

WP5 Education and Economic Promotion

Business Plan

A Guideline for housing companies and property owners how to assign the best suitable craftsmen for the energy saving refurbishment of historic building

In the Guideline “Training and education of craftsmen within the energy-saving refurbishment of historical buildings” the learning packages are presented that should be provided to both technical and non-technical groups to ensure that they possess enough knowledge and skills to carry out refurbishment works on listed buildings. However, in order to promote these learning packages there are certain steps that need to be taken towards creating demand for them in the construction industry. Now this report will describe how such demand can be generated.

Chapter 1: Business Plan Overview

Goal → to create demand:

- (1) for qualifications for the refurbishment of listed buildings; and
- (2) for education courses in the area of refurbishment and modernisation of listed buildings.

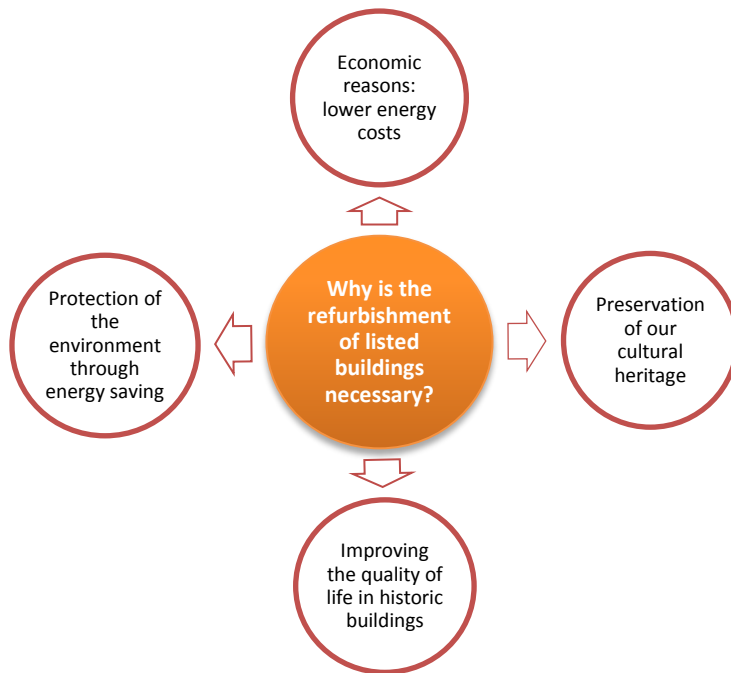
Goal → to create guidelines for craftsmen selection through the establishment of a certification scheme

How can housing companies and property owners assign the best suitable craftsmen in historic building refurbishment?

Further education in the field of refurbishment of listed buildings should provide certificates to qualified workers who have completed training modules specific to their field of expertise. Once a certification system is established, it will be easy to produce a list of certified workers and companies that are qualified for refurbishment works on listed buildings. Workers that have received a certificate should be registered in a database, which will state the details of each building company/worker and their skills according to the received certificate. Housing companies should then be granted access to this database so that they can find and assign the most suitable craftsmen according to the refurbishment works that need to be undertaken.

Why is the refurbishment of listed buildings necessary?

- Protection of the environment through energy saving
- Economic reasons: lower energy costs
- Improving the quality of life in historic buildings
- Preservation of cultural heritage and adapting it to modern life usages



Why is it important for construction workers to possess special skills in historic buildings refurbishment?

- Renovation of old buildings is an important policy of the German Ministry for transport, construction and city development. This might vary regarding other partner countries. In case of Germany government programmes encourage and finance the refurbishment of listed buildings.
- Construction workers should be educated how to refurbish old buildings without causing any damage to them.

Who demands these skills?

- Real estate developers, building societies and owners who look for qualified construction workers and companies capable of carrying out competent renovation of listed historic buildings.
- In the future (?): only certified construction workers will be allowed to renovate listed buildings.
- The government and local authorities support the renovation of historic buildings.
- Local councils would contract out the refurbishment of historic buildings only to qualified construction companies and labour.

How can we communicate the need for such skills?

- Establish contact with construction workers and companies in order to attract their attention to the topics mentioned above and to direct their attention to the need for special skills.
- Give examples in our newsletter of how historic buildings should be treated with care in order to avoid damaging them.

For more details on ways to contact the target groups please Table 3 in Chapter 2.

