The Owren 400 Mini: A unique 1:3 scale electrically powered tower yarder for research, training and demonstration.

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Forestry in Norway.

Per year:

- Increment: 25 mill m³
- Harvesting: 10 mill m³
- With cable:
  - 1995: 500,000 m³
  - 2009: 50,000 m³
  - 2030: 1,000,000 m³?

This means that we need 2-3 new cable logging crew every year the coming 25 years!
Owren 400 Mini tower yarder
Why Owren 400 Mini?

> Research and development tool for testing new working methods and auxiliary equipment

> Theoretical and practical training of new logging crews, students, etc.

> To promote cable logging activity through demonstrations at exhibitions and field days.
Running skyline system.

1. Haulback drum
2. Slackpulling drum
3. Main drum
4. Carriage
   A) Main line
   B) Hoist line
   C) Slackpulling line
   D) Haulback line
   E) Running block
5. Tower blocks
6. Tail block
7. Guy lines on tail tree
Owren 400 Mini tower yarder

-Built 2009,
  -Trygve Owren Ltd, Norway

-Scale 1:3

-Winches are electrically powered (15 kW)

-Running or standing skyline

-Speed 0.75 m/sek

-Drum capacity: 190 m/6 mm

-Loads: 50 kg/6% deflection, running skyline
Owren 400 Mini tower yarder

- Support for running skyline

- Support for standing skyline

- 3-drum carriage, installing hoist line

- Radio remote control
The main objective for this 3 days study work:

*To assess how the Owren 400 mini works as a training tool*

1 days at Owren 400 Mini, then working with Owren 400.

The same rigging method for Owren 400 Mini as for the big tower yarders.
Layout of the training corridor
June 2011. 3 days training program
Study team.

Giovanna Ottaviani Aalmo

Morten Nitteberg
Repetition on repetition improvement!
Continuous force and time profiles for subjects B & C, repetition 2 and 6 respectively.
Owren 400 Mini tower yarder.

Conclusion:

- Excellent tool for training cable logging crew and students.

- Training can be done without risk, but in similar conditions—especially in developing motoric skills for smoother operations.

- Gives us an unique possibility to promote cable logging harvesting technique for forest owners/others.
Thank you very much for your attention!