Innovations on Ag- and Forestry machinery

Review, Potential & Outlook

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July 23rd, 2014

JOHN DEERE


DEERE
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X540
JOHN DEERE

John Deere Factories around the Globe

>65.000 employees **>65 factories** **>18 countries**

JOHN DEERE

175 Years - 9 CEOs - 1 Brand

JOHN DEERE
175
SINCE 1837

Continuity & Reliability

John Deere is among the worlds top 100 most valuable brands

John Deere is ranked 98th among the Fortune 500

John Deere belongs to the top 50 most prestigious companies within the USA

John Deere is among the 5 oldest companies within the USA

John Deere is among the worlds top 100 most innovative organizations

Innovation

THOMSON REUTERS

THE WORLD'S TOP 100 MOST INNOVATIVE ORGANIZATIONS

2012 R&D Investments:

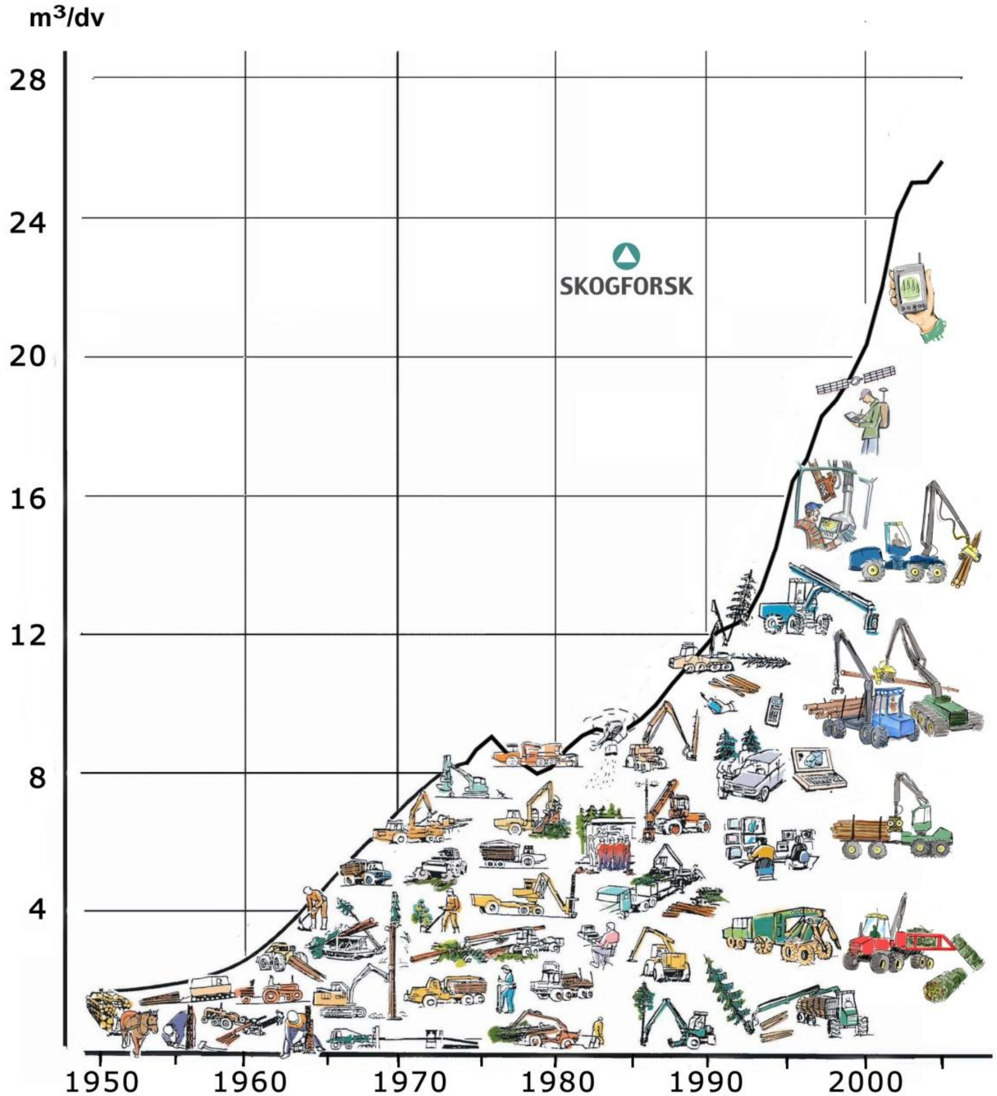
- 7.8 % of Equipment Sales
- Research and Development $ 1,400,000,000
- Each working day, John Deere spends approx. 4,8 million Euro on research and development

