

TELEMATICS

CLAAS



CLAAS TELEMATICS.





EASY	4
Good reasons to use TELEMATICS	6
Operating principle	8
TELEMATICS website	10
TELEMATICS app	12
Optimisation and documentation	14
TELEMATICS on Implement (TONI)	20
TELEMATICS packages	22
Remote diagnostics	24
Benefits	26

Simply get more done.

The name says it all.

The combined electronics expertise of CLAAS can be summed up in a single word: EASY. This stands for Efficient Agriculture Systems – and lives up to its name. Equipment settings, steering systems, software solutions and more: EASY makes it all simple. Your systems can be matched perfectly with each other, enabling you to get the best performance from your machines and top results for your business.

CLAAS TELEMATICS helps you to analyse and optimise the work processes on your farm and cuts the amount of valuable time spent on maintenance.





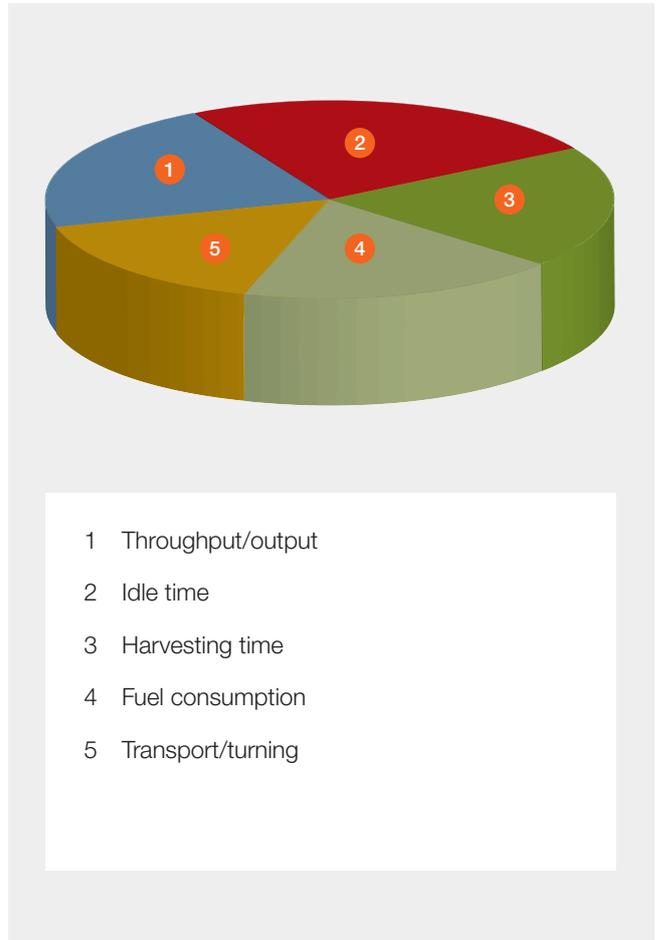
Gain time. Save money.



Machine performance and machinery costs are two of the main factors that are crucial to your profit margin. For contractors and larger farms, keeping track of all machine and personnel resources is a challenging task. And maximum efficiency is essential at all times: getting to the right field quickly, seamless order completion, short logistics chains.

Good reasons to use TELEMATICS:

- Improve work processes: operating time analysis
- Optimise settings: detailed analysis of performance and adjustment parameters
- Simplify documentation and increase transparency: data capture
- Reduce maintenance time and increase reliability: remote diagnostics



TELEMATICS allows targeted optimisation of operations in many areas.

- It is an established fact that combine harvesters only use about 50% of their output potential in the field¹
- Output varies by up to 40% between drivers (in the same conditions). Mandatory documentation requirements and prompt, accurate invoicing involve a large amount of administration work – but farmers believe that their skills are better employed in field, livestock and machinery management rather than in the office.

TELEMATICS – example of combine harvesters:

Studies from Germany and the UK have demonstrated that TELEMATICS can:

