

Sustainable housing system

Construction was never faster and easier





In 2030, there will be demand for

96 000

new affordable and accessible

housing units every day

By 2030, UN-Habitat estimates that 3 billion people, about 40 per cent of the world's population, will need access to adequate housing. This translates into a demand for 96,000 new affordable and accessible housing units every day. Additionally, an estimated 100 million people worldwide are homeless and one in four people live in harmful conditions that to their health, safety and prosperity.

Source https://unhabitat.org/topic/housing



Deloitte.

In 2022, in Prague 70 m² Apartment costs

15,3x

Average Year Gross Income

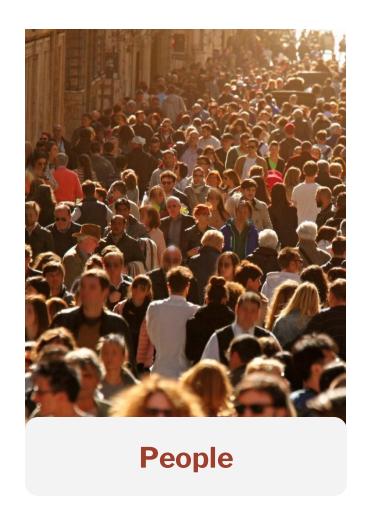
"Ve srovnání vybraných evropských metropolí je na tom hůře než Praha, kde získání vlastního bydlení vychází na 15,3 průměrných hrubých ročních platů, jen Amsterdam. Holanďané za byty ve svém hlavním městě vydají 17,7 průměrných hrubých ročních platů. Nejméně takových platů, konkrétně 6,8, potom stojí bydlení v Oslu."

Source

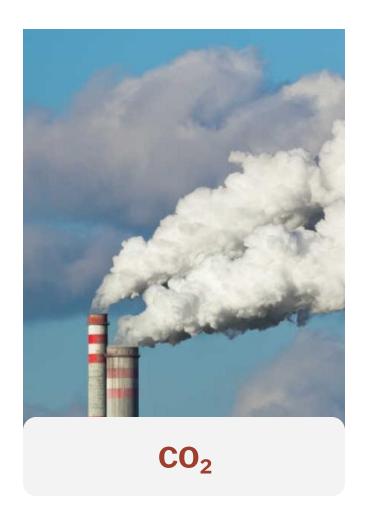
https://www2.deloitte.com/cz/cs/pages/press/articles/property-index-2022.html



What do we have plenty of?

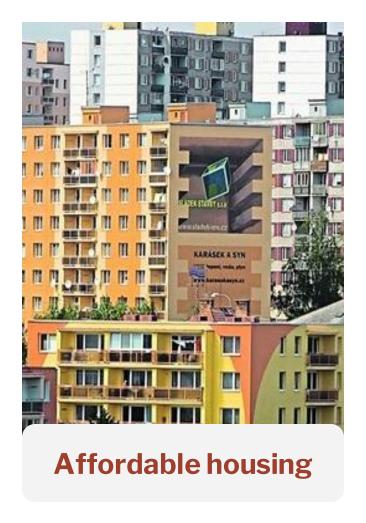




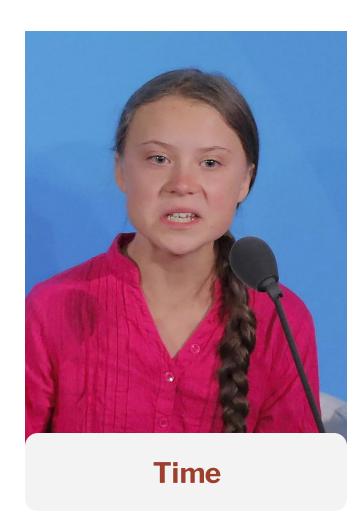




What are we lacking?

