www.levator.fi

LEVATOR

Wind Turbine Towers

LEVATOR

Expertise in manufacturing

Levator in brief

Levator is a contract manufacturing company based in Hanko, Finland.

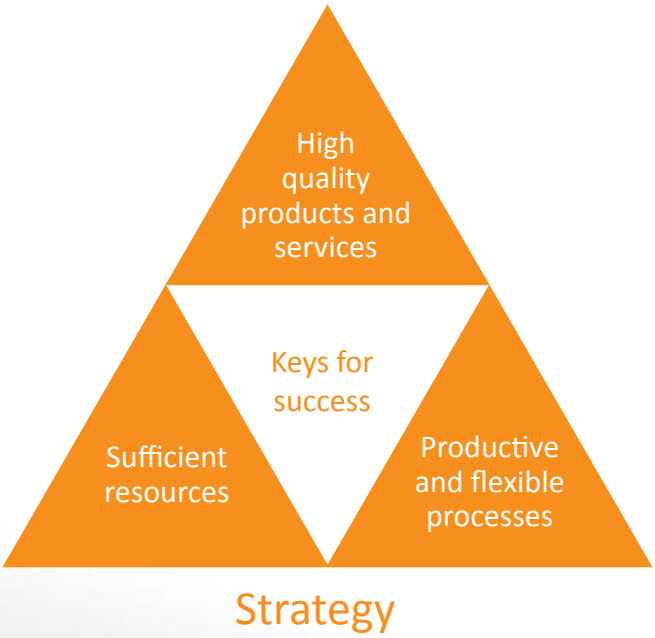
Today, the company has three business areas:

- **Fabrication of cranes**
- **Fabrication of wind turbine towers**
- **Transportation of cranes**

Levator currently has 115 employees and the amount of steel production is about 5000 tons per year.

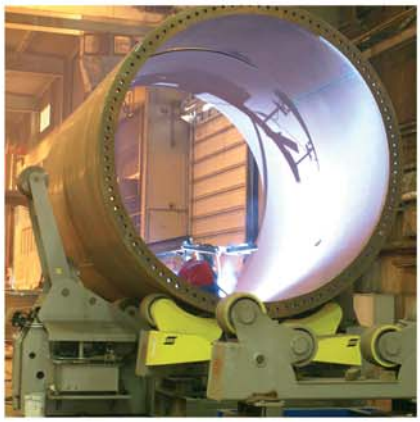
Our vision is to be the preferred partner in the Baltic sea region. We will achieve this through our strategy, whose basic elements are as follows:

- High manufacturing quality
- Continuous improvement of the processes
- Development of the human resources



Business areas

LEVATOR
Cranes



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Transportation

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Manufacturing of a wind turbine tower requires mastery of several technologies

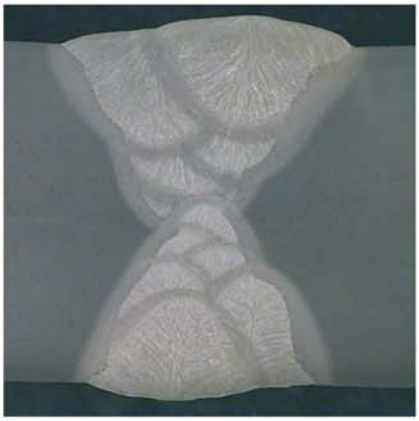
The austere appearance of the wind turbine tower can be deceptive. In addition to the rolling and the welding of tower shells, the manufacturing process involves several stages that are made even more demanding by the considerable wall thickness and shell diameter and the high-precision saddle joints. The primary stages in construction of a steel tower are:

- Cutting of the steel sheets and preparation of the welding joint
- Rolling of tower shells and tack welding of the longitudinal joint
- Longitudinal welding of the tower shell
- Fitting and tack welding of the end flange to the tower shell
- Welding of the end flange to the tower shell
- Fitting and tack welding of tower shells
- External welding of tower shells
- Internal welding of tower shells
- Construction of the doorway (flame cutting, bevelling, fitting and welding of the frame)
- Installation of aircraft warning light flanges (flame cutting, bevelling, fitting and welding of the flange)
- Casting of the concrete ring to the top shell
- Machining of the azimuth flange
- Painting
- Internal installation

Submerged arc welding guarantees efficient, high quality results

The most important welding process used in the manufacturing of wind turbine towers is submerged arc welding, which guarantees the best combination of efficiency and quality when thick wall materials are used and the joint has been prepared by means of flame cutting.

At Levator, submerged arc welding is used not only for the longitudinal welding of the rolled tower shells but for all internal and external circumferential welding. In addition to single-wire welding, tandem welding (DC+AC) is used when maximal production efficiency is required.



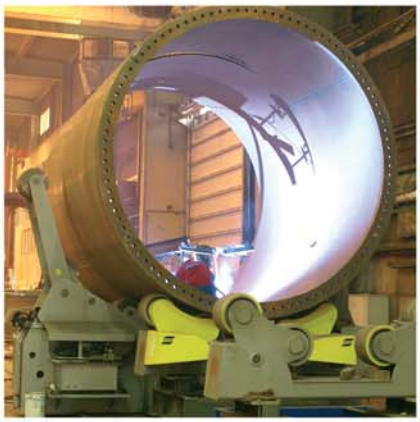
Facilities

Equipment

- Davi rolling machine with CNC
- Two wind turbine tower assembly lines
- Welding processes
  - Single and tandem wire SAW
  - MIG/MAG welding
  - TIG welding
  - 4 kW CO2 laser welding
  - Laser-MIG/MAG hybrid welding
- Cutting processes
  - Plasma cutting
  - Flame cutting
  - Laser cutting

Factory

- Factory and the storage area: 20 hectares
- Workshop: 9000 m²
- Painting department: 1200 m²
- Lifting capacity of the gantry crane: 200 tons (410 tons with special arrangements)
- Railroad
- Harbour and the shipping lane



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