

Paper, packaging & forest products

**Product Innovation and
Strategy, case Stora Enso
Timber**

Expo Corma, November 2007

Stora Enso

In brief

- A world leader
 - 16.5 Mton of paper and board
 - 7.4 million m³ of sawn goods
- Sales EUR 14.6 billion
- Approximately 44 000 employees in more than 40 countries
- Market capitalisation EUR 9.5 billion (31 Dec 2006)
- Shares listed on Helsinki, Stockholm and New York stock exchanges



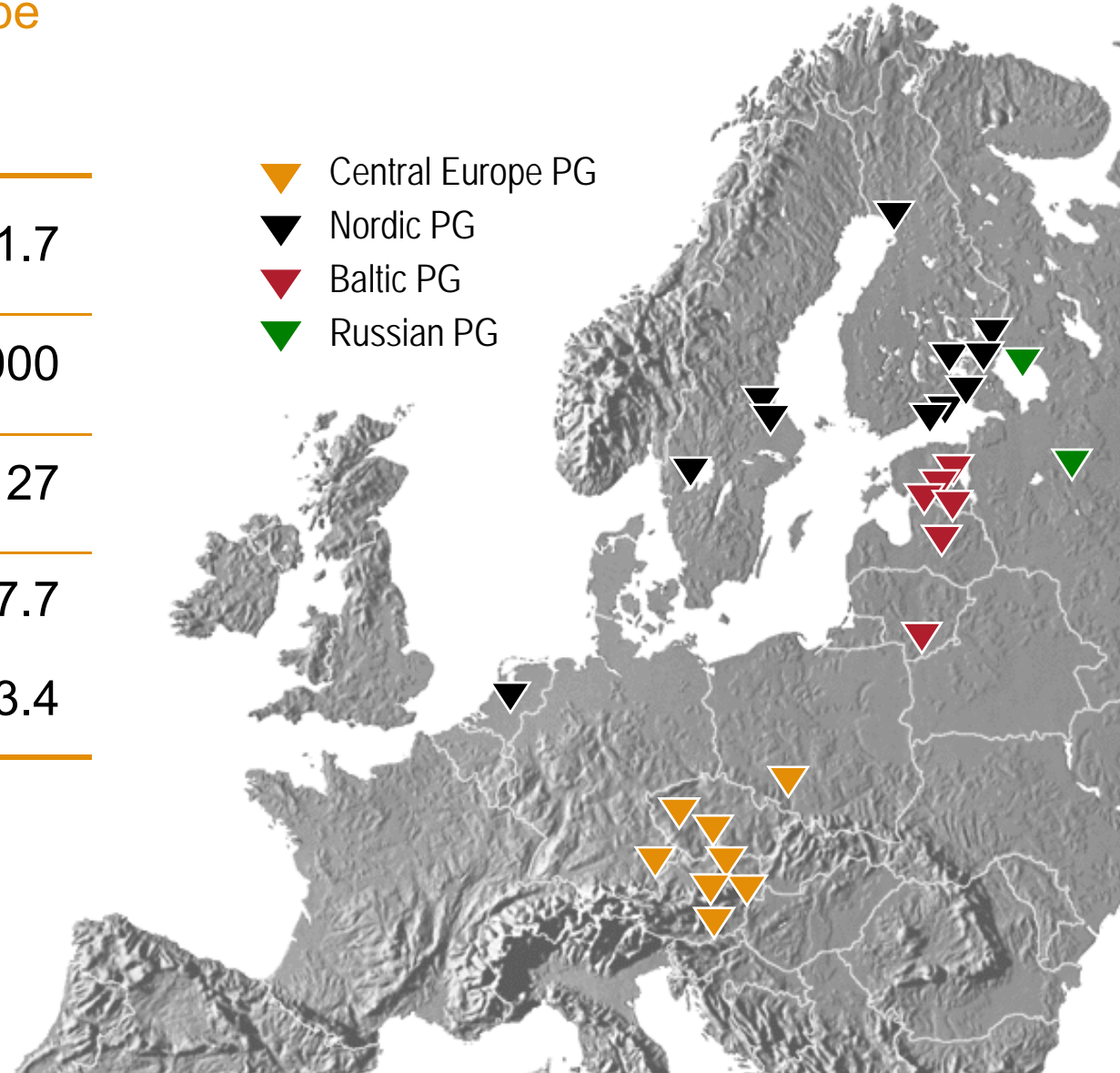
Stora Enso Timber

Manufacturing base in Europe



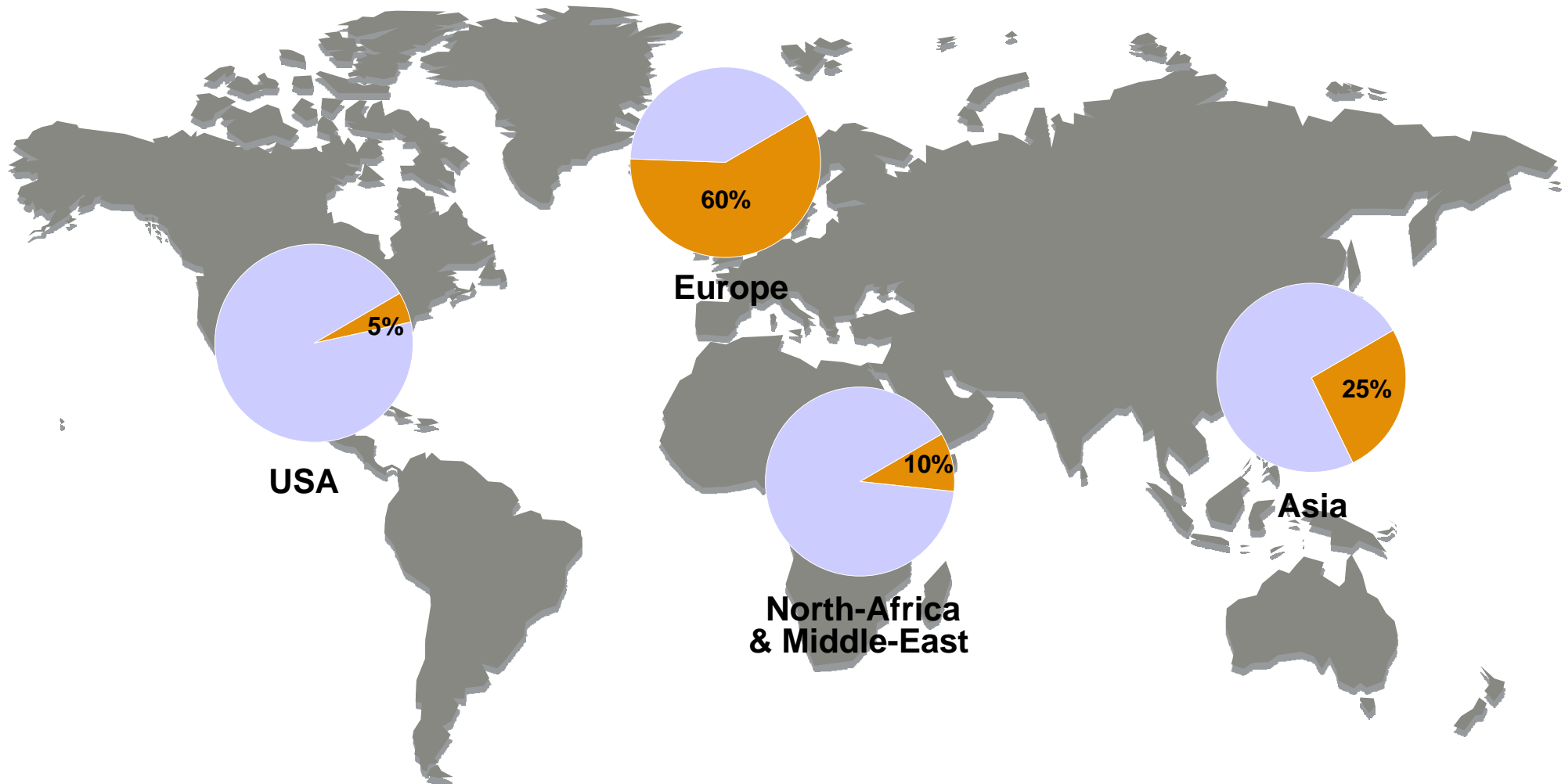
Net sales in € billion	1.7
Employees	5 000
# of production units	27
Sawn capacity, Mm ³	7.7
Further processing, Mm ³	3.4