JOHN DEERE


Timberjack


4 Harvester head
1 Feeding
2 Sawing
4 Calibration
5 Configuration
1 Personal
2 Feed control
3 DK pressure
4 FR pressure
5 Special logs
Values
Default
Timbermatic

Chasing Productivity



Led by Nordic countries

"Iron Power" development → mid 90's

"Brain Power" development

Mid 90's →

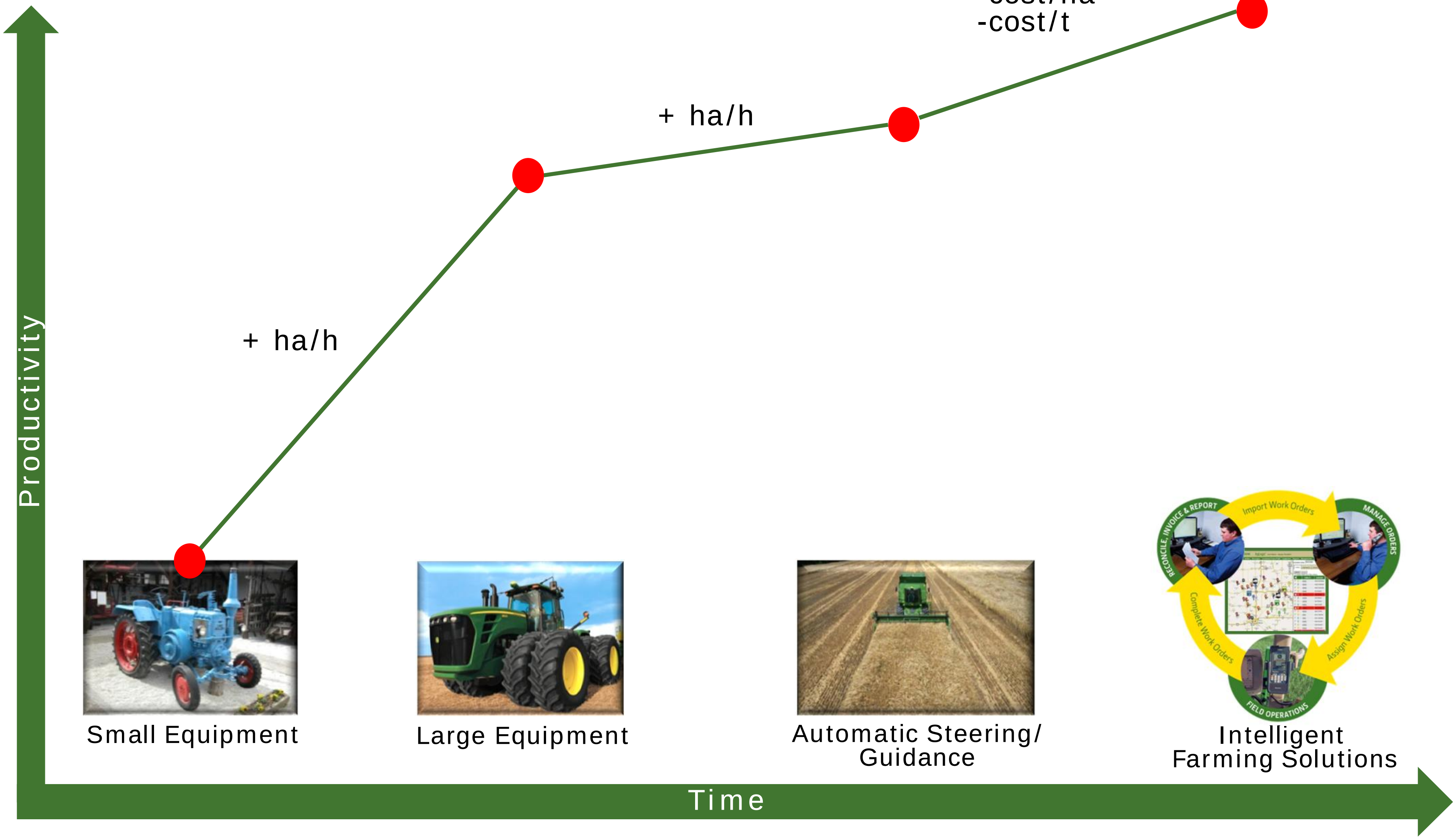
Optimal Bucking

Harvester Measurement

Logistics – GPS – Navigation

Operator Productivity

Equipment Technology Evolution – Agricultural Productivity



Machine development has been Forest-Industry driven

High techn. *Productivity* focus - *Uptime - Operating Cost*

Outside the Nordic, many machinery innovation features are barely utilized.

'90s		**Y2K+**
General "customer" Value creation, broad applicability	→	Market specific "customer" value, niche development

CTL machinery is a limited market opportunity

Customer needs vary a lot – Who is the customer?