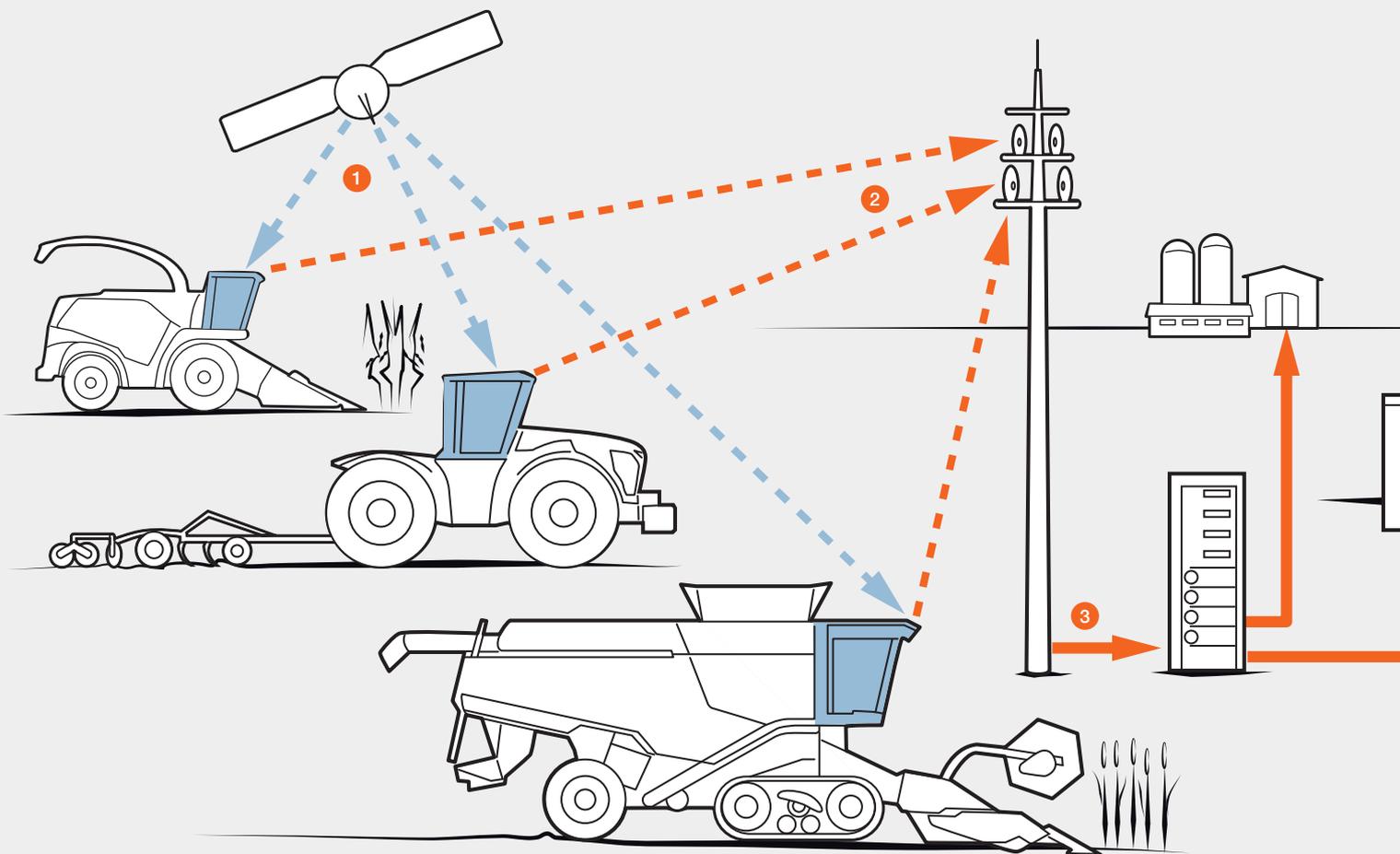
- increase the available harvesting time by up to 7%
- improve throughput by up to 10%
- reduce losses by up to 0.5%
- save up to 3 harvest days per season

or harvest up to 150 ha more per combine per season. This means potential savings of up to € 15,000 per year.²

1 feiffer consult

2 Sample calculation based on the following assumptions: 5 ha/h, 10 drum operating hours/day, saving of 3 days (LEXION 770 with 10.5 m cutterbar), contract harvesting rate 100 €/ha

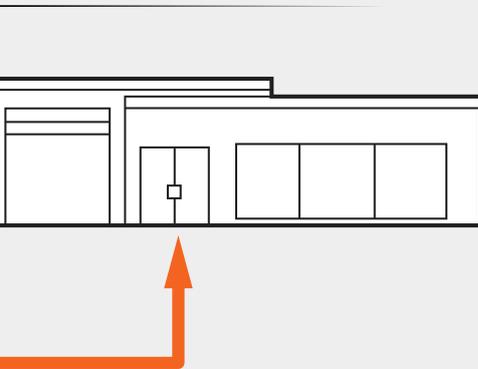
TELEMATICS – an overview.



How TELEMATICS works.

With TELEMATICS you can access all the key information about your machine via the internet at any time from any location. This information includes the machine's current location and a comprehensive overview of performance and machine data.

You can also access service information and conduct an initial diagnostic check. TELEMATICS records data concerning more than 200 different parameters and automatically transmits it to the TELEMATICS web server at regular intervals via the mobile phone network.



- 1 Position data received via satellite signals
- 2 Machine data and settings are sent to the TELEMATICS server via the mobile phone network
- 3 Data accessed by the farmer, or by the dealer for remote diagnostics

Information.

- Operating conditions | Where, what, how?
- Performance data | Is everything on target?
- Machine data | Parameters OK?
- Settings
- Geodata | Where, what, how?

