



FMO Tapiola Forerunner in wood construction

Contents

- Basic facts
- Made from our owners' wood
- Architectural facts
- Construction facts
- Sustainability
- Awards

FMO Tapiola

- The highest wooden office building in Europe
- Five stories, floor space 13,300 m²
- Includes several innovations related to structures and products



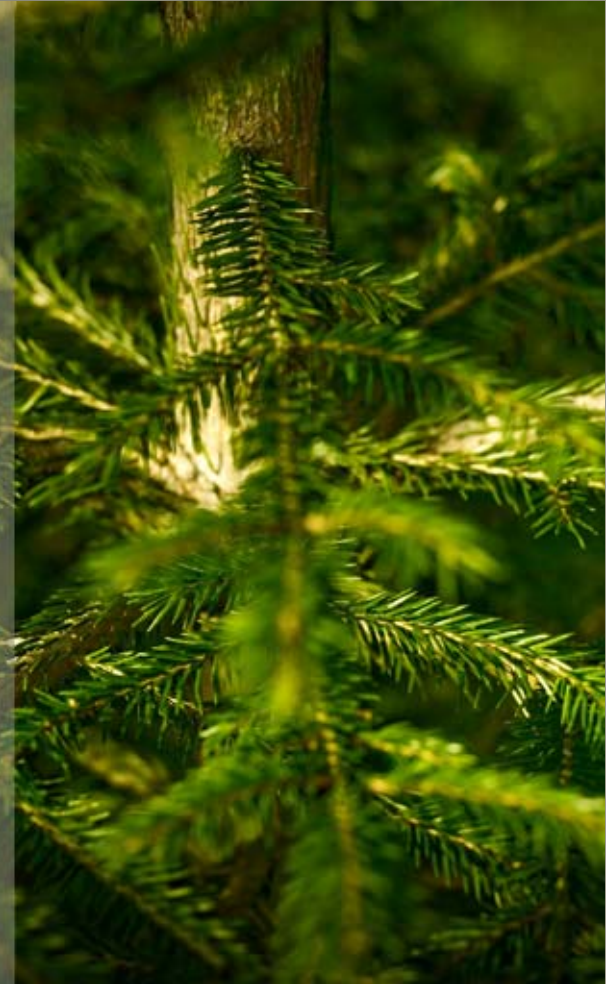
FMO Tapiola

- Situated in the garden city Tapiola in Espoo
- Construction took 15 months, inaugurated in September 2005
- Actual overall expenses approx. EUR 26 million (of which the cost for the site EUR 5 million)



Made from Metsäliitto's owners' wood

- The Finnforest mission is to upgrade the owners' wood to products and solutions in a profitable way
- A true flagship product for the Group: FMO Tapiola introduces the versatile and innovative uses of industrially manufactured wood products and solutions





Architectural facts

Finnforest Modular Office



- Industrial product with variable sizes and compositions
- Building consists of rectangular modules that resemble timber stacked in piles for drying
- FMO model makes it possible to design and realize unique office buildings by using modular elements

Modular Office Architecture Competition

- A Nordic open invitational competition in 2003
- Eight agencies were invited to make proposals
- The aim of the competition was to develop a high-quality flexible wood-structured office design and prove the competitiveness of wood products
- Principal evaluation criteria
 - The architectural and city image-related features of the solutions
 - Overall cost-effectiveness
 - The industrial processibility of the structures
 - Eco-friendliness, implemented in the construction project as well

Pekka Helin, the main architect

The main architect's view

- Versatile use of wood and combining it with other materials in modern fashion
- Innovations and product applications
- A pleasant work environment

" A modern office building constructed of wood meets the challenge of the architecture of our own time regarding more human-friendly and ecological construction."





Construction facts

10 28.4.2009
FMO Tapiola

finnforest

Construction team

- Project and building developer and supplier of wood products: Finnforest
- Primary architect: Helin & Co Architects, Pekka Helin
- Structural designer: WSP SuunnitteluKortes Oy, Jukka Ala-Ojala
- Building consultant: CM-Urakointi Oy
- Main contractor: Peab Seicon Oy
- Owner: Tapiola Group, Espoo