- ▼ Central Europe PG
- ▼ Nordic PG
- ▼ Baltic PG
- ▼ Russian PG



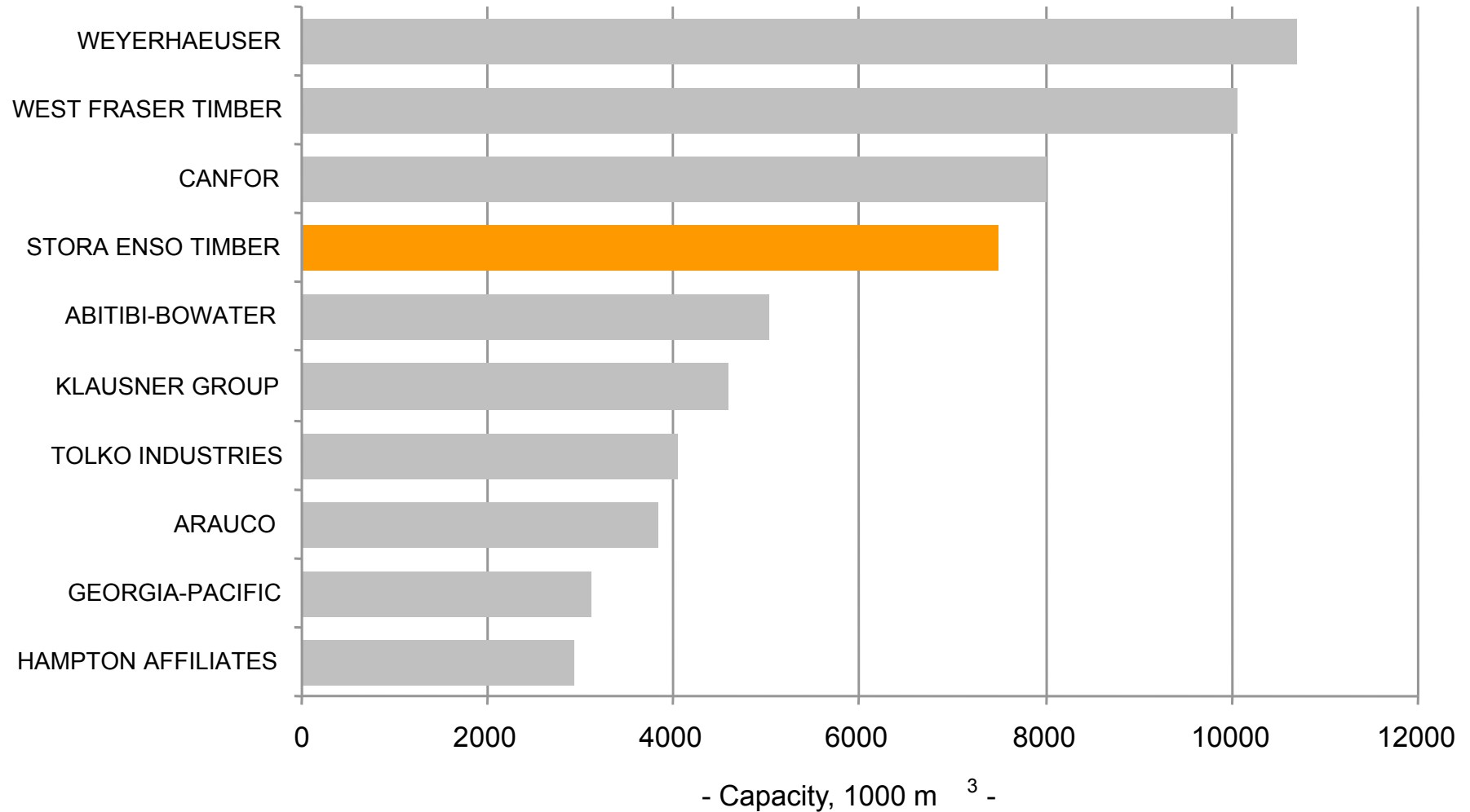
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Global market presence



Stora Enso Timber

One of the industry leaders



Note: North American volumes converted from board feet on 2x6 basis (conversion 1000 mbft = 1.62 m³)

