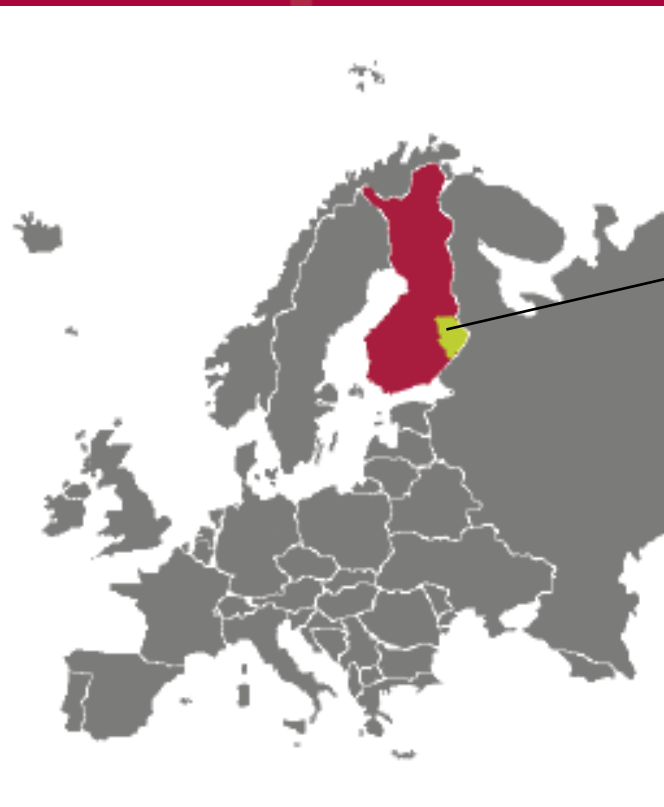


# Valtimo Forestry Machinery Training Center "More than College"



Rotorua 5.9.2017

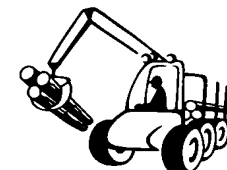


- Students 230
- Staff ~40
  - Teachers 30
  - Others 10
- Turnover 4,5 milj. € (1 € = 1,65 NZD)
- Annual investments 0,4 – 0,7 milj. €

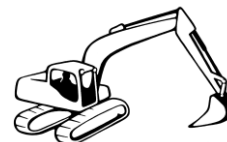




= 13 pcs



= 18 pcs

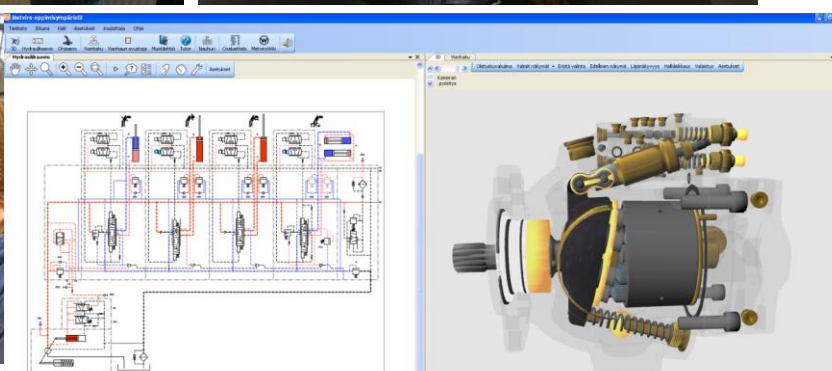


= 5 pcs



= 4 pcs

# Virtual simulators in Valtimo



## Kuva- ja äänilyhteys



- Tallennus kuvaavaan kännykkään
- Itsearvioinnin tuoksi
  - Kerätään alustetta ennalta määriteltyihin tehtäviin
  - Työprosessin ohjaukseen tilanteissa, joissa etäyhteys ei ole mahdollinen

- Välialkainen tallennus
- Ohjauksen kohdennus
  - Ohjauksen tarpeen määrittäminen

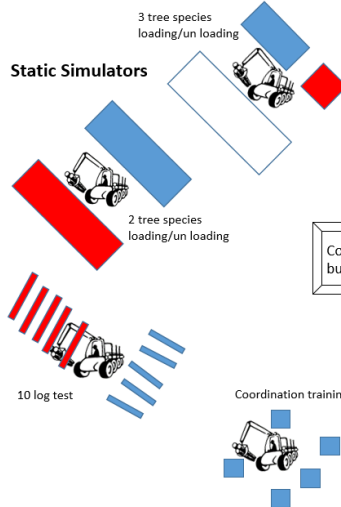
- Reaaliaikainen kuva
- Ohjaus
  - Arvioinnin perusteet

