

SUPERUMBAU 2035

Proposal for sustainable development of post-lignite communities using the example of Hoyerswerda in Eastern German Lusatia. The project connects regional, urban and architectural aspects, enhancing both economic and social opportunities and thus expressing a comprehensive social design strategy.

Introduction

The proposal 'Superumbau 2035' makes a point for an optimistic storytelling of sustainable transformation processes in a post-fossil region. Besides technical or architectural aspects, it also makes an effort to include the community creating connections to local specificities intending a democratic, inclusive and sustainable transition. The project is a contribution to the urban design master studio 'New Bauhaus City – Creative Platform for places outside of metropolis' in summer 2021 at Leibniz Universität Hannover, conducted by the Chair for Regional Building and Urban Planning.

Today about 60% of Europeans are living in places up to 50,000 inhabitants¹. Regarding the European Green Deal, these places can offer new visions in view of sustainable qualitative density and resilient communities. The master studio dealt with these places outside of metropolis as rising habitat in the context of the European Commission's 'New European Bauhaus' initiative. This included the selection of an individual place and focus, the analysis and formulation of specific tasks in their spatial and programmatic aspects and also culminated in a trans-scalar design.

We selected Lusatia region, exemplary for immense structural change related to the end of lignite mining. The city of Hoyerswerda has become the focus area of our design as its population and urban development have been and still are exceptionally affected by the rise and fall of the mining industry. The place highlights the relevance and necessity for new strategies that could become exemplary for other regions and cities facing similar challenges.

In an analytical phase, spatial, programmatic and process-related aspects have been identified, followed by a trans-scalar design, aiming at a visionary, adaptive and interactive proposition.

Taking into account current planning and relating back to the art project 'Superumbau' in 2003 we illustrate a new perspective for the region that expresses both spatial and social design aspects for post-fossil landscape and society. We take the existing as starting point imagining new lifecycles for spaces gone obsolete. Moreover, our proposal is supposed to be a design for change, creating resilient communities, able to transform crises into opportunities, 'adaptive to changing circumstances, [and] acting with a proactive approach'².

Background and context

It is important to take into account the region's historical background as well as previous and current efforts trying to show new perspectives.

As post-war GDR based its energy production on lignite mining, Lusatia experienced an extreme growth of economy and population. Following system change in 1989/90 and with therefore decreasing importance of the mining industry – as former main employer - the regional economic decline began. Up until today, this era of rise and fall has big cultural significance. In 2022 there are still four active open cast pits left³.

From 2000-2010 the 'IBA See' presented new ideas for post-mining landscape as patchwork of filled-up former mining fields joining up to form the 'Lausitzer Seenland'. It will once be the largest artificial lake land in Europe. In addition to making visible cultural importance of industrial heritage it lay foundation for a touristic future. However, tourism as the sole main economic factor will not be able to adequately and sustainably strengthen the region and its communities.

¹ Cf. Schröder, Jörg. (2018) Open Habitat. in: Schröder, J., Carta, M., Ferretti, M., Lino, B. (Eds.) Dynamics of Periphery. Berlin: Jovis, p. 13

² Oliva, Jessica Smeralda. (2017) Urban Resilience. The Ad-ap(c)tive City. In: Schröder et al. Territories. Rural-Urban Strategies. Berlin. Jovis, p. 208-209

³ <https://uni-tuebingen.de/fakultaeten/mathematisch-naturwissenschaftliche-fakultaet/fachbereiche/geowissenschaften/arbeitsgruppen/geographie/forschungsbereich/wirtschaftsgeographie/arbeitsgruppe/grosse-exkursion-mitteldeutschland-2021/themengebiete/braunkohlebergbau-in-ostdeutschland/>, 15.08.2022

Federal and state governments have recently declared Lusatia to be a European model region for structural change. Nevertheless, providing funds and programs are still missing out on creating resilient spatial frameworks and visions for the region as a habitat involving existing networks and being able to face future changes.

All the more interesting seems the current plan to locate research facilities in the area. The 'Zukunftsfabrik Lausitz' is supposed to be a real-world laboratory for water, energy and food technologies and intends to attract international scientists and start-ups.⁴ If research facilities, companies and communities use synergies consistently, enormous ecological, economic and social long-term effects can be expected.

An exceptional place in the context of structural change in Lusatia is the city of Hoyerswerda. With the rise of the lignite mining industry beginning in the 1950s, its population has increased sevenfold within only 25 years⁵. A modern socialist city with a total of ten residential complexes was built right next to the medieval centre. The later decline of the mining industry was accompanied by a drastic population decrease. As a consequence, from 2000 on, city planning in Hoyerswerda decided to shrink the existing structures from the outskirts to the centre.

