

TECHNOLOGICAL TOOLKIT FOR ENTREPRENEURS – [TTE@40](#)

Quality Assurance Plan

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LEONARDO DA VINCI II

Table of Contents

Section	Title	Page
1.	Introduction	1
2.	Document References	6
3.	QA Responsibilities	7
4.	QA Schedule	9
5.	QA Resources	10
6.	QA Procedures	12
	6.1 QA Planning Procedure	13
	6.2 QA Product Audits Procedure	15
	6.3 QA Process Audits Procedure	17
	6.4 QA Measurement Procedure	20
A	QA Schedule	A-1
B	QA Audit Checklist Form	B-1

1. Introduction

This section identifies the QA Plan, its contents, and the system for which it will be applied

Identification

This QA Plan defines the activities to be performed in providing independent visibility into the quality of processes being used and products being built for the TTE@40 project. QA primary activities to be performed include:

- Providing objective evaluation of processes and products against applicable standards and requirements
- Identifying nonconformances
- Providing timely quality status feedback to management and affected personnel
- Ensuring noncompliance issues are addressed.

The QA Plan is applicable to all personnel from project partner institutions performing project activities.

QA Plan Contents

The QA Plan is divided into the following sections:

- **Section 1** (*Introduction*) provides an introduction to the QA Plan, its applicability and contents.
- **Section 2** (*Document References*) identifies documents (internal, external) used to develop this plan.
- **Section 3** (*QA Responsibilities*) defines QA tasks and its relationship to the project, partners, and the customer.
- **Section 4** (*QA Schedule*) identifies the QA schedule and QA effort estimates.
- **Section 5** (*QA Resources*) identifies specific project tools to be used to support the QA function and process, technical, and/or other project-specific training required.

- **Section 6 (QA Procedures)** includes the tailored QA procedures to be used by the project.
- **Appendix A (QA Schedule)** includes the QA schedule form.
- **Appendix B (QA Audit Checklist)** includes the QA audit checklist form.

Project and System Overview

Technological Toolkit for Entrepreneurs @ 40 (TTE@40) is an European project financed by the European Commission under the framework of the Leonardo da Vinci Community Vocational Training Action Programme, second phase: 2000-2006.

The project **time frame** is of 24 months, starting at 01.11.2002 and ending at 31.10.2004.

The project total **budget** is 385,372 Euro, comprising a Leonardo grant of 250,491 Euro and the contributions of partner institutions of 134,881 Euro.

[TTE@40](#) is a **pilot project** addressing the programme objective « to promote and reinforce the contribution of vocational training to the process of innovation ...», as stated in the project application.

In doing so, it responds to “*Priority 4. Adaptability and Entrepreneurship: to promote investment in human resources as a company strategy in order to develop the adaptability required for technological and organisational change*”, **targeting:**

- the development of practices to facilitate access to training for people most at a disadvantage in the labour market, including disabled people
- equal opportunities for women and men, with a view to combating discrimination in training provision.

The project **partner institutions** are:

- promotor institution
 - Vienna University of Technology, Institute of Software Technology and Interactive Systems, Austria
- co-ordinating institution
 - Instituto de Empresa, Spain
- Partner institutions:
 - SENUN 40, Spain

Section: Introduction

Version 01

- INSEAD, France
- The “Gh. Asachi” Technical University of Iasi, Romania
- PRO-Orava, Slovakia
- Cranfield University, UK

The **project objective** was stated as follows:

“to develop a multimedia training resource for mid-career entrepreneurs in order to enhance their entrepreneurial performance in the fields of innovation and technology”.

The **results** to be achieved are:

European Network Database

European and national social, financial, governmental and non-governmental organisations, educational establishments e.g. enterprise agencies, chambers of commerce, unemployment offices, incubators, business angels, seed and venture capitalists business innovation centres, Euro Info Centres, universities, business schools. The database will also include companies: SMEs and start-ups, incubees, large companies with an interest in supporting the development of start-ups

Survey

To determine the profile, training and development needs, learning methods, and skills and competencies of the primary target group

Country Reports

Country reports on the training and development needs of the target group including: introduction, scope of the survey, methodology, sample, analysis, results and conclusions

European Report

The report will analyse, summarise, compare and contrast the results of the completed questionnaires and interviews carried out in each participating country

