

# Towards a New Bauhaus

## Concept Note

### The Basic Idea: A Bauhaus for the 21<sup>st</sup> Century

In 1919, Walter Gropius and his fellow pioneers established the “Staatliches Bauhaus” in Weimar. In merely 14 years of existence, it developed a radically novel, yet deeply humanistic vision of modern architecture and design, which shaped the 20th century and is still highly influential today.

100 years later, in the era of climate change, social division and cultural deterioration, it is time to develop a new holistic vision of the built environment. A critical step towards that end is the establishment of a Bauhaus for the 21<sup>st</sup> century, focussing on three key notions, namely *sustainability*, *inclusion* and *aesthetics*. In a remarkable speech (State of the Union Address, 16 September 2020), Ursula von der Leyen announced a major European effort to make that happen and to tap the unparalleled creative diversity of our continent for building a liveable future.

### Preliminary Steps: The Earth Bauhaus Initiative

This grand European project does not need to start from scratch: Based on several years of explorations and deliberations, an energetic process envisioning “The Earth Bauhaus” (EB) was launched in December 2019 in Caputh (near Berlin). This village is famous for Einstein’s summer villa, built from wood by the avantgarde architect Konrad Wachsmann in 1929. The EB idea is already supported by more than 20 eminent personalities from all walks of modern society (see Attachment 1).

The Earth Bauhaus (in German: “Bauhaus der Erde”) explicitly aims at developing strategies, methodologies and demonstrations for a reformed built environment which is regenerative and integrative from an environmental, social, economic and cultural point of view (see the “Caputh Declaration”, Attachment 2). This means, in particular, to provide *co-creation spaces*, where architects, designers, artists, manufacturers, scholars, students and stakeholders come together. Inspired by the original Bauhaus, yet clearly transcending its approach, the result shall be a “Gesamtkunstwerk” that learns from building cultures across the world, shapes novel concepts, and strives to serve all generations.

In contradistinction to conventional construction mantras – and partly also to the Weimar philosophy – the Earth Bauhaus conceives the built environment not as an imitate of industrial machinery, but rather as a *sophisticated sister of Nature*, where materials, forms, functionalities and structures benefit from organic solutions as provided by 3 billion years of evolution on Earth. This means, for instance, to make ample use of wood, which has multiple properties that outcompete concrete, and to carefully study the design principles of plants and the metabolism of ecosystems, which enable resilience and circularity.

Breathtaking recent advances in information technology culminating in quantum computing and artificial intelligence offer an entirely new perspective on this rediscovery of evolutionary inventions: The future of building economy and settlement planning will be heavily influenced by *cyborganic* approaches that combine the comparative advantages of natural solutions and digital techniques.

The EB initiative envisages to create an organization that relies on three interacting entities, namely

- a *think tank* for research & strategy;
- an *innovation lab*; and
- a *network* of change agents.

This blueprint will be briefly explained below and can provide guidance for the implementation of the new “European Bauhaus” as announced in the speech of the EC president.

## Contemporary Challenges for the Built Environment

The Earth-Bauhaus idea emerged in response to the tantalizing problems business as usual in the development of accommodations, urbanizations and infrastructures is facing - if not creating. Here are some of the critical challenges:

- The global population will grow to 9-10 bn people by 2050. This means that some 2000 million additional people will need shelter in the next decades, asking for the largest construction project in the history of civilization.
- The way humanity currently operates its built environment still follows the fossil, extractive and industrial logic that generates a disastrous ecological footprint.
- At least 40% of all greenhouse-gas emissions are directly or indirectly caused by settlements and infrastructures. The cement & steel-based construction of the globally planned new buildings alone would consume a significant part of humanity’s carbon budget in line with the Paris Agreement.
- At present, 56% of humans live in cities; in 2050 it will be two thirds. The number of mega-cities has risen dramatically from 1 in 1950 to 47 today and still increases. The enormous speed of largely unplanned growth resulted in severe social, economic and cultural dysfunctionalities bordering on systems collapse.
- More than 1 bn people currently live in informal agglomerations and slums, where basic human needs cannot be satisfied. The Corona pandemic of 2020 throws a harsh light on the unsustainability of these conditions.
- Settling and living in dignity is increasingly a question of affluence - in stark contrast to the post-war promises of the “welfare state”. In both the developing and the developed countries liveable spaces become the privilege of the richer strata of society.

