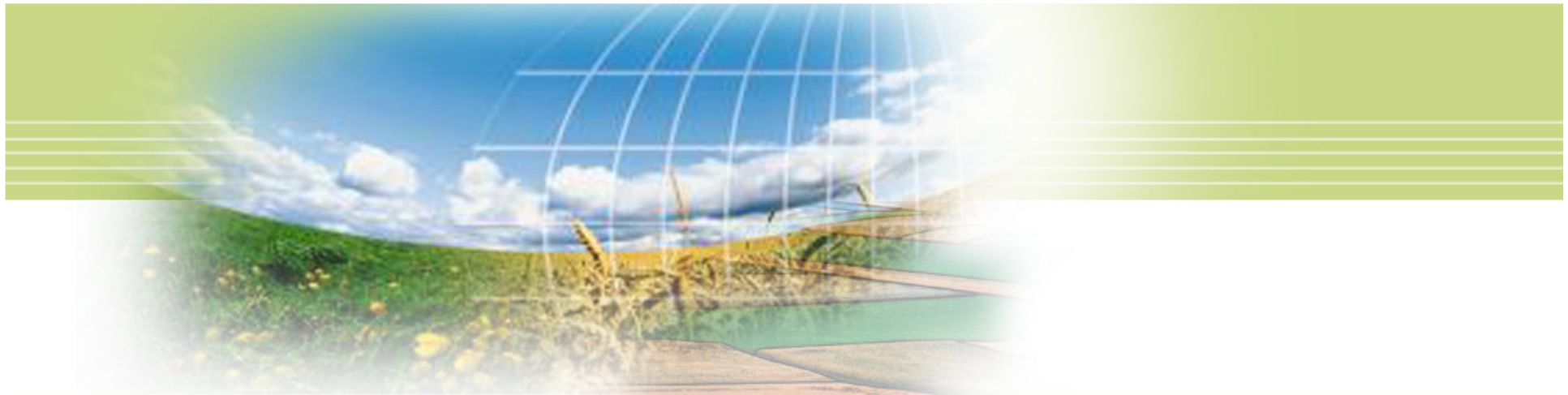


Practical Experiences with Service Engineering



RESER Conference, September 26th, 2008

Dr. Hans-Peter Grothaus

CLAAS Group 2008

Locations in Europe

Agricultural equipment

- Product companies
- Sales companies
- Finance companies

■ Production technology

■ Industrial engineering



CLAAS Group 2008

Locations worldwide



CLAAS



CLAAS Products



Combine Harvesters



Forage Harvesters



Balers



Forage-Harvesting machines



Tractors



Sugarcane Harvesters



Telehandler



Farm management Solutions



Industrial Engineering



Production Engineering



Used Machine Centers