Competence Assessment (VCC) for the benefit of the individual/user

TTE@ 40 Web- Platform

Supporting and editorial process and delivering the content to users in a web-optimised, interactive manner; co-operative and self-paced learning environment using self-assessment, assessment-

Section: Introduction

Version 01

driven coursework, case studies, tutorials, practical hands-on learning experiences with interactive tools and discussion forum

Knowledge Exchange

A mechanism fully integrated into the web-platform which provides a cross-border social network which a) facilitates the circulation of knowledge, information examples of best practice and sharing of experiences in a community of users within the EU and beyond and b) assists in the creation and functioning of working groups

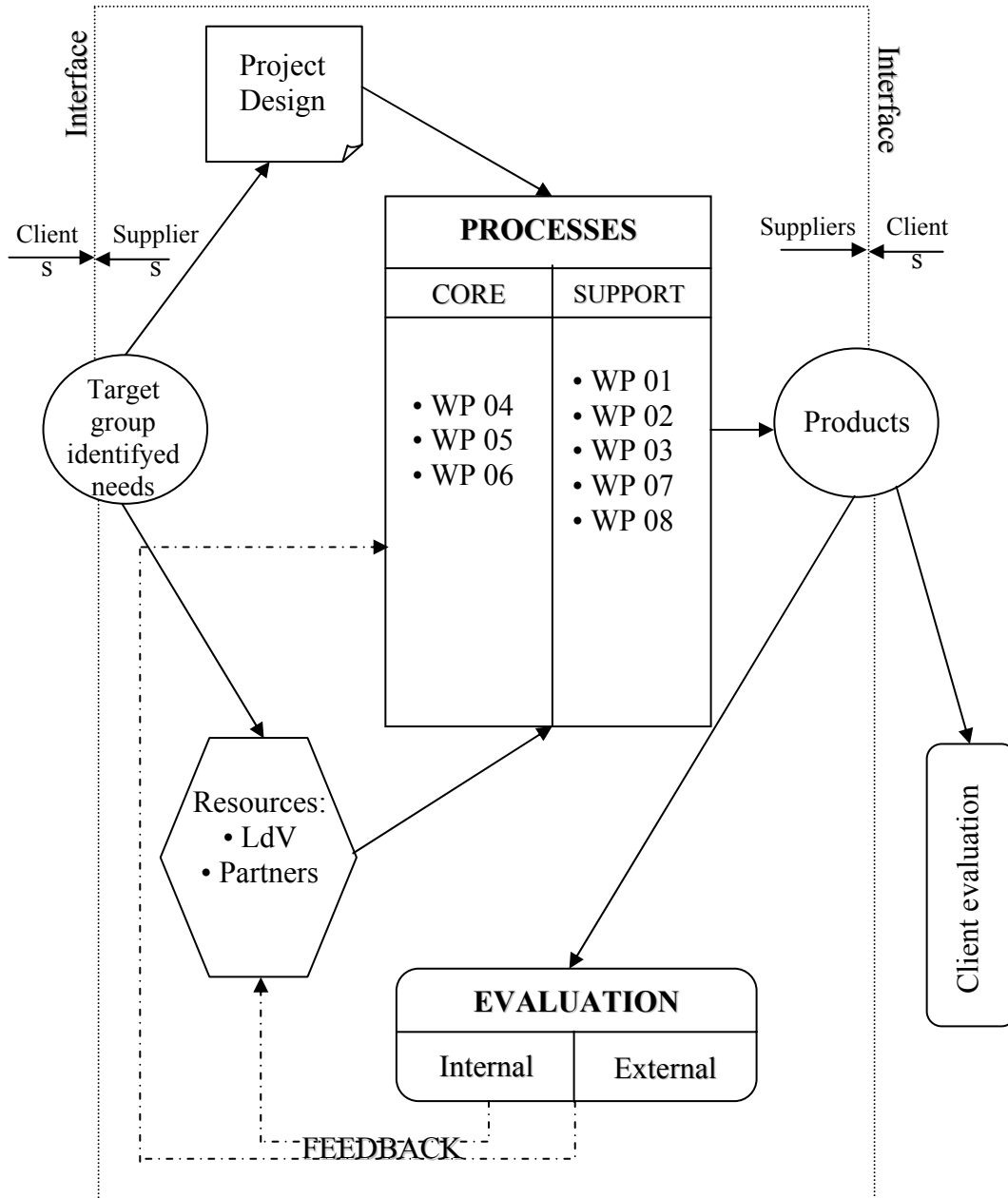
Training Programme Curricular

will follow an *exploration-application-integration* sequence intended to maximise the user's 'take-away' from the program

