

# Hubert Rhombert Bauen 4.0

From the Ego to the Lego Principle.

## Abstract

With its conventional way of construction, the building sector consumes 30 to 40 % of today's resources and energy as well as producing about 40 % of the current amount of waste and CO<sub>2</sub> emissions. Within the context of global developments such as resource depletion, urbanization and global warming, the building sector is facing the biggest challenge in its history. If the change to a low-emission and low-waste future in this industry gets missed out we might face the worst scenario. Against this background, Hubert Rhombert, managing director of Rhombert Group, initiated a research project which aims to develop an innovative and sustainable construction system. The result is called Bauen 4.0 and is based on three pillars: wood as a building material, the cybernetic table and the Internet of Things. In contrast to common construction planning, with Bauen 4.0 all parties involved are together planning "at one table" in terms of both dimension and time. This joint planning requires systemic thinking; this is why Mr. Rhombert refers to the table as cybernetic. He made unique modularization possible for Bauen 4.0, thus setting ideal conditions for the connection of buildings to the Internet of Things. Also, the cybernetic table shows even more results of technological progress. Without central cabling, switches and sensors get their energy from the environment; if planning is based on self-sustaining components, the building sector will find completely new value chains. Bauen 4.0 is thus considered a shake-up of the market.

# A manual to future construction.

Probably the most spectacular part of Bauen 4.0, however, is wood as a building material. Its use results from the aim to achieve optimum resource efficiency.

Compared to other building materials, wood has an extremely small ecological impact and, most importantly, grows again on its own. Within the context of global warming, wood is captivating with its ability to store CO<sub>2</sub>. In the system of Bauen 4.0, wood thus becomes the world's smartest CO<sub>2</sub> storage technology. In total, Bauen 4.0 reduces the consumption of resources by the factor 10 - also puts an end to the traditional construction site - and achieves what nobody would have believed previously: to build skyscrapers from wood - potentially leading the building sector to a future free of emissions and waste. In his book "Bauen 4.0: From the Ego to the Lego Principle", which is now being published, Mr. Rhomberg summarizes the most important findings leading to Bauen 4.0. In contrast to relevant specialized literature, Mr. Rhomberg's style of writing is simple and easily understood; he illustrates his know-how with simple analogies, figures of speech and a sense of humor. Titles such as "The Forgotten Lifecycle", "The Cybernetic Table" or "DNA of Construction" are shaking the foundations of outdated viewing patterns and habitual ways of thinking, starting where our retrocession begins: with thinking. The book is considered a manual to future construction as well as a guide to a change of thinking.

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