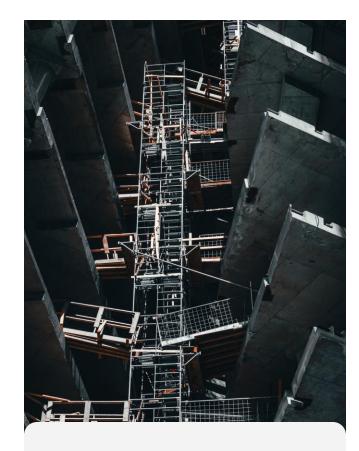








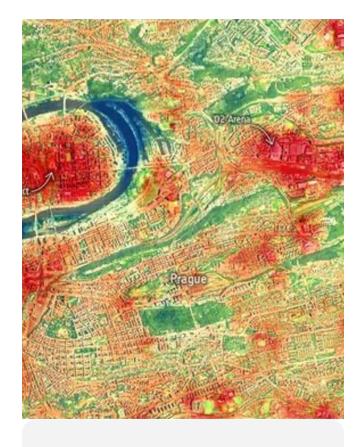
Challenges for Const. Industry



Carbon Reduction Goals



Global Supply Chain



Climate Change Adaptation

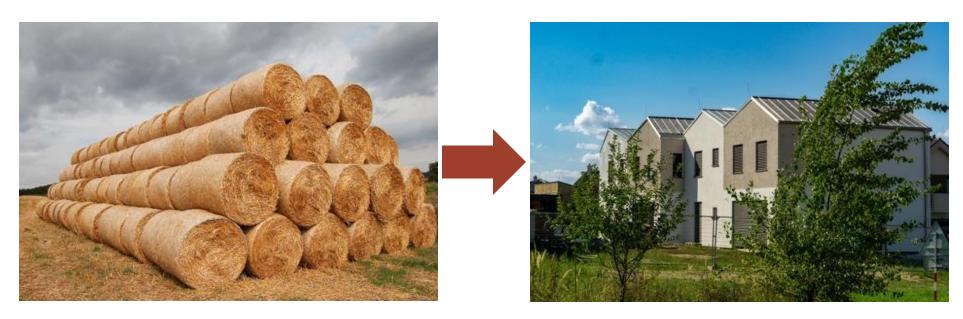






Construction materials for the next generation of housing

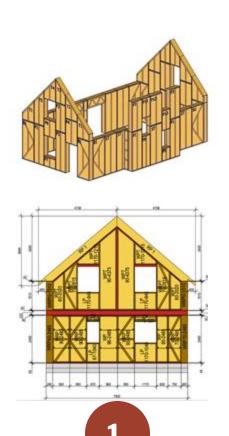




Bratislava, Slovakia Svarog Buildings s.r.o , 2023

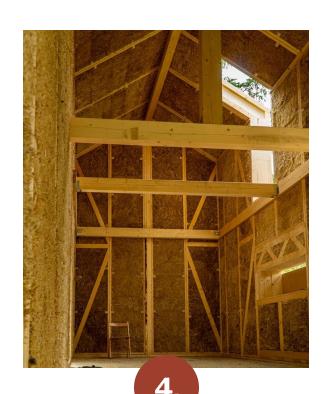


Step by step









2

3.

Construction process





The client comes with own study/project or collaborates with our architect.



Project

Preparation or adjustment of construction documentation and static calculation for the Svarog building system



Building permit

Building permit process in accordance with the relevant building office.



Basement

Provided by a subcontractor according to the project documentation.



Base timber

Wooden frame for anchoring wall panels. Including waterproofing barrier over the basement.

Walls

Custom-made straw panels for load-bearing walls. Internal loadbearing partitions.



Ceiling structure

- Reinforcing structure
- · Beam lintels
- · Wooden floorboard



Roof structure

- · Reinforcing roof structure
- Pitched roof straw panels



External covering

- · Ground desk for facade finishing and roof covering
- · Vesta Eco Uni 30 mm boards



Roof membrane

- · Waterproofing and wind proofing foil
- Counter battens



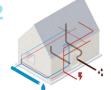
Roof covering

Provided by a subcontractor according to the project documentation.



Window & door fillings

Windows and doors are installed by a subcontractor according to the project documentation.



Internal utilities

Distribution of electricity, water, sewerage and heating according to the project documentation.



Primer clay plaster

Reinforcing elements for hanging furniture and equipment. Fibreglass reinforcement mesh (fittings). Coarse clay plaster with added fibre for reinforcement.



Finishing works

Floors - Insulation and its cover (wooden floor construction or concrete screed), window lining and sills, staircase construction, internal drywall partitions, facade finishing, gutter system.