Chapter 2: Creating demand for further education by strengthening the selection criteria for construction companies

In order to promote these specialised training modules and highlight the need for life-long learning according to the professional requirements, we could undertake several actions as a project partnership:

2.1. Identify and engage with our target groups

Inform the building industry about the advantages of specially trained labour for the refurbishment of listed buildings. This will create demand for further education on the side of construction companies and workers. We can kick-start this process of economic promotion by promoting the need for further qualifications among actors in the industry in the following manner:

- a. Identify our target groups
 - Who are they?
 - What are their interests?
 - How can we establish contact with them and attract their attention to the problematic of renovation of listed buildings with the care with which they should be treated?
- b. Build a business case: Convince our target groups that they will profit from gaining further qualifications

Table 1: Which target groups are crucial for ensuring the successful completion of our project?

	WHY are they important?
Local authorities	... should encourage and support such projects. ... can regulate the renovation of listed buildings, for example by allowing only certified professionals to carry out refurbishment works.
Real estate developers / Housing cooperatives / Investors	... can initiate and finance refurbishment works.

Owners of buildings	... can initiate the refurbishment of their buildings and they should recognise both the possibilities and their obligations to do so.
Buildings' occupiers	... should know how they should use and behave in this type of old buildings.
Facility managers	... should know how the renovation of such buildings should be carried out and who must be involved in the process.
Architects, engineers	It is important that they know the methods of renovation and which are relevant to each specific case.
Construction companies, construction workers, construction trainers	... should have the skills and knowledge to refurbish listed buildings without causing any damages to them.
Students, apprentices	... should learn the methods of renovation of listed buildings and obtain the skills to do so without damaging the buildings.

Table 2: Why would our target groups be interested in engaging with the refurbishment of listed buildings?

	WHAT are the interests of these groups?
Local authorities	<ul style="list-style-type: none"> - to improve their sustainability agenda and to refurbish historic buildings in order to make them more energy efficient - to keep the residents of the area happy in order to receive their support.
Real estate developers / Housing cooperatives / Investors	<p>They would like to offer a differentiated product on the market and create demand for it in order to increase their profits.</p> <p>They would like to increase their customer base by improving their CSR agenda.</p>
Owners of buildings	<ul style="list-style-type: none"> - to increase the demand for their buildings by making them improving their quality and energy efficiency
Buildings occupiers	<ul style="list-style-type: none"> - to pay lower energy bills and to live in more comfortable homes
Facility managers	<ul style="list-style-type: none"> - to maintain the quality of the buildings in order to make the residents happy - to keep the maintenance costs low by improving the energy efficiency of the building

Architects, engineers	- to acquire higher professional knowledge and to know which craftsmen are qualified to refurbish historic buildings
Construction companies, construction workers, construction trainers	- to be granted procurement contracts - to improve their skills and to have more specialised qualifications in order to be better paid
Students, apprentices	- to receive good education which will make them more competitive on the labour market

Table 3: How can we establish contact with our target groups? Which of their representatives should we reach out to?

