutions are internationally known and widely used in the planning, construction and maintenance of complex network infrastructure. GE has a large array of industry standard out-of-the-box technology, which can be combined to build an end to end solution, closely aligned to a customer’s business needs. Much of our solution is preconfigured to meet the majority of our customer’s business processes, and acts as a documented baseline for solution enhancement; reducing extensive and costly customisation as well as reducing the time to recover the value of implemented solutions.

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GE Digital Energy's solution offering includes industry market leading technology such as:

**Geospatial Asset Management:** Market leading solution suite that provides geospatial asset management for utilities and telecommunication providers to support network planning, design and analysis, maintenance and operations.

**OMS and DMS integration:** A configurable standards based software solution that provides utilities with an automated way of introducing the electric network to the OMS (Outage Management System) and DMS (Distribution Management System) via CIM (Common Information Model).

**Business Intelligence:** A state of the art map-centric business intelligence suite providing complete, fast, relevant, actionable insight to all those involved in the enterprise.

**Mobile Solutions** – Suite of offline and web based work force management tools that allow companies to optimize the full life cycle of field service operations.

**Web Solutions** – A range of simple, easy-to-use business applications for customers to deploy, working in tandem with the enterprise engineering applications.

**Best in Class Delivery Methodology**

Successful delivery of projects can be attributed to a structured, governed and repeatable project management methodology. Here at GE Power, we are firmly grounded in industry standard project management principles which act as a framework to optimise solution deliveries. The application of the principles significantly reduces uncertainty and supports our customer’s goal of a delivered solution; on time, within budget and to agreed quality criteria. GE Power services projects are delivered over 10 stages. Each stage has clear stage boundary controls which deliver flexible decision points throughout the project execution.

**Right People**

All of GE Grid Solutions consultants have strong domain and technology knowledge, allowing us to work closely with key stakeholders within our customers businesses and develop truly innovative solutions. We collaborate with our customers throughout the planning, design, and implementation of the adopted solution and build strong connections into the customer business. Post implementation, we provide business centric training and ‘go live’ support to ensure a smooth transition from legacy systems to the customer new solution. With a global body of GE Grid Solutions consultants and accredited partners, we are able to truly serve a diverse global client base with a strong local presence.

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Core Spatial Technology: Foundation Course

Description
The Foundation Training course provides a general overview of various parts of Smallworld Core Spatial Technology. Most of the topics described in this course are covered in much greater depth in other specific training courses.

Objectives
Having attended this course, attendees will have ...
- Familiarity with using Smallworld Core as a user.
- Gain a basic knowledge of how to configure the user environment for Smallworld applications.
- Understand the main functions of database administration.
- Explore some basic Smallworld Magik commands and create some Magik objects.
- Know the product portfolio.

Topics
- Introduction
- Using Smallworld Core Spatial Technology
- Getting Started
- Updating Information
- Analysing Data
- Using Layouts and Plotting
- Configuring the user environment
- Database administration
- Data modelling
- Introduction to Magik
- Product Portfolio

Who should attend?
Anyone who requires an overview of Smallworld Core, such as users, configurers, database administrators, data modellers, developers of Smallworld applications, managers and prospective Smallworld customers.

Duration: 2 days

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Core Spatial Technology: Magik Programming Course

Description
The Magik Training course provides an introduction to the Magik language and some of the system objects defined in Smallworld Core. It introduces the structure of an installed product and the customisation of an application — that is, making small changes in existing functionality and user interface. It introduces also to Java and Magik interoperability.

Objectives
Having attended this course, attendees will have ...
- A knowledge of Magik syntax.
- An understanding of the concepts underlying object-oriented programming.
- Ability to write, compile and debug Magik code.
- An understanding of classifying methods and classes using pragma statements.
- Knowledge of the physical architecture of the Smallworld system and key objects.
- An understanding of how resources are used in a session.
- The ability to provide additional resources to customise a user interface.
- Understand Java and Magik interoperability.
- Experience of using the Class Browser.

Topics
- Core Product: System Rationale
- Magik Language
- Object Orientation and Magik Objects
- Object Inheritance
- Collection Classes
- Accessing the Database
- Debugging
- Graphical User Interface in Magik
- Product Structure
- Development Tools
- Magik - Java interoperability
- Topology

Who should attend?
Software engineers who are following the full Smallworld customisation programme.

Prerequisites
- Smallworld Core Spatial Technology Foundation Training
- A minimum of two years’ experience with a procedural or object-oriented programming language such as C++ or Java

Duration – 3 days

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Core Spatial Technology: Application Development Course

Description
The Advanced Application Development Training course introduces the development of customised applications based on Smallworld Core Spatial Technology.