Stora Enso Timber

Main businesses



Construction

Structural products for building and construction industries



Joinery

Products for window, door and furniture industries, for interior and exterior paneling, gardens



Packaging

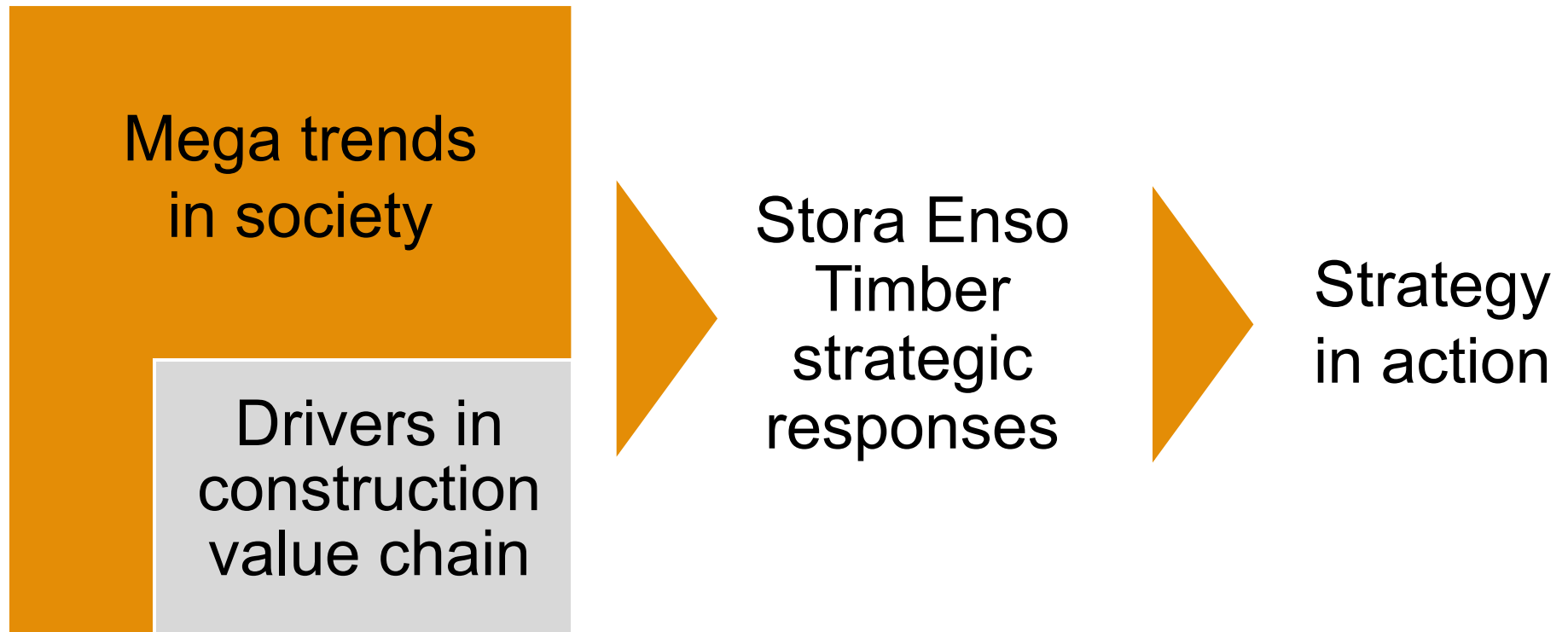
Products to pallet and crating manufacturers



Fibre products

to pulp, panel and bioenergy businesses, pellets to energy

Product Innovation and Strategy, case Stora Enso Timber



What is driving our business

Mega trends

- Towards bio-economy
 - Green energy
 - Climate change / carbon footprint
- Sustainability sets greater requirements
 - Ecological products
 - Energy efficiency
 - Sustainable housing
 - Scarce raw materials
 - Circular flow economy

Implications to wood products

- We have a good story to tell!
 - ▶ low carbon footprint
 - ▶ we help mitigate against CC!
 - ▶ sustainable raw material
- Bioenergy is an opportunity
 - ▶ Residues value up
 - ▶ New businesses to portfolio
- Increasing wood scarcity & cost
 - ▶ More efficient use of wood
 - ▶ improve yields, find new values

