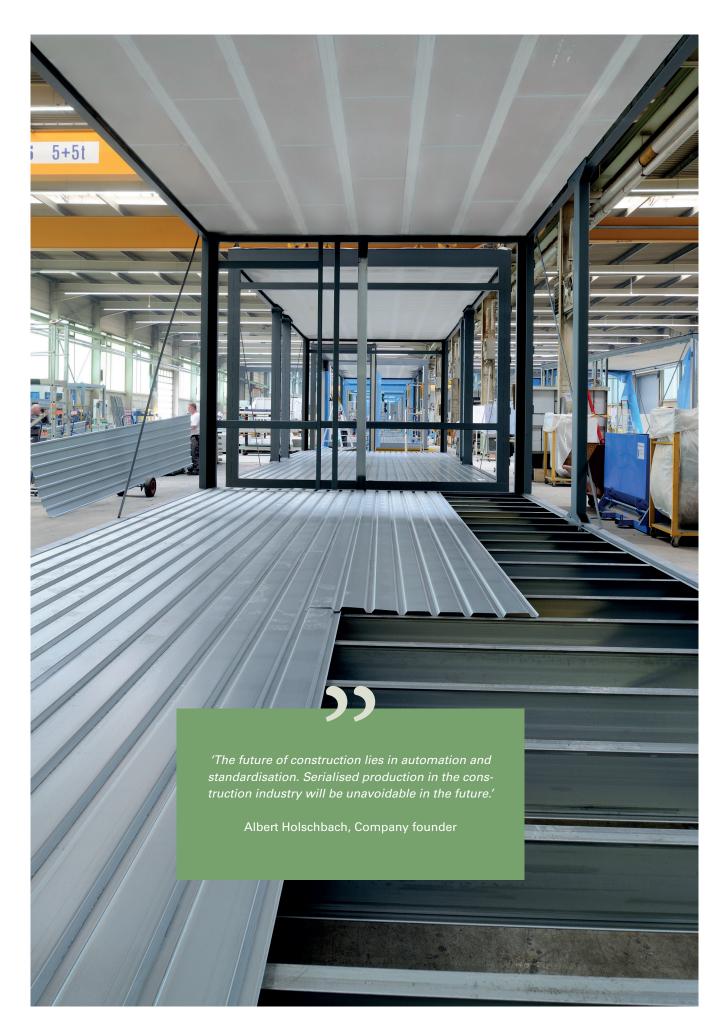


Building on the concept





#### **BUILDING ON THE CONCEPT**

# Sustainable innovation in the building industry

Resources are finite, skilled labour is scarce. Is it still appropriate to build stone on stone as it has been done for centuries? We at ALHO Systembau GmbH say quite clearly: No!

With our modular buildings, we stand for sustainable innovation in the construction industry and for circular economy. As a forward-looking company, we are constantly working to improve our construction processes and building methods. We encourage creativity and a wealth of ideas in order to develop our company sustainably, purposefully and efficiently.

We are characterised by acting responsibly towards all those involved in the construction projects. After all, the satisfaction of customers, employees and partners ensures the long-term success of our company.



Achim Holschbach, Silvia Matschke and Frank Holschbach, owner family of the ALHO group.

#### **INNOVATION BASED ON TRADITION**

# From construction site trailer to modular construction

The name ALHO stands for Albert Holschbach, who laid the foundation for the ALHO Group with the establishment of ALHO Systembau GmbH. He is one of the pioneers of serial construction. What politicians, interest groups in the construction industry, architects and building owners propagate today as the future of construction has been our reality for almost 60 years.

It all began in 1967 in a small cartwright's workshop in the yard of a single-family timber-framed house. Here, living, office, sleeping and toilet containers as well as wooden accommodation for construction sites were produced. In a very short time, our products established on the market and were delivered to large construction sites all over the world.





In 1971, we began producing standardised room units. Sound and heat insulation also became more important on the construction sites. With our products, we proved that standardised mobile room units and the desire for comfort were no longer mutually exclusive.

