ACE GUIDELINES

ON
THE QUALITY MANAGEMENT OF ARCHITECTURAL PRACTICE

October 2003

The following have participated in compiling this guide:

Michel PROCÈS	QA Taskforce Coordinator (FAB / Belgium)
Pierre-Henri SCHMUTZ	Chairman of CP2 (CSA / Switzerland)
Laurence GUIBERT	(UNSFA / France)
Paola PEROGLIO	(CNAPPC / Italy)
Wolfgang HAACK	(BAK / Germany)
Jacques ALLIER	(UNSFA / France)
Michaël BAUMER	(UNSFA / France)
Bernard OGÉ	(UNSFA / France)
Michael GRACE	(RIAI / Ireland)
Sotiris PAPADOPOULOS	(SADAS / Greece)
Utz PURR	(BAIK / Austria)
Kimmo SETKÄNEN	(SAFA / Finland)

INTRODUCTION

This guide is a summary of the deliberations and ideas of the QA Task Force of the ACE within which delegates from the Member States discussed points of view and initiatives in order to reach clear common positions and proposals for action.

Faced with the phenomenon of QA and its "industrial" approach, architects have endeavoured to understand and assimilate its underlying principles, adapt them to their professional practice and devise qualification systems relating to this practice.

In this context, they have pinpointed the specific features and procedures pertaining to their profession and the relations with the other parties involved (in any case with regard to the essential task of overseeing the work in the broad sense of this concept).
This reflection process has been supplemented by a number of lists of architects' services and other structured reference documents.

This guide, containing the fruits of this endeavour, meets a number of objectives:

• It defines the role, functions and status of the architect in relation to the other parties involved in the construction process (PART A);

• It highlights the basic principles of QA and its certification, placing it in the context of the quality of buildings in the broad sense of the term or the quality of architecture in particular, and describes the positions assumed and initiatives taken by architects at both and national and European level (PART B);

• It outlines the steps to be taken towards implementing a QA system (PART C) ;

• It proposes a common nomenclature which may serve as the basis for drawing up a Quality Manual or organising and drafting assessment criteria for qualification systems adapted to architects.

This nomenclature consists of two parts:

- the first part concerns the processes relating to the work to be carried out (PART D),
- the second part concerns the processes and activities relating to the office(PART E).

CONTENTS

1. CONTEXT OF THE ARCHITECT'S WORK

A.1. THE CLIENT

A.1.1. Client representation and delegation

A.1.1.1 Who is the client?
By formulating his demands and by the means he possesses, the client has a decisive influence on the shape, nature and quality of the building to be constructed. It is therefore essential to get to know him.

A.1.1.2**.** Who represents the client?
If the client is a legal entity, it is important to determine what the roles and functions are of everyone involved and, whatever the circumstances, who Is the person delegated to represent the client so as to ensure certainty in the decision-making chain.

A.1.2. Client's decision-making structure

If the client is an entity of some complexity, a clear decision-making structure must be determined and established to avoid malfunctioning in decision-taking and in the transmission and processing of information.

A.1.3. Relationship with client-users

Often the client is not the end user and even when this is the case, the building may be occupied by several generations of occupants. The public use of certain buildings or parts of buildings and their contribution to the layout of public spaces should also be taken into account.

The client must therefore ensure that his own demands correspond to those of the users of his property. By acknowledging the public interest in his assignment, the architect must take account of the needs and wishes of users, in the widest sense, and should try to integrate them to the same extent as the client's demands. Representational procedures, dialogue or consultation will sometimes have to be established to achieve this objective.

A.2. THE ARCHITECT

A.2.1. What is an architect?

A.2.1.1. Definition of an architect
An architect can be defined as "any person who exercises the profession of architecture in the region concerned by virtue of his titles and qualifications".

The basic mission of the architect is to conceive and design a building and to ensure the necessary services and follow-up in order to create a completed project which is as close to the original plan as possible, taking account of market conditions (budget, deadlines) and applicable provisions and regulations.

In order to be able to complete this assignment to the best of his ability, the architect will help the client, if necessary, to define his needs, expectations and available means.

The services provided by the architect may be extended depending on the country or the assignments envisaged to include design, technical studies, administration and economic management, supervision and follow-up of the site, etc These services must in any case at least include the design as well as the architectural management of the project.

The architect's contribution may cover various fields relating to spatial and construction planning: architecture of various types of buildings, urbanism and town and country planning, landscaping, interior design, programming, providing aid to the client, drawing up expert reports, public administration, etc.

A.2.1.2. Legislation

In certain countries, some assignments relating to the art of building must be done by a qualified architect recognised by his titles, qualifications and sometimes by his registration with an authorised professional institution (an order of architects, for example). By this recognition, the public authority delegates part of its competence to an architect. This recognition is generally a range of obligations imposed on the architect (an insurance obligation, for instance).

A.2.1.3. Ethics and Codes of Conduct

In countries where architects, in order to be recognised, must be members of a recognised professional institution (an order of architects, for example), the institution must ensure the competence and integrity of its members and regulate their practice (by means of a Code of Conduct).

In all these cases and even if such an obligation or such institutions do not exist, the architect must ensure he respects professional ethics vis à vis various persons or institutions covered by the act of construction – the client, the entrepreneur, users, society, other architects, etc.

He must also respect regulations and standards pertaining to use and take account of all aspects of construction – stability and safety, health and comfort, adapting to specific use, economy, reliability and sustainability, aesthetics, protection, respect of and appreciation of the value of the environment, location, heritage and culture.

A.2.1.4. Responsibilities

Together with the client, the architect assumes responsibility vis-à-vis the general quality of the project in architectural, urban, environmental and functional terms and ensures that it is in accordance with statutory and regulatory requirements. The architect and all participants in the construction project must assume responsibility vis-à-vis third parties and the environment. To this effect, he must take the required steps (obligatory in some countries) to cover these responsibilities.

A.2.1.5. Competence

To be able to fulfil the assignment given to him, the architect must have a great deal of know-how, competence (notably those covered by recommendation No. R(80)16

of the Committee of Ministers of the Council of Europe concerning specialised training of architects, town planners, civil engineers and landscape designers of 15 December, 1980) and experience that he must acquire:

- by initial training in accordance with the EU Directive of 10 June 1985 (85/384/EEC) covering the mutual recognition of diplomas, certificates and other titles in the field of architecture,

- in certain countries, by a professional qualification and/or a professional licence which may imply participating in training courses, passing professional examinations and continuing training to update professional knowledge. In other countries, it may merely be registration with a professional body.

- by complementary qualifications relating to certain types of assignments or projects.

The architect must, in any case, always ensure that he has the necessary skills to carry out the assignment and to be constantly updating his knowledge. Quality Assurance may be considered as a competence development tool as well as life-long learning for both the architect and his office. This training provides additional proof of the quality of service for clients and partners.

