



Automatic steering and Precision Farming for harvesting machines and tractors

GPS PILOT CEMIS 1200

CLAAS | | | | |

“Upgrading to the next generation? If only it was that easy.”

The challenges farmers and contractors face have grown steadily in recent decades. The world's fields are expected to produce ever greater harvests in ever shorter time. And then there's the increasing burden of documentation to contend with and, of course, climate change. The number of people that a farmer has to feed is growing exponentially.

We have been working with you for over 100 years to develop machines and services that make your work easier and more efficient – so you can meet these growing challenges head on. Since 1913, our passion for agriculture has underpinned our tireless quest to make you the very best in your field.

Powerful machines designed to specialise in certain tasks have long been popular. But the opportunities provided by digitalisation mean that CLAAS machines now work with more precision and efficiency than ever before. By exchanging data with one another, they create an intelligent network whose impact far exceeds the sum of their individual parts. After all, if you want to work as a team, you have to communicate with each other.

Together the next step in farming.
digital.claas.com



Discover more about our
digital solutions.





▼ Precision farming for all seasons: the GPS PILOT CEMIS 1200 steering system brings efficiency and significant added value to your farm.
Page 6



▲ We are always on hand to assist. Our digital specialists and service programmes guarantee maximum operational reliability.
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► Field test. Farmers and CLAAS colleagues talk about their experience of using CEMIS 1200.
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Future-proof.

You can easily upgrade the GPS PILOT CEMIS 1200 and tailor it to your needs via CLAAS licence management.



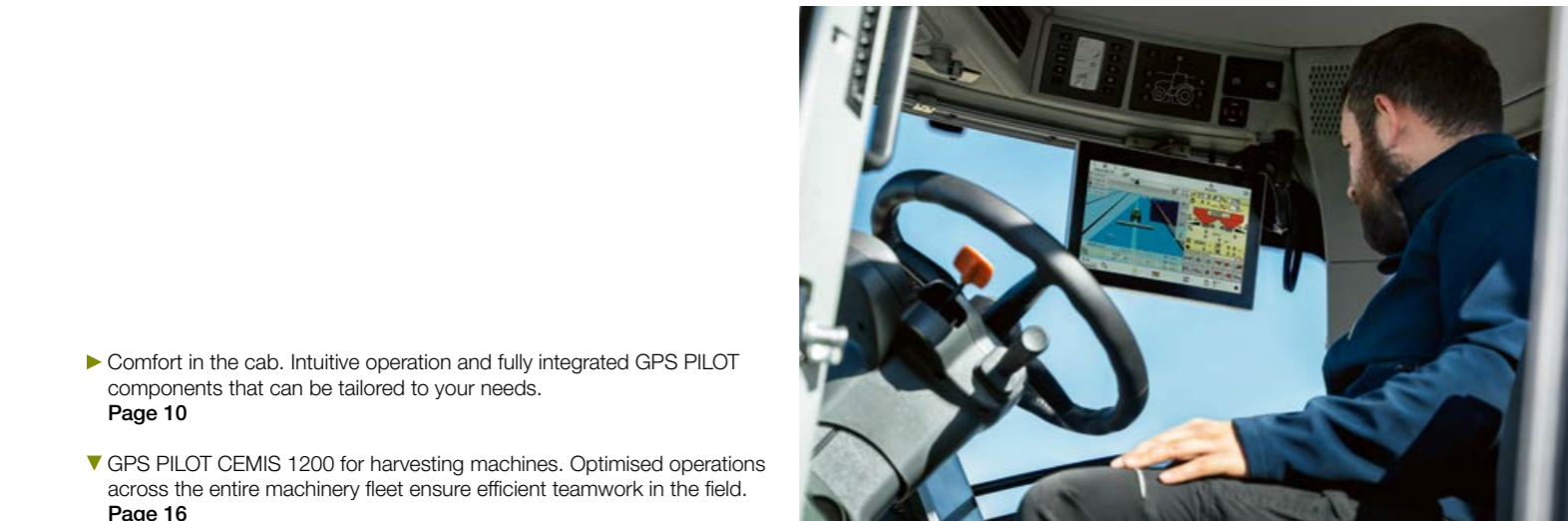
Comfort and convenience.

The GPS PILOT CEMIS 1200 is fully integrated into your CLAAS machines. The terminal serves as a modern, intuitive control panel for automatic steering and precision farming applications.