Over time, stationary and therefore durable solutions based on room units increasingly expanded our production programme, and the term modular construction developed. Today, modular construction is established alongside conventional construction methods in terms of quality and durability and is a pioneer concerning sustainability and resource conservation.

We also make this visible with our corporate colour: RAL 6029 forest green is not only the favourite colour of company founder Albert Holschbach, but also a commitment to our rural, wooded home region around our company headquarters right in the middle of Germany.



#### **CLOSE TO OUR CUSTOMERS**

# Subsidiaries and competence centres

Reliability, partnership and, last but not least, consistent customer orientation characterise ALHO – and have done so since our company was founded. That's why we go where our customers are.

Over time, we have established a total of five subsidiaries and one sales offices in Germany as well in Belgium, Luxembourg, France and Switzerland. On site, our modular construction experts are the first point of contact in the region for customers from local authorities, industry and SMEs. A team of architects, engineers and project managers supervise the construction projects from initial planning through to realisation.



Experts are needed for very specialised requirements. For us, this applies in particular to the healthcare property sector and multi-storey residential construction. We have therefore pooled our expertise in two competence centres specialising in these construction tasks.

Get in touch with us – your modular construction experts look forward to advising you and realising your projects.



#### TWO MODULAR CONSTRUCTION SYSTEMS

## Timber hybrid or modular steel construction?

Our timber hybrid construction system was developed with a focus on resource-saving serial production in combination with the digitalisation and optimisation of the construction process. It combines the technical and economic advantages of steel as a building material – such as space efficiency and flexibility of use – with the sustainability aspects of timber. This construction method significantly reduces the  $\mathrm{CO}_2$  footprint compared to solid construction, and in combination with green steel, there is further reduction potential.

Nevertheless, it is important to us to use wood as sparingly as possible and only where it really makes sense. We therefore combine the load-bearing steel frame construction with ceilings and walls made of wood.

The timber hybrid system is a standardised modular construction system. It has been developed for flexibility in floor plan design and offers an economical solution thanks to production-optimisation. Different module dimensions combined with variable construction forms – e.g. U- or L-shaped – allow for a variety of floor plans.









Office buildings, educational or healthcare properties and residential buildings up to building class 4 can be realised using the timber hybrid modular construction system.

By contrast, we realise class 5 buildings with up to seven storeys using our modular steel construction method, which has been tried and tested for decades. Thanks to the highly variable module dimensions, we construct buildings that are precisely tailored to the respective needs and conditions of our customers. We only use quality-tested materials from German brand manufacturers for the construction of the modules, thus ensuring a healthy indoor climate. All recyclable materials can be sorted and recycled.

#### **AREAS OF APPLICATION**

# Modular construction for work, education, health, research and housing

Planning and constructing buildings is complex. ALHO makes it easy for you. From energy-efficient office buildings and sustainable buildings for education, research to sophisticated healthcare properties and attractive residential buildings – we realise our projects on a turnkey basis and entirely according to your requirements. As a general or total contractor, we take care of the entire construction process, from integral planning to serial production, assembly, construction management of all trades through to the handover and maintenance of your building.







#### Work

The world of work is in a state of upheaval. One of the ways employers are attracting employees today is to offer a contemporary working environment. This also includes attractive architecture, modern room concepts and a high level of comfort. We realise modern office environments that act as a calling card for your company.



#### Education

With our educational properties, you are building a sustainable future, because rooms act as the third educator. Whether as a kindergarten, daycare centre, school or university building - we create feel-good spaces for learning, playing and letting off steam.



#### Health

The construction of clinics and nursing homes is particularly demanding. Fast construction times, financial security and minimal disruption during the construction phase: modular construction creates efficient building solutions for the healthcare sector.



#### Research

Building complex research and laboratory facilities is a science in itself. We are experts in this field and have a high level of expertise in the special processes and requirements involved in building research facilities.