A.2.2. The architect and the project

A.2.2.1. Services offered
In the context of the assignment, the architect may offer a wide range of services:

- Assistance to the client
  - Investigating the site
  - Drawing up a financial plan

- Planning
  - Operational planning
  - Working out a budget

- Feasibility studies

- Project
  - Project management
  - Collecting and analysing data
  - Drawing up reports and inventories
  - Impact studies (environmental)
  - Architectural design
  - Structural studies
  - Technical studies (HVAC, electricity, etc)
  - Health and safety coordination
  - Project costs, estimates

- Compliance with legislation and authorisation
  - Urban development permit (urban and environmental aspects)

Building permits (technical, health and safety aspects)
Negotiations (consultations)

• Calls to tender and construction contracts
Tender file
Assistance in choice of company
Works contracts

• Implementation file

• Management and acceptance of projects
Preparation of work
- Work planning
- Administrative site management
- Technical preparation
Guidance and coordination of projects
Architectural verification of projects
Technical verification of project completion
Financial management of site
Coordination of project safety
Acceptance of work, and official declaration of
Final assessment
File of work completed
• Implementation
Authorisation and compliance
Organising implementation
Maintenance file
Completion under guarantee

Depending on countries and types of projects, assignments can be governed by regulation or a code of conduct. Some may require additional qualifications while others do not come under the auspices of architecture. (See Annex III).

A.2.2.2. Intellectual property
Generally speaking, the architect benefits from rights relating to intellectual property governing the project and disclosure. These rights are based on the relevant legislation and on contractual conditions. These rights go from mentioning origin to the integrity of the project (including distribution, the use of documents and any compensation for damages).

A.2.3. The architect and his office

A.2.3.1. Legal status
The exercise of the profession of the architect can be done as a self-employed person or in the framework of various types of associations or companies (depending on the local regulations and/or codes of conduct). In all these cases, the exercise of the architect's profession under the general framework of the liberal professions can not only have a profit-making purpose. As a specific legal entity exercising the activity

of architect, the architectural office must be led by architects. This is required in certain countries such as France, Belgium and Germany.

A.2.3.2. Employees
The architect's office may be the architect working alone or with associates and collaborators. These may have different specialities (architects, technicians, designers, secretaries, etc) and may work under various statutes, either permanent or temporary. Management of the office must endeavour to integrate these collaborators in carrying out assignments and objectives which the office draws up and must ensure their safety, well-being and development.

A.2.3.3. Suppliers
To exercise its profession, the office uses suppliers who must satisfy quality requirements.

A.2.4. The architect and the design team

A.2.4.1. Co-contractors
In the context of assignments to be done, the office may have to collaborate with other partners (architects, engineers, consultancies, etc.). It ensures that this cooperation is done under the best conditions, in the interest of the customer and the quality of the assignment and in the interest of the various partners concerned.

Generally speaking, the architect leads project design and administers the construction contract. For this purpose, he chooses co-contractors on the basis of their skills, references and organisation or at the very least, advises the client on their appointment.

A.2.4.2. Sub-contractors
The architect’s office may have to subcontract various jobs and ensure that these satisfy quality requirements. If necessary, it will allow the client to approve the sub-contractors.

A.2.5. The architect and entrepreneurs and suppliers

A.2.5.1. Entrepreneurs
The architect must try to evaluate as best he can the competence of companies based on the information available and must help the client in his choice and assignment of companies in a correct and honest manner taking account of various needs and expectations (physical, economic, technical, social, cultural, etc.). He must have the necessary independence of mind with regard to entrepreneurs and promoters, whatever the status or type of contract under which he works. The free exercise of the profession is, in this respect, a token of independence.

A.2.5.2. Sub-contractors (companies)
As is the case for the entrepreneur, the architect must have the necessary independence of mind vis-à-vis sub-contractors. He must also be able to ascertain that the skills of sub-contractors are at the same level as those of the companies for which they work. Sub-contractors must have the same obligations as the company, for instance in terms of insurance. The architect must also be able to protect the

interests of the client, for instance in the event of litigation between sub-contractors and the companies that employ them.

A.2.5.3. Suppliers (companies)
The architect must be able to choose supplies and the most appropriate means regarding the nature and objectives of the project which satisfy the various requirements of the client, users, construction participants and the company: safety, health, fitness for purpose, reliability, sustainability, long-term cost savings, environmental aspects, etc.
He must be able to maintain his independence in relation to suppliers of products and services needed for the projects he designs and manages.

A.2.6. The architect and third parties

A.2.6.1. Public (authorities and society)
While the architect has to satisfy the brief, demands and expectations of the client and future users of the building concerned, he also has responsibilities towards society.
He must respect the regulations and provisions in force but also take account of the public interest both present and future including social, environmental and cultural aspects. He must try to preserve and enrich this property within his capabilities.

A.2.6.2. Private (the neighbourhood, society)
When carrying out his assignment, the architect must try to preserve the rights of people living in the vicinity and to limit the nuisance caused to the neighbourhood and the environment.

2. CONTEXT OF QUALITY ASSURANCE

B.1. GENERAL

B.1.1. Origin and definition of Quality Assurance

The concept of quality as a standard of excellence **has been in existence** since man started to make artefacts, tools and other objects. For most people, the existence of this concept is linked to handmade products. With the start of industrialisation, the question of quality became more problematic. For many, the "products" of mechanisation cannot by definition be ones of quality. Quality control techniques have, however, been developed in many industries to reduce defects and inefficiency. These techniques vary depending on the company in question and are not generally formalised.

Immediately after the Second World War, two American management theoreticians, Edward Deming and Joseph Juran, developed quality concepts. Their work has been taken up by the Japanese and developed under the concept of "total quality control" and "just in time". The success of the Japanese led to an increasing interest in these theories of quality in western countries. The growing interest in the matter of quality reflects the increased awareness of its importance in relation to business and industry. It has therefore become an essential component in projects and management.

The most formalised concept of Quality Assurance which is currently accepted has developed from the use of quality control techniques in military and industrial applications. The first quality systems were used by the US military at the end of the fifties. Similar systems were used by the British army and nuclear industry at the start of the seventies. In 1971, the Confederation of British Industry asked the British Standards Institute to examine how similar quality systems could be developed for general industrial use. In 1972, the BSI published standard BS 4891:1972 "A guide to Quality Assurance".

The BSI then published standard BS 5750 in 1979. It was widely distributed throughout industry in the United Kingdom and had an international impact. In 1987, it was adopted by the ISO (International Standards Organisation) and by the ECS (European Committee for Standardisation). Management theorists and practitioners fostered the message of the importance of quality onto consumers. Quality Assurance was presented as part of the solution to the problem of quality. As a growing number of firms obtained QA certification, it became essential for their competitors and suppliers to do the same. This process led to the development of Quality Assurance.

A new version of ISO 9000 standard came out in 2000.

B.1.2. Development of Quality Assurance in the construction sector

B.1.2.1. At European level
Generally speaking, architects from northern Europe are more advanced in the field of Quality Assurance than those from the south.

Despite their hesitations, all European architects have for some time now been interested in Quality Assurance and have come up with various initiatives:

• Reflections and statements of views in an attempt to place quality in its proper context and to remind us of the role, skills and qualifications linked to a diploma coming under a European sectorial Directive. It was for this reason that the ACE published an "Information paper on Quality Assurance", submitted to the Annual General Meeting in March 1995.