Marketing Material

i) brochure on the aims and objectives of the project, contact person, website address; ii) poster advertising the project; iii) webpage containing information on the project, partners, links, invitation for feedback

Quality Assurance System Processes



2. Document References

Identify specific project, enterprise, and external documents referenced in this plan or used to support its development

Project References:

Project Application	October 2002
LdV Administrative and Financial Handbook for Promoters	1999

Partners References:

Vienna University of Technology – Internal documents	As applicable
Instituto de Empresa – Internal documents	As applicable
SENUN 40 – Internal documents	As applicable
INSEAD – Internal documents	As applicable
The “Gh. Asachi” TU Iasi – Internal documents	As applicable
PRO-Orava – Internal documents	As applicable
Cranfield University – Internal documents	As applicable

External References:

Guide for Promoters – LdV Pilot Projects	April 1999
LdV General Guide for Project Promoters	2003

3. QA Responsibilities

QA Functions

Quality Assurance (QA) provides objective evaluation of processes and associated work products. Project QA activities ensure that:

- Products built meet the appropriate standards and requirements
- Processes are performed as documented
- Nonconformances found are identified and the appropriate corrective action is taken
- QA results are reported to the appropriate project key staff
- QA effectiveness is measured.

Table 3-1 identifies the TTE@40 project QA functions to be performed and their corresponding procedures. QA procedures are included in Section 6 of this QA Plan.

Table 3-1 QA Functions and Procedures

QA Functions	Procedures
Plan project QA	QA Planning
Audit product conformance	QA Product Audits
Audit process effectiveness	QA Process Audits
Measure QA effectiveness	QA Measurement

QA Relationship to the Project

QA relates primarily to WP 01 – Project management and quality control. Monitoring the Quality Assurance System is the responsibility of the project co-ordinator. It also relates directly with WP 04 – Evaluation and it continuously relates to all the other work packages

QA Relationship to the Customer

QA has a direct impact on the clients of the project since the project targets the development of practices to facilitate access to training and development for people most at a disadvantage by:

- establishing a dialogue with all relevant national and European associations, bodies/organisations (public and private) which promote the integration of disadvantaged groups into the labour market; these may include unemployment offices, job centres, centre's for the disabled, women's institutes, training and enterprise councils, chambers of commerce, agencies promoting equal opportunities and business support agencies
- undertaking empirical research on the specific training and development needs of the target audience
- designing, implementing and disseminating a training and development programme which closely matches the identified needs of the beneficiaries
- testing, evaluating and validating and quality assuring each step of the development of the project in order to ensure relevance and suitability to the target audience.

4. QA Schedule

QA Schedule

Appendix A includes the **QA Schedule Form** used to support QA planning and tracking.

QA records planned tasks and dates for planning, audits, measurement, and reports. Instructions for QA scheduling are included in Section 6.1 (QA Planning Procedure) of this plan.

5. QA Resources

QA Tools

QA has the skills and tools to effectively evaluate products and processes throughout the project lifecycle. The **QA Resource Form (Figures 5-1, 5-2)** is used to identify the tools to be used to support QA implementation.

QA Resource Form	
Management Support Tools	
Tool Name	Tool Purpose
<ul style="list-style-type: none"> The Administrative Management Group 	<ul style="list-style-type: none"> comprises the project co-ordinator and the project promoter, having as main responsibility the operational management of the project, on a day-to-day basis, liaising with all the project partners as well as project relevant stakeholders, reporting and liaising with the Leonardo da Vinci National Agency and EC
<ul style="list-style-type: none"> The Technical Management Group 	<ul style="list-style-type: none"> is led by VUT, Vienna, with the support of IE, Madrid and PRO-Orava, having as main responsibility the design, development and ongoing supervision of the e-features of the learning product
<ul style="list-style-type: none"> The Academic Management Group 	<ul style="list-style-type: none"> comprises INSEAD, Fontainebleau, IE, Madrid and TU Iasi, having as main responsibility to coordinate the development and production of the content of the learning product
<ul style="list-style-type: none"> The Strategic Management Group 	<ul style="list-style-type: none"> comprises IE, Madrid, SENUN 40, Madrid and PRO – Orava, having as main responsibility to promote the project to relevant stakeholders (employment agencies, national governments and training and enterprise institutions, business innovation centres, etc.) and to develop appropriate strategies for the dissemination and commercialisation of project results, having in view the necessary arrangements for copyright and intellectual property