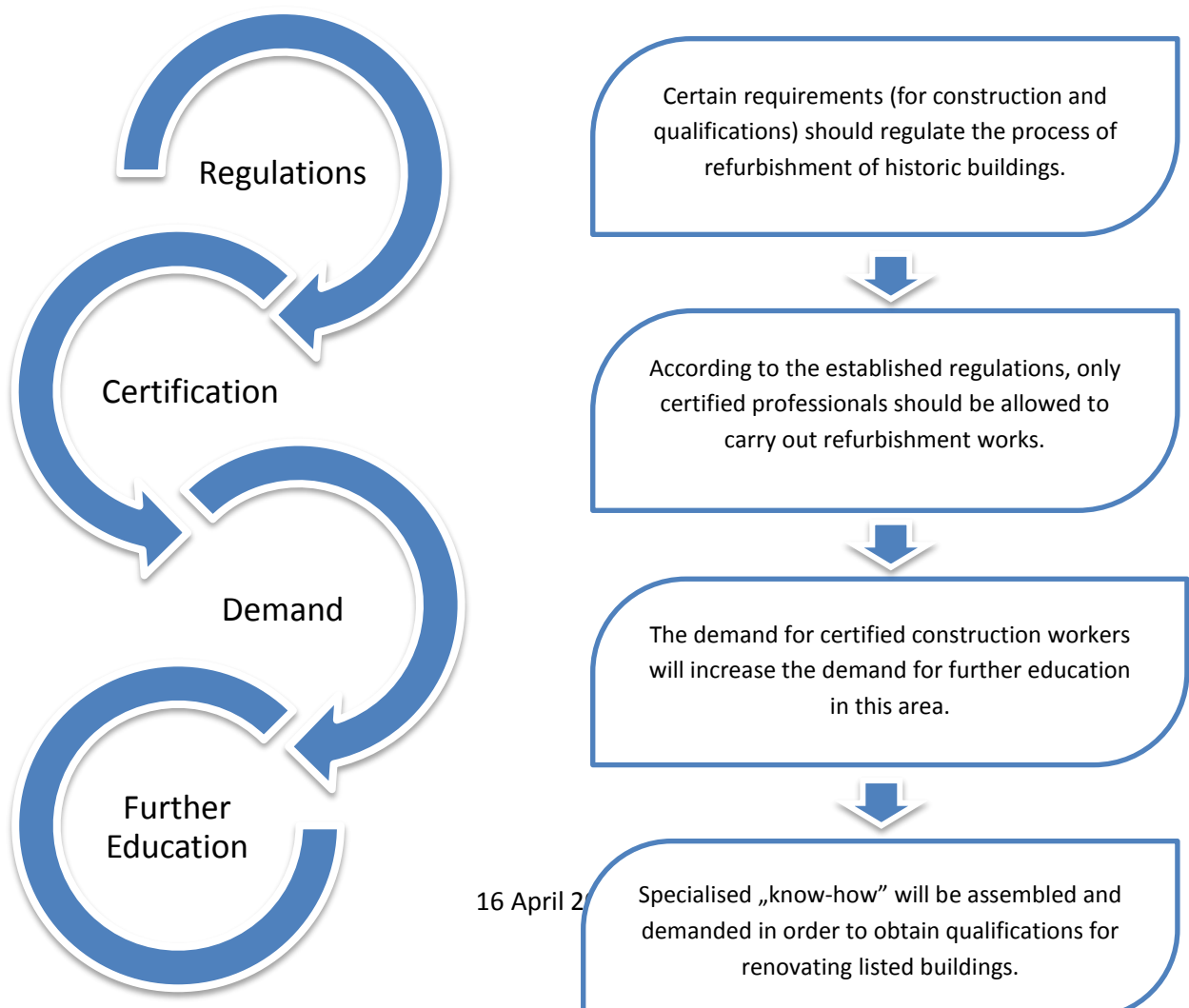
	HOW can we establish contact with these groups?
Local authorities	Explain to representatives of different local authorities the value of certification at info meetings, workshops and through briefings sent via e-mail.
Real estate developers / Housing cooperatives / Investors	1) Compile a list of developers and real estate investors 2) Select the ones that possess historic listed buildings 3) Send them information about the advantages of refurbishment of old buildings and invite them to an information meeting. 4) Organise an information meeting and present the results of our research → arouse their interest in the advantages of refurbishing old buildings – how will they profit from this?
Owners of buildings	Select a number of owners of historic buildings and invite them to an information meeting, where the advantages of refurbishment will be presented.
Buildings occupiers	Distribute leaflets and brochures in residential buildings to inform occupiers of the benefits of refurbishment of their buildings and why they should require this from the owners.
Facility managers	1) Visit buildings and discuss with their facility manager how refurbishment works could be carried out. 2) Explain to them the advantages of renovation and which professional construction workers are responsible for it (who has the specific skills to refurbish listed buildings)
Architects, engineers	Spread information about the renovation of listed buildings among chambers of architects and engineers.
Construction companies, construction workers, construction trainers	Spread information (leaflets/brochures) in educational institutions and construction industry chambers in order to inform them about the value of qualifications in the area of refurbishment of listed

	buildings. Organise meetings or invite professionals to AZB and present to them the results of Co2ol Bricks.
Students, apprentices	Hold events in schools and educational centres.

2.2. Stimulate demand for further education through the establishment of a certification scheme

Education providers work in close cooperation with governments and local authorities to ensure that renovation of historic buildings is regulated and only qualified construction companies are contracted to undertake such refurbishments. This will require that such companies are certified to carry out such works. There should be guidelines which prescribe what type of qualifications or year-long experience (reference projects) is required for each group of workers involved in the refurbishment of historic buildings. Once certification is an obligation for granting procurement, education and further qualifications will become a “must”. Thus, we as project partnership will create demand for the learning modules and curricula that we will produce for different groups of construction workers, according to their skills and engagement in the refurbishment process.