• The writing of Quality Manuals to transcribe "highly industrial" language and provisions from the standards into professional practice of architectural agencies. It was for this reason that the Royal Institute of British Architects (RIBA) published its guide "Quality Management: Guidance for an office manual" in 1991 while in the Netherlands, the Ontwikkelgroep Kwaliteitszorg Bouwvoorbereiding [the development group for quality control in construction preparation] published its "Kwaliteitszorg voor architecten" [quality control for architects] (based on an ISO dating from 1987). More recently in 1999, the Irish RIAI came out with a "Good Practice Guide".

• Organising information initiatives, training and guidance for architects certification. This was the reason behind the publication by the UNSFA

(National Union of French Architects Unions) of manuals and the organisation of courses given by architectural trainers.

• In some countries such as Germany, professional architects have insisted on the establishment of architectural auditors who in their opinion are more able to understand how those agencies which would like to have certification operate.

These different initiatives have not, however, overcome all difficulties and certainly not the complicated character of certification nor its nature which is hardly adapted to the profession of architects in practical terms.

It is for this reason that in certain countries architects associations have tried to create specific certification (architects were not the only ones to reason in this way as other construction sectors have done the same thing). For example, Finnish architects have set up an RSA certification system and more recently, the UNSFA, together with the CSTB and the AFAQ, launched "Operational Process Management (OPM), a system of certification specific to architects, less complicated than ISO certification but which nevertheless represents the first stage in capitalisation.

At European level, the ACE set up the QA Taskforce whose aim is to exchange views and information and to encourage joint initiatives. At the request of the ACE, this group has worked on drawing up a joint basis for national quality manuals for architects. This document has gradually become a professional practical guide serving to develop specific qualification systems for architects based on the French MPRO system underpinned by the ACE.
The present document also lays down the position of architects on Quality Assurance.

B.1.2.2. At national level
In every country, architects, either alone or with other partners, have taken information, training, coaching or qualification initiatives for Quality Assurance (see Annex I).

B.1.3. Quality standards

B.1.3.1. Architects and quality (explanation of terms)
The first impression of an architect regarding ISO 9001 is often characterised by a difficulty in linking it to the practice of architect. The language and terminology of the standard reflects its industrial origins and are not familiar. Terms such as "verification of purchased products" or "checking non-compliant products" require an explanation before finding a link in architectural practice. The mechanical nature of the language does not make easy reading.

One of the first ideas that architects look for in trying to understand Quality Assurance is what the term "Quality" really means in this context. Everyone involved in constructing a building sees this in a slightly different light. Everyone involved evaluates the quality of the building in a different way. Architects have the tendency

to see "quality" as a reference to "quality" of the architectural concept. Clients have the tendency to see it in the light of how the building fulfils its functions, how efficiently it has been completed (and how easy and economical it is to maintain) . People visiting the building concentrate more on the "quality" of how public spaces have been finished.

The ideas of "quality" in relation to buildings may be classified under three headings:

a) Quality of the works
b) Quality of service
c) Quality of design

B.1.3.2. Quality of the works

This refers to criteria such as the materials used in the building, the space offered or the budget per square meter. This includes the levels of environmental comfort and the degree of the building's sophistication. The rules of construction, standards and other laws define the minimum specifications of many elements of the building. Some of these such as real estate agents or other property dealers refer almost exclusively to the "quality" of specifications when they speak of the "quality" of the building. For example, an office building will be judged on "quality" by a real estate agent if it is fitted with false ceilings, air conditioning and luxury material in the reception areas.

B.1.3.3. Quality of service

Clients expect service provision from an architect. This service mainly consists of design of the building. It may also include administrative follow-up of the construction and of the budget and deadline. The evaluation of an architect by his clients in relation to quality will be strongly influenced by the quality of the service offered.

B.1.3.4. Quality of design

When we speak of the "quality" of a building, we mainly mean a quality linked to architectural criteria of space, choice, design, organisation, construction, etc. There is a consensus on the evaluation of this quality based on the choice of criteria to be applied. These three notions of "quality" (work,
service, design) reflect the common practice applied to the building industry. Moreover, when we speak of "Quality Assurance", we should use the definition of quality on which it is based, i.e., "all the characteristics of a product or service which they have in order to satisfy expressed or implicit needs". Quality Assurance itself is defined as "all the pre-established and systematic activities implemented to provide the appropriate confidence that a product or service will satisfy the demands of quality". These definitions clearly show that Quality Assurance does not depend on the aesthetic qualities of the design. QA concerns the quality of the process and not necessarily the quality of the final product. QA refers to the satisfaction of well-defined needs and does not necessarily mean attaining the very highest level.

B.1.4. The development of quality standards

ISO standards, the first version of which were drawn up in 1987, have been developed to create standardisation at the level of quality management. The 1994 version applied changes limited to the standard. The 2000 version, on the contrary, signifies a far-reaching change compared to the first version:

• it lays more importance on evaluating the skills of the office and to life-long learning of its members,

• it is applicable to the most common types of companies,

• its terminology is clearer,

• it does not impose a uniform quality management system. The logic of the system should originate from the company who submitted the certification application,

• it requires less documents, emphasising method and requires the company to define its processes,

• the role of management in the process is more important,

• the scope of application of the quality management system can be determined by the company,

• customer satisfaction is essential,

• emphasis must be placed on the continuous improvement of the quality management system,

• data analysis is more important than statistical techniques,

• there should be compliance with standard ISO 14000 for environmental management.

The objective is to change the standard every five years. What is on the horizon for 2010 in this respect is to integrate QA with not only environmental considerations (ISO 14000) but also with safety standardisation.

B.2. APPLICATION OF QA

B.2.1. Application of Quality Assurance to construction

The construction industry has a problematic relationship with the quality of its production. Research carried out by the BRE (Building Research Establishment) undertaken in the UK and others have described the whys and wherefores of the problems. Causes of defects in constructions include:

d. Inadequate training of builders and designers.

e. Insufficient communication between the various participants in the construction process.

f. Inadequate or incorrect specification of products and materials and defective implementation.

g. Inadequate information provided when it is needed and general difficulty in isolating essential information.

h. Inadequate survey of recurring mistakes.

The origin of problems relating to quality in construction are many and there is not a single solution to them. On the contrary, Quality Assurance has been perceived as able to offer a useful approach to the problems encountered by the industry. The fragmentation of the industry has created problems for which Quality Assurance may provide an answer. Design and production are distributed among a certain number of entities. The design team may include the architect, the construction engineer, technical engineers, specialised consultants, the construction economist and specialist sub-contractors.

Production appears to be spread out among a certain number of companies with all the work being contracted out by the main or general contractor. 20 to 30 sub-contractors may be employed on large sites. This fragmentation makes communication between the various parties involved absolutely essential. Poor, insufficient or tardy communication leads to major problems as stated above.

The Quality Assurance system cannot solve all problems created by fragmentation of the construction industry. It is, however, considered as capable of developing communication within the existing structures. A growing number of clients are adopting quality systems. These systems force clients to ensure that quality procedures are adopted by suppliers of goods and services. Clients with quality systems will probably give priority to suppliers who have QA themselves. All this has obvious implications for the construction industry.

B.2.2. Advantages of Quality Assurance

1. QA could help in promoting the architects' office with its clients and will ensure that the services provided have been verified by a third party.

2. The advantages of QA vis-à-vis marketing objectives are to place a large number of firms and organisations working on the basis of QA in their proper context.

