

The HOAS experience: client leadership in industrialised housing in Finland



How can a housing provider systematically improve affordability across the projects?

Hoas briefly

- Hoas is Foundation for student housing in the Helsinki region
- We provide affordable rental homes for students who are studying full time at secondary and higher education in the capital region of Finland
- We are a non-profit organisation, we keep our rents as low as possible
- We have about 12 000 apartments and over 21 000 is living in Hoas apartments, a third of whom are international students
- There are over 90 persons working permanently at the office



Hoas 2018-2025 (31.12.2025)



+ 27 M€, + 38 %

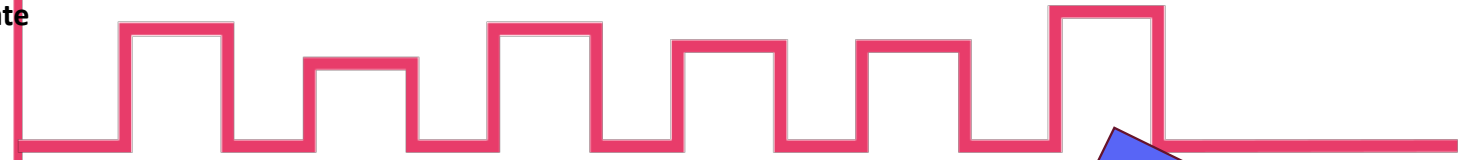
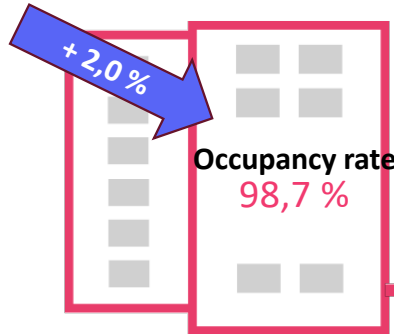
Turnover
97,5 M€

Staff (average)
92

+ 320 M€, + 73 %

Balance sheet
759,6 M€

Properties
128



+ 1 762, + 18 %

Apartments
11 488

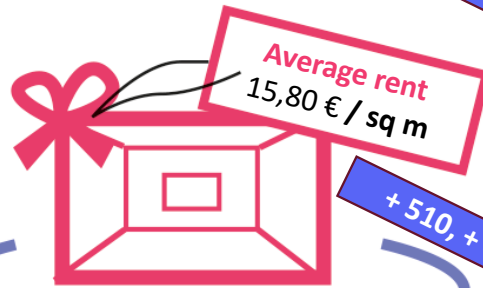
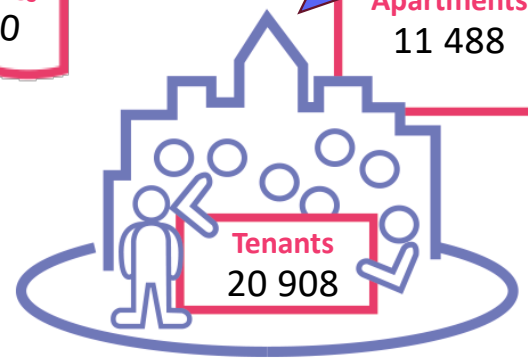
- 547, - 6 %

New tenancy agreements
8 316

+ 510, + 4 %

Tenancy agreements
14 658

Nationalities
ca. 140



Property stock
(apartments)
510 869 sq m

Why affordability matters to Hoas

- We are not a developer building projects for sale
- We are a long-term owner and operator
- We benefit from every improvement in:
 - quality
 - lifecycle performance
 - maintenance efficiency
 - productivity
- Every euro saved through better design, procurement and production ultimately benefits the residents through lower housing costs.
- This creates a strong incentive to improve the entire delivery system rather than individual project

Housing delivery is a systems challenge

- Housing affordability is not determined by construction costs alone
- Outcomes are influenced by planning, procurement, design processes, delivery models, supply chains, production systems and long-term ownership strategies
- Improving affordability requires improving the whole system, not individual projects.



Why do housing delivery systems struggle to deliver at scale?