However, existing housing stock dominated by socialist blocks are no more attractive today, as single family houses are posing an ideal for living outside of metropolis. Therefore recently reclaimed lands are built on once again, this time way less dense. This counteracts sustainable development: On the ecological side single family houses mean high surface sealing posing a threat to eco-diversity and water management. Moreover, this typology requires high cost urban infrastructure as well as it comes with a lack of public space for social interaction. Thus, there is a need for new typologies but also for adapting existing buildings to today's needs.

We intend to use the ongoing shrinking and dismantling process as starting point for a reorganization of Hoyerswerda Neustadt. Through selectively redensified urban hubs, programmatically strengthened 'connectors', new forms of living or the adaptation of existing living spaces to today's needs we propose a new urban fabric. This is supposed to create a more lively and resilient city that will finally regain its balance after phases of extreme rise and fall.

Design

As cost of living keeps rising in metropolis and technology enables new forms of work, the periphery becomes increasingly attractive as habitat. We are therefore assuming a scenario of a slightly increasing population in the area. Our proposition includes a regional distribution of research facilities in the surroundings, with Hoyerswerda as centre focusing on sustainable building construction and urban mining. A promotion of science and new synergies with tourism, industry and society are supposed to diversify the general offer and infrastructure as bike lanes and public transport will be of double use.

Following current city planning in Hoyerswerda we propose a compact city to be the basic principle as it is the prerequisite for economical use of land, resources, financial means and energy.

In order to avoid urban sprawl, we suggest redensification from inside to outside starting from new urban hubs while special certificates reward active unsealing and thus become an important planning tool for shrinking cities. Reclaimed areas are converted into experimental and productive agricultural or forest areas. In contrast to the current new development of single-family housing areas, new buildings should only be built inside the cities new perimeter. Our proposal is a city of short distances that emerges from the mix of living and working within the quarters.

Generous existing space in between socialist buildings represents space for experimental use and can become tenants' gardens or common ground for new forms of food production. It also represents potential areas for future redensification within the city's perimeter.

As existing buildings may be unfit for today's diverse needs they are transformed into townhouses or micro-living units, in parts accessible and inclusive. Ground floor of existing housing blocks is activated and developed for collective uses especially along the 'Urban Connectors'. Young entrepreneurs can rent small spaces for their needs next to gastronomic businesses, workshops or co-working spaces offering new forms of work.

⁴ https://www.ikts.fraunhofer.de/de/presse/pressemitteilungen/2021_5_10_zukunftsfabrik_lausitz.html, 10.05.2021

⁵ <https://www.hoyerswerda.de/stadtleben/stadtportrait/geschichte/>, 15.08.2022

The existing facilities of daily needs are complemented by new buildings and form punctual hubs as nucleus of each district. New urban villas offer collective and intergenerational living while working and public spaces for social interaction find place on the ground floor.

Since there is no prospect for future use of all the currently vacant buildings, partial demolition will be indispensable. However, we clearly criticise common demolition practice and downcycling as the raw materials of those buildings gone obsolete still have high potential. They should be recycled in the sense of urban mining, reducing carbon footprint and resource consumption to a minimum.

Taking advantage of the socialist modular slab construction, obsolete buildings can be dismantled into their individual components and then be re-used in new construction in Hoyerswerda or places in metropolis. The local material hub is going to play a major role in this process as its function ranges from advisory activities over sorting and storage to a redistribution of materials and components.

Above all, 'Superumbau' has another visionary potential on a social level. Our proposition is accompanied by an update of democratic decision making processes including a new citizen's council on a regional as well as on a municipal level. Those serve as supplement to the existing parliamentary system. By this means, citizens should be involved in the discussion about the future-oriented development of their habitat and therefore contribute actively to the participation process of 'Superumbau'. These measures are supposed to help creating a more inclusive, just, solidarity and sustainable society.

Conclusion

'Superumbau' brings a positive contribution to its immediate context taking into account the place's specific existing resources. These resources also include the experience of former processes of change. The project doesn't try to rewrite history but on the contrary wants to add a new chapter to the previous story taking into account the place's cultural and historical heritage and therefore strengthening its identity. Shrinking is usually associated with failure. In contrast, this new chapter is characterized by an optimistic narrative as it demonstrates the potential and positive impact that shrinking processes can have in terms of long-term resilience, sustainability and as essential condition to face future challenges.