The following diagram summarises how we will create demand by achieving the establishment of a common certification scheme. In addition to this report you will find more information in the report *Certification scheme*.



2.3. “Soft” method for short-term engagement with local authorities

We recognise that the described actions in Steps 1) and 2) can be challenging to implement in the short-term. Therefore, we also propose some actions that can be taken now and implemented continuously until our long-term goals are achieved. This “softer” method of engagement entails that we do the following:

- a. Whenever a local authority is responsible for a refurbishment measure of a cultural heritage building they specify tight and clear requirements on who is liable to carry out refurbishment works on historic buildings by requiring the following information from the construction companies:
 - i. What experience do they have?
 - ii. What proofs can they provide for their experience? (e.g. references from previous similar work)
 - iii. What kind of professionals does the company have in order to carry out these works?
- b. This will also be suggested to contractors but on a voluntary basis.
- c. Establish a dialogue (e.g. round table) between the local authorities and the education providers in each region and make sure that strict requirements are introduced and implemented.
- d. Communicate to various bodies (e.g. architects) responsible for contracting construction companies what the technical requirements in the refurbishment of historic buildings are.

When local authorities tighten their **selection criteria** on contracting construction companies to refurbish historic buildings, more pressure will be exercised over companies to become more qualified and better educated, even if they do not possess an official certificate. The establishment of a certification system will require more time and until this is achieved we still need to ensure that historic buildings are refurbished in an appropriate way by qualified workers.

In order to take this process further and establish a certification scheme in the long term, we need to engage actively and constantly with our target groups. The tables in pt. 1 above briefly outline how this can be done.

2.4. Defining the role of local authorities and architects

The following concept describes a process that might be easier to launch than the ones above but will achieve the core goal: In order to re-organise the tender procedure for cultural heritage buildings special requirements have to be introduced in the companies' selection process. The main actors in this process should be the relevant local authorities, such as the Department for Heritage Preservation (DHP), and other experts such as architects.

Building inspection by experts: Firstly, a listed building that is planned for renovation should be inspected thoroughly by experts and specialised building companies contracted by the DHP. An architect should also take part in this stage by supervising and directing the inspections. After the inspections are completed, an analysis report should be prepared by the DHP and the involved architect. The report should state the weak points of the building, the damages in it and the possible solutions to these problems. The DHP should keep a copy of this report and add it to the file record of the listed building.

List of requirements: The conclusions from the inspections will also make it easier to compile a list of requirements for the renovation of the building. This list should be prepared both by the architect and the DHP. In addition, the architect should develop a "criteria catalogue" that will describe the actions that are allowed in the renovation process of the buildings. The criteria catalogue will also state clearly what skills/qualifications and experience the construction companies should possess in order to be allowed to carry out the prescribed refurbishment works.

Two-step tender process: Once the criteria have been established, the architect can announce the public participation competition prior to the restrictive call for tender (in Germany according to VOB/A §3 (4) 1: "Öffentlicher Teilnahmewettbewerb vor beschränkter Ausschreibung"). In order to participate in the tender construction companies have to review the requirements list and criteria catalogue and determine for which part of the renovation works they have the best experience and most suited skills.

Proved skills: When submitting their tender application, each company should be able to demonstrate the skills of their workers, for example through qualification certificates from education centres, or examples of their work that testify for their experience in the refurbishment of cultural heritage buildings.

Restrictive call for tender: Then, it is the responsibility of the architect to select the most suitable firms for the restrictive call for tender and invite them to submit their offers. Each company has to respond to the tender by stating their offer and respective prices. After reviewing the companies' offers, the architect should select the most suitable and cost-effective ones for each part of the renovation process.

Operational stage and documentation: The next step is the operational stage, during which companies will carry out the refurbishment works, while the architect should supervise the process. After the end of the renovation the architect has to submit documentation that should describe the successes and failures, if any, of the works and list the experts and companies that took part in the process. The completion documentation should be collected by the DHP and added to the file record



of the listed building. The following table and graphic summarise the responsibilities of each of these actors.




Note: The steps in bold signify the five major demands for this new regulation process.