Overload with expensive technology with limited usage

Operator skills gaining importance for overall productivity

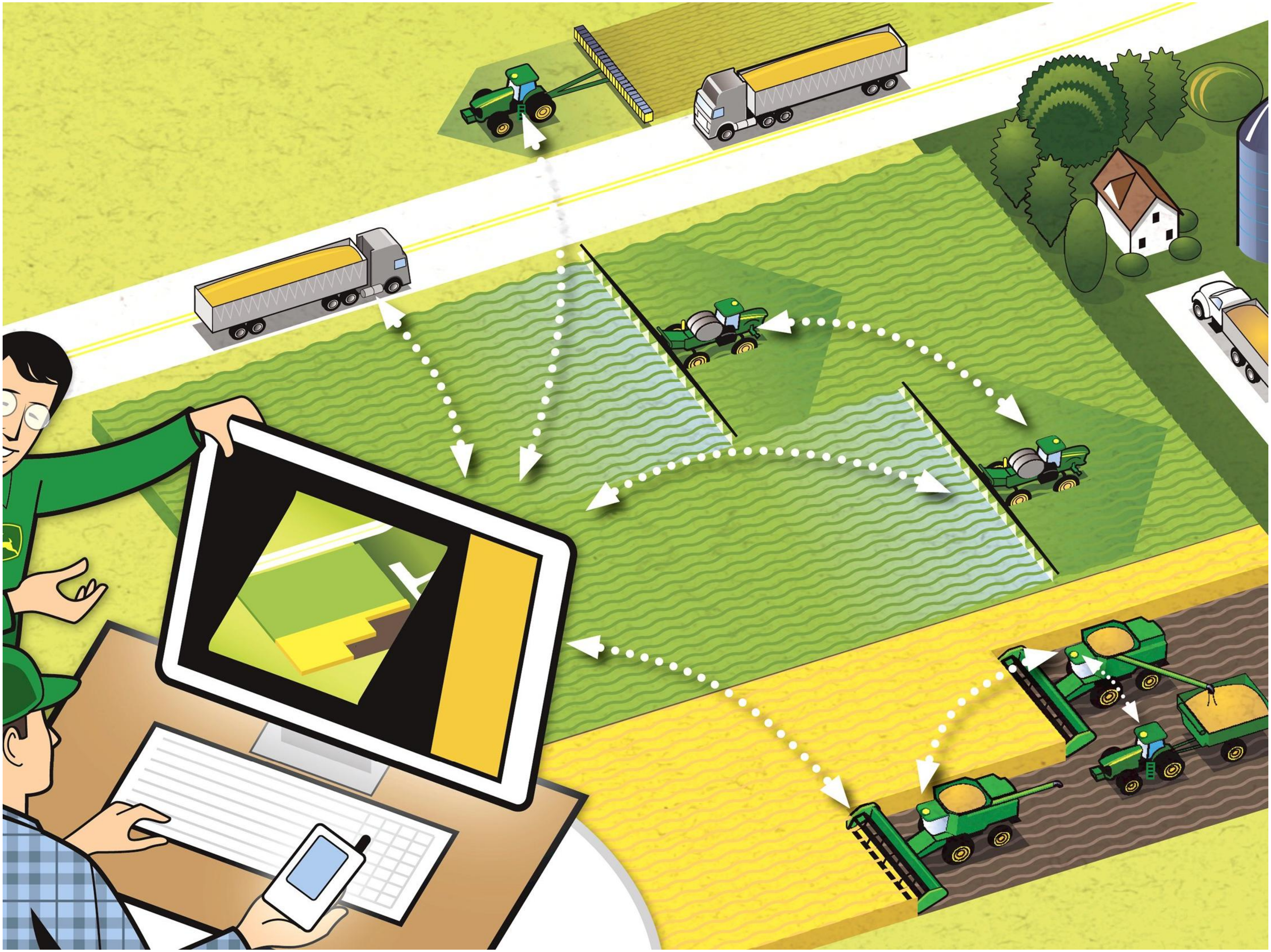
Operator cannot leverage all features

Incremental R&D cost of productivity increase are sky rocketing

Nordic contractors’ rates cannot pay for that!