Timber frame
Finnforest Kerto® LVL
columns and beams

Wooden intermediate floors
Finnforest Kerto® box slabs

Finnforest glulam beams

Adjustable
partition wall system

Light-weight facade elements

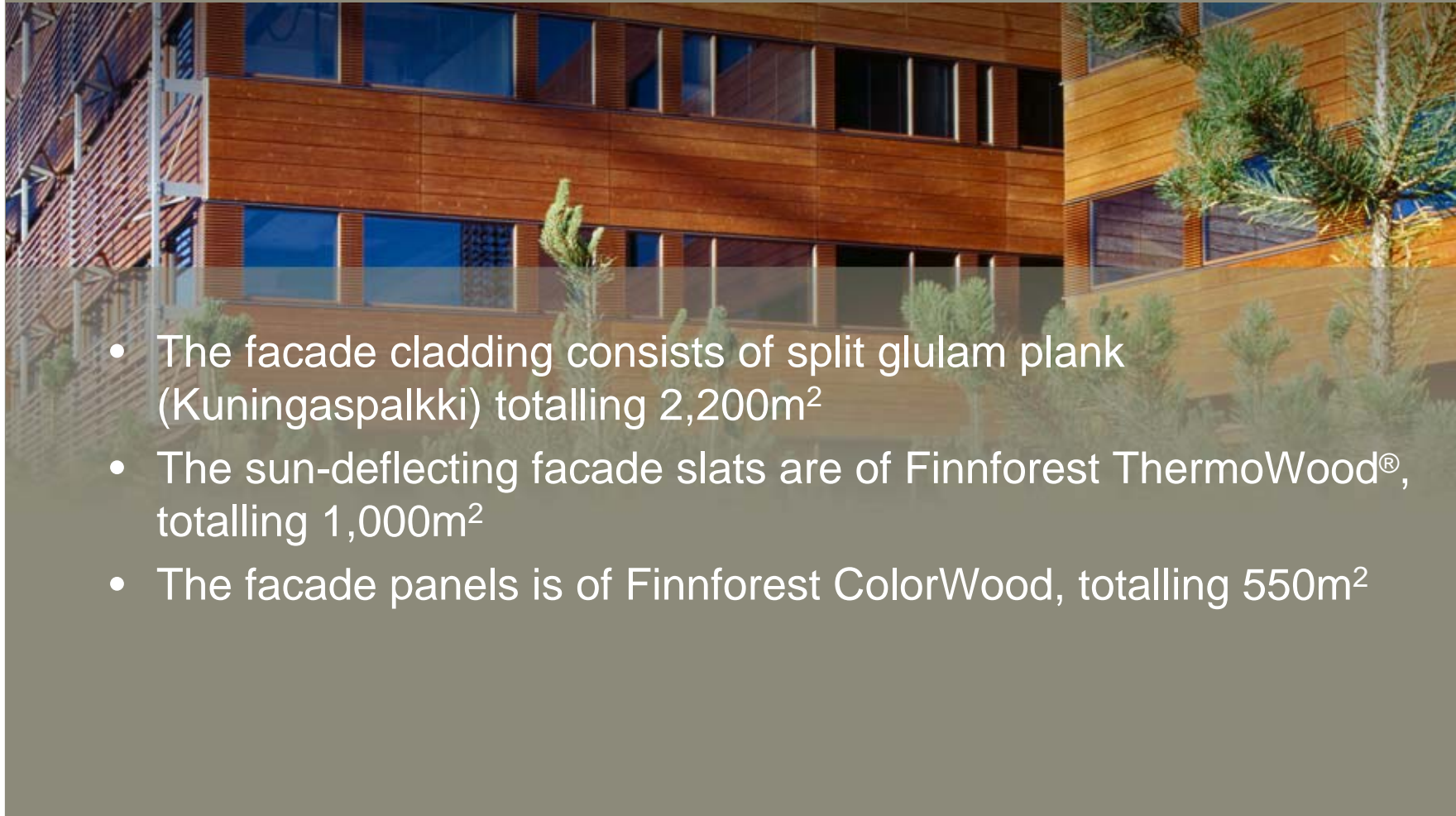
Facade cladding
made from split glulam

Sun-deflecting
facade slats
Finnforest
Thermowood®
slats

Frame

- FMO's structure and facade systems and other parts of the building are based on a modular system
- A total of more than 500 supporting structures, Kerto[®] columns and beams
- Apart from the lift wells and exits, the entire frame of the building consists of Kerto[®] LVL
- The wooden frame and the facades consist of prefabricated wooden parts installed on-site (more than 1,200 pieces)
- 6,000m² of wooden intermediate floor elements (Kerto[®] box slab)
- The building has been braced using eight bracing steel wire nets, concrete lift well and staircases

Facade



- The facade cladding consists of split glulam plank (Kuningaspalkki) totalling 2,200m²
- The sun-deflecting facade slats are of Finnforest ThermoWood[®], totalling 1,000m²
- The facade panels is of Finnforest ColorWood, totalling 550m²