#### Housing

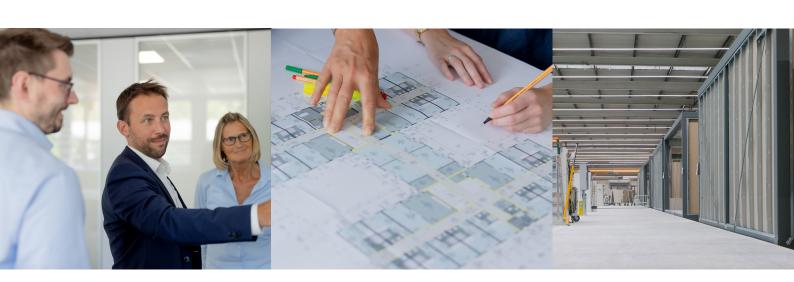
Living space is currently becoming increasingly scarce. Whether affordable housing, student residences, accommodation for refugees or hotels - modular construction offers the opportunity to create the required space quickly and to a high standard.

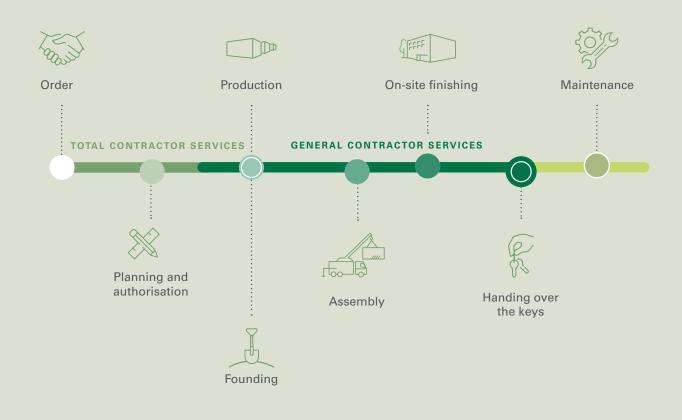
#### FROM A TO Z

## Turnkey construction

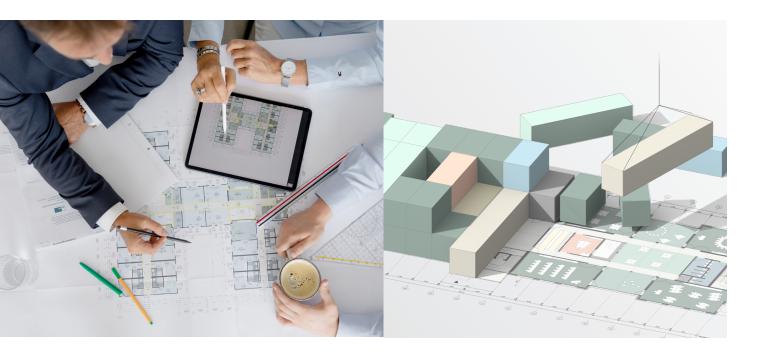
Building means coordinating a large number of different trades – both for modular and conventional construction. The difference: we take on this mammoth task for you in its entirety. With us, you commission a general contractor who provides a turnkey service and delivers a building realised according to your ideas at an all-inclusive price. We integrate the various trades into our production processes just in time and organise them on site.

As a total contractor, we not only take responsibility for the construction work but also for the construction planning, including preliminary planning and approval planning.









## INDIVIDUALITY IN SERIES PRODUCTION - COST-EFFECTIVENESS THROUGH STANDARDISATION

### Planning with the modular system

When planning with room modules, as with architectural planning in general, it's all about what you make of it – because creativity is not a question of the construction method! Creativity can be seen in the successful organisation of functions at floor plan level and matching architecture. True to the motto: 'Form follows function'.

Planning economically and material-efficiently is a fundamental aspect of architecture. This makes it necessary to organise a structure using a grid – regardless of the material, the building system or the construction method. When planning, it is important to find a grid that takes account of aesthetic, economic and technical requirements in equal measure.

In addition to the possibility of planning completely customised buildings, we have already designed standardised buildings for various areas of application based on our wealth of experience. These are technically and functionally sophisticated and architecturally attractive and can be realised very economically and within a very short time. Contact us, we will be happy to advise you.



#### Integral planning

In modular construction, we plan with BIM support and the involvement of all relevant specialist disciplines. This ensures that the structure and building technology are precisely harmonised. All life cycles of the building as well as costs, user comfort and ecology are taken into account. A building concept that is precisely tailored to your needs is a prerequisite for planning and cost certainty.