Objectives
Having attended this course, attendees will have ...
- Developing an application based on Smallworld Core, with interactive access to the functionality.
- Configuring the user interface to an application, to include providing alternative ways of accessing existing functionality and providing access to new functionality.
- Advanced aspects of the Magik language necessary for controlling an application.
- Advanced techniques for accessing datasets in a Smallworld database, including loading data, creating geometry, and storing it in a dataset.
- Customising the Style system for user objects and geometry types.
- Creating a new database and defining the data model for a Smallworld dataset, including custom behaviour for user objects.

Topics
- Product Structure
- Sessions
- Smallworld Framework Architecture
- Interfacing Core Plugins
- Graphical User Interface
- Threads
- XML Data Loader
- Accessing and Updating User data
- Understanding the Spatial Contexts
- Customizing the Style System
- Magik Control
- Creating a database
- Methods for the data model
- Development Tools

Who should attend?
The course is intended for software engineers who are following the full Smallworld customisation programme.

Prerequisites
- Smallworld Core Spatial Technology Foundation Training
- Smallworld Core Spatial Technology Magik Training
- A minimum of two years’ experience with a procedural or object-oriented programming language such as C++ or Java

Duration – 5 days

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Core Spatial Technology: Fast Track Course

Description
A 10 day course ideal for those wanting an introduction to the Smallworld product suite and likely to be involved in project delivery including configuration, administration and application development.

Objective
Achieve the objectives of the three standard courses (Foundation, Magik, Application Development). See the descriptions for these individual courses for details.

Topics
Most of the modules included in the Foundation, Magik Programming and Application Development courses will be covered in this fast-track course.

Who should attend?
The course is intended for software engineers who are following the full Smallworld customisation programme.

Duration – 10 days

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Core Spatial Technology: Getting Started with Smallworld Course

Description:
A 5-day course for those new to Smallworld introducing the product suite and covering its use plus a basic introduction to Magik programming and Application Development.

Objective
Having attended this course, attendees will have ...
  - Familiarity with using Smallworld Core as a user
  - Knowledge of Magik syntax.
  - An understanding of the concepts underlying object-oriented programming.
  - The ability to write, compile and debug Magik code.
  - An understanding of classifying methods and classes using pragma statements.
  - Knowledge of the physical architecture of the Smallworld system and key objects.
  - Configuring the user interface to an application, to include providing alternative ways of accessing existing functionality and providing access to new functionality.
  - Advanced techniques for accessing datasets in a Smallworld database, including loading data, creating geometry, and storing it in a dataset.

Topics
- Using Smallworld Core Spatial Technology
- Configuring the user environment
- Database administration
- Magik Language
- Object Inheritance
- Collection Classes
- Accessing the Database
- Topology
- Product Structure
- Smallworld Framework Architecture
- Interfacing Core Plugins
- Graphical User Interface
- XML Data Loader
- Accessing and Updating User data
- Magik Control

Who should attend?
The course is intended for software engineers who are following the Smallworld customisation programme in a reduce time to incorporate to develop of existing Smallworld installations.

Duration – 5 days

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Core Spatial Technology: Administration Course

Description
The Administration Training course covers fundamental architectural concepts of Smallworld databases, through to the main steps necessary to perform regular database, application and software installation maintenance, through lessons and hands-on exercises.

Objective
Having attended this course, attendees will have …
• Install Smallworld products
• Configure a Smallworld Core installation
• Build and maintain sessions
• Manage access to Smallworld databases
• Back up Smallworld databases
• Understand how a Smallworld database operates
• Plan strategies for maintaining a database
• Perform core DBA activities such as backing up, compressing and restructuring a database, to ensure data is maintained and optimized

Topics
• Product installation
• Product structure
• Sessions
• Dataset Controller
• Configuring Plotting
• Authorisations
• Version managed datastore
• Smallworld Datastore Server
• Managing the database
• Monitoring performance
• Backup and integrity
• Problem solving and disaster recovery
• Superfiles, working top, and managing large databases
• Persistent cache
• Remote data, extracts and replicas
• Planning, strategies and recording
• External Databases
• Data Model Evolution

Who should attend?
Smallworld System Administrators, Smallworld Database Administrators (DBAs)

Prerequisites
• Smallworld Core Spatial Technology Foundation, or equivalent practical experience of using Smallworld software
• Basic knowledge and experience with the Magik programming language are desirable
• Practical experience of performing system and database administration tasks are desirable

Duration – 3-5 days, depending on required modules

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Core Spatial Technology: Upgrade to 5.1 Course

Description
A 2 day course outlining the new features of Smallworld 5.1 with hands-on experience of the upgrade process from version 4.3.

