Prospects and Challenges for Forest Harvesting technologies in Europe

Magnus Thor
Research Director

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Forestry ï many aspects and interests

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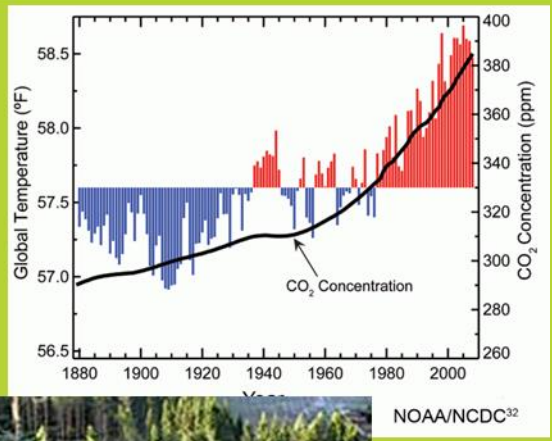

Horizon 2020: Societal challenges

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1. Health, demographic change and wellbeing

2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy

3. Secure, clean and efficient energy

4. Smart, green and integrated transport

5. Climate action, environment, resource efficiency and raw materials

6. Europe in a changing world - inclusive, innovative and reflective societies

7. Secure societies - protecting freedom and security of Europe and its citizens


It is not going to happen
é without profitable and efficient value chains
Forest engineering plays a crucial role!

Terrain transport:
Incremental improvements

- Power
- Size
- Soil impact
- Ergonomics
- Machine uptime

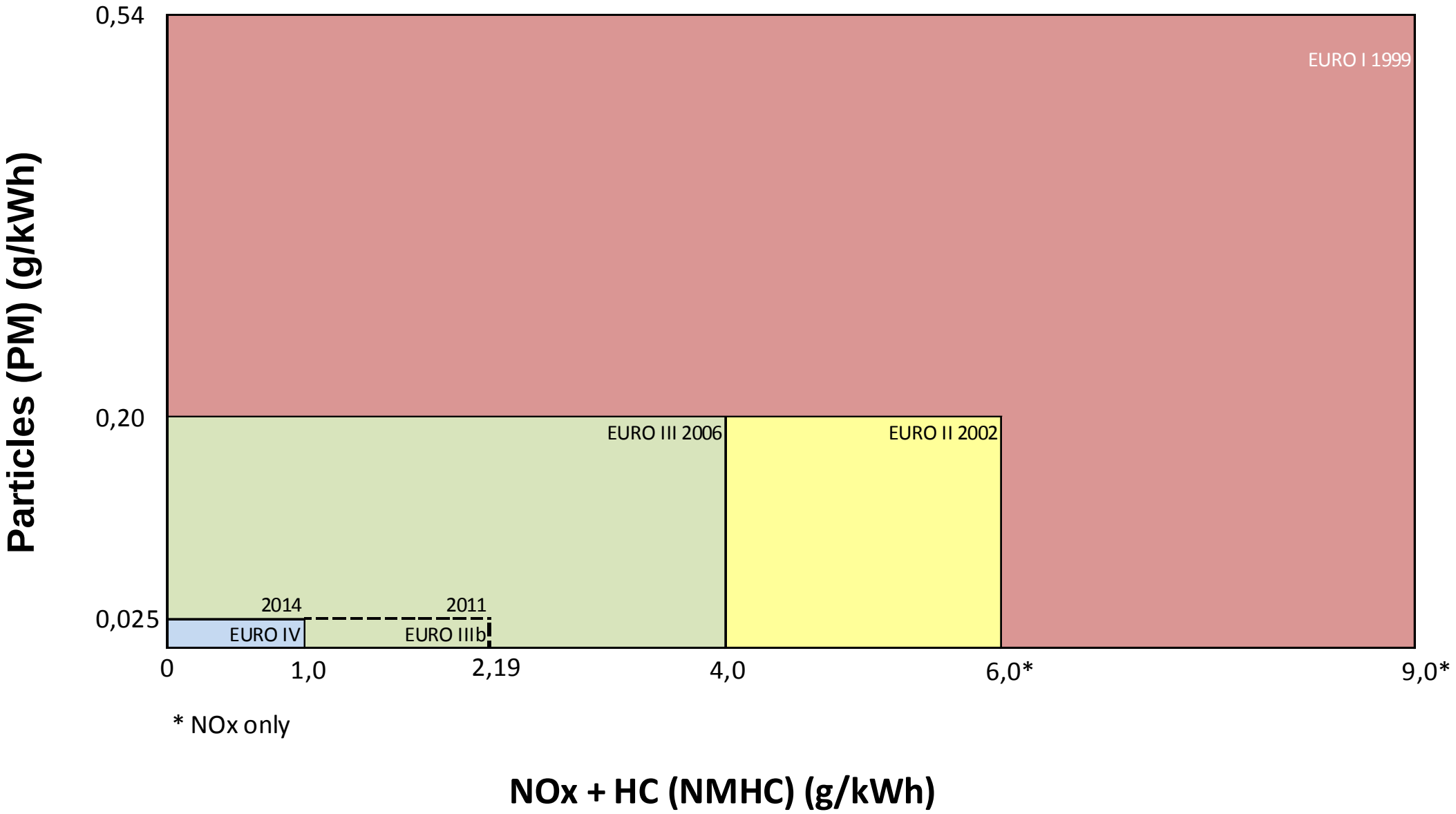
- Basic concepts remain

Felling/processing:
Incremental improvements + system change

- Feller-bunchers
  - Steep slope capacity
  - Boom reach
  - Navigation assistance
- Harvesters/processors
  - Single-grip all over
  - Multi-stem processing
  - Wood value recovery