- Suoritetietojen tallennus
- Editoitu, jäsen
  - Opiskelun tavoitteet
  - Arviointitiedot



## PRACTISE FIELD

### Static Simulators



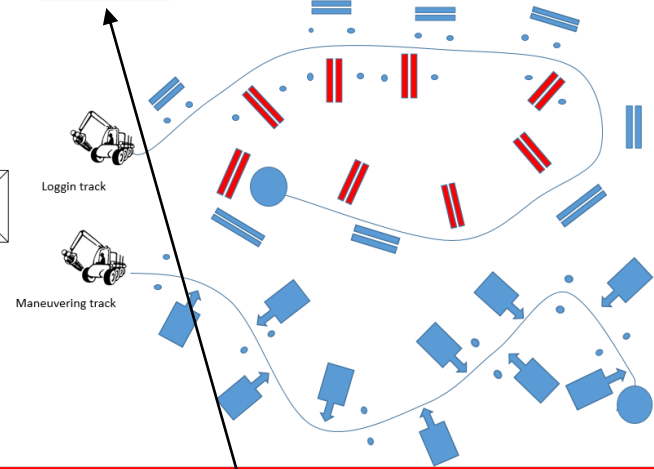
Control building

Coordination training

### Forest Truck Loading Simulator



### Training track for real forwader to developing maneuvering skills



Flags for various countries (UK, Finland, Sweden, Denmark, Germany, Spain, France, Netherlands, Italy).

Timberskills Course Manager

TIMBERSKILLS

1

Password

Organisation ID



workseed

30 DAY FREE TRIAL! Login

Make professional excellence thrive!

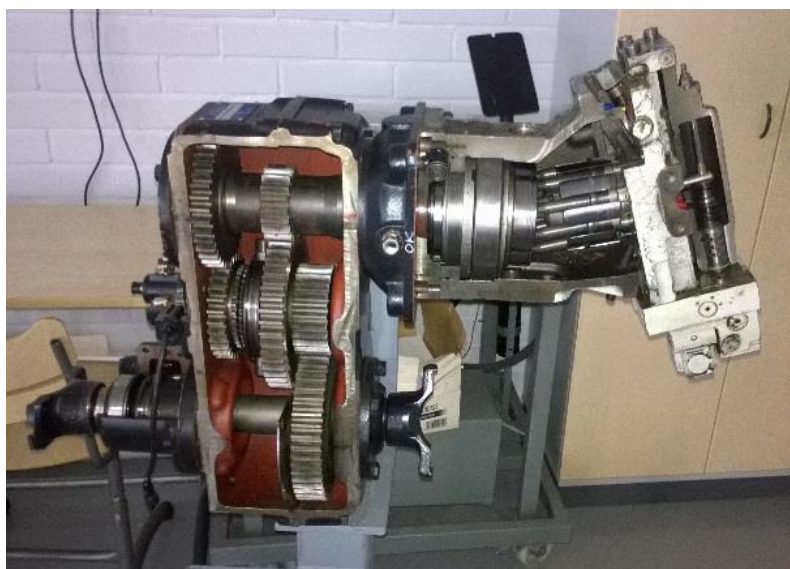
- User friendly cloud service for educators to manage assessments and learning
- Certified educational product, read more...