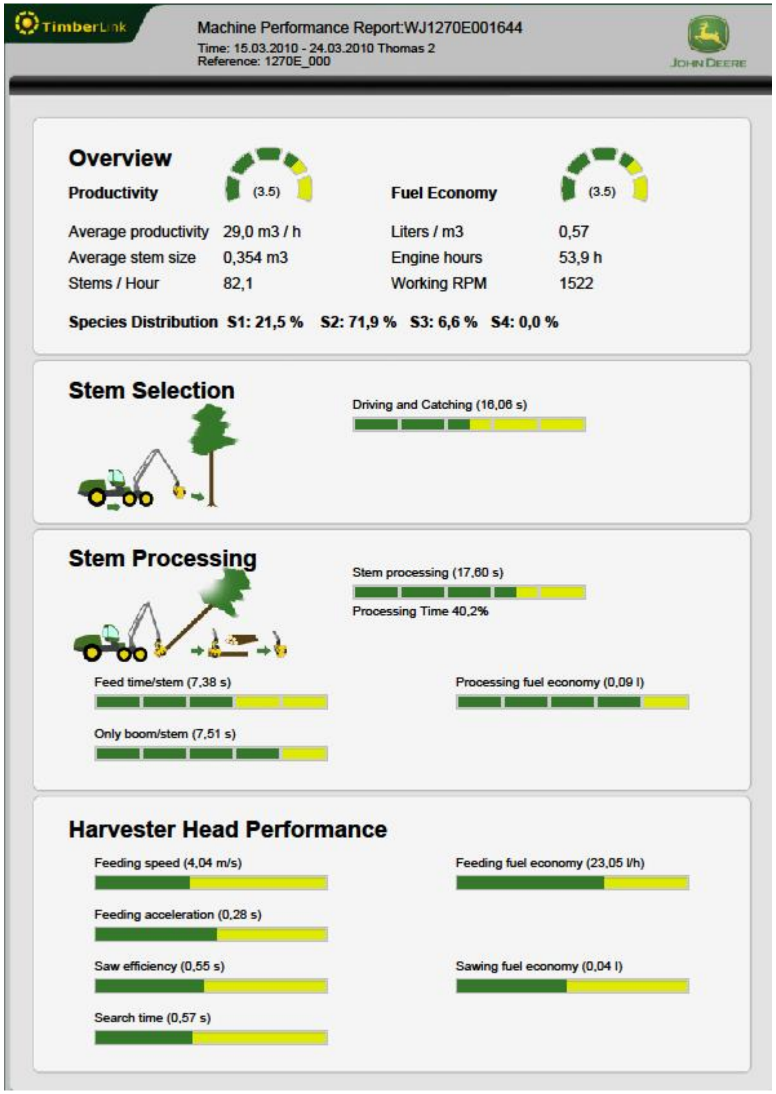
Key Trends & Challenges - Contractors

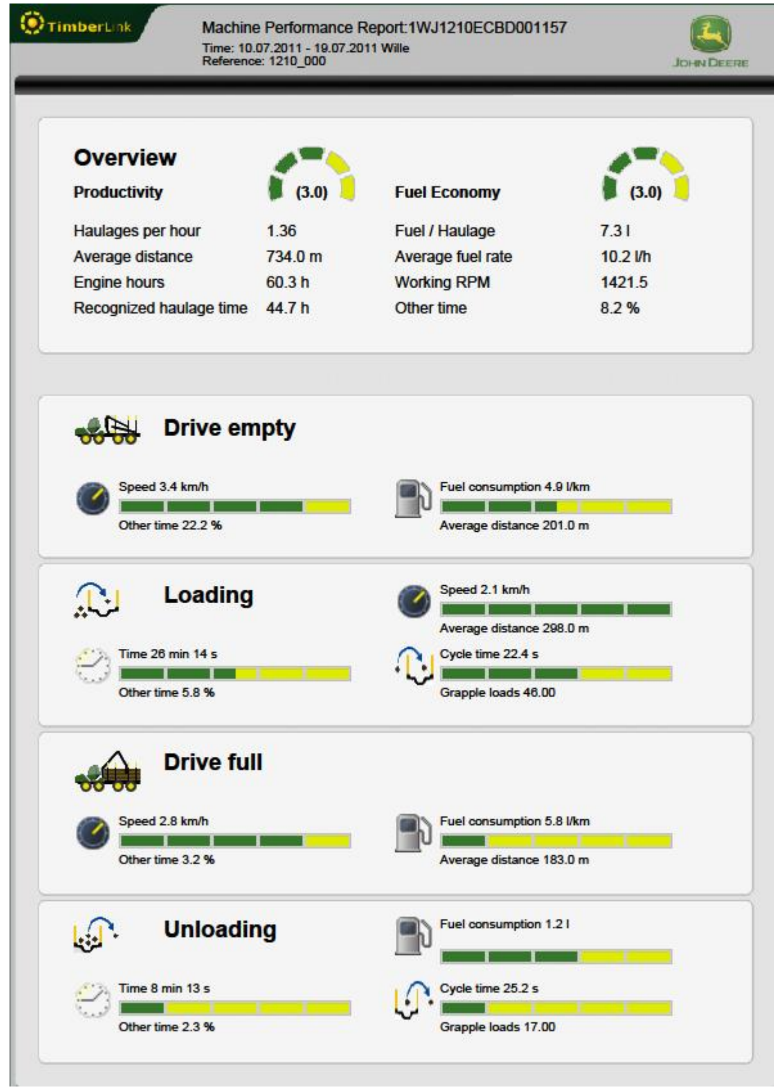
Operating Cost & Profit	• Higher energy cost (fuel) • Tight profit margins
Tighter Operating Windows	• Timeliness to serve larger customers • Transport size & soil compaction limitations
Compliance & Regulations	• Highly complex regulations & more restrictions • Documentation
Lack of Skilled Labor	• Skills and experience • Drives need for training and automation
Transport & Logistics	• Expanding operating areas • Management of larger fleets
Info & Data Management	• Work planning, data recording & invoicing • Business analysis & reporting



IBC – Intelligent Boom Control

TimberLink – Performance and Condition Monitor





Operator Assistance

John Deere FarmSight

I run a progressive, growth-oriented business. Managing the variables, complexity, assets, employees, relationships and markets which all requires coordination, time and energy

Machine Optimization	Logistics Optimization	Decision Support
Minimize Crop Production Cost	*Fleet & Logistics Management*	*Agronomic Optimization*
Operating Cost Mgmt.	*Remote Machine Servicing*	*Data & Information Management*
Increase Machine Utilization	*Management XXL Operations*	*Compliance & Regulations*

