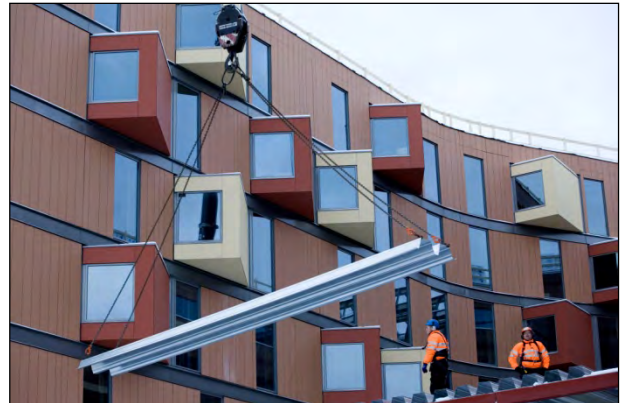




Exciting façade solution at Gardermoen

For the new hotel Park Inn Gardermoen near Oslo airport 11 m high façade elements are produced at the factory and hoisted into place as 100 % prefabricated elements. Time on site is thus reduced dramatically.



AF Bygg Oslo chose Hubro**Hansen**, Norway's leading fenestration specialist, to solve the façade construction. Elements, which are typically 3.60 m x 3.10 m, contains silk printed glass, stainless steel cladding and stone slabs. Project manager Jens A. Gaupset of AF Bygg Oslo, explains how the project Gardermoen has taken the concept of unitised curtain walling further than usual with prefabricated façade elements.

"When these façade elements are hoisted into place façade work is practically finished. Because the developer wanted to ensure that the façade does not look like a typical element construction, we agreed to cover single holes with special constructions, while some corners were practical to finish on site. Overall, 85 % of the façade was done after 15-20 days. Normal stick façades would have taken several months", says Gaupset.



Jens A. Gaupset,
AF Bygg Oslo

Design of the façade must come quicker

When the a project involves unitised curtain walling, the design of the façade must begin much earlier than in a normal project. The design of concrete and façade can now be done simultaneously. Productivity and quality of the finished elements is increased when they are prefabricated at the factory, working under better lighting conditions and in a controlled environment.

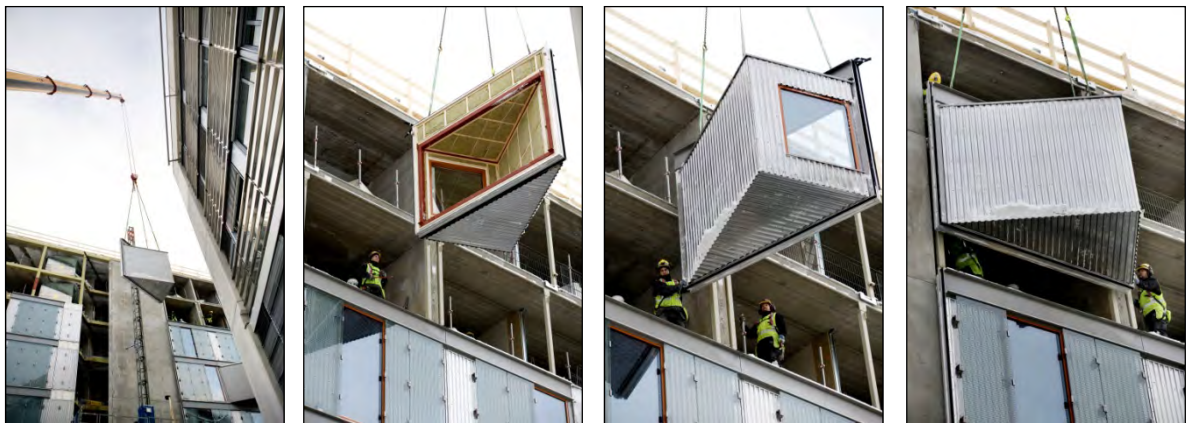




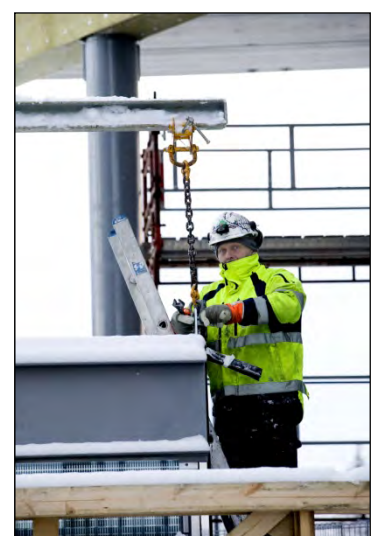
The system for prefabricated façade elements for commercial buildings is Hansen UnitAl and was developed by **HansenGroup** to meet the industry requirements for modular construction and standardization. For Gardermoen in Norway a controlled puzzle of façade elements was put together from the factories in Stavanger, Brumunddal and Jæren before they were packed and driven to Gardermoen.

Building closed in record time

On site fitters have had an intensive preparation, with attaching mounting brackets to the concrete. When the element, which hangs in two "ears" of aluminum, is hoisted into place, four fitters are ready to secure the bolts. The tolerance is plus / minus 1 mm, and the operation takes 15 - 20 minutes per. element.



"It requires fewer people on site and we have closed the house much faster than with a traditional façade construction. When the facade is closed quickly, we can heat the building earlier than a traditional building", explains Gaupset.

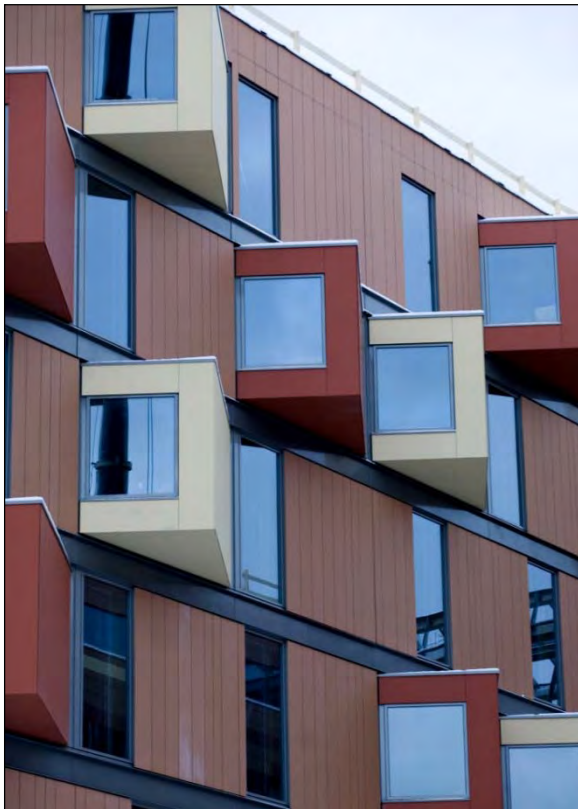




Prefabrication of elements can be robotised

Guests at the hotel Park Inn Gardermoen can walk directly from the terminal and into the hotel. Despite its proximity to the terminal, visitors should not experience noise from aircrafts. It has already been tested that the 20 cm thick elements, along with 1-2 cm of air and an inner wall of 15 cm fulfils the requirement of 52 dB noise reduction with a good margin. The benefits of prefabrication are many, but the price per unit is still a little high.

"I believe the manufacturing of these elements can be automated even more. if a major part of the process at the factory is done with robots, the price will go down and thereby increase the gain of the methodology further. AF will look for solutions to these challenges along with its subcontractors in the future. The technology exists, so it is just a question of wanting it hard enough", says Gaupset.



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