Interior

- The frame of the partition walls and the frames of the interior glass walls are of Kerto®
- Suspended ceiling made of wooden lath (Finnforest ThermoWood®)
- The sliding doors are made of Kerto® LVL coated with common alder veneer
- The suspended ceiling of the corridor is made from Kerto® /metal grating
- Furniture supplied by Martela, negotiation tables by carpenter Antti Markkanen



Sustainability

Wood as an environmentally friendly building material

- Fully renewable industrial building material
- The use of wood helps mitigate climate change
 - Wood products store the carbon that trees bind when they grow
 - Production of wood products causes only minor greenhouse gas emissions
- Regarding energy, the production of wood products is self-sufficient and the main energy source is bioenergy
- Wood can be recycled or utilised as fuel in energy production
- The origin of the wood raw material is known, and the majority of it has been certified.

Pilot project for sustainable development

FMO Tapiola project's life-cycle-related and environmental objectives

- Creative and modern design using wood
- Wood as a renewable and sustainable material
- A long-lasting building with enough space and facilities that suit their purpose
- The in-service life of the basic structures exceeds one hundred years



PromisE environmental classification

- A tool developed by Motiva (promoting energy efficiency), RAKLI (The Finnish Association of Building Owners and Construction Clients), the Finnish Ministry of the Environment and TEKES (the Finnish Funding Agency for Technology and Innovation) for the assessment of buildings' environmental features
- Key issues to be considered
 - The health of users
 - Consumption of natural resources
 - Ecological effects
 - Environmental risks
- FMO Tapiola has received grade B. Only 10% of Finnish office buildings have reached this particular grade.
 - The grades range from A to E. (A is the best)

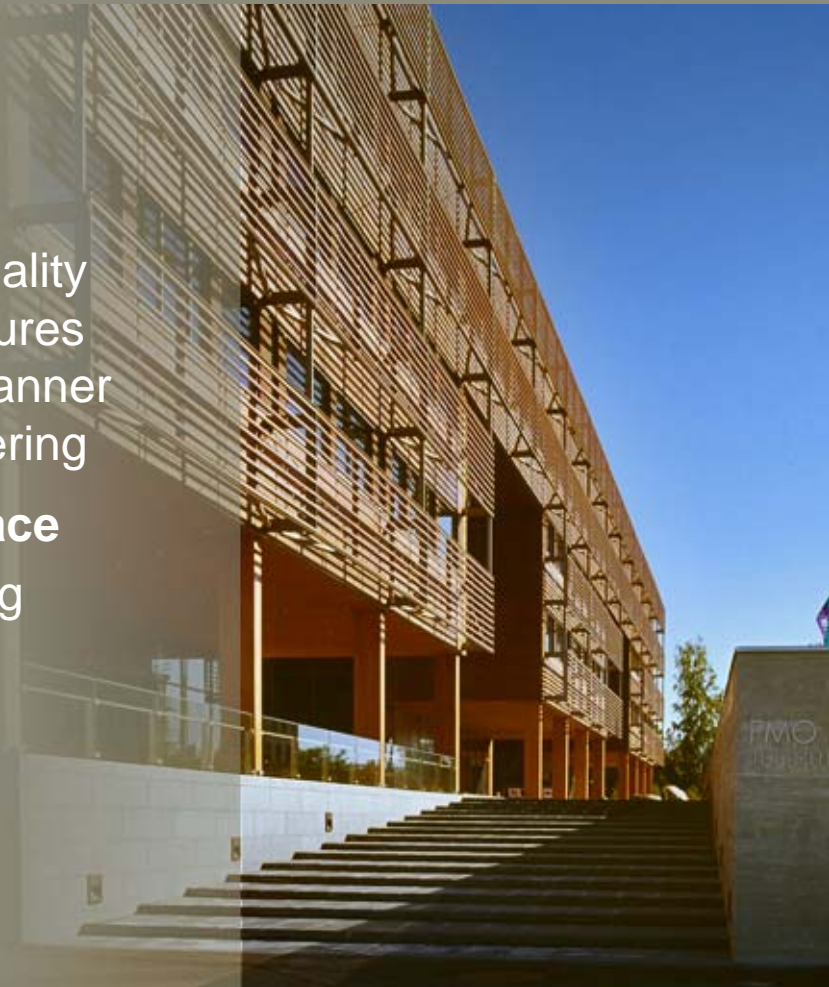
Awards granted to FMO Tapiola

Wood Award 2006, first place

- The most prestigious wood architecture prize in Finland
- The annual award honours high-quality Finnish wood architecture or structures where wood has been used in a manner that promotes construction engineering

RIL Award 2006, shared second place

- One of the most prestigious building awards in Finland
- Given annually by the Association of Finnish Civil Engineers





FMO Tapiola

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