VALUE-ADDED OPTIONS AND EFFICIENT SAWING LINES FOR SMALL LOG RESOURCES

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BIOGRAPHY

Kenneth Westermark, sales manager, HewSaw - FIN

Background in log-and lumber handling plant project management and marketing since early 1970’s

Modernization of NOKIA sawmill in 1974

Finnforest, Viippula green field project 1980/81, 600.000 m³ sawn

Travelling regularly to NZ and AUS since 1993

HewSaw projects from 1987

Appointed as HewSaw sales manager in 2003

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EXOTIC FINLAND

Inhabitants
8,000 / > 20,000
>4,000 km of lake shores
Partner in sawmilling HewSaw

MÄNTYHARJU - PINEHILL
STORY OF THE FOUR BROTHERS RAUTIO

1950  Square timber balks shipped to Egypt as scaffolds and building material

1964  The company was established

1970  Total collapse in square timber market by the end of 70’s

1980  Post-war forest plantations were ready for first harvestings, machinery for handling small logs would be needed soon

2006  More than 300 HewSaw units in operation worldwide
1ST CONTRACT 1964

450 m³ / 5 weeks / 4 men + Nuffield

General Meeting – 16.11.2004

R200 PLUS

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THE IDEA OF HEWSAW PROCESS

Integrated sawing process

Competitiveness and exceptional profitability

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BASIC FEATURES

PRECISION LOGIN:
* True-Shape scanner
* Optimising program
* Precision log rotator
* Highest accuracy with one scan

CHIPPING PHASE:
* Controlled curve sawing
* Controlled chip sizes
* High quality surface & chips

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BASIC FEATURES

SAWING:
* Double arbour
* Thin sawkerf – guided saws
* High Quality surface & dimensional accuracy
* Controlled curve sawing
* Fast pattern changes
* S-N-S mode

EDGING:
* 3D-scanning & servo positioning
* high quality chips
* Skew / width variation / off-set

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HEWSAW R200 / 250 PLUS

Increased efficiency for small log professionals

450 m³ sawn / 8h / 240 m/min.

RELIABILITY & EFFICIENCY:
* Durability
* Speed
* Recovery
* Maintenance
* Design

30 tons / 1 log/s / 1,2 MW
**HEWSAW PLUS SAWING PATTERNS**

**THE PRODUCT RANGE**

_A VARIETY OF MODULAR DESIGN_

* Single pass machines
* Sawlines in duo – trio – quartet form
* A variety of processing modes
* SED 8 – 25 / 40 cm and LED 35 / 50 cm
* Line speed 60 – 120 – 240 m/min
* Natural / controlled curve sawing
THE PRODUCT RANGE

SAWLINE FEATURES

HewSaw Log-in
- Laser and mirror camera scanning
- 3D modeling of the log
- Each log is modeled for length, width, depth, curves and defects
- The optimising programme calculates thousands of possibilities for the best felling or value recovery
- Log Rotator turns the log into the optimal sawing position

HewSaw SL230 Chipper
- Chipping of the log surface into accessible projection
- Controlled curve cutting
- Chip length variably adjustable according to different feed speeds maintaining consistent quality

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SAWLINE FEATURES

**HewSaw SL250 Cant Saw**
- Sawing of side boards (2+2) and optimizing edging
- Optimizes board width, height, location and direction in relation to the cant

**HewSaw SL250 Rispsaw**
- Sawing of the cant in Gang manner
- Optimizes edging for two splitters on each side (2+2)
- With up to six cant's in cant and four more saws
- Optimizes board width, height, position and direction in relation to the cant

**HEWSAW R250 PROCESSOR**

Log length 3.0 – 6.1 m
Cant min. 75 x 75 mm
Cant max. 250 x 350 mm

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With its unique sawing technology, the HewSaw releases the tensions evenly, resulting in sawn boards that are accurately dimensioned and stable.