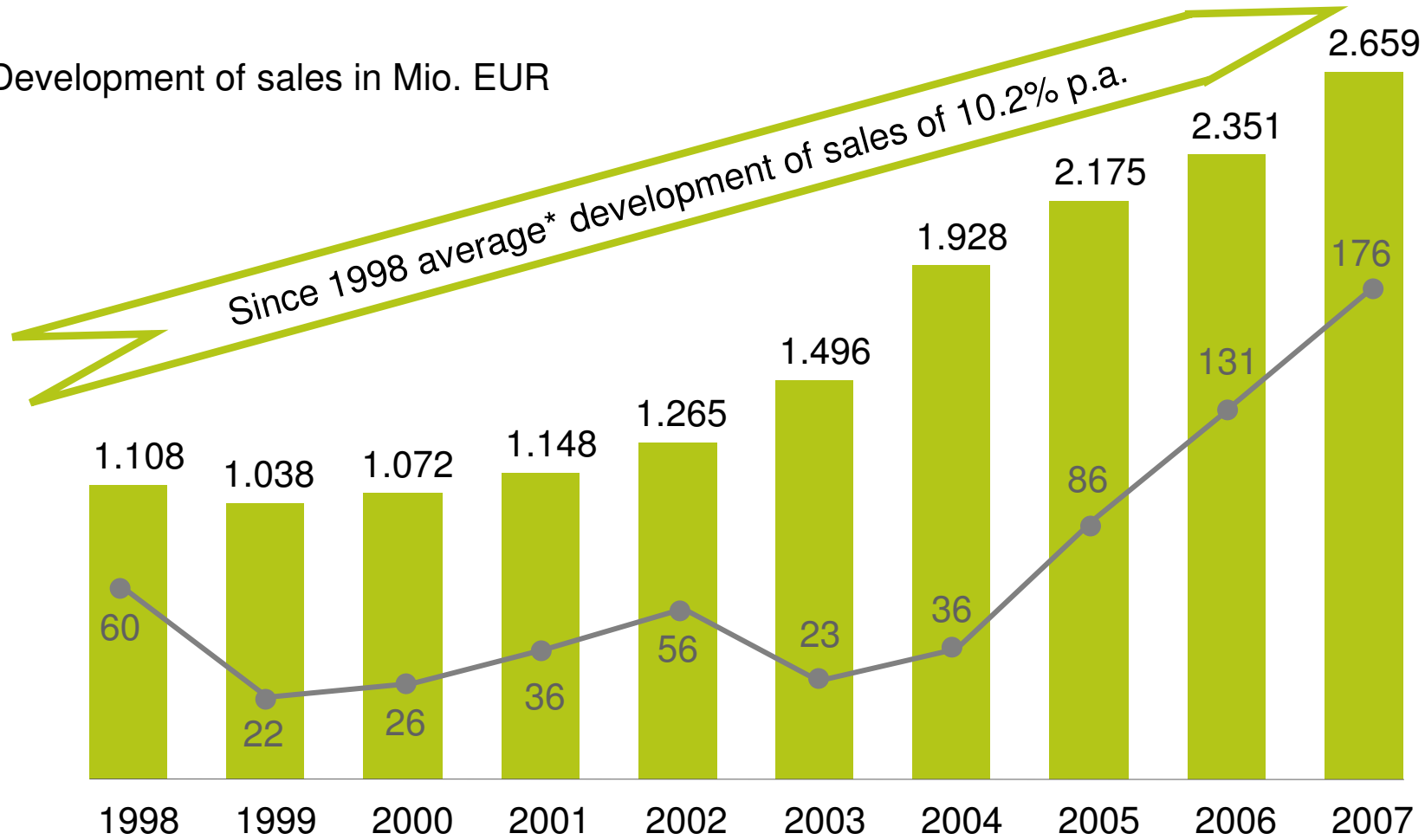
CLAAS Financial Services

CLAAS



CLAAS Sales and Income before Taxes

Development of sales in Mio. EUR



■ Sales in Mio. €

● Income before taxes in Mio. €*

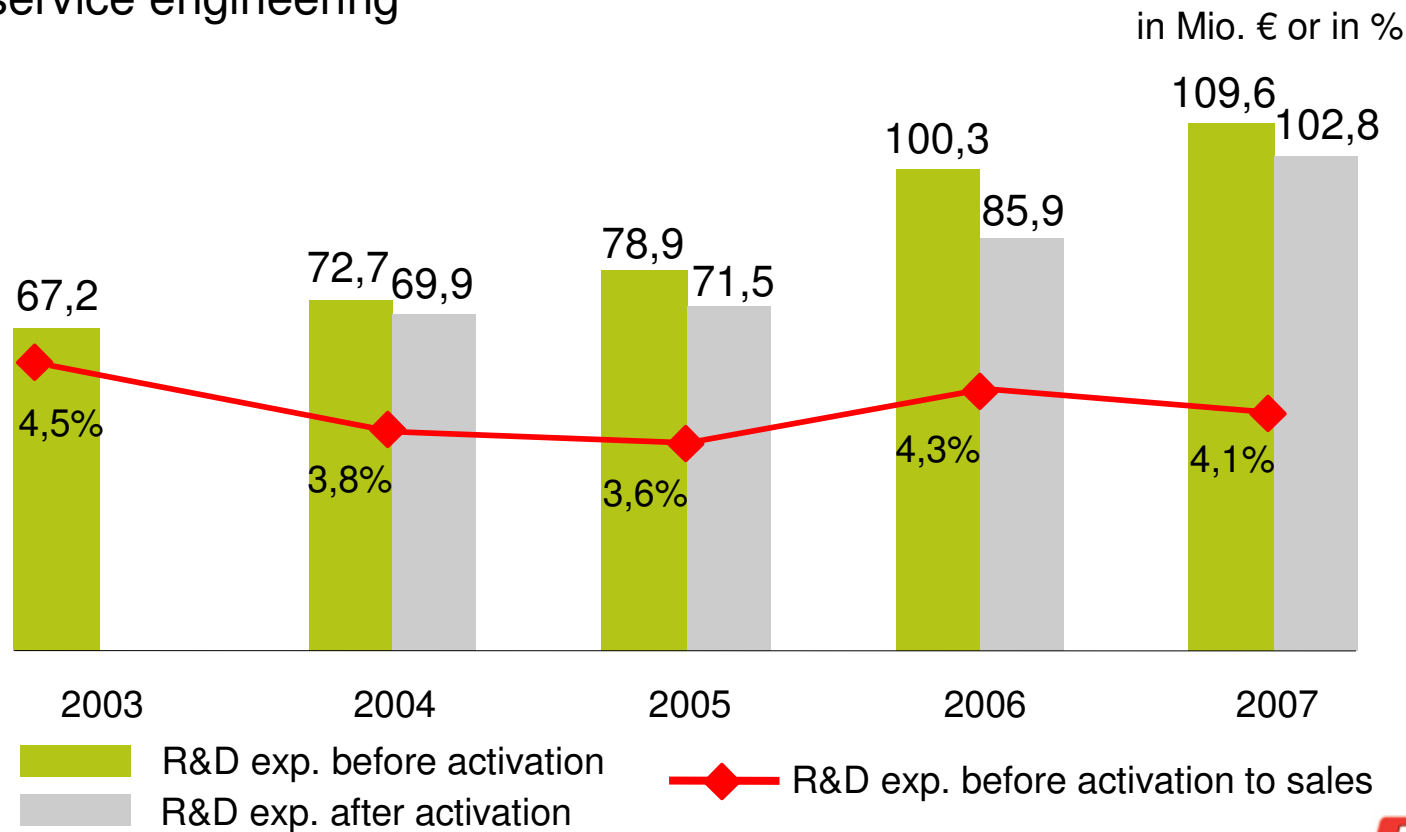
*) Compound Annual Growth Rate

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Research and Development

- Increasing R&D costs by € 9.3 Mio. to € 109.6 Mio.
- Continuing the product development in the area of agricultural engineering and service engineering



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Balance sheet up to 2003: US-GAAP, since 2004: IFRS