   Notwithstanding the individual opinion of architects on the merits of QA, it is likely that potential clients who have laid down the principles of QA themselves consider it as a criterion to be taken into consideration while forcing suppliers to do likewise.

3. This could lead to a reduction in risks in an environment which may be susceptible to litigation, due to the drawing up of improved documents and work practices. However, expectations relating to QA must remain realistic. QA cannot entirely eliminate mistakes but will reduce the probability of them occurring and especially reoccurring. QA will ensure that mistakes are rectified and recurrence unlikely.

4. The correct application of a QA system should lead to increases in productivity resulting from internal economies emanating from more efficient working methods. Systematic application of a QA system, particularly to such aspects as Design Control, should result in work carried out correctly right from the word go and consequently reduce the amount of work that has to be redone. Difficulties arise when trying to gauge potential quantitative gains. While many companies can estimate the number of hours spent on one task, the amount of time spent on dealing with mistakes or on useless work is rarely examined.

5. Improvements can be carried out in the service offered to clients. A QA system may result in greater reliability and responsibility regarding services.

6. The requirements of income and regular system audits should ensure that the system is efficient. Once their initial enthusiasm has died down, some agencies having developed detailed procedures on various aspects of their work seem to leave these procedures on the back burner with the result that they are no longer applied.

7. In future, this could lead to differences in fees and compensation for those with certification.

8. The implementation of a QA system should enable architects to find the cause of problems more easily than just reacting when the symptoms appear. Clause 4.14 "Corrective action" requires that the cause of problems is investigated to stop them from recurring.

9. If QA is implemented by enough agencies, this could result in the improvement of the image of the management capabilities of architects in general.

10. QA enables the standardisation of procedures which could be useful in the management of offices, particularly the large offices and relations between the services. For the small offices, the director or partner will be solely responsible for management. For larger entities that do not practice QA, working methods may vary between the partners and services. If an architect who works alone on a project uses his own methods, this could result in problems when others have to replace him in the event of illness or leave. Aspects linked to QA training (Clause 4.18) will help new collaborators to assimilate the agency's working methods.

B.2.3. Disadvantages of Quality Assurance

1. QA may not directly be associated with architectural quality as such but may improve the quality of the services provided.

2. The language and terminology used in the standard may appear unnecessarily mechanical for architects. They reflect the industrial origin of Quality Assurance.

3. QA generates a considerable volume of paperwork and may appear to be bureaucratic. This administrative work is necessary to show the auditors that work is being done on the basis of procedures. Nobody likes paperwork but to attain QA you have to see beyond this. Most written documents such as

confirming the client's requirements or registering planning documents are nevertheless necessary. By using a simple approach, the amount of paperwork can be reduced.

4. While QA requires registration enabling architects to commit themselves and provide evidence in the event of litigation, this registration may also provide evidence of the agency's shortcomings. The link between the legal implication of architects and the existence of written procedures remain to be proven. QA enables negligence to be more clearly highlighted.

5. Most architectural agencies are rather small. While the introduction of QA should make work more efficient in the long run, it will require a large cash outlay in the beginning and many hours of work for the management team. In addition, the costs for third parties involved in certification must also be taken into account.

6. Architects must try not to extend their responsibilities when drawing up their quality policy. For example, they must avoid using phraseology such as "objective-linked results". They must ensure that these procedures do not increase the work done on the site.

7. As noted above, QA has industrial origins in which generally standardised products are manufactured according to design processes and simple and continuous production under controlled conditions. This is not the case with the design and construction of buildings. Architects, when it comes to certain standard clauses regarding production and companies, when it comes to standard clauses regarding design, must ensure that they work on the basis of a system that has not been designed in a mere construction perspective.

3. IMPLEMENTATION OF A QA SYSTEM

C.1. Contacts /Information /Preparation

Implementation of a quality management system is a relatively long and complicated process. The stages of this process are set out below. Depending on the means available and the size of the office, this implementation process may take from one year to 18 months.

N.B. The procedures below are general and based on terms found in all certification systems which are more or less identical.

C.1.1. Quality commitment

An associate or senior member of the office will examine the issue on the basis of information available from various publications and organisations. He can also contact other offices that have already had experience with QA. The office, after taking note of this information, may then decide to go deeper into QA. For this to be a success, the heads of the office must give their active support. They must adhere to the basic philosophy of the system and release the means needed for its realisation.

All members of the office must be convinced of the value of the system and the benefits of it in practice. The basic principles of QA and its application to the practice of architecture must be explained. Once the office decides to implement QA, someone who will be responsible for quality has to be appointed. This job should be undertaken by a senior member of the management team, an associate or a senior architect. He will be given responsibilities that have been clearly set out by the standard.

C.1.2. State of play
A report on existing procedures should allow for an evaluation of how they work and, if necessary, correct or complete them.
Nature, culture and characteristics specific to the office should also be highlighted.

C.1.3. Outline of the system
A brief outline of the Quality Manual and its procedures must then be drawn up. These proposals must be discussed in depth by all those responsible for putting them into practice.

C.2. System implementation and management

C.2.1. System implementation
Once a draft of the system has been prepared, it may be implemented by the office. This can be done progressively starting with new projects. An initial evaluation, carried out after several months, should enable all those working in the office to give their views on how the system works and its effectiveness.

This evaluation usually involves adjustments, internal audits and management reviews which will allow for regular evaluation of the system. Once it is thought that the system is working correctly, certification or qualification can be considered.

Normally speaking, benefits of the system should be evident from a considerable increase in efficiency. It is nevertheless indispensable to immediately ask for certification. If certification means evaluation of the system by a third party, this may also incur significant costs depending on the type of qualification chosen and the size of the office. It may be decided to postpone certification until a particular client or circumstances make it necessary.

C.2.2. Documentation management
The documents connected with the management system must be correctly approved, distributed and checked. The person responsible for documents is someone appointed from the technical or administrative staff who has general responsibility to ensure that the procedure is effectively applied.

C.3. Audit and certification

Every certification body has its own approach and requirements which the office must find out about. It is recommended to opt for a body whose procedures are in accordance with the spirit and principles of the present document. Generally speaking, the procedure will consists of the following steps:

C.3.1. Contacts/Information

Preparation

The certification body is contacted and it will ask you to provide the necessary information. This information will include the size and nature of the agency, its areas of activity and services and details relating to its Quality System especially its Quality Manual. It will also ask how long the system has been operating.

Based on this information, the certification body will appoint an auditor. This auditor will organise the practical means of certification for the office and contact the person responsible for Quality Assurance. Before contacting the certification body, it is useful to carry out your own audits about the efficiency of the system. The manual and procedure must be up to date and correctly applied in order to be successfully audited.

C.3.2. Certification or qualification audit

In general, the certification audit takes one day. It starts with a meeting with those in charge including the person responsible for Quality Assurance. The auditor will carry out the audit by examining the methods and procedures of the Manual, note them down including details of the working environment. He will also examine the application of the Quality System by employees of the agency.

Those methods or procedures that do not comply with the requirements of the chosen reference documents (ISO 9001, MPRO or another) will be removed. Non-compliant minor points which have to be changed will not jeopardise certification. The auditor will state that the system is in accordance with the requirements or may define additional or corrective action.

An official certificate will be delivered at the end of the procedure.