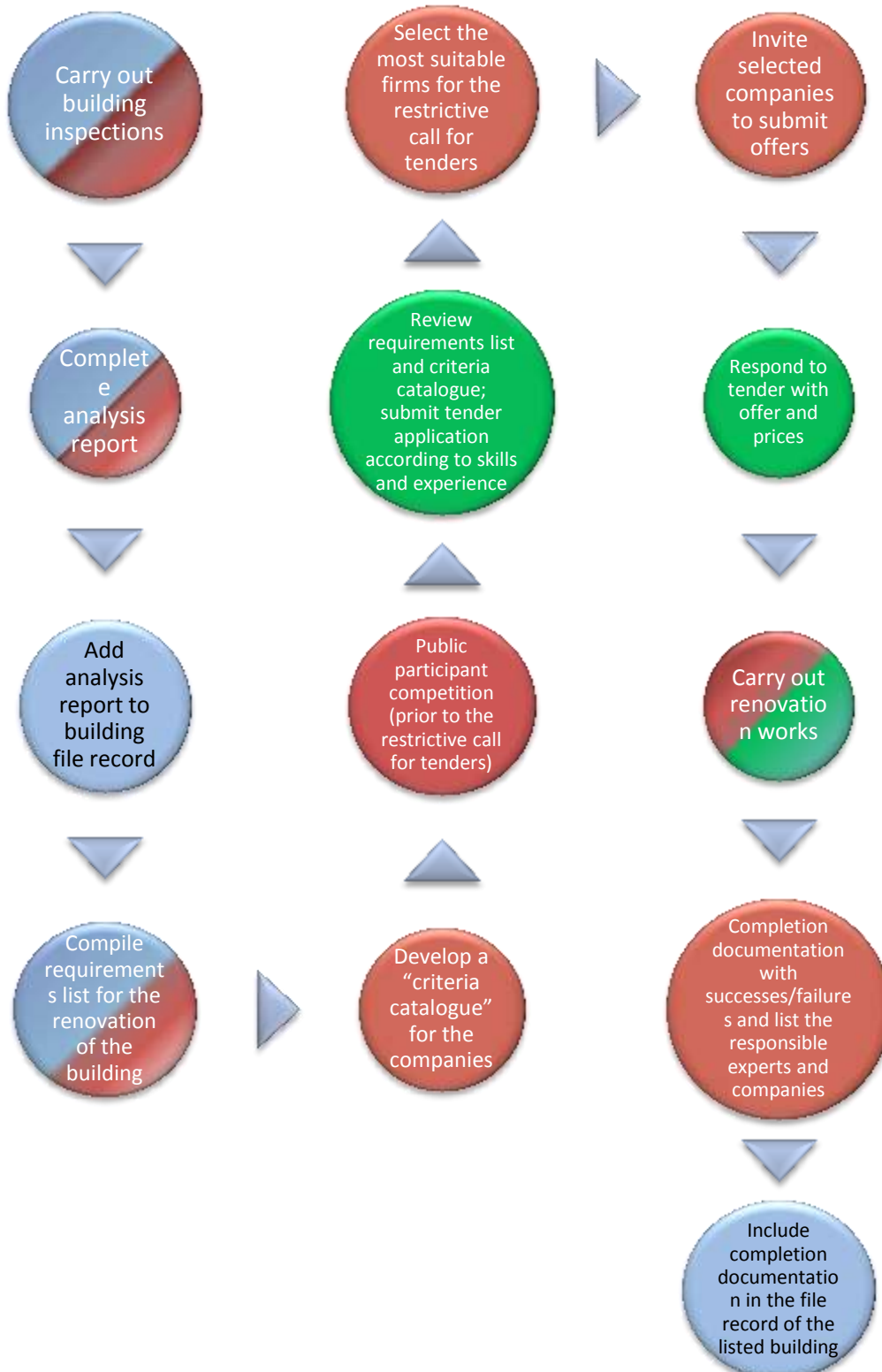
	Dept. for Heritage Preservation	Architect	Construction Companies
1	Carry out building inspections (by contracted experts and specialised building companies)	Carry out building inspections	
2	Complete analysis report	Complete analysis report	
3	Add analysis report to building file record		
4	Compile requirements list for the renovation of the building	Compile requirements list for the renovation of the building	
5		Develop a “ criteria catalogue ” for the companies	
6		Public participant competition (prior to the restrictive call for tenders)	
7			Review the requirements list and criteria catalogue and submit tender application according to their skills (e.g. certificates by education centres) and proven experience record
8		Select the most suitable firms for the restrictive call for tenders	
9		Make a tender offer to selected companies	Each responds to tender with offer and prices
10		Select most suitable and cost-effective company	
11		Supervise renovation works	Carry out renovation works
12		Completion documentation with successes/failures and list the responsible experts and companies	
13	Include completion documentation in the		