From Products to Productivity

1913

Products



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Service



Parts



CLAAS SELECT



agrocom.
the name for perfect farming



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2008

Services and Products



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FINANCIAL SERVICES



Service Engineering and
Process Automatisation



CLAAS
ACADEMY



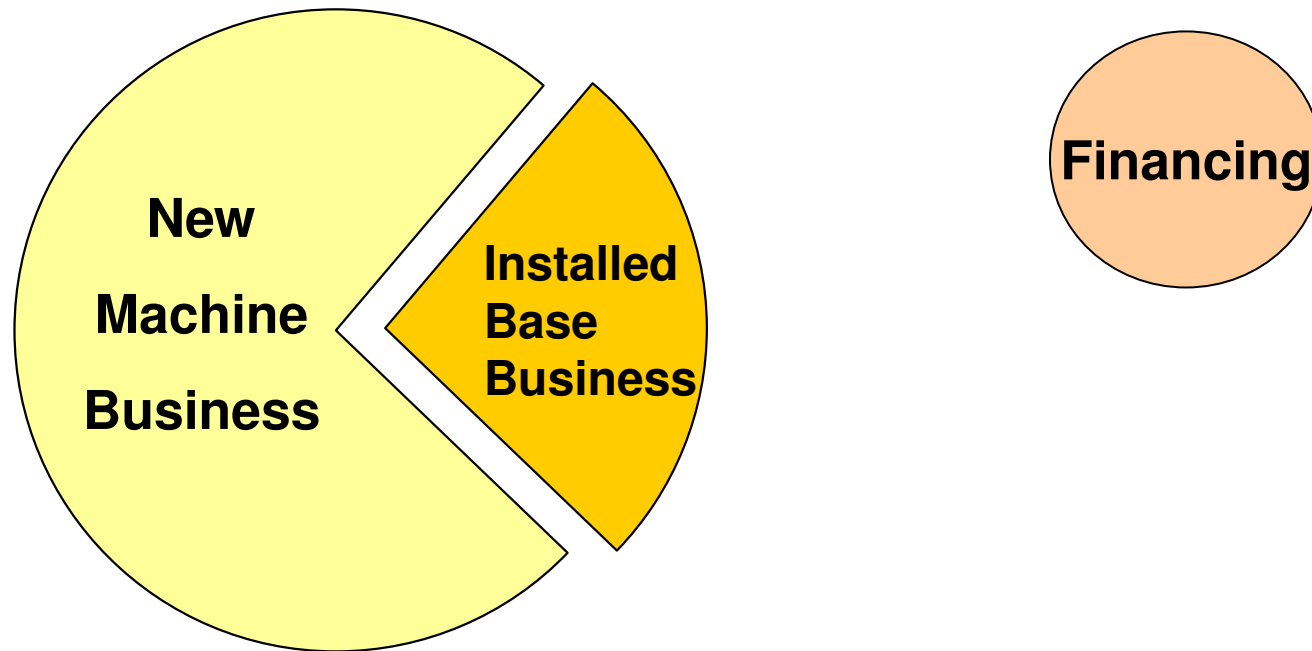
R2B
ROBOT TO BUSINESS

CLAAS



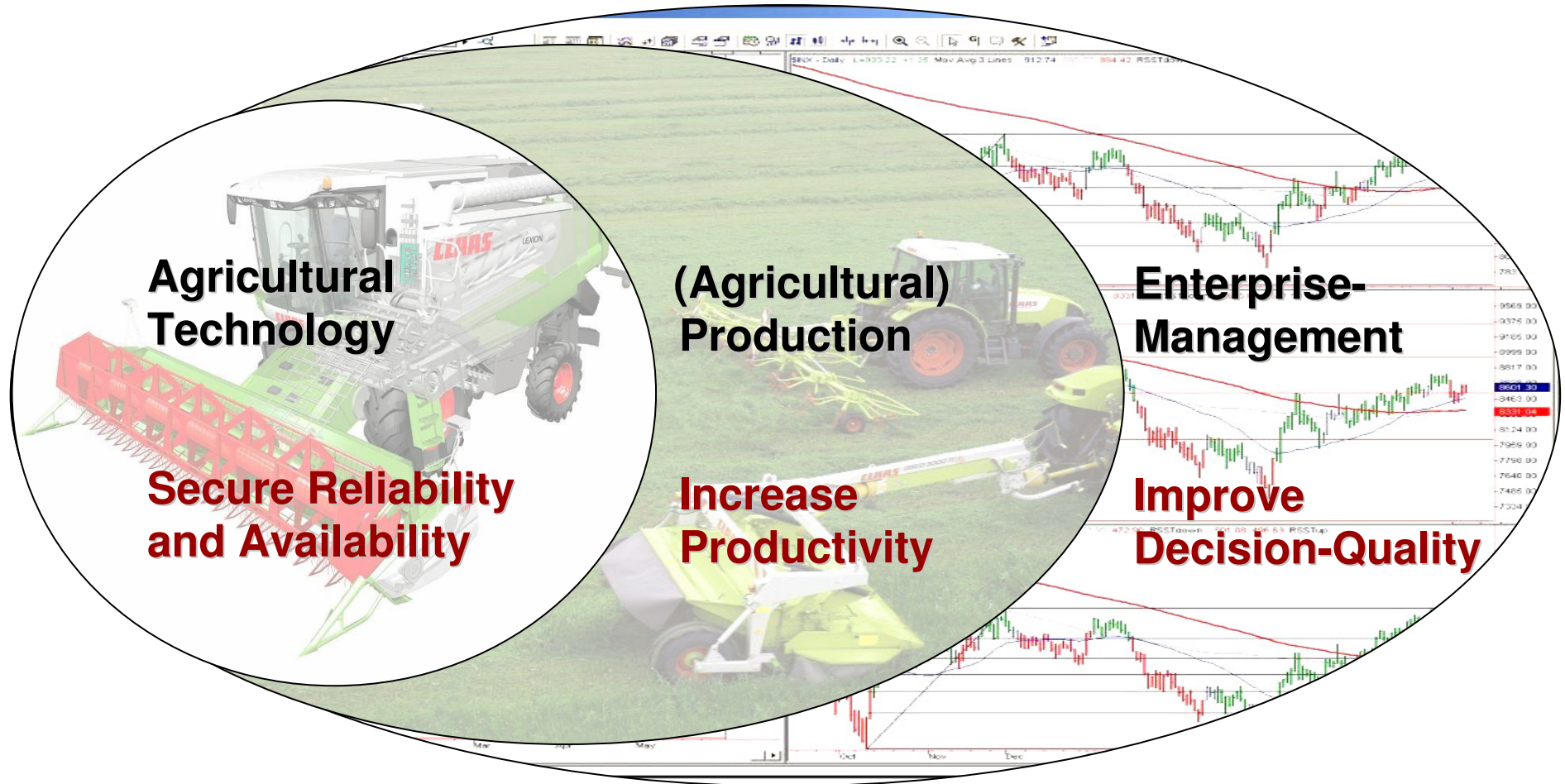
Service Business portion of turnover

Service business generates 20-25 % of worldwide turnover today



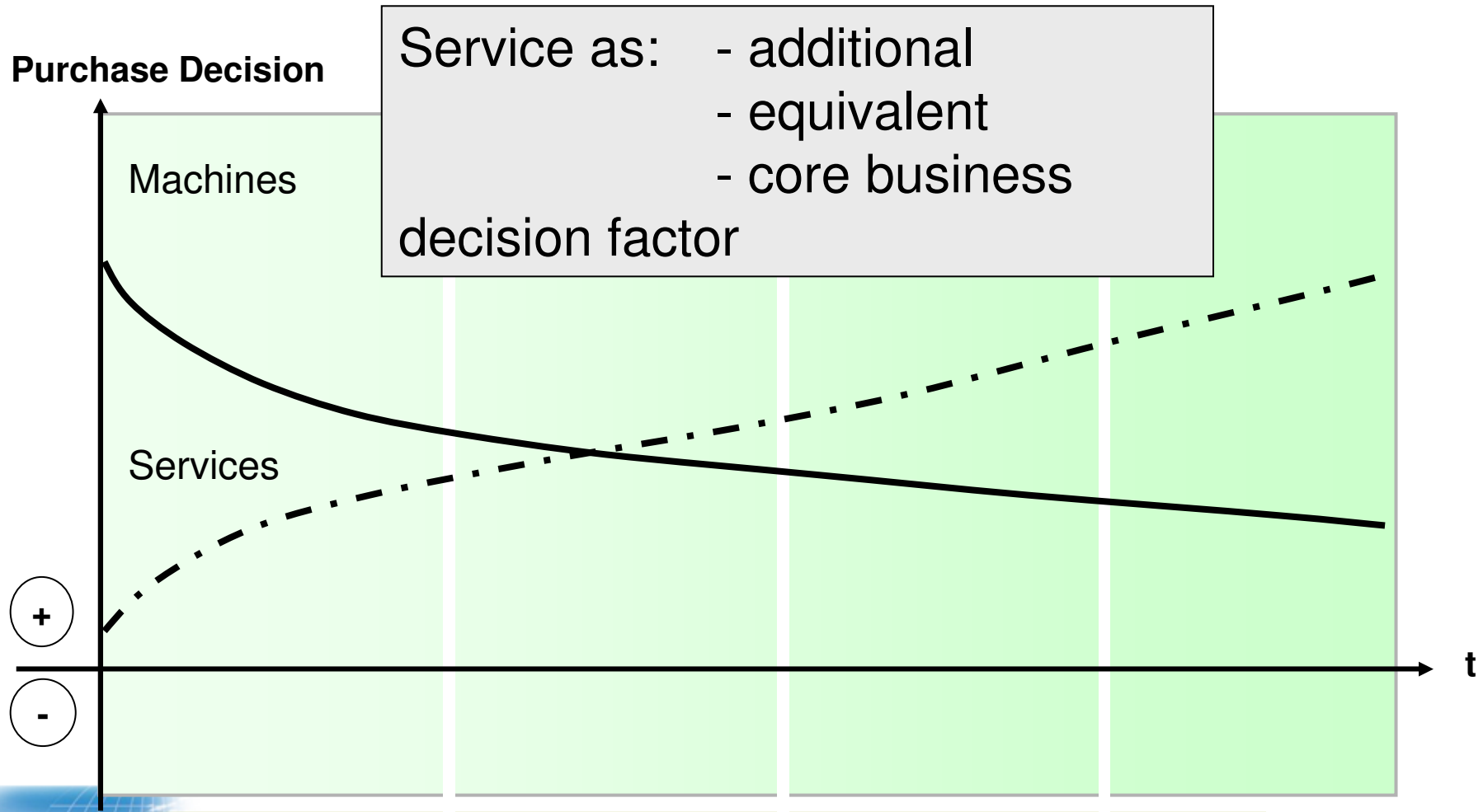
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Service-Fields and their Objectives