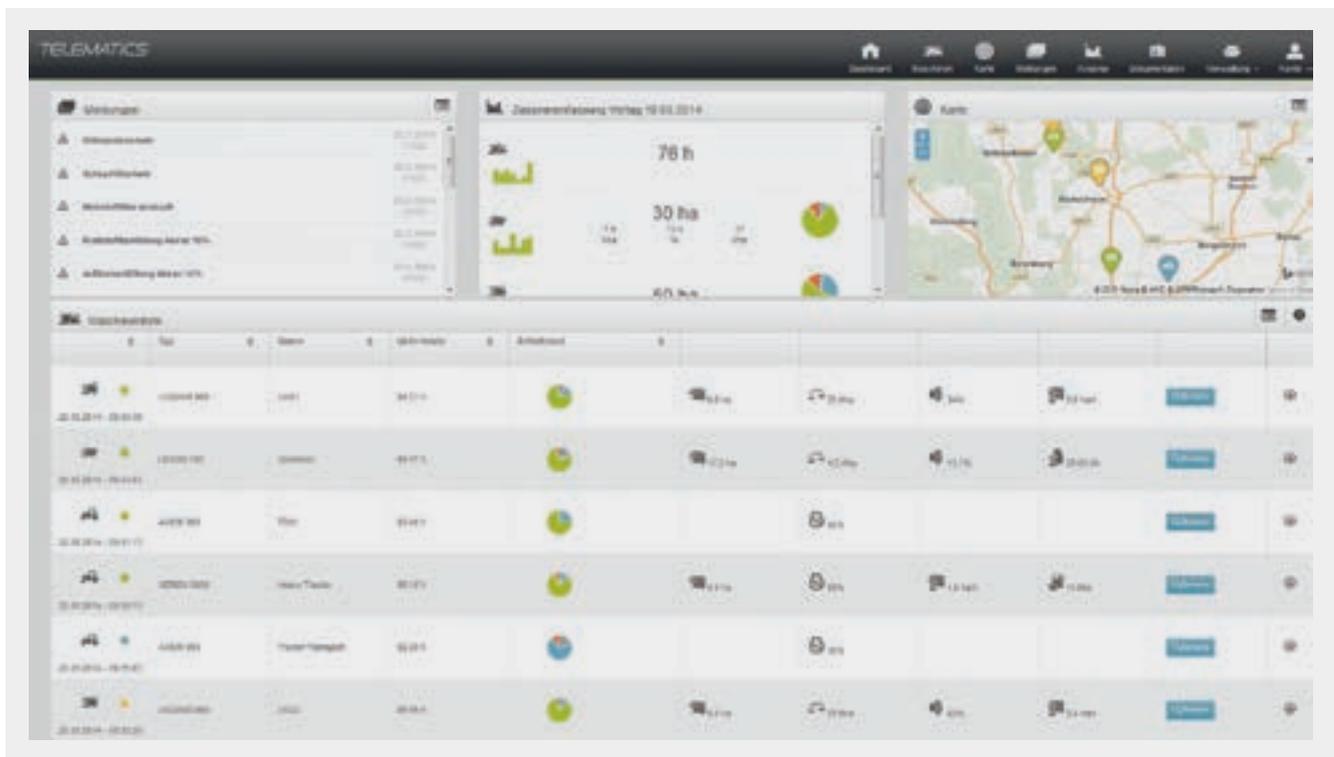
Documentation.

- Place
- Performance
- Machine usage

Support.

- Service information, remote diagnostics
- Logistics planning

The website: simple, fast, intuitive.



The clearly structured overview on the website shows you all the key machine data at a glance. From the home page, you can navigate quickly and easily to the detailed views for all your machines that are connected to TELEMATICS. The intuitive TELEMATICS home page with straightforward user guidance provides short paths to all the available functions.



Detailed performance data for each of your machines is just one click away from the home page. All past and present messages, key data and analyses are available here for detailed evaluation. This also applies to any implements which are linked to TELEMATICS via TONI (TELEMATICS ON IMPLEMENT).



CLAAS has incorporated all the map views directly into the TELEMATICS website, so no external software is needed. Automatic data updating also means that you can track all machine deployments in near-real time. Field boundaries can either be imported from your own system using existing data, or plotted straight onto the maps in TELEMATICS.

Benefits:

- Easier to use all existing functions
- Clear overview and self-explanatory structure
- All information available at a glance
- Just one mouse click needed to access the information required
- Simplified use of historical data
- Fast, direct viewing
- Modern design