Most improvements inside

Directive 97/68/EC



Looking ahead ï big picture

- Compliance
  - Climate change
  - Public confidence
- Attractiveness
  - [illegible]pment
  - [illegible]able market for OEMs
- Adaptability
  - New technology in forestry applications

Productivity & profitability

Examples of implications in forestry and forest engineering

Reducing soil impact	Å Technology Å Methods Å Training

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Productivity, general	Å Supply chain management Å Technology and systems Å Organization

Planning tools for minimized soil impact

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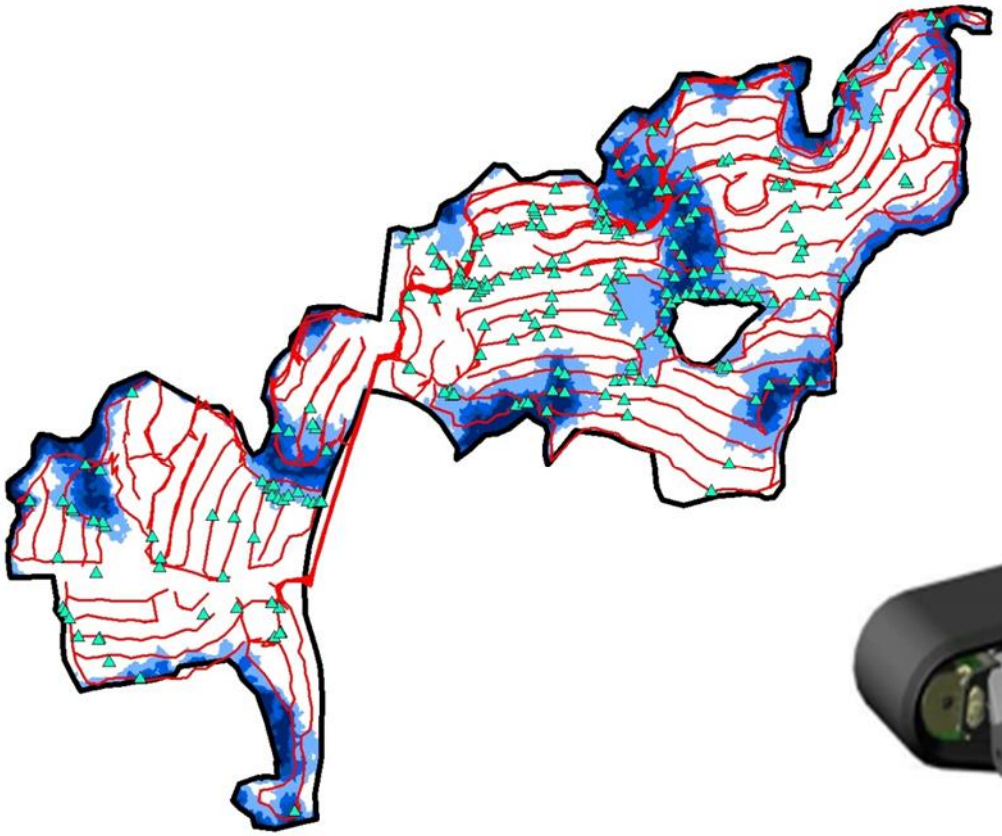