Summing up what we envision to be the proposed 'Superumbau' we would like to refer to some theoretical positionings. On the one hand, 'Reuse and Repurposing [should be seen] as a Design Principle in Architecture'⁶ and can even represent a prerequisite for 'Reuse and Repurposing of History'⁷. Moreover, '[Recycling] is not a statement of principles. Recycle [or in our case: 'Superumbau'] is a paradigm for the future of the architecture, the city, the landscape. Recycle is a program that needs a shared proactive Manifesto.'⁸

Making this new approach possible, political changes ought to be made in form of binding land-use reduction, or new building regulation focusing on 'Umbau', not new construction.

On a larger discourse our study opens up new prospects for other regions in structural change related to the decline of specific economic sectors or key players. Those could gain a strategic advantage if they made use of combined small-scale strengths instead of just updating former economic models relying on individual stakeholders.

On an urban level, our concept can be transferred to other former socialist cities with a similar urban structure that are currently affected by shrinking.

'Superumbau' tries to illustrate a new comprehensive perspective as it takes into account the major levels – from historical and cultural, over political and social, to urban, architectural and finally technical aspects.

⁶ Stockhammer, Daniel / Universität Liechtenstein, Institut für Architektur und Raumentwicklung. (2020) Upcycling: reuse and repurposing as a design principle in architecture, Zürich / Liechtenstein, Triest

⁷ Stockhammer, Daniel / Universität Liechtenstein, Institut für Architektur und Raumentwicklung. (2020) Upcycling: reuse and repurposing as a design principle in architecture, Zürich / Liechtenstein, Triest, p. 131

⁸ Ricci, Mosé. (2016) The Recycle GOA. Towards a proactive Manifesto, In: Ricci, Mosé and Schröder, Jörg (eds.) PRIN. ReCycle Series, New Life Cycles for Architectures and Infrastructures of City and Landscape. Roma, Aracne. p.26

References

Baumeister, Doris. (2005) Superumbau. Kulturelle Initiativen zum Stadtumbau 2003, In: Sächsische Akademie der Künste, Klasse Baukunst. Stadtumbau Ost, Superumbau Hoyerswerda. Dresden. Sächsische Akademie der Künste, p. 68-70

Geipel, Kaye / Meyer, Friederike. (2010) Zwei Internationale Bauausstellungen, In: Bauwelt 101 17-18. Gütersloh. Bauverl. BV

Gürtler, Konrad / Luh, Victoria / Staemmler, Johannes. (2021) Strukturwandel als Gelegenheit für die Lausitz - Warum dem Anfang noch der Zauber fehlt. In: Abschied von der Kohle. Struktur- und Kulturwandel im Ruhrgebiet und in der Lausitz. Bonn. Bundeszentrale für politische Bildung

Oliva, Jessica Smeralda. (2017) Urban Resilience. The Ad-ap(c)tive City. In: Schröder et al. Territories. Rural-Urban Strategies. Berlin. Jovis

Ricci, Mosé. (2016) The Recycle GOA. Towards a proactive Manifesto, In: Ricci, Mosé and Schröder, Jörg (eds.) PRIN. ReCycle Series, New Life Cycles for Architectures and Infrastructures of City and Landscape. Roma, Aracne

Schröder, Jörg. (2018) Open Habitat. in: Schröder, J., Carta, M., Ferretti, M., Lino, B. (Eds.) Dynamics of Periphery. Berlin: Jovis

Stockhammer, Daniel / Universität Liechtenstein, Institut für Architektur und Raumentwicklung. (2020) Upcycling: reuse and repurposing as a design principle in architecture, Zürich / Lichtenstein, Triest

<https://uni-tuebingen.de/fakultaeten/mathematisch-naturwissenschaftliche-fakultaet/fachbereiche/geowissenschaften/arbeitsgruppen/geographie/forschungsbereich/wirtschaftsgeographie/arbeitsgruppe/grosse-exkursion-mitteldeutschland-2021/themengebiete/braunkohlebergbau-in-ostdeutschland/>, 15.08.2022

https://www.baunetz.de/meldungen/Meldungen_Schlingensiefs_Superumbau_in_Hoyerswerda_14289.html, 08.08.2022

<https://www.hoyerswerda.de/stadtleben/stadtportrait/geschichte/>, 15.08.2022

<https://www.hoyerswerda.de/stadtleben/stadtentwicklung/integrierte-stadtentwicklungskonzept-insek/>, 15.08.2022

https://www.ikts.fraunhofer.de/de/presse/pressemitteilungen/2021_5_10_zukunftsfabrik_lausitz.html, 10.05.2021