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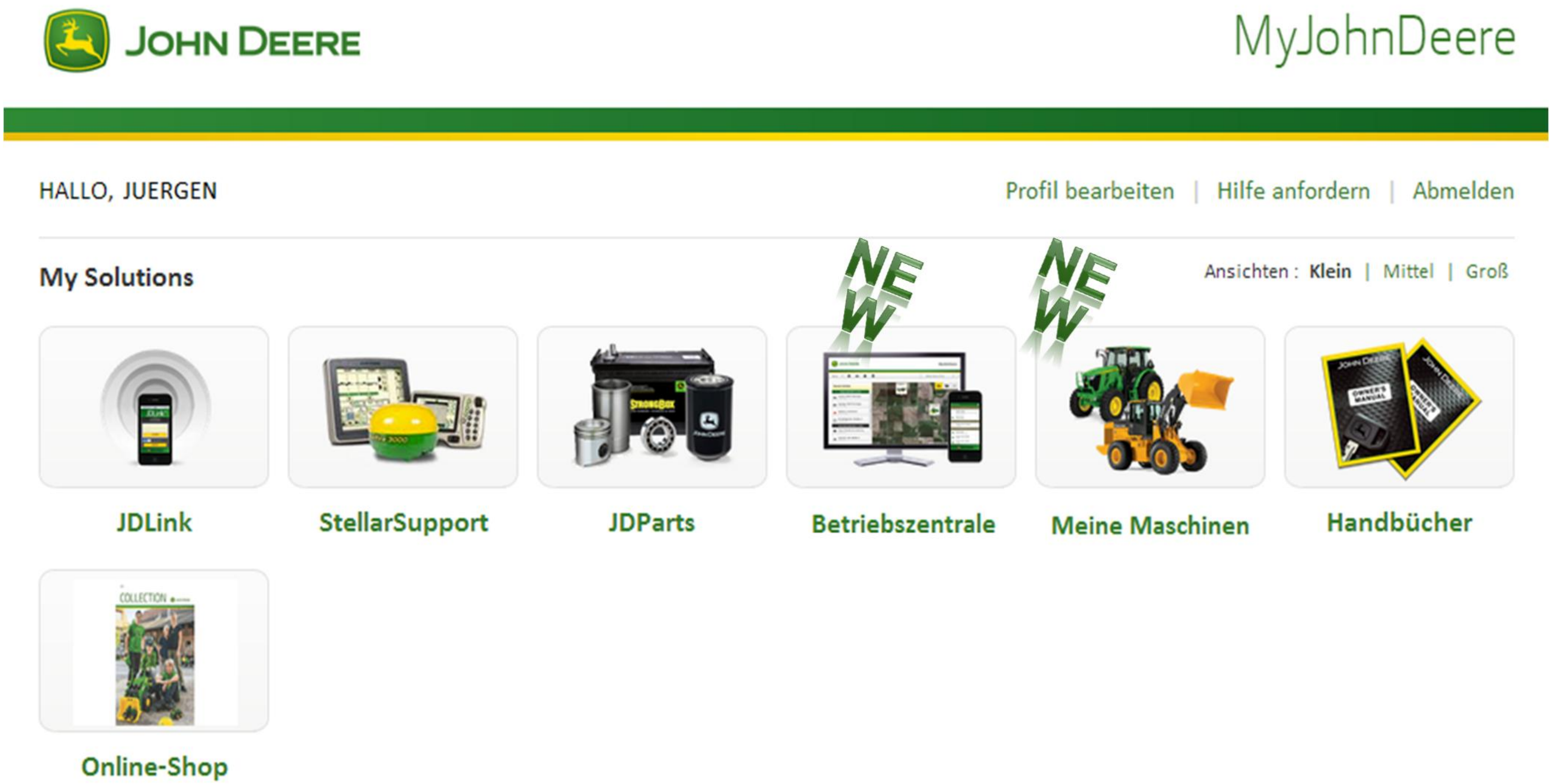
4,6 %
3,11
Rape Seed
4
13
5
0
800

“One login, all my applications…”



Summary

- Innovations have been and will drive further productivity
  - But the incremental R&D costs for further productivity increases are growing dramatically, especially with regards to the niche CTL logging machines with its market specific needs.
  - Further development and innovations will need to have a clear machine owner value proposition.
  - Integration of the players along the chain is the key. Seems to be easier in Ag.
- Intelligent Solutions focus gaining importance
  - Machine Optimization
  - Logistics Optimization, Fleet Mgmt, Telematics
  - Interconnectivity
  - New Services enabling effective utilization of machinery
- Operator Assistance, Owner Decision support solutions
  - Easy to operate, Get the most out of the machine