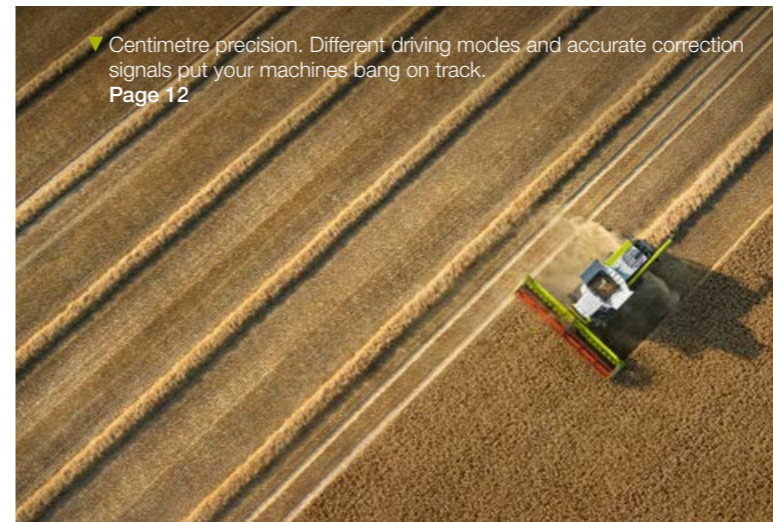
Precision.

With the automatic steering system, your machine will seem like it's running on rails. Various correction signals and different driving modes ensure that you operate optimally at all times – saving you time, money and effort.



► Comfort in the cab. Intuitive operation and fully integrated GPS PILOT components that can be tailored to your needs.
Page 10

▼ GPS PILOT CEMIS 1200 for harvesting machines. Optimised operations across the entire machinery fleet ensure efficient teamwork in the field.
Page 16



▼ Centimetre precision. Different driving modes and accurate correction signals put your machines bang on track.
Page 12



▲ GPS PILOT CEMIS 1200 for tractors. Seamless communication between office and machine: the CEMIS terminal calculates suitable tracks to suit the field geometry and optimises the application of seed and fertiliser.
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Precision farming from drilling to harvesting.

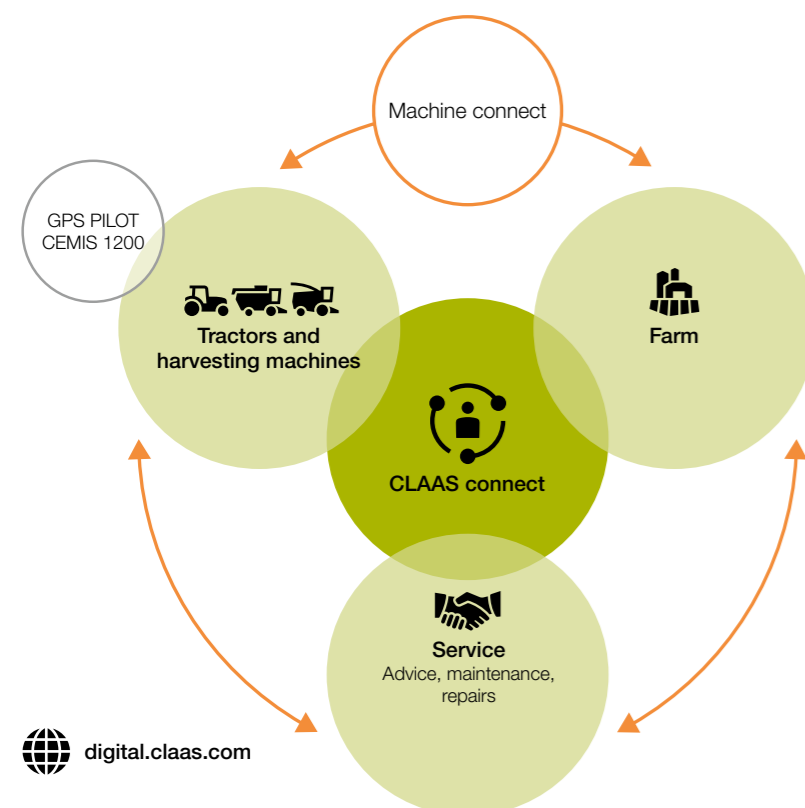
Digitalisation is rapidly gaining ground. Automated processes are now an everyday part of farming life. At CLAAS we continuously strive to develop cutting-edge digital products and solutions – to give you the best possible working conditions.