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Purchase Decision Relevance



In Economic Terms

Today we measure in:

€/machine (purchase price)

In future we count in:

€/machine hour

Customer View: Life-Cycle

€/ton

Customer View: Productivity

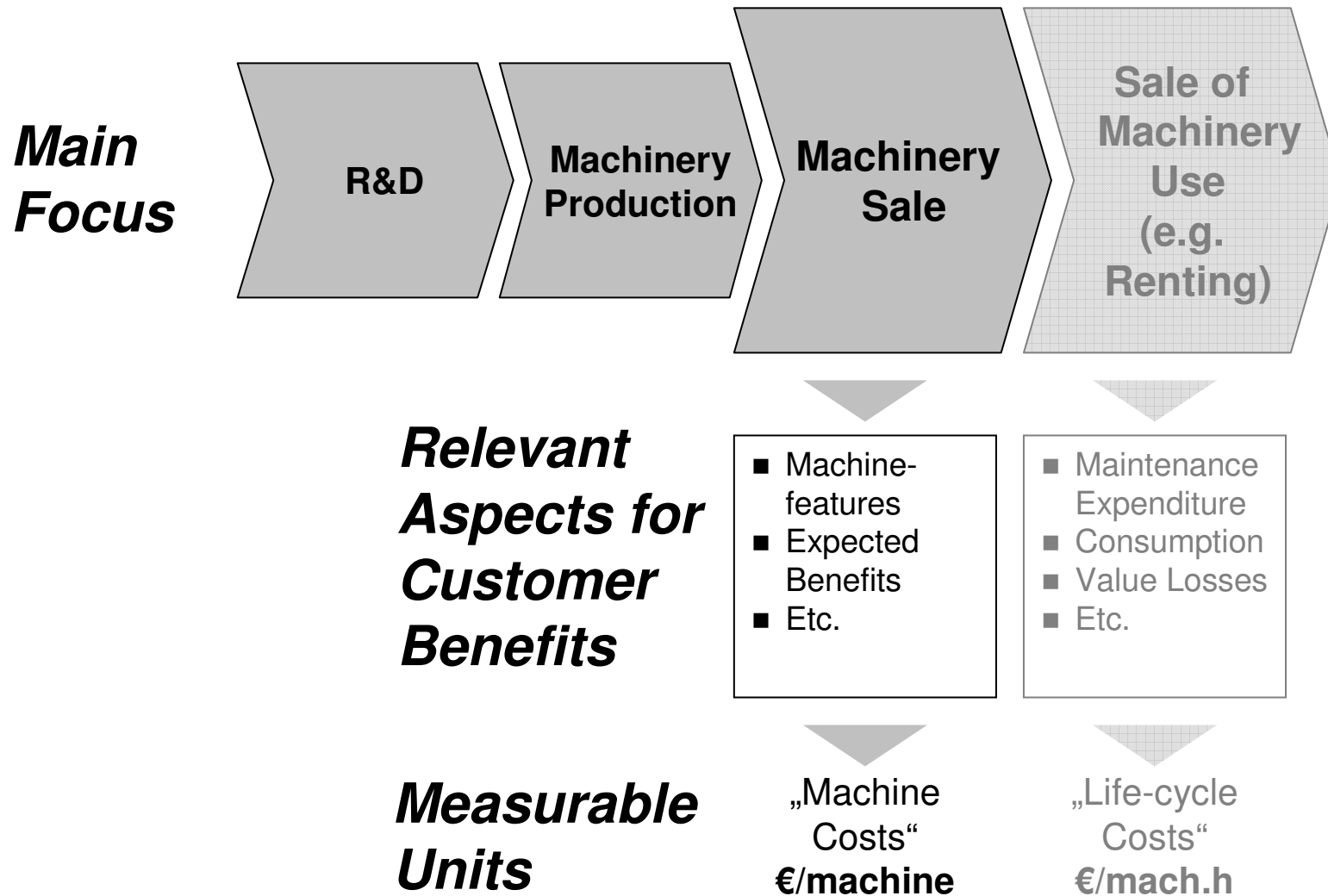
€/year (profit)