- Changing construction value chain

What is driving our business

Changing construction value chain

- Mass Customization
 - New (standardized) products
 - New building methods
 - From on-site to prefabrication
- New type of relationships, responsiveness
- Sustainable construction

Implications to wood products

- Characteristics called for
 - ▶ consistent quality ▶ predictability
 - ▶ standardized ▶ known characteristics
 - ▶ durability ▶ guaranteed characteristics
 - ▶ easy to work with ▶ first choice material
- Relationship driven business
 - ▶ Understand customer business
 - ▶ Offer fit-for-process -solutions
- Our concepts have to support
 - ▶ energy efficiency
 - ▶ minimizing waste
 - ▶ sustainability through the whole chain

What has been Stora Enso Timber's strategic response to these drivers?

Strategic focus

1. Engineered wood products
 - Expand existing platform
 - New products
2. Growth markets, new platforms
 - Eastern Europe, Russia
3. Bioenergy



Strategy in action

Engineered wood products – building on a strong existing platform

Glued posts and beams

- Launch in 1997, building on a successful entry to Japanese market in other wood products
- First phase as joint venture with a Japanese customer
- Own glulam post mills established in 2001 and 2003, beam mill in Estonia in 2005

Konstruktions-vollholz (KVH)

- Concept launch in mid 1990s, as one of the pioneers
- Substituting for green/KD lumber in construction, a winning concept in Central European construction sector
- Standardised and reliable quality as base of success

Joinery components

- Concept launch 2002, based on intensive R&D efforts
- In cooperation with selected major joinery companies
- Taking over part of customer supply chain
- Continuous technical and process improvement

Strategy in action

Engineered wood products – striving for a clear leadership in selected product lines

- From rough sawn to a supplier of components and sub-products
- Build on continuous technology and process innovation in, e.g.,
 - ▶ Log x-ray
 - ▶ Automized scanning / sorting
 - ▶ In-house development of strength grading
 - ▶ Automized, scanner based finger jointing



Glulam Japan

- Market leader
- 4 mills, 335,000 m³



Joinery components

- Market leader
- 4 mills, 120,000 m³



KVH

- Market leader
- 2 mills, 280,000 m³

Strategy in action

Engineered wood products – continuous product innovation to provide new success stories

SET "advanced interior"

- ▶ New innovative glued product for interior uses – cladding, joinery
- ▶ Business start-up in Finland
- ▶ Expand when concept proven



Cross Laminated Timber

- ▶ Massive wooden element for building
- ▶ Business start-up in Central Europe
- ▶ Review further expansion possibilities



ThermoWood

- ▶ Heat treated wood to substitute hardwoods and chemically treated wood
- ▶ Scaling up after a successful piloting
- ▶ Utilize market growth



Strategy in action

Next steps in EWPs – ThermoWood

“Capitalizing on world class expertise in heat modification”

- Extensive R&D, product launch in 2002
 - Close cooperation with research institutes and machine suppliers
 - Joint pilot plant with UPM and Valtec 1996
 - First customer tests late 90’s
- Now top level competence in heat modification
 - A leading producer with European market share of 20%
 - Targeting rapid growth
 - Only supplier with on-line production
 - For interior, exterior and joinery purposes



Strategy in action

Next steps in EWPs – Cross Laminated Timber
“High added value to wood through engineering”

- Based on extensive R&D efforts
 - Close cooperation between research institutes and internal product development team
 - German application in March 2007
- Product launch in early 2008
 - Massive wooden element for building
 - High performance both with material characteristics and appearance
 - For walls and ceilings of buildings
 - Construction material for load bearing timber-structures



Where next?

- Prefabrication, elementing ► efficient building process
- Composites ► intelligent property combinations
- Bioglues, bio coatings ► full recyclability
- Indoor climate (emissions) ► healthy living and new functionality of wood
- Visualization, modelling tools ► improved design tools and easy usability of wood



Product innovation and strategy

Key themes at Stora Enso Timber

- Sustainability
 - guiding theme in all wood industry actions
- Mass customization
 - efficient products and processes for wooden construction, joinery and packaging industries
- Wood as an engineered product
 - Standardized
 - Durable
 - Easy to Use