With the GPS PILOT CEMIS 1200, you can apply simple, future-proof and cost-effective precision farming techniques all year round: efficient, soil-friendly, connected, automatic and sustainable, for tractors, combine and forage harvesters. Data exchange between machine and farm management system (FMIS) improves fieldwork.

CEMIS 1200 assists you with tillage, drilling, cultivation and harvesting. With the automatic steering system, your machine will seem like it's running on rails.

CEMIS 1200 enables your machine and your office to communicate with one another – continuously optimising your fieldwork.

Connect your farm to the world of CLAAS.



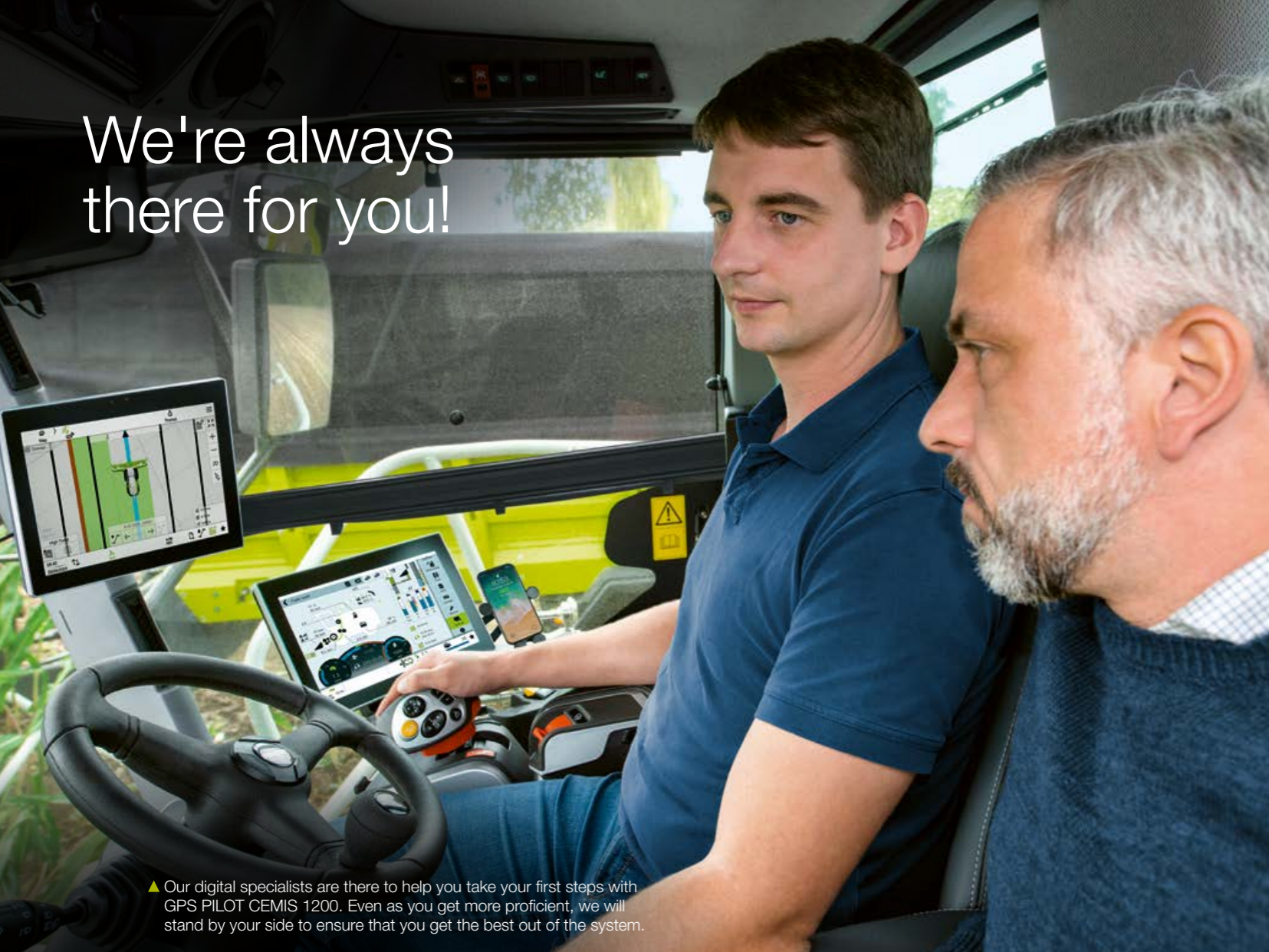
 digital.claas.com



Peak performance from drilling to harvesting: scan the QR code to watch a video showing just what the GPS PILOT CEMIS 1200 can do.