C.4. Control audits

Once the audit has been passed successfully, certification is granted. However, this is not the end of the procedure. One of the principles of certification is that the system must be regularly checked. This is usually done once a year. If the system is not maintained, certification is in principle withdrawn which will have a negative effect on the office’s image.

4. ASSIGNMENT-RELATED PROCESSES

D.1. CONTRACT AND SERVICES

D.1.1. Assignments and fees

This is a description of how, based on information provided by the client, the office should clearly determine the demands, services and conditions of its assignment taking account of legal and regulatory provisions, general organisation of project management and the office’s own capabilities.

It is also about defining the way in which architects' fees are determined, how these fees are negotiated, agreed and registered. There should also be provisions for any

subsequent terms and conditions governing modifications to the contract (amendments)

D.1.2. The programme
This is a description of how the various aspects of the programme relating to the project are specified, determined and registered. These aspects include the client's priorities, the means needed (feasibility), the constraints of the site, general planning and the project's objectives. The aim is to ensure that both the client and the architect have a clear and identical view of all aspects linked to the client's requirements and needs.

D.2. ORGANISATION OF THE ASSIGNMENT AT THE OFFICES

D.2.1. Organisation of the assignment
This is a description of how the specific project is defined and how the plans which are the reference to all critical information are worked out. Those responsible must be appointed and legal, civil and internal responsibilities clearly determined and distributed. The types of relationships and decision-making procedures are laid down in an organisational chart. The various stages of the assignment are determined and planned.

The aim of this operation is to ensure that all the partners are properly informed of how the various functions and activities are defined which are needed for completion of the building in various stages.

D.2.2. Project
This is a general guide to the procedures followed during the project and to benchmarks enabling the people concerned to review the design. This operation includes:

- determining, collecting and analysing all design criteria, i.e. the elements to be taken into account to translate the requirements of the work into architectural, functional, technical and economic solutions,
- managing the further development of the design taking deadlines into consideration needed to complete every step, verification by the owner or awarding authority and the further development of administrative procedures,
- implementing modifications which have to be checked, verified and registered.

The aim is to ensure that development of the design is monitored up to final delivery of the production documents. There should also be a description of how the consequences of the changes will be managed and integrated. Prior determination of design criteria is also expected.

D.2.3. Compliance and authorisation
This is a description of the steps, services and the stages needed to obtain building permits and other authorisation relating to:

- urban and architectural aspects,

- constructive and technical aspects,

- aspects relating to safety and health for both the finished building and the building site,

- other aspects of the finished building or building site.

D.2.4. Calls to tender and work contracts

D.2.4.1. Calls to tender
This is a description of the steps required for completing calls to tender sent to companies. The aim is to ensure that the methods and details of these calls to tender are correctly defined and implemented.

D.2.4.2. Tender procedure
This is a description of the steps required for assignment of tenders to companies. The aim is to ensure that companies are correctly selected based on the client's requirements and the specific features of the project.

D.2.5. Construction file
This is a description of the steps required for the preparation and realisation of a construction file including plans, details and a tender specification schedule (possibly specifying measurements).

D.2.6. Work management

D.2.6.1. Work preparation
This is a description of how the architect manages the application of all company contracts.
The aim is to clarify the responsibility of the architect in relation to all participants involved in the administration of the contract.

D.2.6.2. Work follow-up
This is a description of the services expected from the architect of the project and includes checking progress (in relation to the schedule) and compliance (in relation to the regulations and conditions of the market) as well as carrying out adjustments and correct administrative management (amendments, payment slips, etc.). The aim is to ensure that the construction is properly followed up and to define how supervision of the work is done in relation to the contract's stipulations.

D.2.6.3. Architectural management
This is a description of how the architect manages the completion of the architectural project.
The aim is to ensure that the architectural qualities of the project do not deteriorate and that they are maintained or even enhanced in the course of the project's completion even if the architect is not directly responsible for technical follow-up.

D.2.7. Acceptance and putting into service

D.2.7.1. Acceptance

This is a description of the services and steps required for completion, acceptance of the work and payment of retention funds. The aim is to ensure that the work has been correctly carried out with regard to the contract and any amendments and that the building can be submitted to the client.

D.2.7.2. Putting into service

This is a description of the services, steps and information (as-built plans, etc.) needed for ensuring that the building is put into service correctly.

D.2.8. Additional services

This is a description of how the office provides other additional services requested by the client. The aim is to ensure that these services are properly defined (needs, responsibilities, etc.), planned, prepared, carried out and followed up.

D.3. ASSESSMENT OF CUSTOMER SATISFACTION AND REVIEW OF ASSIGNMENT

This is a description of the means used to carry out a review of the assignment (positive and negative aspects of the building, non-compliance, appraisal of the products and materials, evaluation of service providers and sub-contractors and evaluation of the office). It is also to assess client and user satisfaction. The aim is to draw lessons from the assignment and to improve the agency's services by changing practices, tools, skills and ways of collaborating.

5. OFFICE-RELATED PROCESSES

E.1. QUALITY MANAGEMENT

E.1.1. Management commitment
The management of the office must be committed in such a way that staff are convinced of the importance and interest of quality management in order to satisfy the demands of clients and regulatory and statutory requirements.

E.1.2. Audit and preventive and corrective action
This concerns providing a planned, systematic and effective method to check the office's procedures, plans and reference documents. It also covers laying down the methods used to rectify any problems, collate suggestions relating to management, use the results of audits and information gained from client feedback and the day-to-day running of the agency. The aim is to ensure that general management of the office enables it to carry out its tasks in the most efficient and profitable way possible.

E.1.3. Office management and distribution of responsibilities
This concerns laying down the specific tasks linked to office management and identifying those who should be in charge. The aim is to ensure that general office management enables those responsible to carry out their tasks in the most efficient and profitable way possible.

E.1.4. Management review
This is to ensure, based on management reviews, adequate, relevant and smooth operation of the management system and to introduce and manage change. The aim is to ensure that management runs the office in the most efficient way possible.

E.1.5. Improving the Quality System
This is to ensure that lessons are learnt from experiences and information collected to improve organisation, methods and processes. The aim is to improve the office's Quality System.

E.1.6. Management of purchases, sub-contracting and co-contracting
This is a description of the following:

- how the office selects and evaluates its suppliers, sub-contractors and co-contractors,
- how it checks compliance and quality of supplies and services.

The aim is to ensure that supplies and services are in accordance with the specified needs and requirements.

E.1.7. Recruitment, training and evaluation of staff
This is a description of how to manage human resources and to develop the office's capabilities with regard to fields of activity or assignments taken on. This operation is done by:

- determining the competence required,
- identifying existing competence,
- assessing the quality of recruitment, training and life-long learning.

- The aim is to ensure that general management allows the office to fulfil these functions in the most efficient and profitable way possible while ensuring the personal development of its staff.

E.1.8. Health and safety of the agency
This concerns provisions relating to the health, safety and well-being of employees and visitors in the office. The aim is to ensure that, where possible, a healthy and pleasant working environment is created.

E.2. INFORMATION AND DOCUMENT MANAGEMENT

This is a description of how the information and documents are processed, managed, filed and kept with regard to:
- Office management,
- carrying out assignments.