## Current Responses Fall Short

Although the public awareness for the above-sketched challenges keeps growing and stakeholders begin to address them through various projects, programs, measures and events, all these efforts do not match the monumental scale of the transformation task. In

particular, stakeholders do not yet sufficiently realize that the built environment is “the elephant in the climate room”. This leads to a largely ineffective allocation of resources. Here is a limited list of examples:

- Few approaches look at the full ecological footprint of the construction-operation-demolition sequence of buildings and infrastructures.
- Many initiatives focus exclusively on energy efficiency and urban densification, thus creating new problems (like toxic insolation waste disposal and real-estate speculation).
- The focus on “Smart Cities” does not tap the full potential of computer-assisted innovation. Even worse, unguided digitalization may create more problems for sustainability and inclusion than it helps to solve.
- New mobility concepts tend to look only at transportation means - instead of developing an integrated mobility concept that avoids unnecessary travel. Such a concept heavily depends on the design of urban and rural spaces.
- The majority of current legislations, regulations and practices concerning the built environment are outright obstacles to transformative action. For instance, wood-based construction is still handicapped by the incumbent bureaucracy in most parts of Europe.

## The New Bauhaus Fosters Systemic Innovation

Given the evidence summarized in the last two sections, it is clear that a “New Deal” is also needed for the built environment. Whatever the explicit implementation of the Bauhaus vision will look like, it shall be based on whole-systems thinking, intersectoral cooperation and discursive participation of all relevant actors in the countries that form the EU. Also, the scope of topics and projects addressed shall range from the single-building scale to the regional dimension. In the transformation towards sustainability, inclusion and aesthetics, small villages and their ordinary inhabitants matter as much as mega-cities and their elites.

In this spirit, a non-exhaustive list of prime tasks is presented in the following.

## Key Topics

### 1. **Building a global carbon sink**

The win-win option to undo a relevant portion of the global carbon emissions by constructing settlements and infrastructures from bio-materials such as wood and bamboo while avoiding the emissions emerging from the use of conventional materials needs to be explored immediately and in all depth. The enormous climate mitigation potential of this option was evaluated for the first time in a recent international study (see Churkina et al. 2020, Attachment 3).

### 2. **Towards circularity**

Value chains that can be partially or fully closed need to be conceived and implemented for the built environment - in line with the EU’s ambition to develop the first circular economy worldwide. The feasibility of and the limits to a fully-fledged cradle-to-cradle approach have to be assessed in robust ways.

### 3. **Nature-based solutions (NBS)**

As already indicated above, the bio-diversity that evolved on our planet offers an almost unlimited arsenal for solutions of problems encountered in the built environment. Inspecting and utilizing that arsenal in the best possible ways should generate a multitude of new value propositions and bio-business models. Particularly exciting perspectives are associated with organic-digital approaches that need to be critically appraised, however.

### 4. **Climate-smart construction**

Even if the aims of the Paris Agreement can be reached, our planet will warm considerably. This will generate high adaptation pressures on settlements and infrastructures across the world. For instance, many hot regions may become uninhabitable in conventional buildings while permafrost-based constructions in Siberia will have to be transformed in the thawing process. All this requires a major integrated effort where the New Bauhaus should provide intellectual leadership.

### 5. **Emergency settling**

As mentioned earlier, more than 1bn people worldwide live in informal settlements, ghettos and slums. This number will further increase, not least due to migration driven by environmental degradation. Attempts by planners and decision makers to improve the conditions for the inhabitants notoriously fail, since complexity is underestimated while participation is undervalued. In close cooperation with local groups, architectural and infrastructural solutions need to be developed that specifically address precarious situations and contexts.

### 6. **New polycentrism?**

Analyses and debates about the respective comparative advantages of monocentric, concentric and polycentric urban developments within their rural matrices need to be (re-)launched in light of digital progress, ecological externalities and lessons from the pandemic crisis. Note that Europe's most productive cultural epochs unfolded in multi-centric settings.

### 7. **Citizens' reconquista of public spaces**

Car-dominated traffic has conquered the city after WW2 and marginalized urban life. Yet public spaces belong to all citizens, especially pedestrians, and must be designed as mixed open fora that host rich encounters across all generations and cultural backgrounds. At the beginning of the 3rd millennium, it is certainly worth while to rethink the concept of the "polis", where market activities, public debates and creative activities form exciting tangles.

### 8. **The political economics of built sustainability**

A crucial enabler of transformation is the political, economic and regulatory context in which the built environment operates. This context deserves closer inspections, which include views on true costs, public and private incentive/pricing schemes, natural capital considerations and on many other aspects.

## The Earth Bauhaus Blueprint: A Potential Prototype

In the course of the EB Initiative (as sketched above), extensive discussions and several workshops were conducted in order to identify an appropriate structure for the envisaged co-creation capacity. In the following, the result of these efforts is summarized. It may serve as a possible template for the entities to be established in the New European Bauhaus context.