We're always there for you!



▲ Our digital specialists are there to help you take your first steps with GPS PILOT CEMIS 1200. Even as you get more proficient, we will stand by your side to ensure that you get the best out of the system.

Low maintenance costs and customisable service, parts and warranty packages give you total peace of mind. We are there for you – seven days a week at harvest time – so you can put your worries aside and get on with your day-to-day work.

You can count on receiving expert advice from your CLAAS dealer. Our digital specialists are also on hand at any time – even to help you configure interfaces with other systems.



"Working closely with our customers is a really special part of my job. Our top priority is to provide innovative products which enable farmers to be the best in their field. And that includes after-sales support from our specialists. The aim is to minimise downtimes as much as possible. I am proud to be part of the CLAAS team."

Brenden Johnson,
Regional Sales Manager, Canada

CLAAS connect.
The whole world of CLAAS in one app.
The CLAAS connect app gives you easy access to all CLAAS solutions so you can manage your business successfully. Your CEMIS 1200 terminal and the SAT 900 receiver are also supported.

Use the app, and you've virtually got your whole fleet in your pocket. You can activate licences and view operating manuals and key telemetry data at any time.



"I am proud to be part of a team which continuously works to develop tailored, sustainable digital solutions for our customers to help them work more efficiently."

Bernadette Wullengerd,
Product Marketing Manager Efficient Agriculture Systems

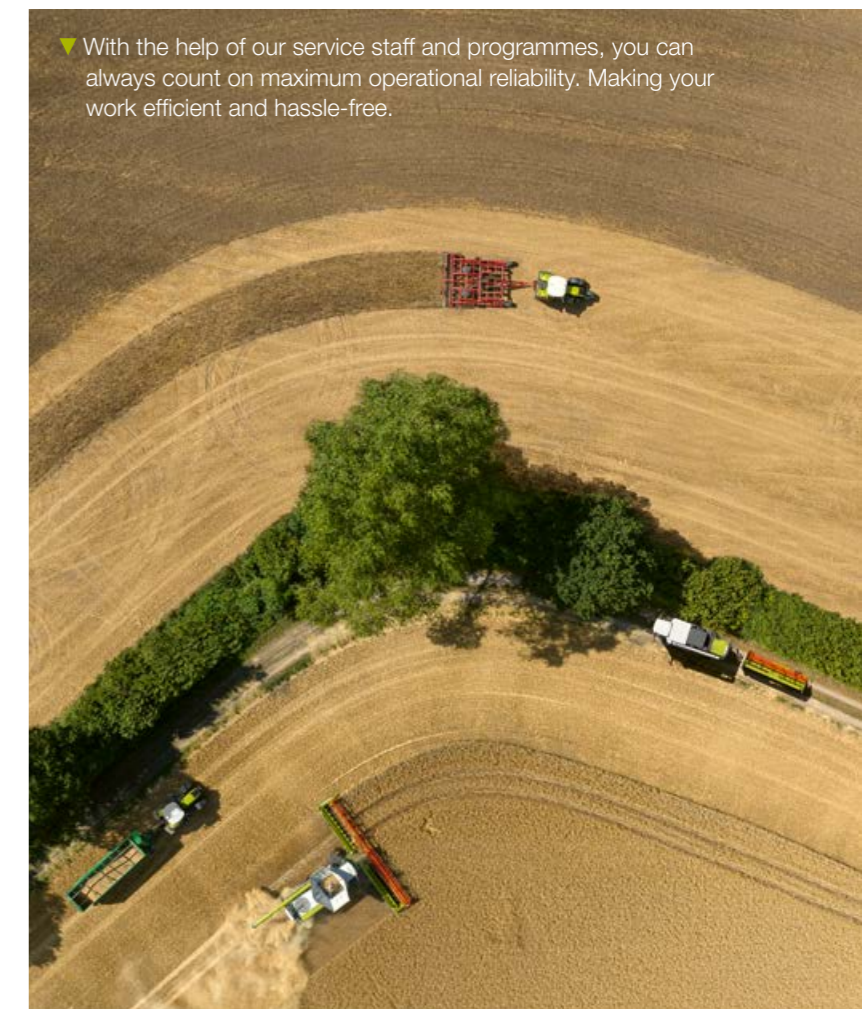
Expertise just around the corner.

