

# **New stuff from old buildings! – Rehabilitation, conversion, recycling**

## **Call for Papers**

A building has reached the end of its present utilization phase - because it is no longer needed the way it used to be, because it is no longer technically sound or because it is outdated. What happens next? This is what we want to know. We want to find out about the best examples worth adopting!

### **1 Rehabilitation, yes – but to which standard?**

Rehabilitation is often confined to repair or maintenance, i.e. the restoration or preservation of a former state. Yet more often than not, rehabilitation means an improvement of the existing standard, an adjustment to the state-of-the-art of technology or to the requirements that a new type of utilization entails. Revitalization tries to kill two birds with one stone: the conversion of historic building fabric (either listed or not) in such a way as to enable up-to-date utilization while preserving its characteristic appearance.

This livens up the discussion held in the course of BauZ! 2015: How much technology and which standards do make sense in a given rehabilitation case? Should we go for rehabilitation using passive-house components? Or rather for plus-energy rehabilitation?

And, there will be conflicts in terms of objectives: should we improve the thermal envelope at the expense of daylight utilization? Should we increase useable areas or rather preserve the building fabric?

### **2 Ecology of temporary utilizations and provisional arrangements**

Some time may elapse between one type of utilization and another - a time of planning, exploring, waiting, maybe a time of indecision on the part of the old or new owners. This may be the right time for temporary utilization.

Complementing temporary interim utilization in a (still) remaining building constitutes a type of utilization which is basically here to stay and which is, for the time being, relocated to a temporary building: to a container or to another provisional arrangement.

Also building regulations may be reasons for going for provisional arrangements.

Is there such a thing as the ecology of temporary utilizations and provisional arrangements?

### **3 New utilization requirements placed on old buildings**

Utilization constitutes a type of human behavior that requires a suitable envelope. This envelope must be in the right place, and in a suitable, beneficial environment.

This livens up the discussion on urbanity and density held in the course of BauZ! 2014.

New utilization requirements meet with buildings that can live up to them either better or worse. Utilization neutrality is one of the buzzwords in this context, while a flexible layout is another. What makes a building open and suitable for utilization requirements that were not yet foreseeable or not anticipated when the building was originally planned? (multigenerational housing together with domestic workers in the

*Gruenderzeit* era becomes a student flat share, a medical doctor's or a lawyer's office 70 years later)

If the quality of the location changes, existing utilizations may compete with new ones and be thrust aside by them: gentrification, expropriation due to public interest, conversion. Yet this may also entail new opportunities for old buildings.

## **4 Conversion gains or space efficiency loss? Examples, please!**

A tobacco factory becomes a university, a city palace becomes a ministry or a school, a warehouse becomes a luxury hotel, attics are turned into apartments, apartments are turned into offices, offices into apartments, pedestrian underpasses into discotheques, greenhouses into restaurants ...

The conversion of buildings – for whatever reason – often brings with it an element of liberation. The existing building turns out to be generous for the new utilization in terms of room dimensions, useable area or the surrounding free space. Something is there already that one would not have afforded in the planning of a new building. Thus, we can talk about a conversion gain. Or, for those who prefer the glass to be half-empty, we can also talk about a decline in space efficiency.

On the other hand, rehabilitation objects come with limitations: load-bearing walls that cannot be removed, shafts, requirements regarding the preservation of historic sites.

## **5 Economy, ecology, architecture – contradictions and conflicting objectives**

If conversions and rehabilitations are at stake, economic options are measured against each other:

- Construction costs against operating costs,
- Rehabilitation costs against demolition and rebuilding costs,
- Mobility costs against property costs
- Lower life-cycle costs incurred by rehabilitations as opposed to new buildings even if rehabilitation (purchase + rehabilitation in cost categories 1-9 according to Austrian standard ÖNORM B 1801-1), related to the useable area, is more expensive when compared to rebuilding

Eventually, however, also the

- Costs incurred by options that are appealing from an ecological point of view: additional costs of building materials made from renewable raw materials and the constructions required for this

And, last but not least, the

- Costs for preserving architectural values of old building parts and the
- Costs for enabling architectural values harbored by a possible new part of the building

are considered: How much are these values worth? Is there a hierarchy of values in the realm of construction?

## **6 Financing**

Even if financing is not taken into account at the beginning of all considerations, it will definitely be at the end of considerations at the very latest. The following options for action are up for discussion:

- Step-by-step rehabilitation as a pragmatic business-management option.
- “No half measures” or avoiding the lock-in effect as a counterargument

- Is contracting back?

The following problems are up for discussion:

Non-affordability or cost-reduced rehabilitation due to ceilings on rental and operating costs according to the Tenancy Act

Ownership of residential apartments: Are owners condemned to inaction despite all the ownership rights that they have? Would it be helpful to increase reserve funds?

Are there any new financing models around? If yes, we want to know about them!

## **7 Reuse and recycling of building materials**

Rehabilitation entails recycling for entire buildings. What about building components? Which building materials or building components are nice enough to be dismantled and reused somewhere else? Roof tiles and bricks? Windows? Doors? Roof beams? Stairs? Loam rendering and clay bricks? Wooden floors?

And what would be surprisingly good ideas for reprocessing demolition material in such a way as to be able to reuse it in another form and function? Or do we need quotas and high landfilling costs in order to push recycled building materials into a reluctant market?

Pollutants from “old” buildings – the production and use of which is meanwhile prohibited and that harbor a health hazard for occupants and workers – may trigger comprehensive rehabilitation measures or extend already-up-and-running construction measures by another, legally-regulated and also financially-relevant rehabilitation component.

Can you tie in with any of these subjects with your present work? Then, the ball is in your court until 24 June. We are looking forward to receiving your suggestions for contributions (500 characters) at [kongress@ibo.at](mailto:kongress@ibo.at)