**THE NEW RESOURCE – EUCALYPTUS**

**COMPARING YIELD %**

**WHAT YIELD %:**

NZ / AUS / CAN / USA / FIN / SWE / BRD / FR

* Variety of rules / species / territories
* Variety of processes
* Case-by-case-study
YIELD IS TECHNOLOGY

DIMENSIONAL SIZES:
* Robust design
* Precision feed through by servo controlled and driven round wood guide’s
* Small target sizes

THIN SAW KERF:
* Double arbour circular saws
* Guided saw blades
* S < 0.5

YIELD IS TECHNOLOGY – HEWSAW OPTIMUM YIELD

* Controlled curve sawing
* Optimized wing boards
* Most important - LogIn

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**GLOBAL TRENDS**

* More than 20 million m³ less harvesting in Canada
* Environmental issues in USA – wild fires and a huge small log resource which can’t be utilized
* Over capacity in Europe - demand increasing slowly
* Russian production ramping up
* China’s sawn goods demand still on a low level
* Huge Eucalyptus resource in South-America & Tasmania

**BUSINESS ENVIRONMENT**

* New housing and repairing business still going strong which keeps the demand for construction timber and packaging material on high level
* Low competition from substitutes in above materials
### The Most Profitable Sawmills

**VEISTO GROUP**

1. **U.S. West, B.C. Interior and Australia sawmills most profitable in forest industry according to global benchmarking report of 250 mills in 24 countries and territories in 2004 (previous report on 2002)**

2. **Global average sawmill earnings**
   - West Coast of U.S.: USD 70/m³
   - Australia: USD 58/m³
   - B.C. Interior: USD 55/m³

   The lowest average sawmill earnings
   - European and Russian sawmills: USD 0-15/m³

   Earnings is earnings before interest, taxes and depreciation allowance (EBITDA)

3. **Average costs of logs delivered to mills**
   - USD 56/m³
   - Lowest in Russia: USD 25/m³
   - Highest in Finland: USD 85/m³

   Please, note the value of USD as per December 2004

4. **U.S. West Coast region with the highest average sawmill earnings in the world, still reported one of the highest delivered log costs at over USD 75/m³**

   Comments:
   - focus on volume, running in 2-3-shifts
   - priority on up-time and reliability
   - simplicity will hold more weight than attempting for moon rocket technology

5. **European mills shows largest 2-shift capacity mills and lowest operating costs in the world**
   - high log cost are becoming the Achilles heel
   - European mills are more flexible, can produce a variety of sizes and lengths

6. **The report found revenue from lumber was highest in Australia, one of the strongest markets over the last five years**

7. **The lowest lumber revenue occurred in Siberia in spite of lowest log costs due, in part, to weak domestic prices and small volume of export**
"SAWMILL 2010"

* "UNMANNED" – total process >3,000 m³ sawn per person
* Companies who manage the information flow will be tomorrow’s winners – 3R function
* Simple & efficient process
  * Double arbour circular sawline
  * On-line optimization, S-N-S
  * SED 10 –25 / 40 cm – max LED 50/55 cm

"SAWMILL 2010"

* Low production costs € / sawn m³
  * Focus on volume and optimum yield
  * Priority on up-time and reliability
  * Simplicity will hold more weight than attempting for moon rocket technology and highest recovery

* High value products & nish markets

* Net profit 10-15 %
**RESEARCH & DEVELOPMENT:**

* R&D work resulting in value adding solutions for the end users

* Chipper heads featuring pre-, post-, and no-saw for optimum surface and chip quality are a continues process

* Double arbour saws, guided saw blades, controlled curve sawing, optimized sideboards and precision LogIn system produces optimum yield

* Priority on up-time & reliability combined with optimum yield and high volume process gives low production costs and exceptional high profitability.

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**LOGIN SYSTEM:**

* Accurate LogIn
* True shape scanner and optimization technology
* Rotary log positioner for precision and simple control

**CHIPPING TOOLS AND HEADS:**

* Our key areas of R&D
* Less sawdust / high chip quality / optimum yield

**HIGH VOLUME MILLS:**

* Counting logs per second is challenging
* Precision feed through at high speeds
RESEARCH & DEVELOPMENT

PLUS TYPE EVOLUTION FOR SAWLINES:

* PLUS-properties available to large logs
* Rigid steel plate construction for high speed
* Optimum yield by optimized sideboards
* Machine opens for ergonomic tool change

A BREAK THROUGH:

* Sawing kerf to band saw level with circular saw accuracy and feed speeds

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STRATEGY

Market areas

Products

Target groups

Moving forward with control based on conservative expansion

PARTNERSHIP

HewSaw

Customer

Alliances

Financier

One source alliance
HewSaw – PROLOGIC+ - Kit-Sell
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