E.2.1. Incoming information and documents
This concerns determining how incoming information and documents are received and processed.
This operation means laying down a documented procedure for:
- identification (origin, type, status, version, etc)
- managing their distribution so that interested parties receive them,
- keeping track and storing the required information.

The aim is to ensure that information is processed and classified correctly so that it can be quickly and easily found and used.

E.2.2. Outgoing information and documents
This concerns how outgoing information and documents are processed and distributed.
This operation means laying down a documented procedure for:
- identification (origin, type, status, version, etc)
- checking and ensuring that they are up to standard before distribution,
- managing modifications and updating,
- managing their distribution so that interested parties receive them,
- keeping track and storing the required information and registration.

The aim is to ensure that information is correctly processed and classified so that it can be quickly and easily found and used.

E.2.3. Graphic documents
This is a description of graphic protocols, regulations and agreements, whether external or internal, enabling the production of coherent, uniform documents understandable to everyone.
It is also to ensure that all graphic documents are classified and stored so that they remain easily accessible.

E.2.4. Classification and archiving
This is a description of document processing and classification systems and methods used for archiving documents with regard to completed assignments and subsequent exercises, mainly on the basis of legal or contractual stipulations.

The aim is to ensure that any useful document is registered, classified and stored so as to remain easily accessible.

E.3. MANAGEMENT OF TECHNICAL DOCUMENTS AND REGULATIONS

This is a description of how the technical and legal library of the office should be developed and managed to be able to provide appropriate and up to date information regarding:

- laws and regulations,
- standards and technical regulations,
- technical documentation, commercial and professional techniques,
- architectural documentation.

The aim is to ensure that the necessary information is classified, updated and easily accessible.

E.4. MANAGEMENT OF EQUIPMENT AND MATERIALS, COMPUTER SYSTEMS AND THE WORKING ENVIRONMENT

E.4.1. Protection against computer viruses

This is a description of how the office can protect its computer system and filter electronic data coming from outside in order to avoid any contamination.

E.4.2. Management of computer systems

This is a description of how the office should manage its computer equipment and related equipment. The aim is to ensure that all computer equipment is used properly and that any processed data can be easily retrieved and identified.

E.4.3. Electronic filing systems

This is a description of how electronic data is correctly registered and searched. The aim is to ensure that any stored data can be easily retrieved and identified.

E.4.4. Backups

This concerns saved copies or backups. These provisions are vital to minimise risks linked to accidental or deliberate erasing of data or problems and accidents of a mechanical nature. The aim is to ensure that any processed data is preserved using backups.

E.4.5. Equipment control

This is a description of practical control measures for equipment used outside the office (e.g. cameras, topographic material, etc.). The aim is to ensure that professional equipment frequently used for reports and on-site checks is operational if required for use.

E.5. FINANCIAL MANAGEMENT OF THE OFFICE

E.5.1 Follow-up of office costs per assignment

This concerns providing tools which enable reconciliation of receipts and expenses of every assignment to improve forecasts and follow-up.

E.5.2 Financial control of the office
This is a description of operations and controls needed for planning and financial management of the office.
The aim is to ensure that appropriate checks are carried out to ensure the financial stability of the office.

F. GLOSSARY

Accreditation:
A procedure by which a government grants certification to an organisation.

Architect:
Anybody who, due to his or her titles and qualifications, practices the profession of architecture in the country concerned.

Architectural office:
A group of employees (associates and collaborators or the architect if he works on his own) and those means coming under the same legal entity carrying out the activity of architecture. In the present guide, "architectural office" corresponds to "the body" as specified by standard ISO 9000, version 2000.

Certification audit (1):
Examination and control procedure enabling verification of compliance of the system in relation to the requirements of the chosen reference.

Auditor:
The person carrying out the audit of the office on behalf of the awarding authority.

Follow-up audit (2):
Verification procedure carried out on a regular basis which checks whether over time there is compliance with the chosen referential.

Certification:
Official act certifying that the requirements of the chosen referential have been met and documented

Awarding authority:
Impartial body, governmental or non-governmental, which has been accredited to implement a certification system and in which the interests of the various parties affected by the operation of this system are represented.

Client (1):
Physical or legal person on whose behalf the architectural office carries out an assignment or for whom the construction has been built. With a view to creating a "chain of quality" the client is also supplier for the architect of the brief, the site, etc.

Client (2):
According to standard ISO 8402, this is "the recipient of a product or service provided by the supplier". With a view to creating a "chain of quality" the entrepreneur is the

"client" of the architect who receives documents, rules and instructions needed to complete the work.
(See "supplier (2)")

Compliance:
Satisfying the specified requirements.

Project:
Tangible product resulting from the implementation of equipment and the completion process. This includes the completion of the programme, project design and construction supervision (see "work").

Contract review:
Systematic actions carried out by the supplier before signing the contract to ensure that the quality requirements are properly defined, without any ambiguity, expressed by the documents and are feasible.

Design:
A group of activities turning requirements into characteristics.
For architectural offices, a distinction is made between the design of an assignment and the design of the work done. In the former, the office designs the assignment satisfying the client's requirements and the regulatory requirements applicable to the assignment.
For the latter, the office designs the work based on the client's requirements and the regulatory requirements applicable to the work done.

Verification:
Activities such as measuring, examining, testing or gauging one or several features of a product or service and comparing the results to the requirements specified with a view to determining if compliance has been obtained for each of these features.

Interface:
Junction between two systems through which exchanges known as interaction are effected.

Assignment:
Product resulting from the implementation of processes by the architectural office. The office assignment is an intellectual service whose aim is to obtain a work in accordance with the client's requirements and regulatory specifications.
In the present document, "assignment" corresponds to "product" as specified by standard ISO 9000, version 2000.

Non-compliance:
Non-satisfaction of a specified requirement.

(repeated later)

Procedure:
Manner specified to accomplish an activity.

Process, procedure:
Group of connected means and activities transforming incoming and outgoing elements These means may include staff, financial means, installations, equipment, techniques and methods.

Quality:
Group of features of a product or service which gives it the means to satisfy expressed and implicit requirements.

Quality assurance:
Guarantee that all systematically planned actions are carried out to provide a product or service with sufficient certainty that it satisfies quality requirements.

Quality approach:
The aim of quality approach is to improve the organisation and work of the architectural office whatever its size. Its objective is to reassure clients by satisfying their requirements to the best of their ability.

Quality control:
Operational techniques and activities implemented to satisfy expected quality requirements.

Quality management:
Group of activities of a general management nature which determines and implements a policy of quality, objectives and responsibilities.

Head of Quality Assurance:
Member of the Executive Staff of the office who has the responsibility and authority to ensure that the processes required are set up, implemented and maintained.

Quality Manual:
Document which sets out quality policy, the quality system and quality practices of an organisation.

Quality Plan:
Document describing arrangements specific to an assignment and amending or completing the process already defined, notably in the operational procedures of the office.

Quality policy:
Orientation and general objectives of an organisation with regard to quality as expressed formally by management at the highest level.

Quality system:
Group comprising the organisation, procedures, processes and means needed to implement quality management.

Registration:
Document that supplies tangible evidence of decisions and agreements, activities carried out or results obtained.

Requirement:
Needs or expectations in terms of features, performance, deadlines, prices applying to an assignment and/or work which are the objective of the assignment requested by the client, defined by the office or imposed by regulations.