#### Flexible floor plan design

The floor plan can be designed with complete freedom - and thanks to the load transfer via the module frames, independently on each floor. By arranging and stacking the threedimensional room modules, attractive modular buildings can be created.



#### Appealing architecture

Almost anything can be realised in terms of facade design - whether large-scale glazing, external thermal insulation composite systems or rear-ventilated facade elements in wood, metal, ceramic or glass. The possibilities of modular construction result in buildings with freely projecting elements, balconies and loggias or exciting architecture with staggered module arrangements.



#### In-house specialised planning

Our experienced specialists support and advise you in the planning of the building. With our own experts, we cover the specialist areas of architecture, technical building services, fire protection, building physics and statics. Our experts of the sustainability planning department prepare project-specific life cycle assessments and supports clients in the context of DGNB and BNB certifications.





#### THE ALHO SPACE FACTORY

# Serial construction with room modules

In the ALHO 'space factory', around 70 percent of the modules are already industrially prefabricated in lean production before they start their journey to the construction site. The deployment of the trades involved in the production process can be optimally coordinated. Thanks to the optimal, calculable conditions, which always remain the same, the project schedule can be planned precisely. We therefore guarantee fixed prices and fixed handover dates.

The modules are assembled cleanly and quietly on the construction site within a few days and can be finished to a building ready for immediate occupancy within a few weeks. Many years of experience in modular construction and professional project management reduce the construction time by up to 70 percent compared to conventional construction methods.





#### Fixed costs and deadlines

Thanks to our industrialised construction method, we can calculate the use of resources and working hours in a binding manner and thus offer fixed prices. Weather-independent production ensures that the construction process can be planned accurately, guaranteeing handover on the fixed date



#### Resource-saving construction

By optimising and harmonising processes in the room factory, the use of resources is reduced by around 36 percent and waste by around 70 percent compared to conventional construction.



#### Consistent high quality

We achieve consistently high quality through serial factory production under constant conditions and rigorous quality management, including regular factory checks.



#### Clean and quiet construction sites

The high degree of prefabrication of the modules and the short construction time on site minimise the environmental impact of dirt, noise and construction waste on the building site.



#### Fast building handover

Thanks to the parallel processes - in particular the foundation, basement, development and module production - the construction time is reduced by a total of 70 percent.



#### WORK, PLAY, LEARN, RECOVER, LIVE

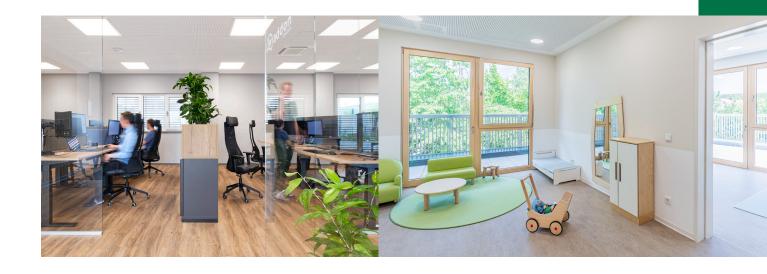
## Room to feel good

On average, people spend up to 90 percent of the day indoors. The focus of rooms on the health and well-being of users and occupants has an enormous influence on productivity, performance and quality of life.

Whether office buildings, schools, kindergartens, clinics or residential buildings - our modular buildings, customised to the respective needs and requirements, offer all the possibilities that contemporary buildings must have today.

And even more: should requirements change in the future, our buildings can be flexibly adapted to the new situations. Thanks to the self-supporting steel skeleton structure with non-load-bearing walls, they can be flexibly remodelled, enlarged, reduced in size, repurposed or even relocated, dismantled and recycled.







#### **Healthy materials**

The quality of indoor air plays a key role in feeling good. That's why we only use tested, low-emission materials from brand manufacturers in our buildings.



#### Smart building technology

Smart buildings are designed to improve the overall user experience while becoming increasingly efficient, sustainable and economical. Our specialist planners support you in the selection of harmonised components and systems.