Figure 5-1 QA Resource Form

Section: QA Resources

Version 01

QA Resource Form	
Validation Tools	
Tool Name	Tool Purpose
<ul style="list-style-type: none"> Pilot test and user questionnaires 	<ul style="list-style-type: none"> To include: <ul style="list-style-type: none"> technical issues: speed of access and ease of navigation suitability and clarity of content
<ul style="list-style-type: none"> In-house testing 	<ul style="list-style-type: none"> All partners will test the training programme with a selection of their staff offering it as part of an in-house professional development programme
<ul style="list-style-type: none"> Academic testing 	<ul style="list-style-type: none"> The Academic Management Group will set up meetings to test the all facets of the programme with mature students and executives attending the schools (current and alumni, min. 5)
<ul style="list-style-type: none"> Operational testing 	<ul style="list-style-type: none"> The Strategic Management Group will test the programme with a group of volunteers (min. 5) – users and non-users of the services of the organisation
<ul style="list-style-type: none"> Evaluation Steering Group testing 	<ul style="list-style-type: none"> The Steering Groups should include experts in the following areas: on-line learning, business innovation, business creation, support for the unemployed and a user The training materials and tools will be tested with all groups, in all partner countries
<ul style="list-style-type: none"> Compilation and correction 	<ul style="list-style-type: none"> Modify site according to results gained from the testing phase, comments from the Evaluation Steering Groups, input from the external auditor and feedback from the working groups

Figure 5-2 QA Resource Form

6. QA Procedures

This section includes the QA procedures to be used for the project

This section of the QA Plan includes the QA procedures to be used for the project. These procedures are based on the enterprise QA procedures and have been tailored, as appropriate, to fit the needs and requirements of the project. QA procedures included in this section are as follows:

- QA Planning Procedure
- QA Product Audits Procedure
- QA Process Audits Procedure
- QA Measurement Procedure.

6.1. QA Planning

Purpose

QA planning procedure defines how project QA will be implemented consistent with customer and other stakeholders requirements.

QA Planning Inputs

Inputs to the QA Planning procedure include:

- Project documentation
- Contract documentation
- Guide for Promoters – LdV Pilot Projects
- QA policy, requirements
- QA Plan template and support forms.

QA Planning Tasks

QA Planning procedure includes the following steps:

1. *Identify QA requirements*

QA reviews project documentation and contract documentation to identify requirements that impact QA (e.g., standards, deliverables, activities, reviews). QA also reviews Guide for Promoters – LdV Pilot Projects.

2. *Define project QA procedures*

QA identifies tailoring needed for project QA procedures considering project and contract requirements, product type, size, and complexity. QA develops additional QA procedures where needed.

3. *Develop QA schedule*

QA reviews project master and development schedules to identify project activities, review milestones, and product/document delivery points. QA uses the **QA Schedule Form** (Appendix A) to record planned QA activities and dates. The QA Schedule includes tasks for QA planning, audits, QA deliverables, measurements, and status tracking and reporting.

Section: QA Procedures

Version 01

4. *Define resources (tools, training)*

QA identifies tools to be used to support the QA function and tasks.

5. *Document plans*

QA uses the QA Plan template to assist in documenting planning results including schedule, effort, resource data and tailoring information and procedures, if applicable.

6. *Submit QA plan for review*

QA distributes the QA Plan to project management and task managers for review. QA incorporates agreed-to comments.

7. *Maintain plan*

QA updates the QA Plan when re-planning is needed. QA distributes the updated QA Plan to project management and task managers for review. QA maintains change history and traceability.

QA Planning Outputs

Outputs to the QA Planning procedure include:

- QA schedule
- Tailored QA procedures
- QA resource needs.

6.2. QA Product Audits

Purpose

QA product audits procedure ensures products developed and produced conform to defined requirements and standards.

QA Product Audits Inputs

Inputs to the QA Product Audits procedure include:

- QA Plan, schedule
- Product
- Audit criteria and audit checklist template.