Suunnittelusot

Puutavaran lähukäyttö

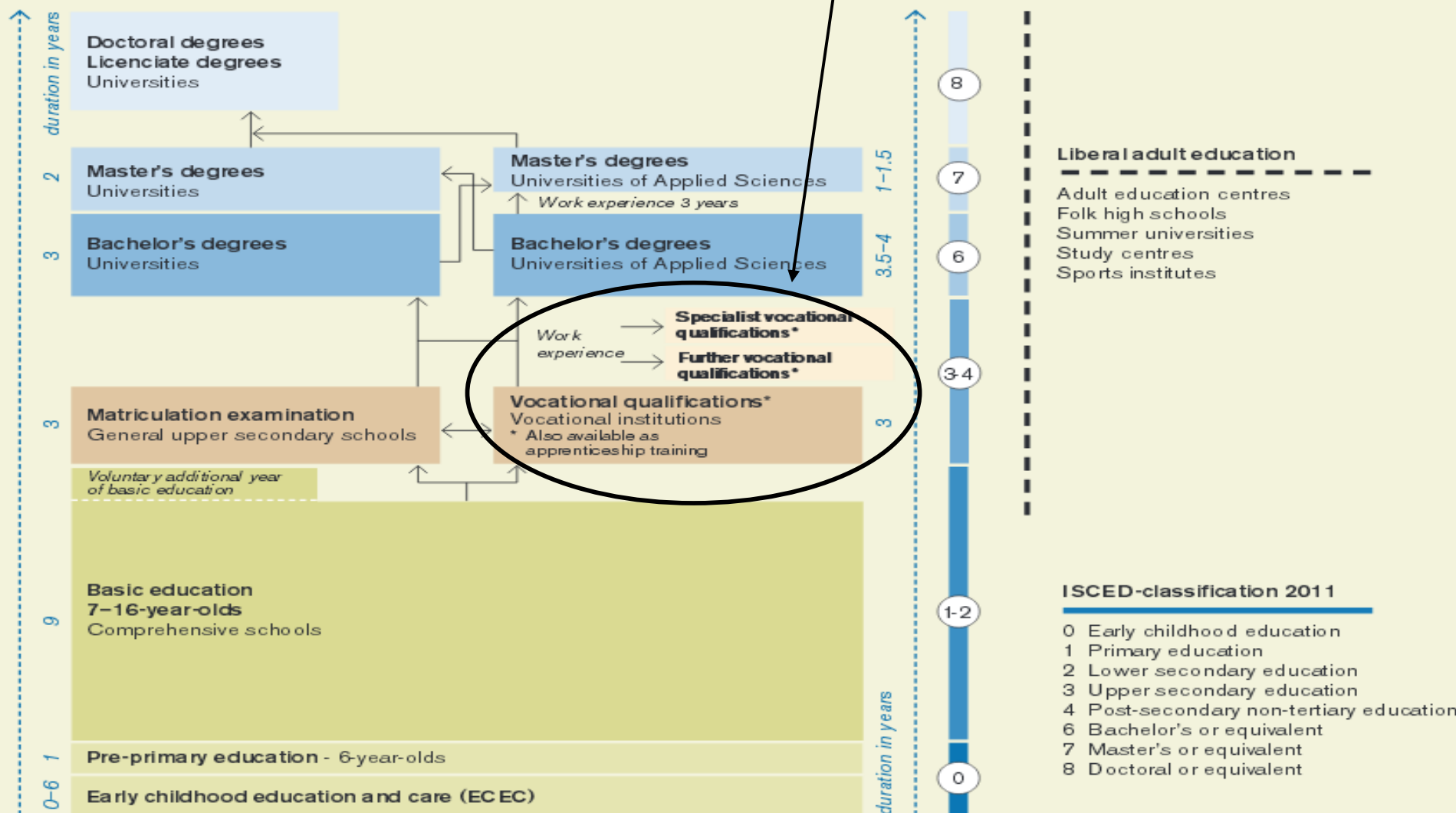
Koneellinen puutavaran valmistus

Live 100%



## Education system in Finland

5/2016



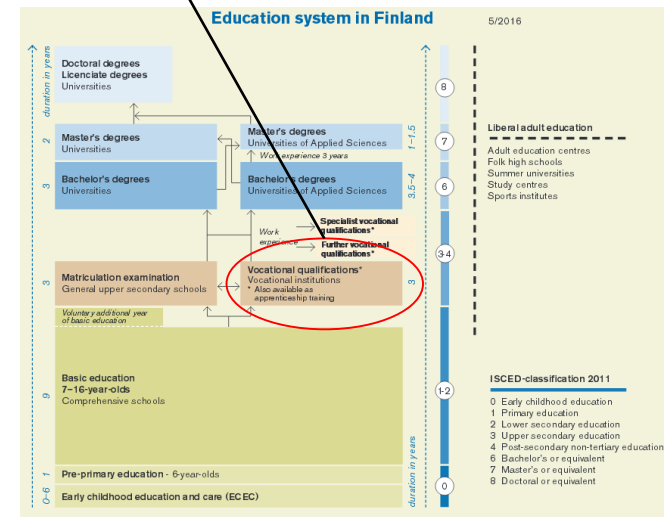
The scope of the study programme is 180 credits

**Vocational studies** - 135 credits, including at least 30 credits  
on-the-job training

**Common studies** - 35 credits

- mother tongue
- the other national language
- foreign language
- mathematics
- physics and chemistry
- social, business and working life studies
- physical and health education
- arts and culture