- Most housing projects are still treated as unique prototypes
 - different teams
 - different technical solutions
 - different procurement approaches
 - limited transfer of learning
- As a result
 - productivity improvements remain local
 - variation remains high
 - costs increase
 - industrialization remains difficult

We need to move from individual projects to a production system



The role of the project owner



- Industrialization does not begin in the factory or at the construction companies. It begins with client decisions
- The project owner creates the conditions for:
 - repeatability
 - standardisation
 - long-term planning
 - collaborative procurement
 - continuous improvement
- At Hoas, our objective is not only to deliver projects
- **Our objective is to improve the housing delivery system over time**

How Hoas builds a production system

- Standardized contract documents, design guidelines and ways of working
- Lean construction
 - Collaborative delivery
 - Takt production
 - Industrialization
 - Continuous learning transferred from one project to another
 - Continuous system wide improvement
 - Continuous learning from the old mistakes (we have our own 12000 apartments “maintenance laboratory”)



A Long-Term Philosophy



- For us lean and takt time are not short-term cost-cutting tools.
- We have worked with those for many years, and we are still learning
- Those represent a **strategic commitment** to improving quality, productivity, and reliability.
- This approach aligns with our vision of **continuous improvement** and **collaborative development** with our partners.
- Our goal is to create **stable, predictable processes** that benefit tenants, contractors, and the entire value chain.

Examples of our development work

- Facelift renovations: apartments received a refreshed look within 7-12 working days, without the need for the tenant to move out.
- Alliance models: Five buildings successfully renovated using collaborative alliance contracts.
- Integrated Project Delivery (IPD): Applied IPD principles in basic renovation projects.
- Takt production and Lean integration: Deep integration of takt planning and Lean methods has become a fundamental element of our approach.



Industrialization is more than prefabrication

- For Hoas, industrialization is not a single technology or product.
- It is a systematic approach that combines:
 - standardized solutions
 - repeatable processes
 - design standardization
 - increased prefabrication
 - continuous learning and improvement
- Industrialisation begins long before elements arrive on site.

Broader outcomes

Benefits gained

- More predictable project delivery
- Better transparency of production performance
- Earlier identification of production issues
- Improved collaboration across the supply chain
- 25-30% shorter production duration
- Improved quality
- Smaller costs

Challenges

- Limited repetition in renovation supply chains
- Varying capability levels between contractors
- Design practices not always aligned with industrialized delivery

What can the UK learn?

- The most important lesson is not a specific technology or contract model.
- The most important lesson is that productivity improves when:
 - projects are viewed as part of a portfolio
 - learning transfers between projects
 - prioritize collaboration over transactions
 - manage production flow systematically
 - clients drive continuous improvement
- Industrialization succeeds when it becomes a strategy rather than a project innovation.



What comes after successful renovation projects?

HOAS

- Lean construction, collaborative delivery and takt production have delivered significant improvements in renovation projects.
- The next challenge is scaling these benefits into future residential developments.
- KT2000 was established to answer this challenge.



KT2000



- KT2000 project aims to build high-quality, affordable apartment buildings at approximately 2,000 €/m², without government subsidies.
- The concept is being developed by standardizing design and construction solutions as well as construction process model and practices.
- Solutions are tested in practice through apartment building projects in the joint pilot programme.
- The main idea is to rethink the entire production system rather than optimising individual projects.

KT2000 Guiding principles for the apartment building concept



Quality – nothing taken away from residents



Cost efficiency – targeting 2,000 euros per square metre excluding land and taxes



Lifecycle durability – built to last on your own balance sheet



Regulatory compliance – smoothly through public procurement



Supplier independence – with open solutions



Standardisation, scaling and modularity – adaptable to various zoning and site solutions



Data management – to build a shared knowledge and expertise base

The guiding principles aim to minimise unnecessary variation while maximising customer value, constructability and production efficiency.

KT2000 as a system innovation

- KT2000 is an attempt to move from project optimisation to system optimization.
- The initiative seeks to standardize:
 - design solutions
 - technical solutions
 - procurement practices
 - production methods
 - learning processes
- The objective is to create a repeatable housing delivery platform rather than a one-off project success.

Lessons from Hoas

- Affordability requires productivity.
- Productivity requires collaboration.
- Takt and lean improve flow and predictability.
- Industrialization is a system, not a technology.
- Continuous improvement requires a production system, not isolated project success.
- Long-term clients can drive industry transformation.

Affordable housing is not achieved through a single innovation. It requires an integrated production system combining collaborative delivery models, lean management, takt production, industrialized construction and continuous learning across projects.