15



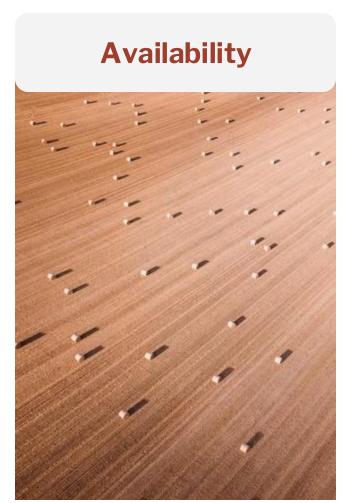
Handover of the building

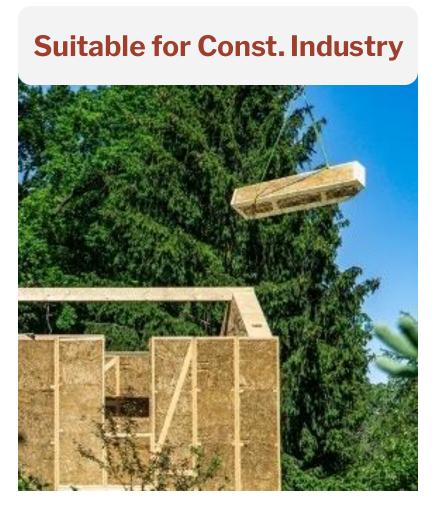
Handover documentation. certificates and warranty certificates for individual components of the building, blower door test - airtightness test of the building, energy label according to BDT.



Why straw?







Philosophy



Simplicity

No compromise sustainability

Climaskepticism resistant

Affordability

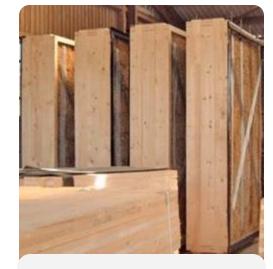
Market ready

No constraints

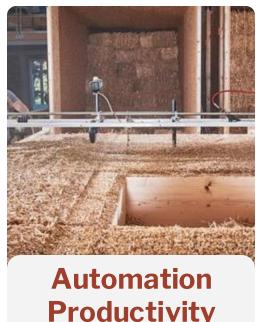


Svarog competence & technology

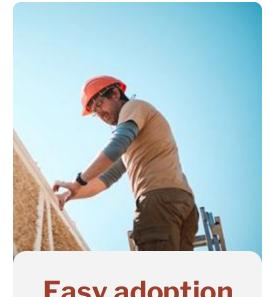




Prefabrication



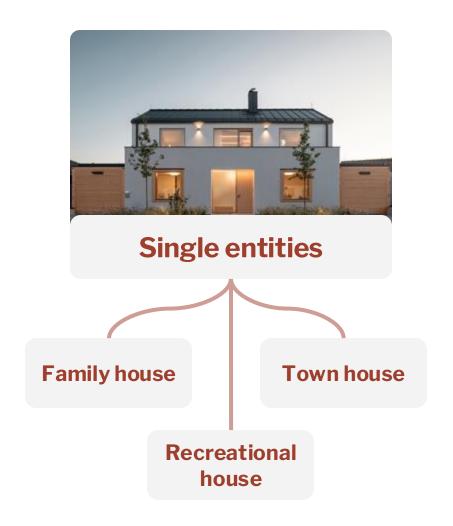
Productivity



Easy adoption



Who is the customer?







Compare







| Main technology | Brick / Concrete house | Wooden house | Svarog SCS House |
|---------------------------|------------------------|--------------------|--------------------|
| CO ₂ footprint | 42 000 - 45 000 Kg | 25 000 - 28 000 Kg | 16 000 - 18 000 Kg |
| Heat loss | 80 - 120 kW*h/sqm | 45 - 60 kW*h/sqm | 25 - 35 kW*h/sqm |
| Time to build | 160-180 days | 45-60 days | 45-60 days |
| Utilisation cost | Maximum | Middle | Low |

Raw construction of typical house 100-120 m², uninsulated...

Plans & Results



Accomplished 2022 - 2023

Showcase buildings

Train manufacturing and assembling teams

Investments to launch a new line and complete certification

Enroll for ETA and CE certification

Documentation, technical sheets, and model libraries

Plan for 2024

Finish CE certification process

Increase production capacity to 18,000 m2/year

Development project of 1000+ m2

Annual turnover of 17+ mil CZK



THANK YOU, TIME FOR QUESTIONS