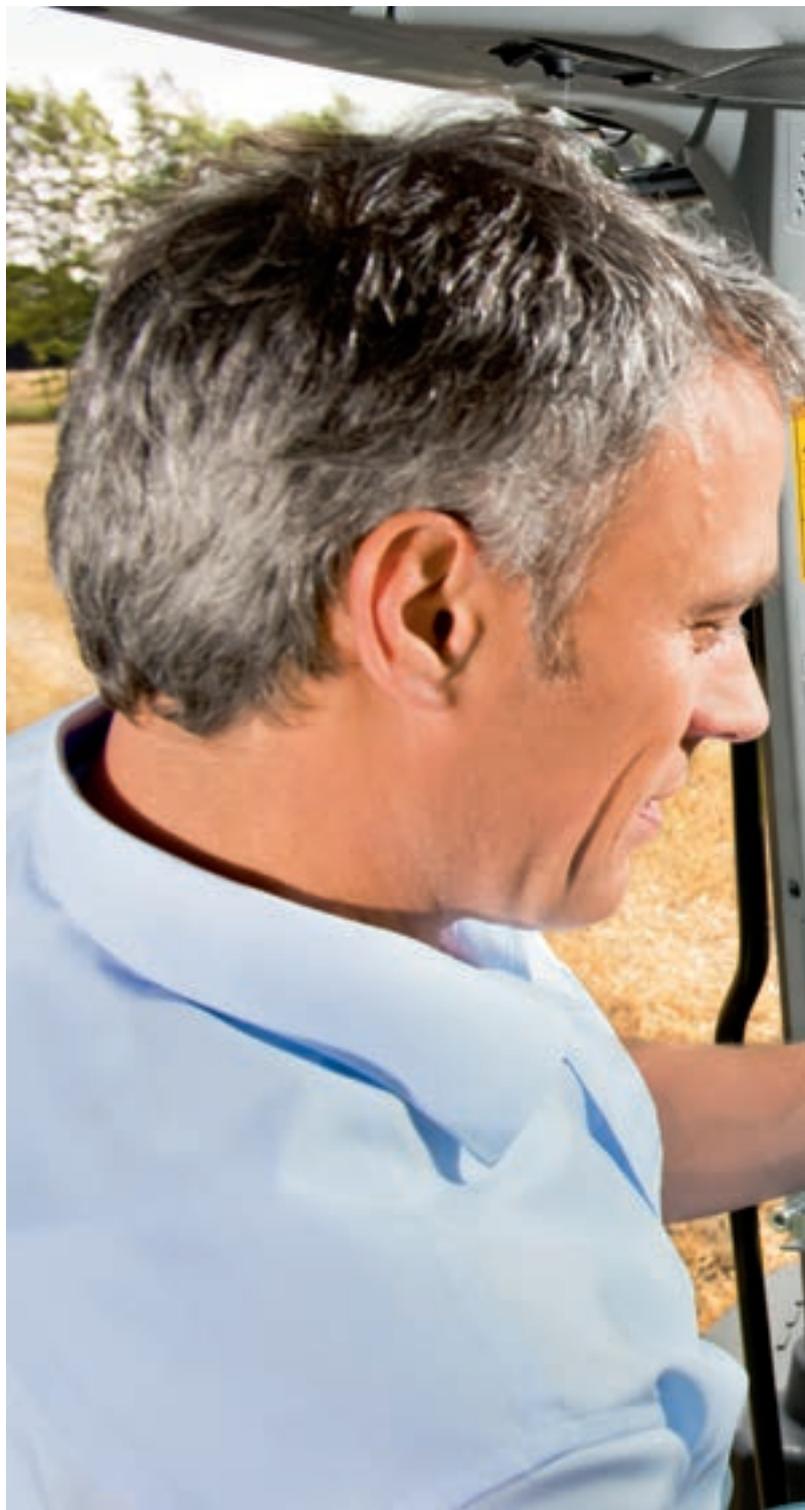
Keep track when you're on the move.

App for mobile use.

To enable you to use TELEMATICS when you are out and about, CLAAS offers a smartphone and tablet app for iOS and Android operating systems. The operating philosophy behind the app is the same as for the website and guides you through the three steps in modern fleet management: inform, analyse, optimise. An integrated navigation function also shows you the shortest routes to your machines. The app is free to CLAAS customers who already use TELEMATICS. Potential users who want to find out about the app with no obligation can download a free demo version from the App Store or Google Play.

Benefits:

- Simple and intuitive – can be used any time, anywhere
- No additional costs
- Vital information about the work process
- Demo version with machine data always accessible





Optimise settings. Analyse machine usage.



Bring out the best: operating time analysis.

The operating time analysis function gives you accurate data about where, when and how your machines are working. Optimisation of operating procedures, harvest technology and machinery logistics provides comprehensive information which helps you to achieve significant improvements in the overall performance of your machines.

A report containing the previous day's performance data and an operating time analysis of the machine can be sent by e-mail every day. This information enables you to make the right decisions for each working day before you start work.

TELEMATICS serves as a basis for systematic fleet management. It can also identify costly downtime and potential bottlenecks in transport logistics. Thanks to the track display in the map view, the machine's tracks and all the relevant details are shown in the event log.

How you benefit:

- Better resource planning
- Identify bottlenecks in haulage logistics
- Improved planning of haulage vehicle deployment
- Optimise work processes



Optimising performance: remote monitoring.

Armed with an overview of machine data and detailed performance analyses, you can directly compare the settings and performance data for up to three machines online. This enables you to improve machine settings and achieve higher performance even with new or inexperienced drivers, whichever machine they are using: LEXION, TUCANO, JAGUAR, XERION, AXION or ARION.