#### Renewable energies

In times of massively rising energy costs and increased demands on the sustainability of buildings, innovative energy concepts are playing an important role. Regenerative energies can be easily integrated into modular buildings. For example, the thermal insulation pitched roofs are ideal for operating photovoltaic systems. CO<sub>2</sub>free solutions such as the ice storage energy system can also be used.



#### Light and transparency

Sunlight is unrivalled for emotional well-being. Floor-to-ceiling windows, ribbon windows or skylights bring plenty of daylight into the building's interior, creating a feel-good atmosphere.



#### Pleasant indoor climate

In combination with smart ventilation and cooling systems, the optimised insulation ensures a consistently pleasant room temperature - comfortably warm in winter and pleasantly cool in summer.



#### Sound insulation and acoustics

Distracting sounds and noise can severely impair productivity and well-being. The double-skin wall and ceiling system in our modular buildings ensures optimum sound insulation and the best acoustics.

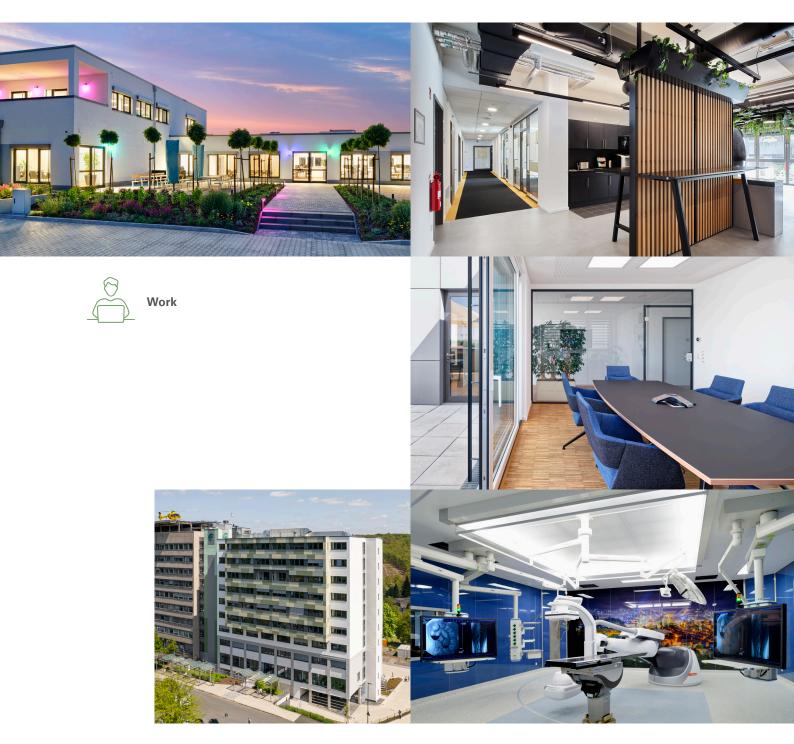


#### **Barrier-free access**

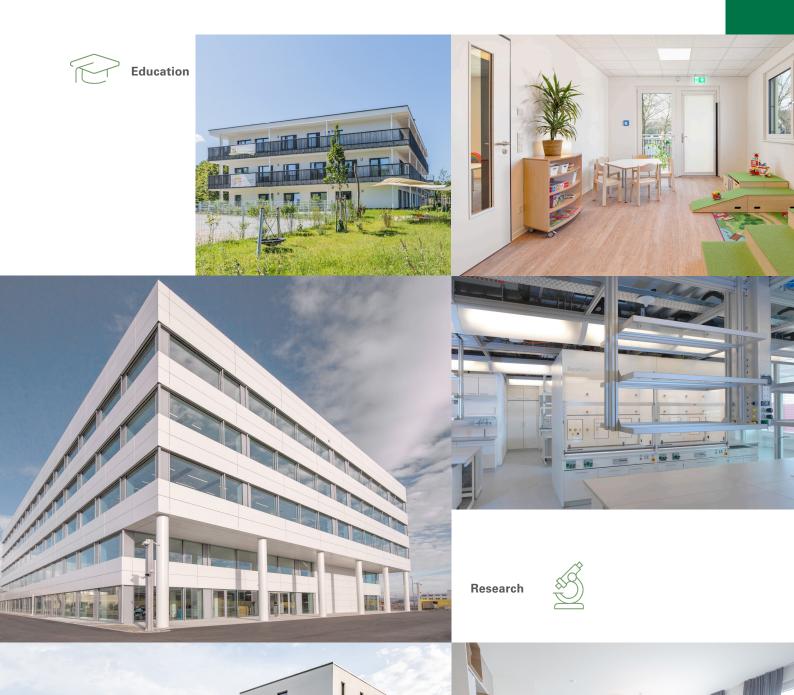
Our modular buildings can, of course, be planned barrier-free in accordance with DIN. Our customers have access to DIN-certified specialist planners for barrier-free construction in our in-house planning team.