Customer View: Agri-Management

CLAAS



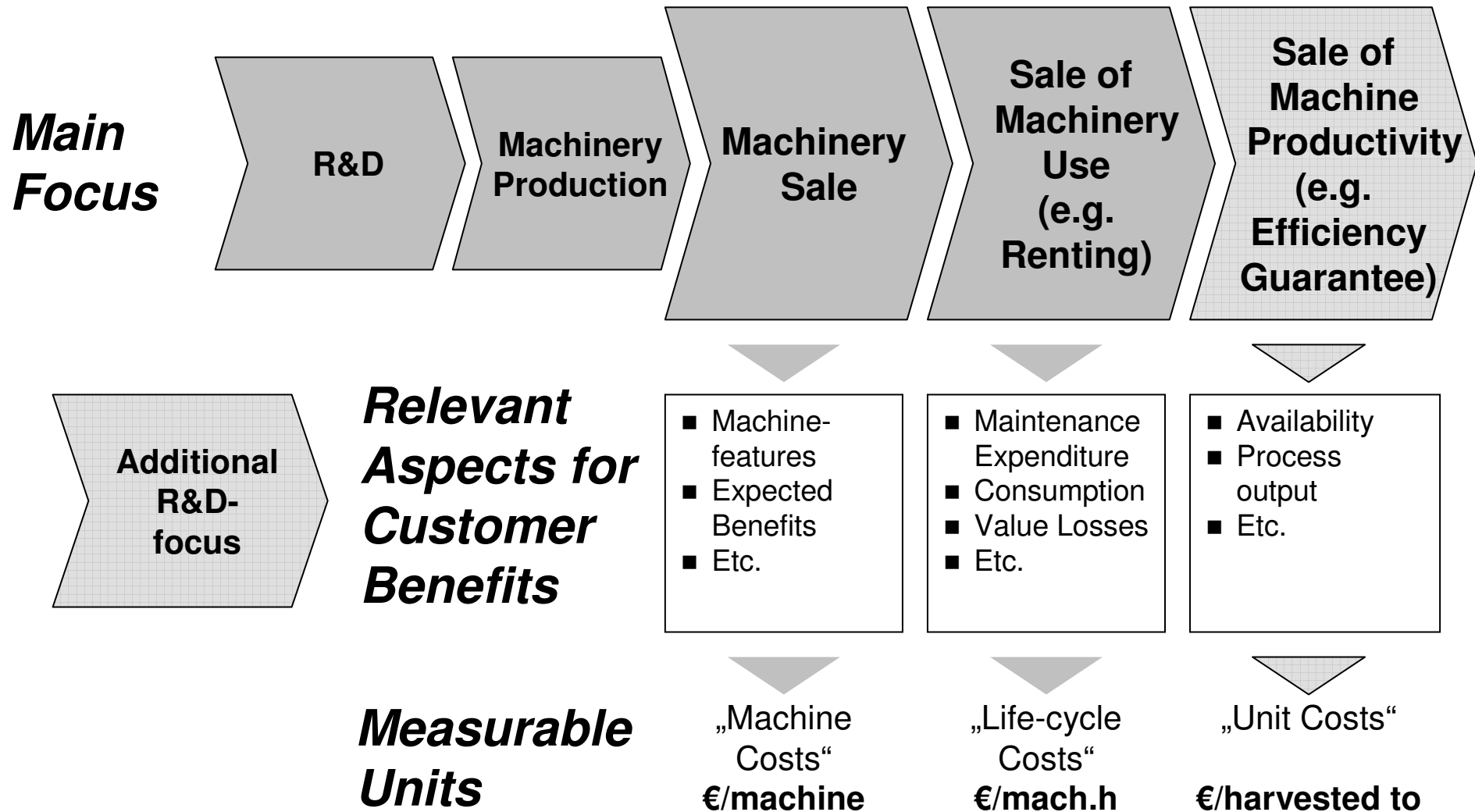
Customer Benefit - Today



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Customer Benefit - Tomorrow



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Hybrid Products in Agriculture