By working with the drivers, it is therefore possible to utilise the full potential of the machine at all times. This improves the drivers' skills and motivates them to adjust settings themselves to suit a specific situation.

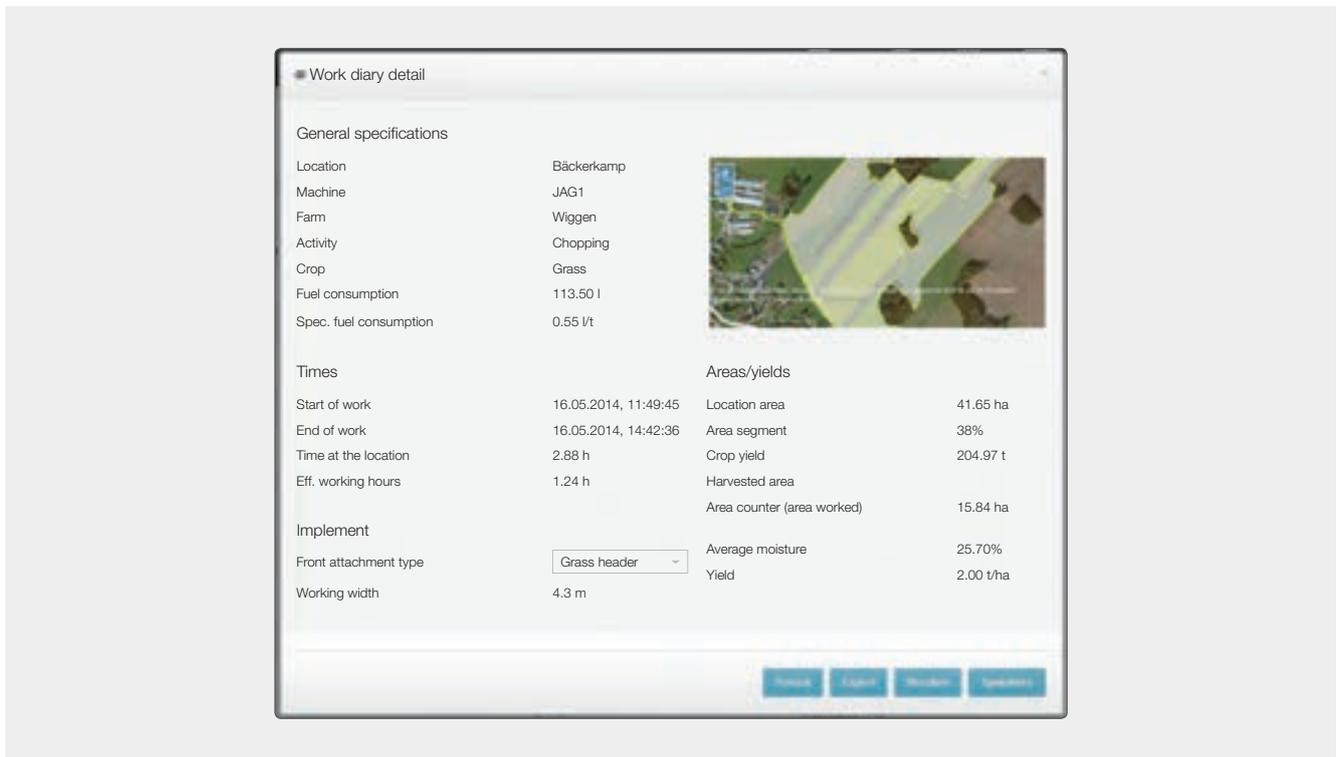
CLAAS Combine League.

CLAAS Combine League is a TELEMATICS integrated service. It allows you, on request, to view and compare anonymised performance data and settings from other farms. This improves optimisation even further by enabling you to make comparisons and transfer other people's settings to your own machines.

How you benefit:

- Full utilisation of installed machine capacity
- Incorrect settings are avoided
- Guide and train inexperienced drivers

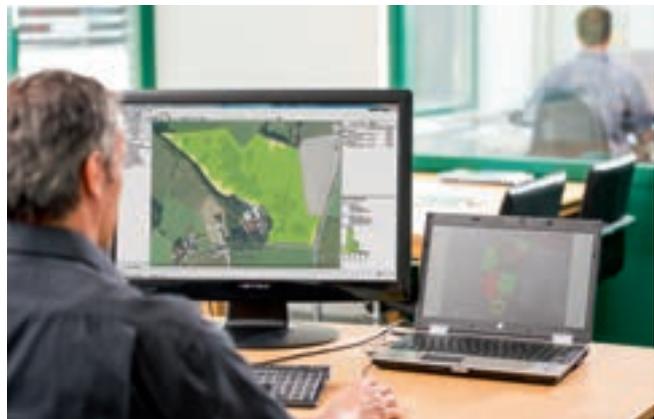
Manage jobs. Increase transparency.



Time-saving convenience.