QA Product Audits Tasks

QA Product Audits procedure includes the following steps:

1. *Identify product to be audited*

QA identifies the product to be audited from the QA schedule. Products to be audited include project deliverables.

2. *Prepare for the audit*

QA coordinates product audit to be performed with the producer or owner to ensure the product is available and the appropriate support is available. QA defines the audit criteria for the product being audited to include checks for product completeness, compliance, consistency, and traceability.

- **Completeness** – Product is complete and includes the appropriate level of detail
- **Compliance** – Product meets applicable standards and requirements
- **Consistency** – Product is internally and externally consistent
- **Traceability** – Product fulfills its allocated requirements.

QA develops the product audit checklist using the **Audit Checklist Form** (Appendix B) to assist with developing the checklist. QA gathers the support documents needed to support the audit (e.g., contract documentation, standards).

Section: QA Procedures

Version 01

3. *Perform audit*

QA evaluates the product to the criteria defined in the checklist to determine product acceptability: **Yes** (Product meets the defined criteria), **No** (Product is noncompliant to the defined criteria), **N/A** (The specific audit criteria does not apply to this product).

4. *Document audit findings*

QA records product audit findings on the audit checklist indicating “Yes, No, N/A” status. QA adds notes and comments, as appropriate. QA documents product nonconformances found, if applicable.

5. *Report audit results*

QA produces an audit report that includes the audit checklist, nonconformance data, and identifies nonconformances needing corrective action. QA distributes report to the producer/owner.

6. *Update QA status logs*

QA records audit results in the QA audit log. Data recorded include item audited, audit date, audit type (product, process), audit status (accepted/unaccepted), number of nonconformance opened, number of nonconformances closed.

QA documents nonconformances in the audit nonconformance log. Nonconformance data recorded include nonconformance identifier, nonconformance description, affected product, date initiated, date closed, nonconformance status (open, withdrawn, closed), and product criteria affected (completeness, compliance, consistency, traceability).

7. *Maintain audit results*

QA keeps records of QA product audits (checklists, reports, nonconformance data, correspondence) and updates status logs as corrective actions are addressed and completed.

QA Product Audits Outputs

Outputs to the QA Product Audits procedure include:

- QA checklists and results
- Audit report
- Nonconformances as applicable
- Updated QA status logs.

6.3. QA Process / Project Activity Audits

Purpose

QA process audits procedure ensures that processes used effectively produce quality products.

QA Process / Project Activity Audits Inputs

Inputs to the QA Process / Project Activity Audits procedure include:

- QA Plan, schedule
- Process / Project documents
- Audit criteria and audit checklist template

QA Process / Project Activity Audits Tasks

QA Process Audits procedure includes the following steps:

1. Identify process / project activity to be audited

QA identifies the process / project activity to be audited from the QA schedule. Processes / project activities to be audited are those specified in the work packages.

2. Prepare for the audit

QA coordinates process / project activity audit to be performed with affected groups by providing the appropriate notification. QA defines the audit criteria for the process being audited to include checks for process / project activity completeness, compliance, timeliness, expectedness, and integrity.

- **Completeness** – Process tasks are completed as defined in project documentation
- **Compliance** – Process is performed in accordance with project documentation
- **Timeliness** – Process is performed when scheduled and when ready
- **Expectedness** – Process outputs and results are as expected
- **Integrity** – Process inputs are defined and are correct revisions/versions.

Section: QA Procedures

Version 01

QA develops the process / project activity audit checklist using the **Audit Checklist Form** (Appendix B) to assist with developing the checklist. QA gathers the support documents needed to support the audit (e.g., procedures).

3. Perform audit

QA evaluates the process / project activity to the criteria defined in the checklist to determine process acceptability: **Yes** (Process meets the defined criteria), **No** (Process is noncompliant to the defined criteria), **N/A** (The specific audit criteria does not apply to this process).

4. Document audit findings

QA records process / project activity audit findings on the audit checklist indicating “Yes, No, N/A” status. QA adds notes and comments, as appropriate. QA documents process nonconformances found, if applicable.

5. Report audit results

QA produces an audit report that includes the audit checklist, nonconformance data, and identifies nonconformances needing corrective action. QA distributes report to the affected groups and task managers.

6. Update QA status logs

QA records audit results in the QA audit log. Data recorded include item audited, audit date, audit type (product, process), audit status (accepted/unaccepted), number of nonconformance opened, number of nonconformances closed.