Objective
By the end of this course attendees will have an understanding of the changes at Smallworld 5 with hands-on experience of the upgrade process.
(The course covers the transition from CST 4.3 to 5.1.3)

Topics
- What’s New and Why
- Installation of SW5
- What’s New for Users
- What’s New for Administrators
- Product Structure and Sessions
- What’s New for Developers
- Smallworld Interface Toolkit
- Upgrading an example custom application
- Compiling
- Serialising and database contexts
- Java interoperability

Who should attend? – Developers, Administrators and Configurers of Smallworld applications.

Prerequisites – An understanding of earlier versions of Smallworld is required, particularly Smallworld 4.3.

Duration – 2 days

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Smallworld Network Inventory Training Courses

The Telecoms suite of courses are structured around the asset lifecycle and can be delivered using standard business processes or customised to suit an individual customer’s procedures and data sources.

The above diagram illustrates the courses available with further details below.

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1. Strategic Planning & Analysis

**Objective** – By the end of this course attendees will be able to use the Smallworld Solution to aggregate geospatial and non-geospatial data to support business decision making process. The objective is to enable informed decision making based on previously unknown relationships between the customer, demographic and network data.

Examples of topics covered include:
- Identification of potential customers who are close to an existing network
- Estimating cost of access for prospects
- Analysis of broadband speeds per postcode
- Relating spare network capacity to prospective customers
- Correlate historical network fault data with the geographic location of the failing elements

Attendees will also be able to share this information across the enterprise, empowering a wide range of users with visualisation, query, analysis and reporting capabilities.

**Who should attend?** – Strategic Planning, Business Intelligence, Marketing & Direct Sales. Courses are offered for users, configurers and administrators of the full and web client.

**Course durations** – 1-3 days. Some shorter courses can be presented over the web.

2. Network Design and Planning

**Objective** – By the end of this course attendees will be able to use Smallworld Solution to design alternative proposals to a new service or maintenance work request (Civils & Cables). This is undertaken in a controlled design environment. Cost information for the proposed network changes are used as part of the design approval process within the business and for sharing with other Enterprise Asset Management systems.

Examples of processes covered include:
- New office development involving alternative designs for civils and cabling network
- FTTH network design scenario
- Plant diversion scenario
- Providing fibre level connectivity with office building
- Copper and Coax network design scenarios

**Who should attend?** – Network Planners/Designers & Data Capture Operatives

**Course duration** – 3-5 days. Some modules are optional e.g. Fibre, Copper, Coax. Wireless, Inside Plant. Other complementary products such as FibrePlanIT, Physical Route Manager and Optical Network Atlas may also feature in this course.
3. Network Build and Construction

Objective – By the end of this course attendees will be able to use the Smallworld Solution over the web to query, view and print information on-site during the construction process and support on-site construction decisions. They will also be able to digitally record any variation from ‘as-planned’ design and return ‘as-built’ information to the central records office.

Who should attend? – Network Construction Staff. Staff requiring casual, read-only user access to network records. QA staff.

Course Duration – ½ day, typically presented over the web.

4. Post Build Updates

Objective – By the end of this course attendees will be able to use the Smallworld Solution over the web to query, view and print information on-site during the construction process and support on-site construction decisions. They will also be able to digitally record any variation from ‘as-planned’ design and return ‘as-built’ information to the central records office.

This course is similar to the Network Design course, but emphasis is on as-built recording rather than new build. The two courses may be combined if appropriate to a company’s organisational structure.

Who should attend? – Network Records or Bureau Staff & Data Capture Operatives.

Course Duration – 3-5 days.

5. Network Operations

Objective – By the end of these courses attendees will be able to use the Smallworld Solution to handle Requests For Service, assign and reserve physical resources to circuits, design new circuits over the existing infrastructure and manage the logical network.

Who should attend? – Network Operations Centre staff.

Course Duration – 3-5 days. User, Configuration and Administration variants of the courses are available.

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6. Network Maintenance

**Objective** – By the end of this course attendees will be able to handle enquiries involving querying, viewing and printing network asset records.

Example of topics covered include:

- Identification of fault locations
- Potential customer proximity to network access points.
- Third party access to network records

End users may be third parties using a self-service web based clients, for example plant requests.

**Who should attend?** – Customer Service Representatives, Sales and Marketing and Network Operations Centre (NOC) Staff.

**Course Duration** - ½ day, typically presented over the web.

7. System and Database Administration

**Objective** – By the end of this course attendees will be able to carry out basic system administration tasks to maintain a healthy system and database.

Topics covered include Smallworld architecture, terminology, key file and database locations, managing users, licensing, database backup and compression. Course includes both the full client and web solutions.

**Who should attend?** – Technical Specialists who will own and maintain the system. IT Staff.

**Duration** - 3 day

8. Application Configuration and Administration Course

**Objective** – By the end of this course attendees will be able to carry out basic configuration tasks for the Smallworld Network Inventory application.