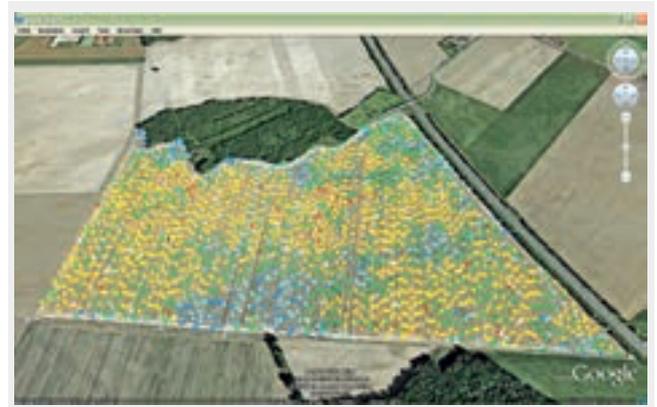
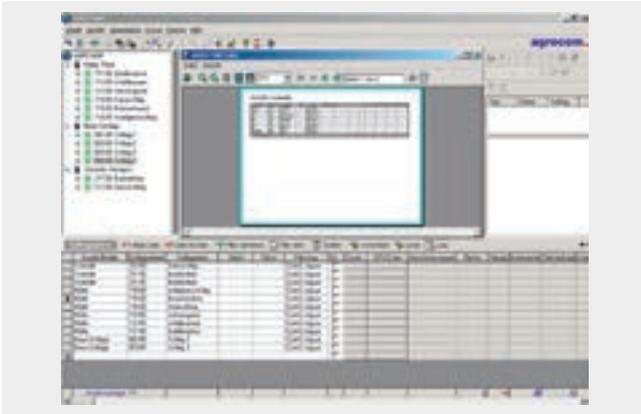
For contractors, in particular, it is important to be able to manage a large amount of customer-specific job data effectively, with the aim of producing documentation for all jobs and, above all, issuing a correct invoice easily and without delay. With TELEMATICS you can do this online at any time. Three different options are available.

Farmers and contractors can use TELEMATICS to produce yield maps and display them graphically. Online data export to your farm management software saves valuable time and serves as the basis for site-specific farming.



Job management¹.

Jobs are created in the office and imported into the CEBIS via a chip card. The driver can then start the previously planned jobs and work through them.



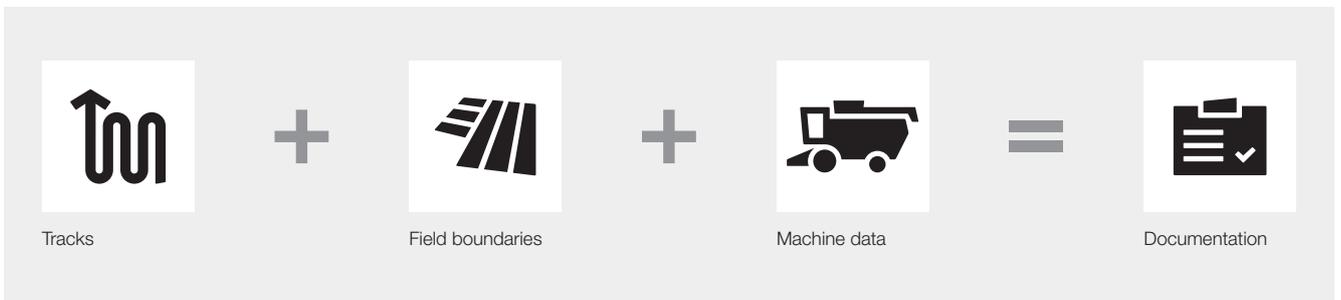
Job monitoring² with TELEMATICS.

A job can be monitored online using TELEMATICS as soon as it has been started via the CEBIS terminal on the machine. When the job is complete, the data is stored in TELEMATICS and can be exported online in ISO-XML format.

Yield mapping¹.

Yield mapping expands on the job management functions, offering the following options:

- Create yield maps in conjunction with GPS data
- Export job and yield data online with TELEMATICS



Automatic documentation.

The "Automatic documentation" add-on module reduces your workload while improving the reliability of data handling. Once the field boundaries have been stored in TELEMATICS, the system automatically identifies the field where a machine is working and produces field-specific documentation for each job based on the field boundaries and recorded tracks.

You can even change the sequence in which jobs are carried out. Work data is automatically transmitted to the TELEMATICS server at the same time. Data is exported as ISO-XML files which can be imported into field files and all other popular farm management and invoicing software packages.

1 Additional machine equipment
 2 Part of TELEMATICS

Automatic documentation.





Data collection made easy.

Automatic documentation with TELEMATICS is worthwhile right from the start. Input and transmission errors are eliminated because drivers no longer have to start and stop jobs manually or carry out other data collection tasks. Faster, automatic data collection significantly reduces the amount of office work required.

Farmers receive accurate documentation data, which enables them to maintain a complete field file. This creates maximum business transparency, provides meaningful costings and allows robust process planning.