Hybrid character is generated by

- Combining machines / systems with intelligent services
- Involvement of third party services (by agricultural service providers), based on machines / systems and suitable tools (e.g. cross linking tools)

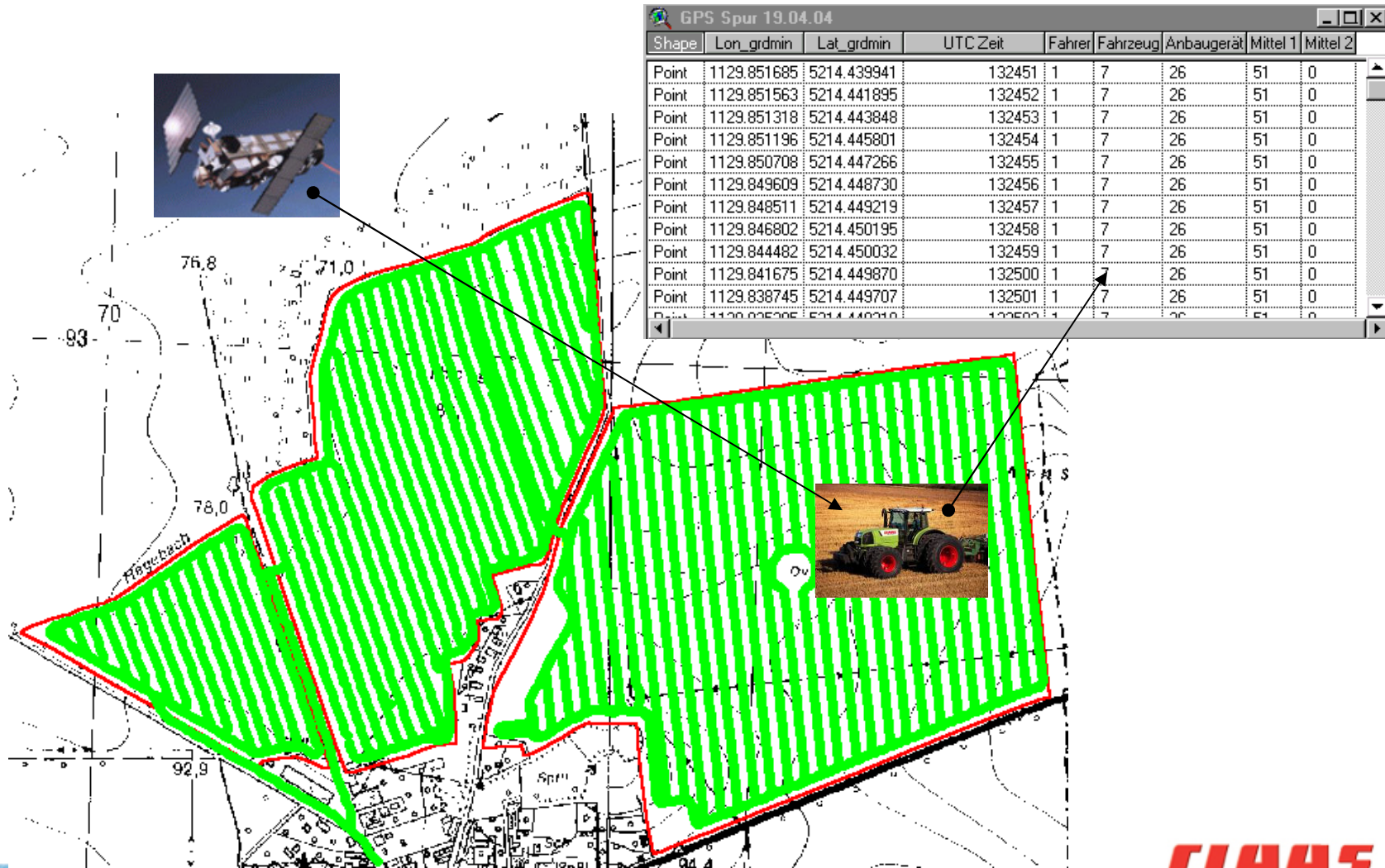
New forms of cooperation between machine producers, agricultural service suppliers and farmers

- Demands integrated and networked systems
- Rises quality of processes and output
- Improves customer loyalty



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Example: Automatic Process-Data Interpretation



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Fly To Local Search Directions

e.g. 1600 Pennsylvania Ave, 20006

Places

- Katrina-damage-outages-14Sep-1000-float
 - This file contains flooding assessments provided by NGA as of September 14th
 - NOAA overlays
 - [More details about status](#)
 - This is an auto-refreshing network link.
 - Space Imaging, Friday Sep. 2nd
 - Sightseeing
 - Start your Google Earth world tour here!
 - Click on an underlined
 - default
 - Google Earth default view.
 - Edit/Snapshot a new view to change
- Temporary Places
 - Combine Online
 - Lexion_SA_Laduma_5_5850015
 - Lexion_SA_Laduma_5_58500158
 - Datum 26.10.200 10:19:04
 - Fahrspur