QA records nonconformances in the audit nonconformance log. Nonconformance data recorded include nonconformance identifier, nonconformance description, affected process, date initiated, date closed, nonconformance status (open, withdrawn, closed), and process criteria affected (completeness, compliance, timeliness, expectedness, integrity).

7. Maintain audit results

QA keeps records of QA process / project activity audits (checklists, reports, nonconformance data, correspondence) and updates status logs as corrective actions are addressed and completed.

QA Process / Project Activity Audits Outputs

Outputs to the QA Process / Project Activity Audits procedure include:

- QA checklists and results
- Audit report
- Nonconformances as applicable
- Updated QA status logs.

6.4. QA Measurement

Purpose

QA measurement procedure defines how project QA analyzes and reviews its effectiveness.

QA Measurement Inputs

Inputs to the QA Measurement procedure include:

- QA Plan, schedule
- Audit status data
- QA progress status data
- QA effort status data.

QA Measurement Tasks

QA Measurement procedure includes the following steps:

1. Analyze audit nonconformance status

QA reviews audit nonconformance closure status. QA assesses current “total opened” to “total closed” nonconformance status, compares current closure status to previous months, and determines nonconformance trend (negative or positive). QA identifies reasons for the audit nonconformance trend.

QA reviews process audit nonconformance distributions by rank ordering nonconformances by functional areas (e.g., project management, CM, product management) and process audit criteria to identify the functional areas and process audit criteria that have the most audit nonconformances. QA reviews product audit nonconformance distributions by rank ordering nonconformances by product types (e.g., test plan, design, code) and product audit criteria to identify the product types and audit criteria that have the most product audit nonconformances.

2. Analyze QA progress (schedule) status

QA reviews QA progress (schedule) status. QA assesses current status (total QA activities planned to total actual QA activities performed), compares current

Section: QA Procedures

Version 01

variance to previous months, and determines QA progress trend (negative or positive). QA identifies reasons for QA progress variance and trend.

3. Analyze QA effort status

QA reviews QA effort status. QA assesses current status (total hours planned to total actual QA hours expended), compares current variance to previous months, and determines QA effort trend (negative or positive). QA identifies reasons for QA effort variance and trend.

4. Record QA measurement results

QA documents QA measurement data including:

- Audit nonconformance, QA effort and progress trends (positive/negative)
- Audit nonconformance key contributors
- Trend/variance reasons.

5. Report QA measurement results

QA reports QA measurement results to management (task, project, senior, and organization QA) and includes positive trends and opportunity areas for improvements.

QA Measurement Outputs

Outputs to the QA Measurement procedure include:

- Audit status trends
- Audit status distributions
- QA progress variances & trends
- QA effort variances & trends
- Corrective action & improvement requests.

Section: QA Schedule

Version 01

Appendix A: QA Schedule

Appendix A includes the QA Schedule Form to be used for documenting planned QA tasks and actual completion dates.

QA Schedule Form				
Task	Planned Start Date	Actual Start Date	Planned Complete Date	Actual Complete Date
First Consortium Meeting	Month 2		Month 2	
Quarterly monitoring reports and corrective actions	Month 3		Month 3	
Quarterly monitoring reports and corrective actions	Month 6		Month 6	
Quarterly monitoring reports and corrective actions	Month 9		Month 9	
Consortium Meeting no. 2	Month 10		Month 10	
Quarterly monitoring reports and corrective actions	Month 12		Month 12	
Interim Report	Month 12		Month 12	
Quarterly monitoring reports and corrective actions	Month 15		Month 15	
Consortium Meeting no. 3	Month 17		Month 17	
Quarterly monitoring reports and corrective actions	Month 18		Month 18	
Quarterly monitoring reports and corrective actions	Month 21		Month 21	
Final Consortium Meeting	Month 21		Month 21	
Final Report	Month 24		Month 24	

Section: QA Audit Checklist Form

Version 01

Appendix B: QA Audit Checklist Form

This appendix includes the QA audit checklist form used to support product and process audits

QA Audit Checklist				
Product: <i>Training Programme Curricular</i>				
Audit Criteria	Yes	No	NA	Notes
Study objectives				
Technical notes				
News and editorial				
Case studies				
Frequently asked questions				
Notepads				
Recommended reading				
Internet links				
Module review				
Nonconformances:				
QA:			Date:	