Contractors can document their work on a field-specific basis with full information on working times, fuel consumption and other parameters. Naturally, this data can also be used to produce invoices. It also enables farmers and contractors to be absolutely certain that they are complying with mandatory documentation requirements.

The "Automatic documentation" add-on module is available for all TELEMATICS packages (basic, advanced, professional). If you don't want to go down this route initially, you can also purchase it later as an upgrade and integrate it into TELEMATICS. Even if you choose this option, you are still able to link field boundaries with existing work data retrospectively.

To ensure that your data is secure, TELEMATICS meets all the high standards of German data protection legislation, which is particularly strict. Data is backed up to secure servers in Germany.

The complete tractor-machine combination at a glance.





Using data from the implement.

TONI is a new function which records the work data from attached implements in addition to the tractor data. TONI is currently available for CLAAS QUADRANT 3400 and 3300 large square balers and CARGOS dual-purpose wagons; other machines will follow. For collection and documentation of implement data, TONI uses the ISOBUS interface between the tractor and implement. In QUADRANT balers, for example, the data collected includes the number of bales per field, bale moisture content and other QUADRANT-specific parameters.



CLAAS tractors in the AXION and XERION series are TONI-enabled when they leave the factory, while many partner companies are also ensuring that their machines and implements are TONI-compatible. The first field-ready solutions in this area are expected in 2015. TONI has been incorporated into the official ISOBUS standards since 2014.

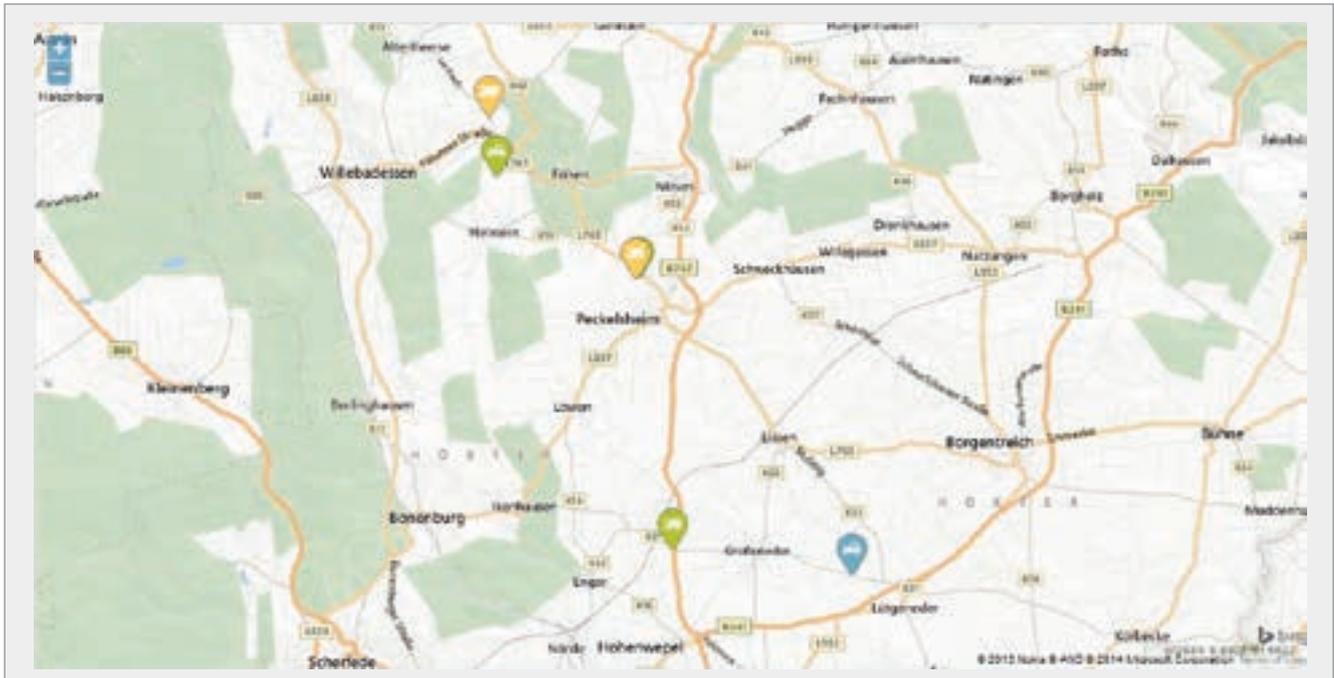
In conjunction with TONI, TELEMATICS is the only telemetry system to offer real-time visualisation, documentation and optimisation for the complete tractor-machine combination regardless of manufacturer.



Benefits:

- Automatic documentation of implement data
- Optimum utilisation of many implements
- Future-proofed through standardisation

The right solution for every user.



TELEMATICS basic.

Since autumn 2014 "TELEMATICS basic" has been part of the standard specification on many newly supplied machines. This package includes the key information required for field logistics and support by CLAAS service partners. The information provided includes the machine's position and track on the map, operating status and current fuel level. If you want to use the land management function, you can upload field boundaries from an external system or plot them directly in TELEMATICS.