Layers

- Layers
 - terrain
 - National Geographic Magazine
 - Google Earth Community
 - Community Showcase
 - Google Earth Community (Unrank)
 - Dining
 - Lodging
 - Banks/ATMs
 - Bars/Clubs
 - Coffee Shops
 - Shopping Malls
 - Major Retail
 - Movie/DVD Rentals
 - Grocery Stores
 - Pharmacy
 - Gas Stations
 - Golf
 - Sports Venues
 - Parks/Recreation Areas
 - Fire/Hospitals



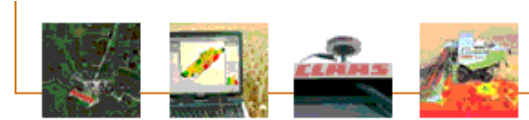
Pointer 24°43'10.52" S 27°26'20.73" E Streaming 100% Eye alt 5262 ft

Navigation and settings controls including:

- Lodging
- Dining
- Roads
- Borders
- Terrain
- Buildings

Process-Data Interpretation (Performance Figures)

AGRO-SCOUT TV



agrocom.

- Monitoring
- Analysen & Statistiken
 - Betriebszeitanalyse
 - Leistungsanalyse
- Tracking & Mapping
- Einstellungen
- Daten Export

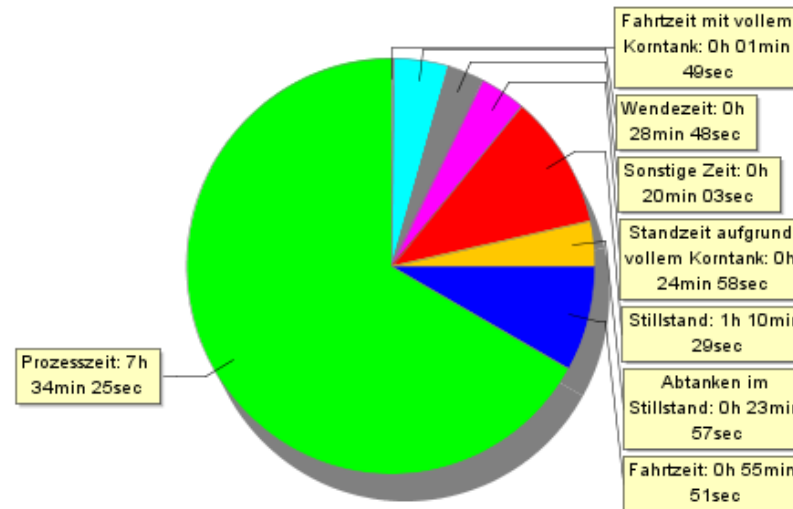
[Startseite](#) > Betriebszeitanalyse

Betriebszeitanalyse

Maschinennummer: 1200063

Zeitraum: 03.07.2007 00:00:00 - 03.07.2007 23:59:59

- Analyseeinstellungen ändern
- Zeitraum wechseln
- Datenbasis wechseln



Status	Prozentual	Absolut
Gesamtzeit	100 %	11h 20min 27sec
Prozesszeit	66,8 %	7h 34min 25sec
Stillstand	10,4 %	1h 10min 29sec
Fahrtzeit	8,2 %	0h 55min 51sec
Wendezeit	4,2 %	0h 28min 48sec
Standzeit aufgrund vollem Korntank	3,7 %	0h 24min 58sec
Abtanken im Stillstand	3,5 %	0h 23min 57sec
Sonstige Zeit	2,9 %	0h 20min 03sec
Fahrtzeit mit vollem Korntank	0,3 %	0h 01min 49sec



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Past & Present Research

- INA: Integrated agricultural services, funded by BMWi
- Standard:IS: Service standards in successful internationalization strategies, Topic: Service process standardisation, funded by BMBF
- DAMIT: Data management in teleservice, Topic: Prognosis models for machine services, funded by BMBF
- R2B: Robot to Business, Topic: Self organising processes, funded by BMWi
- KoPiKomp: Concepts against product piracy for components of industrial goods, funded by BMBF

Research is most beneficial when ...

- driven by companies,
- results are exchanged on an inter-company level,
- assisted by research institutes.



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Challenges for CLAAS

Market development

- Rising international competition (products and services)
- Multifaceted customer requirements
- Falling profit margins



Need for further research

- Portfolio and service development (regarding hybrid products)
- Organisational aspects (organisational structure, human resource development, improvement of productivity, management ratios to control hybrid business)



CLAAS

Contact Person

The CLAAS logo is displayed in a bold, red, italicized sans-serif font.

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Dr. sc. agr.

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