Review:
Examination of requirements, the design or a document to determine their relevance, suitability and/or effectiveness to reach objectives.

Service:
Result generated by interface activities between the supplier and the client and by the supplier's internal activities to satisfy the client's needs.

Performance:
Element of an assignment.

Supplier (1):
Physical or legal person who supplies products or services to the office or construction company.

Supplier (2):
According to standard ISO 8402, this is "the body that supplies a product or service to the client". With a view to creating a "chain of quality" the client is the "supplier to the architect who provides the brief while the architect is the "supplier of the entrepreneur for whom he procures documents, regulations and instructions needed to carry out the work. (See "client (2)")

Total Quality Management:
The correct management approach embracing all activities with a view to satisfying the needs and expectations of clients and of the company in the most efficient and economical way possible, by maximising the potential of all collaborators by a policy of consistent improvement.

Traceability:
Action which enables those responsible to accurately trace the history of an assignment by a succession of phases or a document.

Verification:
Confirmation by examination and by providing tangible evidence that the specified requirements have been satisfied. Verification concerns the examination process of the result of an activity with the intention of determining compliance with the requirements specified to complete the said activity.

Project:
See "work"

Sub-contractor (of the office):
Contracting out part of the work requested from the office to a third party.

Co-contractor:
Contracting out of the part of the work (construction supervision) to a third party.

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Annex I(a):
Brief presentation of QA development in the construction sector of various European countries

In each country, architects, either alone or with other partners, have taken information, training, guidance or qualification initiatives with regard to Quality Assurance (See Annex I)

1. Ireland (situation as of September 2001)
Ireland has the largest number of ISO 9000 certification in the industrial sector.

In Ireland in 1990, the Construction Industry Federation gathered together a group of representatives from various industrial construction sectors to set up Irish Construction Quality Assurance (ICQA).

This association established Quality Assurance links with the UK construction sector to benefit from technical assistance, auditors and certification. The ICQA was officially launched in March 1991.

Since then, the most important construction companies have obtained QA certification or are in the process of obtaining it. The distribution of QA in the large construction companies can be seen from the survey carried out into the situation of RIAI architects in June 1993. All offices employing more than 25 people and the majority of offices of more than six employees had already worked with companies using a QA system (8 to 9 architects up to the present). (???)

QA has also been adopted by several equipment and special technique sub-contractors (Ref. ICQA Certified Organisation List).

Within the industry, a large number of manufacturers of construction products have implemented a QA system.

A limited number of structural engineers, special technique engineers and construction economists have QA certification.

The RIAI has published a good quality practical manual to help its members to devise a QA system.

2. United Kingdom (situation as of September 2001)

Quality Assurance in the construction industry in the UK first appeared in sectors where quality control was a critical factor such as nuclear power stations. From there, it gradually spread to the rest of the British construction industry.

The government White Paper of 1982 "Standards, Quality and International Competitiveness" called on companies to adopt quality management systems. The government also asked the Property Services Agency (PSA) to encourage its suppliers to adopt QA. The Design Standard Office of the PSA set an example by itself adopting QA.

We had to wait until the end of the eighties before a reasonable number of construction companies were using QA systems. Some of the initial experiences with QA turned out to be problematic and gave rise to criticism about the huge amount of paperwork (Architects Journal, 9th October 1991).

The spread of QA in the construction sector was helped by the feeling that it could be used to solve certain quality problems in the industry and by the fear that the state and other major contractors could make it a condition in their specifications.

The main reason for QA was for the companies themselves the conviction that they could gain a competitive advantage vis-à-vis other companies in the sector. Once a certain number of companies had opted for QA, this increased the pressure on their competitors to do likewise.

3. France

4. Belgium (situation as of September 2001)

In Belgium, QA was first used for very large-size sites such as the gas terminal at Zeebrugge. It was then requested for other smaller scale projects and finally small-sized enterprises applied for ISO 9000 certification.

In the field of certification, the very important CSTC (Centre for Scientific and Technical Construction) and the main supervisory body (SECO) soon got together to set up a certification body specialised in construction (BCCA) and another organisation in charge of training and guidance of companies (BCQS).

As far as designers are concerned, in 1996 ORI (Organisation of Advisory Engineers and engineering consultants) published a "Quality System Guide for engineering consultants ". Many consultancies have in the meantime obtained certification.

In 2001, there were however only three or four major architectural offices who did the same. Nevertheless, more than twenty smaller agencies took steps towards obtaining quality certification via the COQUANE organisations in the Walloon region. Several of them have since gained certification and a second stage of training has been started.

The CNOA (National Council of the Order of Architects) has in the meantime brought out a Quality Manual Guide aimed at architects based on the version of the ISO 9001 standard published after 2000.

Architectural experts at the CNEAB (Belgian National Council of Professional Architects) have created certification specially aimed at these experts and in 1999 published a "Quality Reference Manual for Professional Architects".

In 2002, a guidance group for quality management aimed at SMEs in the building industry gathered together a dozen or so architects in the Walloon region. Based on this experience, several architects received CoQual qualification at the beginning of 2003, a qualification procedure that is slightly easier to obtain than ISO certification on the basis of a specialised referential.
A qualification system similar to COQUAL was also established in the Dutch-speaking part of the country known as the Qualibouw system.

5. Finland (situation as of September 2001)

Quality Assurance appeared for the first time in the Finnish construction industry when the Union of Finnish Engineering Consultants created the SKOL Quality Manual in 1992. This manual was based on ISO 9001 and contained model procedural documents aimed at large and medium-sized consultancies and the construction industry.

Considering that the average size of architectural agencies in Finland is generally less than 10 employees, this SKOL model-based Quality Manual was considered as too complicated and too "engineer-oriented". The Union of Architectural Consultants (ATL) and 10 architectural agencies started to develop a Quality Manual in 1993 with the aim of meeting the needs of architects more effectively. The first model of the ATL Quality System was completed in 1996. It had been prepared together with 13 architectural agencies.

One year later, 23 consultancies took part in editing a second version of the guide and in 1998, 18 additional consultancies did likewise. The aim of this work was to encourage a joint version and to start developing a QA system specific to their practice. In both cases, a large number of standard procedures and work processes were added or updated compared to the first guide. Currently, it contains all standard procedures and work processes used by architects including renovation and town planning.

Within these 60 architectural agencies, not one was sufficiently advanced to undertake official QA certification. Apart from official ISO 9001 certification, there is another professional qualification body in Finland (RSA: RAKLI-SKOL-ATL) which is made up of client representative member organisations (property owners) and consultants.