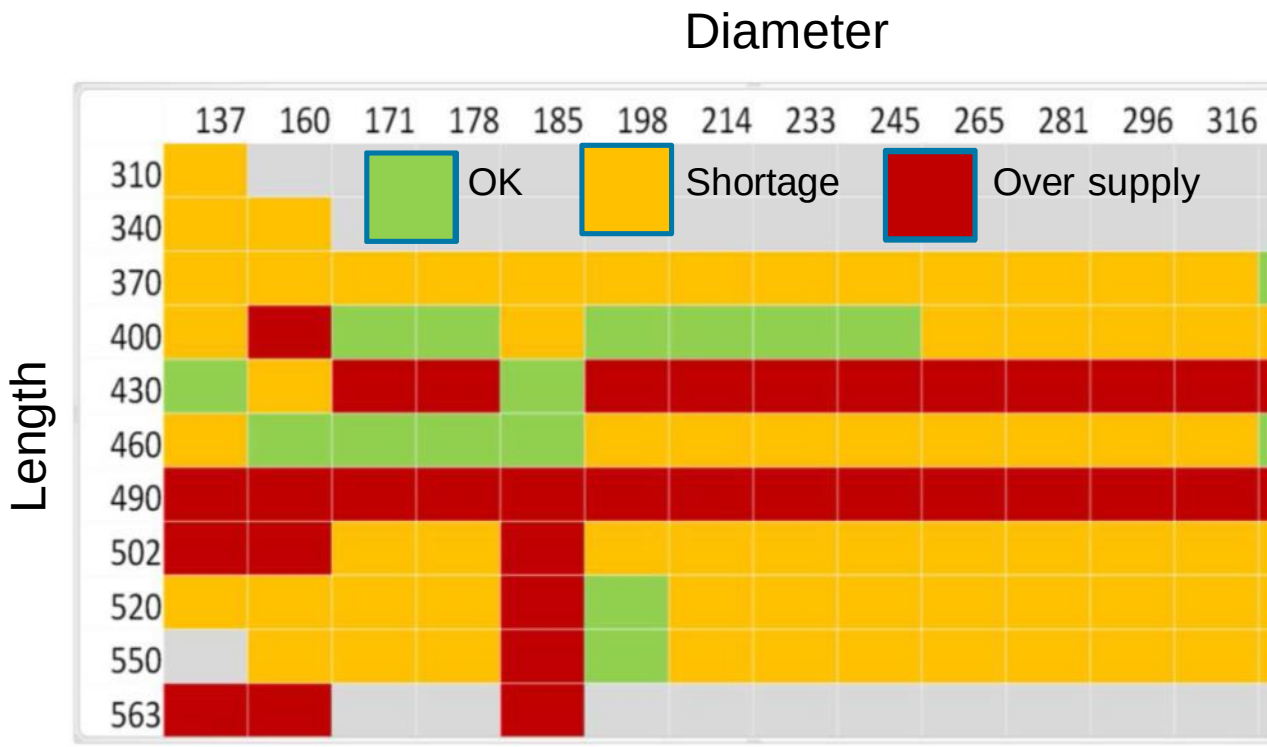
- Pioneered by J.D Irving and University of New Brunswick
- Implementation ongoing
- To be combined with soft footprint technology
- Best practice is performing well

Operatorôs environment

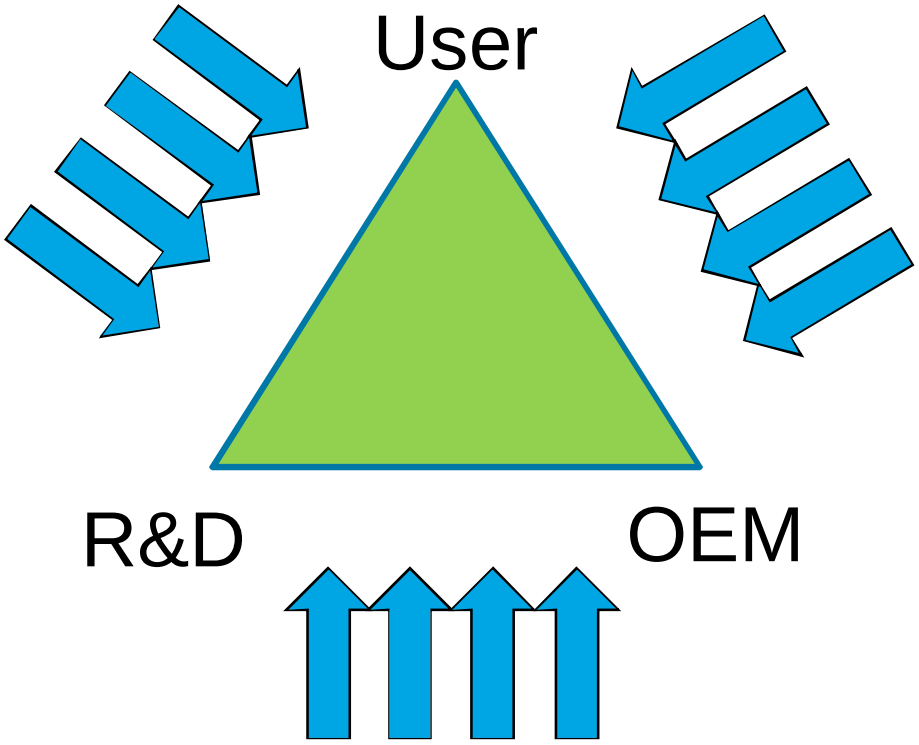
- HMI
  - John Deereôs IBC is implemented
    - others to be expected
  - Head up display
- Active suspension
  - Comfort
  - Speed
  - Ground pressure

Increasing wood value

- Detailed spec from saw mill
  - Individual pieces
  - Narrow distributions
- Dimension measurement
- Information management
- B2B systems



Who is going to do it?



- Common responsibility
- Different roles
- Most happens outside forestry
- Common awareness of driving forces that apply

Low-volume market

Who requests?

Who buys?

Who implements?

It can happen!

- **Profitable forestry** ï suppliers to several industries ï active in R&D
- **Strong R&D** ï cross disciplines
- **Thriving OEMs** ï providing forestry with leading technology

Thank you!

magnus.thor@skogforsk.se

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