The capacity will be composed of three units that work closely together:

### 1. Think Tank: Systems Analyses and Strategies

The *Think Tank* works at the intersection of theory and practice. It relies on different scientific disciplines (such as city climatology, urban ecology, biogeochemistry, material science, industrial ecology, public health, behavioural science) as well as on the wisdom and experience of architects, designers, artists, planners, and practitioners of various kinds. It will perform systems analyses of buildings, settlements and infrastructures and therefrom derive attractive and powerful narratives for the transformation of the built environment. Together with the LAB and the Network (see below) it will develop a 10-year roadmap for systemic innovation for sustainability, inclusion and better style in the overall field. It will conceive and oversee a number of lighthouse projects.

### 2. LAB: Linking Theory and Practice

The *LAB* is an exploration centre for disruptive and transformative concepts, approaches, techniques and composition in all relevant dimensions. This centre will massively use advanced digital methodologies and capacities. Defining subjects and objects created there will be curated and displayed to the general public. Symposia addressing quintessential under themes will convene researchers and stakeholders. Insights and findings from experiments and demonstration projects (see below) will be published in peer-reviewed journals and through quality social media. The physical spaces of the BE LAB consist of a design & visualization centre (**LABhub**) and a maker space (**LABfabrik**).

### 3. Network: A Set of Powerful Levers

A defining element of the Earth Bauhaus is a *global network* of experts, high-level decision makers and change agents from the pertinent sectors. Scientists, practitioners, industry representatives, young architects, to name just a few, will be engaged in real/virtual communities, LAB formats and theme-specific working groups at various spatial scales. A quintessential ambition is to initiate on that basis a worldwide cultural discourse that motivates ordinary citizens and particularly young people to question the incumbent built environment and to envisage a better one.

## Deep Demonstration Projects: Previews of the Future

The Earth Bauhaus will enhance its transformative power by concrete *deep demonstration projects* of appropriate dimensions, ranging from pioneering constructions and style-forming buildings to the green re-design of entire urbanizations. These projects will be realized with

adequate partners. Already now, there is a considerable demand from renowned developers to cooperate with the Earth Bauhaus. Through its core capacities as detailed above, the EB can convert a given development project at any scale into an open-innovation, learning ecosystem.

## Thoughts about the “New European Bauhaus”

There are many possible ways to establish a European Bauhaus, and it will be up to the President and the Commission, the member states, and other EU bodies to decide about the process and the desired results.

From our point of view, and based on the concepts that we developed over years in collaboration with numerous stakeholders, there are several key factors for a successful realization:

- The institution should be able to develop holistic views and integrated concepts, across sectors and DGs. Preferably, it should directly report to President von der Leyen.
- A broad involvement of the European people must be ensured to foster buy-in and create a sense of joint ownership. Appropriate online formats can help in this respect, especially under Corona conditions.
- The establishment process to establish can be kicked off by a landmark event, accompanied by carefully orchestrated media work with the headline: “Europeans build their Bauhaus!”
- The whole undertaking should be treated as a civilizational project of historical dimension – building a liveable common future in style.
- The initiative has to inspire all generations, most notable the idealistic young people that care so much for sustainability and equity.

The development of more than one Bauhaus entity seems essential for engaging and mobilizing creative forces all over Europe. This could be done in two waves:

In a first wave (2022), five vanguard “Bauhäuser” could be established in five different countries, constituting the founding ensemble. All members would deal with the built environment as a whole, yet should focus on different key aspects such as climate challenges, social cohesion, digital construction, sustainable bio-resources, beauty vs. efficiency, etc.

In a second wave (2027), further institutions can be added, ideally in all EU states.

The so-emerging European Bauhaus orchestra should be only minimally restricted by administrative burdens and controls. Lessons from the establishment and operation of the EIT, where a central bureaucratic instance made things unnecessary complicated, need to be heeded. One might consider, however, to create an intellectual “conductor” body, which could orchestrate the ensemble in a tactful way. There should also be a high-level external advisory board. Public-private partnerships, where the bulk of the funding comes from the EU and some co-funding comes from member states and private institutions, appear to be

adequate and attractive formats. In summary, a polycentric approach would best reflect the rich diversity of our European culture, which has to be harnessed for the successful transformation of the built environment.

It is crucial that the initiative will spread to other continents as soon as possible. The extra-European “Bauhäuser” and their networks could be either affiliated daughters of the EU mother or might develop independently in the same spirit. In any case, after Classical Antiquity, the Renaissance and the Enlightenment, the New Bauhaus movement could become another great contribution of Europe to humanity’s evolution.

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