#### **OUR REFERENCES**

## Get inspired!

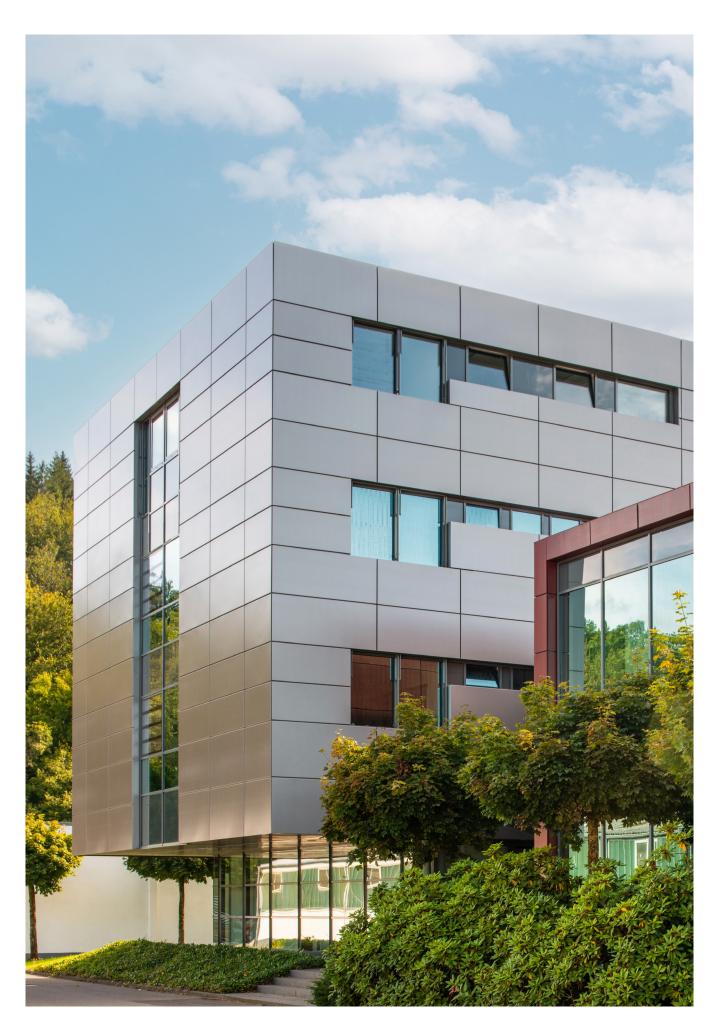


Health





Housing



#### THE ALHO GROUP

## Experts in serial and circular construction

We are an owner-managed group of companies. With our brands ALHO, FAGSI and ProContain, we cover individual needs in the field of circular construction.

With ALHO, we realise sophisticated building projects in modular construction. We solve temporary space requirements with container buildings from FAGSI. With ProContain, we offer retailers, rental companies and the construction industry durable and robust container systems.

All brands – and therefore our customers – benefit from the combined expertise and pooled know-how of our group of companies.



#### **ALHO**

Planning and construction of sustainable modular buildings as alternative to solid construction



#### **FAGSI**

Sales and rental of high-quality buildings as a temporary solution



#### **ProContain**

Supplying container dealers and rental companies with system containers 'made in Germany'



1,300 Employees



12,000 units produced per year



15 Locations



200,000 m<sup>2</sup> built surface per year

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