Use of the TELEMATICS app, specifically the main basic functions and field navigation, is also included. The "Automatic documentation" function with data export can be purchased as an add-on.

Benefits:

- Low-cost entry-level TELEMATICS
- Up-to-date overview of key machine information (position, status)
- Service support is easier thanks to remote diagnostics
- Access to 24-hour data



TELEMATICS advanced.

If you want more than the basic functions of "TELEMATICS basic" you can simply add the "TELEMATICS advanced" package. This package contains all the functions which enable you to monitor and optimise current processes. With "TELEMATICS advanced" you can, for instance, access performance parameters such as tracks, throughputs, yields and many other parameters which allow you to optimise machine operation in real time. You can also view all the data collected over the last 72 hours.

In addition, you can use all the functions of the TELEMATICS app. The "Automatic documentation" function can also be added to this package.

Benefits:

- Comprehensive TELEMATICS functions for monitoring and optimisation of the current process
- Superb overview of machine efficiency
- Access to 72-hour data



TELEMATICS professional.

For users who would like access to all possible data, CLAAS recommends the "TELEMATICS professional" package. This package goes beyond the "TELEMATICS advanced" functions to provide you with a full set of machine data. At the same time it offers the analysis function which enables you to optimise your machine or fleet deployments, as well as advanced analysis functions which are capable of answering highly specific questions. The full range of historical data can be used in the analyses.

The TELEMATICS app is naturally included in this package. The "Automatic documentation" function can also be purchased as an add-on.

Benefits:

- Version for farmers and contractors who want to use their machines to full capacity
- Historical data can be analysed
- The right tool for contractors or farmers

Convincing arguments for improved efficiency.



Remote diagnostics.

Error analysis without machine downtime.

CLAAS TELEMATICS displays current machine error messages and alarm signals online. This remote diagnostics function can be run while the machine is operating. Targeted analysis of error messages allows conclusions to be drawn about possible operating errors or upcoming repairs. As a result downtime can be reduced significantly, and you save valuable time.

Find machines quickly with the remote location system.

The map view and app can be used to pinpoint machines in the field. This does away with complex route descriptions and avoids delaying a repair unnecessarily. The service partner can find the machine's location easily and take the most direct route to reach it.



Making CLAAS Service even better.

With your consent, TELEMATICS can also transmit maintenance and repair data to your CLAAS partner. When necessary, this enables your CLAAS service team to perform an initial diagnosis, identify the causes of faults more quickly, and prepare to provide the most effective assistance in the field as quickly as possible. Your CLAAS partner is then able to determine the maintenance requirements of your machines. As a result, routine maintenance work, for example, can be planned in advance, taking account of your workload.

Save time with CDS REMOTE.

With TELEMATICS and CDS REMOTE, your CLAAS partner can work with you more closely than you ever imagined – wherever you happen to be harvesting. The proven CLAAS diagnostics system (CDS) can also be used with TELEMATICS to diagnose machine status remotely. If your partner has CDS REMOTE, it is now possible to make an accurate diagnosis online when previously it could only be carried out on the machine.

How you benefit:

- Option of remote diagnostics via CDS REMOTE
- Service staff can quickly pinpoint the machine in the field
- Better planning of maintenance work

Reduce servicing costs.

TELEMATICS simplifies all the planning and logistics associated with servicing. As a result, TELEMATICS provides the basis for cost-effective service support and reduces costs for contractors and farms as well as CLAAS partners.

Simply better performance.
A solid basis.



TELEMATICS – convincing arguments for enhanced performance.

- Online fleet monitoring and management (keep track of all machines all the time)
- Identify and reduce machine downtime and its causes (increase productivity and efficiency)
- High data transparency and reliability for documentation and internal cost control
- Exploit the full potential of machines by comparing settings
- Reduce inactivity periods with remote diagnostics and maintenance monitoring
- Unique system which helps customers to optimise machine use (monitoring and analysis of machine deployment)
- Analyse your work processes and improve resource planning and haulage logistics
- Optimise your machine operating time: LEXION, TUCANO, JAGUAR, XERION, AXION and ARION



- Full utilisation of installed machine capacity through performance comparison and optimisation of settings
- Cut costs by avoiding incorrect settings
- Guidance and motivation for inexperienced drivers
- CLAAS Combine League for inter-farm comparisons
- Direct and straightforward online data capture for documentation and prompt invoicing
- Straightforward data export to all popular farm management software packages via ISO-XML
- Job monitoring: better resource management thanks to online job tracking
- Job management: create, manage and exchange comprehensive job data
- Yield mapping: basis for site-specific farming
- Online access to all alarm and error messages, option of accurate remote online diagnostics via CDS REMOTE
- Maintenance and repair work can be planned more effectively and carried out faster
- Service engineers can find the machine in the field quickly
- Cost and time savings for you and your CLAAS partner



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