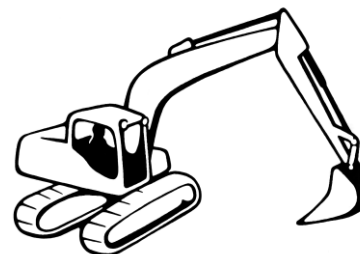
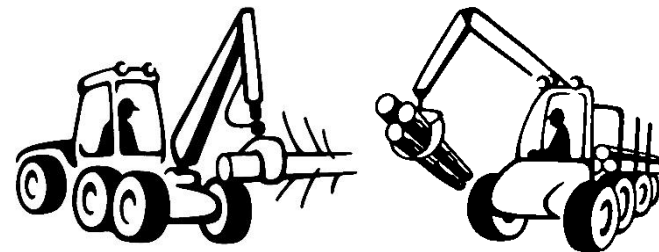
**Free-choice studies** - 10 credits





## Vocational qualifications (Youth and adult)

- Harvester operator
- Forwarder operator
- Excavator operator
- Mechanic
- Timber truck driver
- Lumberjack (manual worker)



## Specialist and further vocational qualifications (Adult)

- Harvester pro operators
- Forwarder pro operators
- Pro Mechanic
- Supervisors



# Harvester operator training - two example

1. Vocational qualification (adult and youth)
  - After basic education (comprehensive schools) or
  - Profession changer
2. Specialist vocational qualification
  - Professional operators





## Controlled Training Process

### Harvester basic training (at school)

#### All things about the curriculum

- Speed is not important!
- Contains a lot of work tests
- The aim is independent work – slowly!
- Teacher-led training

### Supervised work training (at school or contractor)

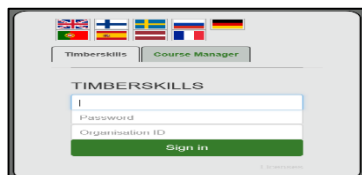
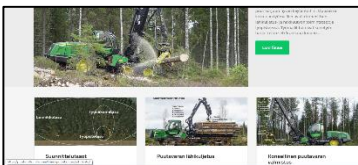
#### Focus on work (2) shift issues

- More routine for working
- Includes work shift tests
- The aim is reach at least 2/3 productivity in easy conditions compared to pro operator
- Supervisor-led training

### On-the-job training (at contractor)

#### The aim is to get work!

- Even more routine for working
- Remote connection-led training (**new program!**)



### Duration of training:

1. Student's capabilities and motivation
2. Contractor requirements

### Kuva- ja ääniyhteys



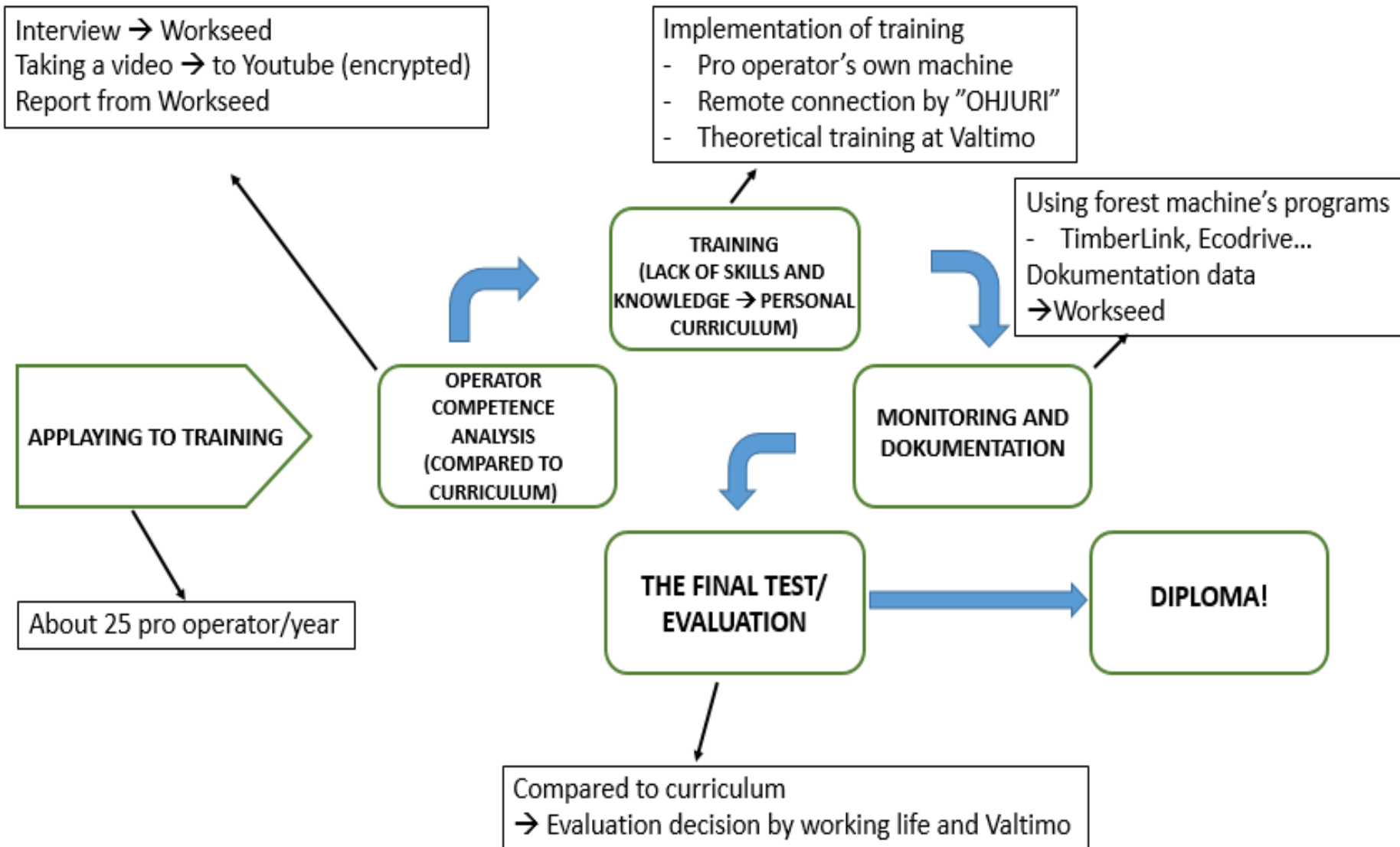
- Tallennus kuvaavaan kännykkään
- Itsearviointiin tueksi
  - Kerätään aineistoa ennalta määriteltyihin tehtäviin
  - Työprosessin ohjaukseen tilanteissa, joissa etäyhteys ei ole mahdollinen

