

Training Needs Analysis

ESRI (UK) recognises that carrying out a methodical analysis of training requirements at an organisation can vastly increase efficiency and ultimately save money. The Training Needs Analysis (TNA) identifies who needs training and what approach best suits the staff and organisation in order to release the full value from the GIS investment.

Our experience has shown that identifying training requirements at an early stage, allows time for planning and ensures that all aspects of the GIS project are dealt with by people who have received the right training, and therefore have the right skills to do their jobs well.

Why is TNA important?

- Confirms current and required performance
- Allows data to be gathered to confirm if there is a training issue
- Allows data and information to be gathered on tasks, jobs, people and skills needed to perform
- Allows time for planning
- Avoids wasting any time and effort

What are the benefits?

- A clear overview of the training goals for the organisation, incorporating the main business outcomes
- Allows you to establish optimum timescales and deliverables
- Allows you to find out who needs training and who are the experts
- Allows you to examine the costs versus benefits of training

How is a TNA carried out?

A number of different methods or a combination is used including:

- Questionnaire
- Workshops
- Interviews
- Observation
- Focus groups
- Process analysis

What do we do with the data collected?

- Target population analysis
- Statistical analysis of questionnaires
- Skills and responsibilities matrix
- Task analysis
- Specify objectives
- Specify appropriate delivery methods

Training Needs Analysis

- Plan how and when training is to be delivered
- Estimate costs
- Provide recommendations to fulfil the organisation’s training requirements
- Produce a TNA Report

How do you evaluate the training?

- Statistical analysis of learner feedback
- Complete an evaluation summary of the training
- Use Competency Statements as a measure of Job Performance Change
- Training costs – internal and external
- Assess the Return on Investment (ROI)

In undertaking any TNA exercise, ESRI (UK) follows guidelines specified in our Quality Management System, which is based on best practice methodology provided by the Institute of IT training.

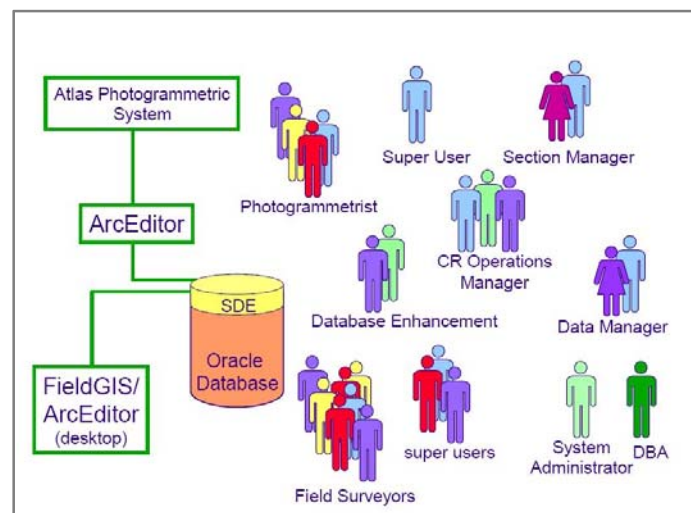
Case Study

Ordnance Survey Northern Ireland (OSNI) MIDAS Project

OSNI has undergone a major update to their IT systems and data by migrating from a file-based map production system to a fully integrated map production environment based around an ArcSDE database, christened the Midas project (Mapping Information Database and Surveying). Interfaces were created to the Midas database from OSNI’s existing photogrammetric system and a new field survey system, MidasSurvey, developed by Tadpole Cartesia, an ESRI Inc partner.

The project also involved refining OSNI’s current business processes around the new map production environment. It was therefore mandatory that all staff involved in the project were suitably equipped with the new skills required for the tasks identified within the Midas project.

ESRI (UK) worked with key members of the OSNI project team to identify roles and responsibilities for the implementation of the new system, which included mapping the Midas architecture with its user groups.



The Target Population

- All roles that support the new Midas architecture were identified and described in terms of responsibilities and skills required
- All software skills for the new Midas system were identified and mapped to roles
- Awareness seminars were held to keep staff informed of the new developments

Data Gathering Techniques

- Interviews were conducted with:
- Key Project staff
- A selection of staff from different sections of OSNI

Questionnaires

- OSNI sent out a questionnaire to 94 staff members. Key areas were identified:
- Common strengths
- Common weaknesses
- Familiarity with GIS
- Learning preferences
- Skill levels in relation to job roles

Process Analysis

This described the main tasks or processes involved when the Midas system was introduced. It identified potential issues to be addressed with regard to changes in business processes and procedures.

Task Analysis

This technique ensured that all tasks to be performed by specific users were identified, including any prerequisites. It provided the basis for levels of competency in using the new software, which was in turn, used as a “benchmark” by OSNI to assess users skill levels.

How and when training was delivered

OSNI introduced a number of different systems all as part of the Midas project. These included a new field survey system, an enhanced air survey system with the Job Tracking Extension (JTX) acting as the transaction manager for each business process.

Two delivery methods were used to provide the appropriate skills to OSNI staff:

Trainer led (used for all aspects of ArcGIS, ArcSDE and some field system training) – provided a safe environment to practice, good for sharing learning experiences, opportunity to check understanding of concepts, focussed on learning objectives

On the job (used for specific aspects of field system training) – provided immediate hand on training, real-life examples, follow up development to trainer-led courses, very flexible

Training Needs Analysis

The training took place over a period of 12 months, with the 'super-users' receiving their training first. All users were trained as close to the "live" date as possible and had access to the software immediately after their training to encourage embedding of skills. The training will continue as the Midas system goes into full production.

Costs and Benefits

In order to appreciate the benefits of training, OSNI quantified the business benefits (both tangible and intangible) and the costs of introducing the new system.

The **benefits** included such things as: increasing the level of service to customers; generating more business due to better and faster service; less people required to perform same amount of work; time saving per annum.

The **costs** included: the cost of training courses, consultancy, TNA report, future training courses.

With these figures, OSNI will be able to estimate the Return On Investment (ROI) - the extent to which the benefits of training exceed the costs. ROI can be used as a measure of the monetary benefits obtained by an organisation over a specified time period, in return for the given investment in a training programme. In OSNI's case, this was the investment in the training programme for the new Midas system.

This estimate on the ROI achieved will become more accurate as the Midas system goes into full production and the true savings will only be realised as users become familiar with the new business processes.

How has the TNA been useful to OSNI?

As the Midas system goes into production, the TNA will provide invaluable support in defining the training 'roadmap' for each user group to ensure users are equipped with the skills necessary to maintain and extend the level of productivity within the Midas system, and ensure that the ROI of training is maximised. It has also helped OSNI revise its business processes by providing a clear picture of the roles and skills required to move successfully from the original CAD environment to an ESRI environment.