6. Switzerland

7. Italy

Annex I(b):
Comparative table of QA initiatives in the architectural sector in various European countries

Tableau en préparation

ANNEX II: SCHEDULE OF SERVICES

Comparative table of situations in various European countries

L = Obliged by law	**FI=Schooling**
O = Obligatory by codes of ethics	**QP= Professional Degree**
G=Generaly done	**LE=Professional Licence**
A = Additional services	**QS=Additional Schooling or specialisation**
I=Forbidden	**P=Possible**

	PRESTATIONS	**Austria**		**Belgique**		**Finland**		**France**	
		L	Qualif	L	Qualif	L	Qualif	L	Qualif
	ASSISTANCE TO THE CLIENT								
	Site procurement								
	Financial assistance					A			
	BRIEF PREPARATION								
	Brief	P		P		G			
	Budget	P		O	LE	A	FI		
D2.0	**FEASABILITY STUDY**					A			
D2.1	**DESIGN**								
	Project management	P							
	Data research and analysis	P							
	Surveys	P		P					
	Environmental impact	P		P					
	Architectural design	O	LE	O	LE	L	QP		
	Structural design	P	FI	P	FI	A	FI		
	Services design (HVAC, electricity, etc)	P	FI	P	FI	A	LE (Electr.)		
	Health and safety	P		P		A			
	Project management	P		P		A	QS		
	Cost management,	L	LE	L	LE	A	FI		
D2.2	**STATUTORY CONSENTS & DUTIES**								
	Planning permission (Urbanistic, environmental, aesthetic aspects)	L	LE	P		L	QP		
	Building permits (technical, health and safety aspects)	L	LE	L	LE	L	QP		
	Negociations	P		P		G			
D2.3	**TENDER ACTION & PRE-CONSTRUCTION**								
	Tender action documents	O	LE	O	LE	L	QS		
	Tenderer selection	O	LE	O	LE	L	QS		
	Contracts	P		P		L	QS		

	PRESTATIONS	Austria		Belgique		Finland		France	
D2.4	**CONSTRUCTION DOCUMENTS**	L	LE	L	LE	L	QP		
D2.5	**OPERATIONS ON SITE & COMPLETION**								
	Administration of the Building Contract			P		A	QS		
				P					
	Architectural inspection of works			L	LE	L	QP		
	Technical inspection of work			L	LE	A			
	Cost control and payment certificates			O	LE	A			
	Health and safety coordination on site			P	QS	A			
	Practical completion			L	LE	A			
	Final account			O	LE	A			
	As-built documents			P		A			
D2.6	**COMMISSIONING / HAND-OVER**								
	Commissioning								
	Users modifications			P		A			
	Maintenance documents			P		A			
	Defects resolution					G			

ANNEX III: SCOPE OF WORK (BY CATEGORY)

Comparative table of situations in various European countries

L= Obliged by law	**FI=Schooling**
O= Obligatory by codes of ethics	**QP=Professional degree**
P=Possible	**LE=Professional Licence**
I=forbidden	**QS=Additional Schooling or specialisation**

PERFORMANCES	**Austria**		**Belgique**			**Finland**		**France**	
	L	Qualif	L	Qualif	Rem	L	Qualif	L	Qualif
ARCHITECTURE - BUILDINGS									
Private dwellings	L	LE	L	LE		P			
Apartment buildings	L	LE	L	LE		L	QP		
Offices buildings	L	LE	L	LE			QP		
Commercial and equipment buildings	L	LE	L	LE		L	QP		
Hotels	L	LE	L	LE		L	QP		
Hospitals	L	LE	L	LE		L	QP		
Educational buildings	L	LE	L	LE		L	QP		
Sport and leisure facilities	L	LE	L	LE		P			
Monuments, historical blgs	L	LE	L	LE		L	QP		
Public buildings	L	LE	L	LE		L	QP		
Industrial buidings						P			
CIVIL ENGINEERING			(L)	LE	Partout sauf en région flamande				
LANDSCAPE ARCHITECTURE		QP	P			P			
INTERIOR DESIGN - DECORATION		FI	P			P			
FURNITURE DESIGN		FI	P			P			
INDUSTRIAL DESIGN		QP				P			
DESIGN INDUSTRIEL									
SPATIAL PLANNING				FI+QS ?					
Regional planning	L	LE	P	FI+QS		L	QP		
Town planning	L	LE				L	QP		
Urban design	L	LE	P			L	QP		
Master planning	L	LE				L	QP		
STRATEGIC ADVICE									
Brief preparation	P		P			P			
Feasibility studies	P		P			P			
Procurement advice	P					P			
TECHNICAL SPECIALITIES									
Security		FI+QS	P	FI+QS		P			
Defect analysis and resolution	L	LE	P			P			
Structural design	L	LE	P			P			
Services design (e.g. acoust., HVAC, lighting, etc)			P			P			
Signage		FI+QS	P			P			

PERFORMANCES	Austria		Belgique			Finland		France	
Sustainable development		FI+QS	P						
Quantity surveying		FI+QS	P			P			
Project management	I	LE	P			L	QS		
Site management		FI+QS	P			P			
Health and safety		FI+QS				P			
Accessibilty		FI+QS				P			
Fire security		FI+QS							
EXPERTISE									
Building inspections	L	LE	P			P			
Expert withness	L	LE	P	FI+QS		P			
Party wall, easements surveying		FI+QS	(P)			P			
Property advice		FI+QS				I	?		
Arbitration and conciliation	L	LE							
BUILDING MANAGEMENT									
Facility management		FI+QS	P			P			
Maintenance		FI+QS	P						
Cleaning		FI+QS	P						
Financial management		FI+QS	(P)						
GESTION D'IMMEUBLES									
Facility management									
Maintenance									
Entretien									
Gestion financière (syndic)									
PUBLIC SECTOR				FI+(LE)	Incompatibilité avec le statut d'indépendant				
Building design	L	LE	L			P			
Building administration (e.g. supervision)	P		P			P			
Building control	P					P			
MULTIPLE SERVICES									
Architecture & Engineering	L	LE				P			
Architecture, Engineering & Construction	L	LE	P	FI+QS		P			
CONSTRUCTION COMPANIES	I		I			P			
BUILDING MATERIALS SUPPLIERS	I				Pour autant que non liée aux projets traîtés				
						I			
ESTATE AGENT									
EDUCATION									
Teaching						P			
Continued Professional Development						P			

ANNEX IV: QA REFERENCE DOCUMENTS

Annex IV(a):
Reference documents used by architects in various European countries

1. Ireland
• *RIAI Good Practice Guide*, Royal Institute of the Architects of Ireland (RIAI), 1999 (reference).

2. United Kingdom
• *Quality Management – Guidance for an Office Manual*, Royal Institute of British Architects (RIBA), August, 1991.

3. France
• *Management of Operational Processes (MPRO Architects)*, AFAQ-UNSFA-CSTB, of 26 November, 2001 (reference).

4. Belgium
• *Quality System Guide for Engineers*, Organisation of Advisory Engineers and engineering consultancies (ORI), 1st ed., September,1996 (reference).
• *Reference Quality Manual for Professional Architects*, Belgian National Council of Professional Architects (CNEAB), ed. 1999 (update in preparation).
• *CoQual reference – Audit Report*, CoQual labelling committee (Walloon and Brussels Regions), version 2, September, 2002.

5. Finland

6. Switzerland
• *The quality of our built environment*, Swiss Society of Engineers and Architects (SIA), July, 1997.

• *Quality Management in construction / Technical handbook 2007*, SIA, August, 1997.

7. Austria
• *Guide to the interpretation of ISO 9001 for civil engineers*, Autumn, 1994.

8.Netherlands
• *Quality control for architects*, Royal Society for the advancement of construction / League of Dutch Architects (BNA), October, 1991.

Annex IV(b):
Comparative table between the main reference documents and the ACE guide

Intégrer le tableau ad hoc

End of document