- Välitietoinen tallennus
- Ohjauksen kohdennus
  - Ohjauksen tarpeen määrittelyn tuki

- Reaaliaikainen kuva
- Ohjaus
  - Arvioinnin perusteet



- Suoritustietojen tallennus Workseed (Amov tietokanta)
- Editoitu, jäsennetty ja järjestetty aineisto
  - Opiskelun tavoitteiden seuranta
  - Arviointiaineiston dokumentointi



## Develop the profession and its training



Training process

Work process

We develop!

Develop the training

- Competence based
- Teaching → coaching
- Increase controlled simulator training
  - **Static simulators 2018!**
  - Increase remote connection-led training
- Cost effectiveness!

More skilfull, more even, faster

Develop the profession

- Eye tracking
- Utilizes machine data
- Interview pro operators
- Using video browser
- Advantage assistive programs

Energy efficiency



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Interactive technologies, ICT4D, computing education

Google Scholar, SoleCRIS publication database, Webpage

[www.ponsse.com/fi](http://www.ponsse.com/fi)

[www.komatsuforest.fi](http://www.komatsuforest.fi)

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Expertise

work studies in forestry and harvesting, logistic of wood procurement, discrete-event simulation and drones



Heikki Ovaskainen Metsäteho Ltd.

Agricultural Engineering, Transportation Engineering, Forestry

PhD

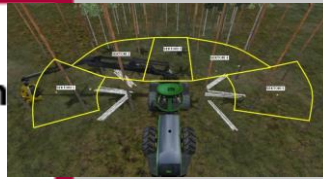
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[heikki.ovaskainen@metsateho.fi](mailto:heikki.ovaskainen@metsateho.fi)



[www.deere.fi](http://www.deere.fi)

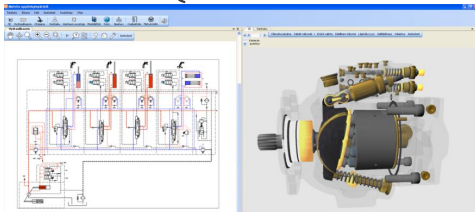




# References



- **Video analyses for professional operator's**
- Working model (2 x thinning and 2 x clearcut) training for other Forestry school's, supervisor's (mostly for foreign), professional operator's, contractor's
- We are wanted development partner (universities, research units, forest machine manufactures and dealers etc.)
- We have done and we are constantly creating training material (textbook, ematerial etc.)
- Develop simulators and simulator learning environment (TimberSkills4 and Simtrainer)



## Thank You!

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