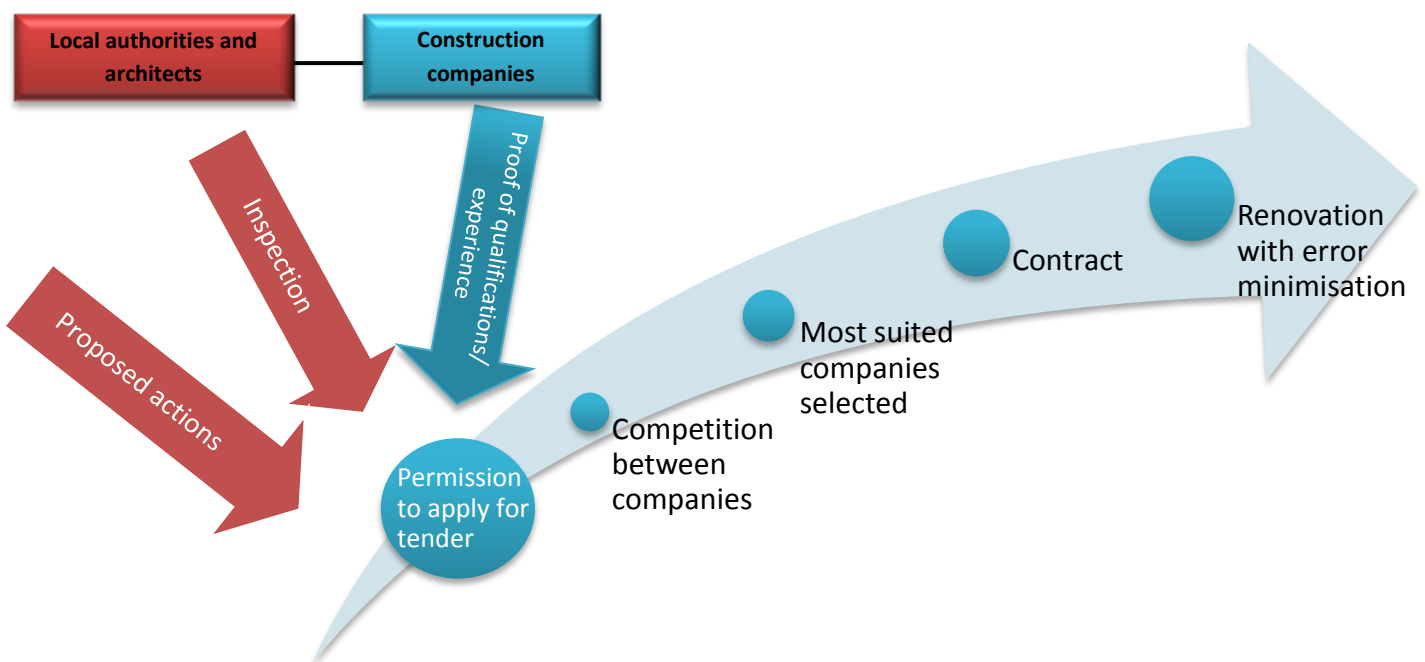
	file record of the listed building		
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“Step-by-step” roles and responsibilities in the tender process:

-  Heritage preservation authorities
-  Architect
-  Construction companies



The above described process illustrates the active role that should be played by local authorities and other responsible bodies in demanding that construction companies have specific knowledge and skills in renovation of historic buildings. This careful selection process (also illustrated below) will ensure that only qualified workers are contracted to renovate historic buildings. The error rate will thus be reduced to a minimum.



Contact details

Strategy plan prepared by:

Jens Schwarz

Project Manager, Ausbildungszentrum-Bau in Hamburg GmbH (AZB)

Schwarzer Weg 3, 22309 Hamburg

Tel.: +49 (40) 639 003-18

E-mail: Jens.Schwarz@azb-hamburg.de