Topics covered include user access, changing defaults, map appearance, styles, themes, pick-lists, plot layouts, favourites, specifications, templates and conflict resolution.

**Who should attend?** – The Technical Specialist who will own application configuration. Expert Users.

**Duration** - 2 days

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9. Telecom Update to 5 for Expert Users

**Objective** – This course aims to bring attendees on previous versions of the product (PNI 4.3) up to date with the new features at Smallworld 5 (more precisely, PNI and NIG 5.1).

**Who should attend?** – Expert users and those involved in the implementation and deployment of the products.

**Duration** - 2 days
Getting Started with Mobile Enterprise Suite

Objective
This course covers provides the attendee with all that’s required to install and configure a working mobile solution using a prepared extract. It subsequently covers the process of creating an extract from a Smallword database.

Topics
- Introduction and architecture
- Installation from scratch
- Using the mobile client
- Configuring Mobile Enterprise Suite
- Creating an Extract from Smallworld.
- Tiling
- Creating a search database
- The Collect workflow with Task Management.

Who should attend?
Sales engineers and technical services staff who will be involved in all aspects on deploying Mobile Enterprise Suite

Duration - 4 days

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Electric Office User Course

**Objective**
By the end of this course attendees will be able to use the Smallworld Electric Office Application to design alternative proposals for a new electrical connection service or maintenance work request. This is undertaken in a controlled design environment. Cost information for the proposed network changes are used as part of the design approval process within the business and for sharing with other Enterprise Asset Management systems.

Examples of processes covered in the form of hands-on scenarios include:
- Network extension to serve a farm with three new service points
- Line extension to overhead network
- New substation fed using an underground route

The scenarios cover the following topics: Installation-Asset Model, Hypernodes, Electric Trace, Circuit Builder, Quality Manager, Projects and Designs, Phases, Modelling Overhead and Underground Networks, Accurate Routes, Design Layout Tools, Schematics, Thematic Maps and Creating Construction Packs.

**Who should attend?** – Electrical Network Planners/Designers & Data Capture Operatives

**Course duration** – 4 days assuming attendees are entirely new to Smallworld.

Electric Office Configuration Course

**Objective**
By the end of this course attendees will be able to carry out basic configuration tasks for the Smallworld Electric Office application.
Topics include configuring user access, changing defaults, map appearance, styles, themes, pick-lists, plot layouts, design layout tools, specifications, templates, business rules, user interface configuration using xml and viewing external files.

**Who should attend?** – The Technical Specialist or Expert User who will own and maintain the application configuration.

**Prerequisites** – The EO user course is a useful, but not essential pre-requisite for this course.

**Duration** – 3 days.

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Electric Office Administration Course

**Objective**
By the end of this course attendees will be able to carry out basic system administration tasks to maintain a healthy system and database. Topics include Smallworld architecture, terminology, key file and database locations, core product and EO configuration tools, conflict resolution, design manager, job server, managing file growth, data model changes and database administration.

**Who should attend?** – Technical Specialists or IT Staff who will own and maintain the system.

**Prerequisites** – The EO user course is a useful, but not essential pre-requisite for this course.

**Duration** – 3 days
Gas Distribution Office User Course

Objective
Following the course, students will be able to:
• Retrieve and view the information stored in Gas Distribution Office
• Create objects and edit object geometries
• Trace and build a network and analyses the objects within it using Inventory, Audit and Event history applications
• Track pipeline condition and maintenance work through the use of the Gas Distribution Office applications
• Manage compliance activities through the use of the Gas Distribution Office applications

Who should attend? - This course is intended for end users who are responsible for creating Gas distribution designs, correcting existing Gas information, verifying network connectivity and creating gas outage scenarios including information on affected customers.

Prerequisites – Smallworld Core Spatial Technology Foundation course and knowledge of Gas Distribution industry procedures are desirable

Course duration – 4 days

Gas Distribution Office Configuration & Administration Course

This course is designed to instruct students in the use of the configuration modules included with the Gas Distribution Office product. These modules are used to modify or enhance the client’s Gas Distribution Office implementations.

Objective – Following the course, students will be able to:
• Create/modify object annotations
• Create/modify business rules
• Configure settings for dimensions
• Manage database versions and alternatives
• Configure regulations for buffer zones
• Define hierarchy trees for organizing assets

Topics include Smallworld architecture, terminology, key file and database locations, core product and GDO configuration tools, conflict resolution, design manager, job server, managing file growth, data model changes and database administration.

Who should attend? – Technical Specialists or IT Staff who will own and maintain the system.

Prerequisites – The GDO user course is a pre-requisite for this course. Basics of how to configure the user environment for Smallworld applications and basics of Smallworld Magik are desirable.

Duration – 1 day

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