Wherever you are – your skilled CLAAS Service partners are close at hand, ready to support you and your GPS PILOT CEMIS 1200. With know-how, experience, commitment and the best technical equipment.

Digital specialists at CLAAS.

Our digital specialists are also available to support you whenever you need. By helping you to farm sustainably, we can shape the future of farming together. We continuously optimise our solutions to ensure that you are always at the cutting edge.

▼ With the help of our service staff and programmes, you can always count on maximum operational reliability. Making your work efficient and hassle-free.



CLAAS correction signals.

Our in-house correction signals such as the satellite-based SATCOR or the RTK system are available with different levels of accuracy, functionality and cost options and can be purchased separately.

Our digital specialists will explain which signal is best for you. We provide everything you need from a single source – from advice and, purchasing to administration and support. Ask your dealer which signals are available in your area.

CLAAS Service & Parts
is there for you 24/7.
service.claas.com



Automatic, practical and easy to use.

CEMIS 1200 serves as a modern, intuitive terminal for automatic steering and precision farming applications. The SAT 900 GNSS receiver mounted on the roof guarantees high precision and steering performance.

Together, these two components of the GPS PILOT – seamlessly integrated into CLAAS machines – are a powerful combination.

Easy to use.

The fully integrated CEMIS 1200 is intuitive, easy to set up and supported by the CLAAS Service team. The 12-inch touchscreen is very straightforward to use and requires no lengthy induction course.

Licences and activations.

Your CLAAS GPS PILOT CEMIS 1200 can be upgraded and tailored to your needs via the CLAAS licence management system. Add your terminal and the SAT 900 receiver as a machine in the CLAAS connect app to view and manage all your licences and activations. You can test the ISOBUS functions and SATCOR 3 by Trimble RTX correction signal free of charge.

	Licence	Trial licence
SATCOR 15	5 years incl.	
GPS Task Management	unlimited	21 days
GPS Application	unlimited	21 days
GPS Section Control	unlimited	21 days



"I can plan jobs and create new tracks with just one click. The steering system and the simple control interface allow me to focus fully on the machine, implement and field."

Benedikt Bodensteiner,
Product Market Manager

◀ The familiar interface and intuitive 12-inch touchscreen are seamlessly integrated into the cab. The GPS PILOT CEMIS 1200 facilitates automatic steering, precision farming applications and online task management.

Cab and comfort
Display | GPS antenna



▶ The SAT 900 GNSS receiver can be transferred from one machine to another.



The terminal.

The high-brightness multitouch display is clearly laid out and easy to use. You can assign key functions to the Quick Access tab and customise work areas for automatic steering, variable rate application and documentation to suit your needs.

More productive with ISOBUS.

The CEMIS 1200 offers seamless communication between machine and office and optimises the application of fertilisers, pesticides and seed. By integrating ISOBUS functionality, we have enabled the use of automatic section control, geo-referenced application and standardised task management.

The GNSS receiver.

The SAT 900 GNSS receiver achieves a high level of accuracy and steering performance, enabling you to precisely position your tractors, combine and forage harvesters and supports various correction signals. Like the terminal, it can also be transferred from one machine to another.

Work with centimetre precision.

You need a good correction signal for precise work. It's a given with SATCOR 15 by Trimble RTX – provided as standard for 5 years. Other satellite-based and RTK correction signals with a pass-to-pass accuracy of up to $\pm 2-3$ cm are optionally available. You can choose the correction signal that best suits your requirements and activate it to work with precise positioning.

You can plan tasks with reference tracks and applications maps in your farm management system (FMIS) and send them to CEMIS via Machine connect. When the operator has completed the task, they can send it back from the field to the office online.

Save time and resources by completing your documentation online.



 Reduces working time, overlaps and operating costs.

Track planning.

Plan your reference tracks with ease – record reference tracks spontaneously or use reference track management on the CEMIS 1200 to plan your tracks based on field boundaries. Pre-planned reference tracks can also be transferred to the terminal. CEMIS 1200 provides various different drive modes which enable you to maximise the efficiency of your fieldwork.

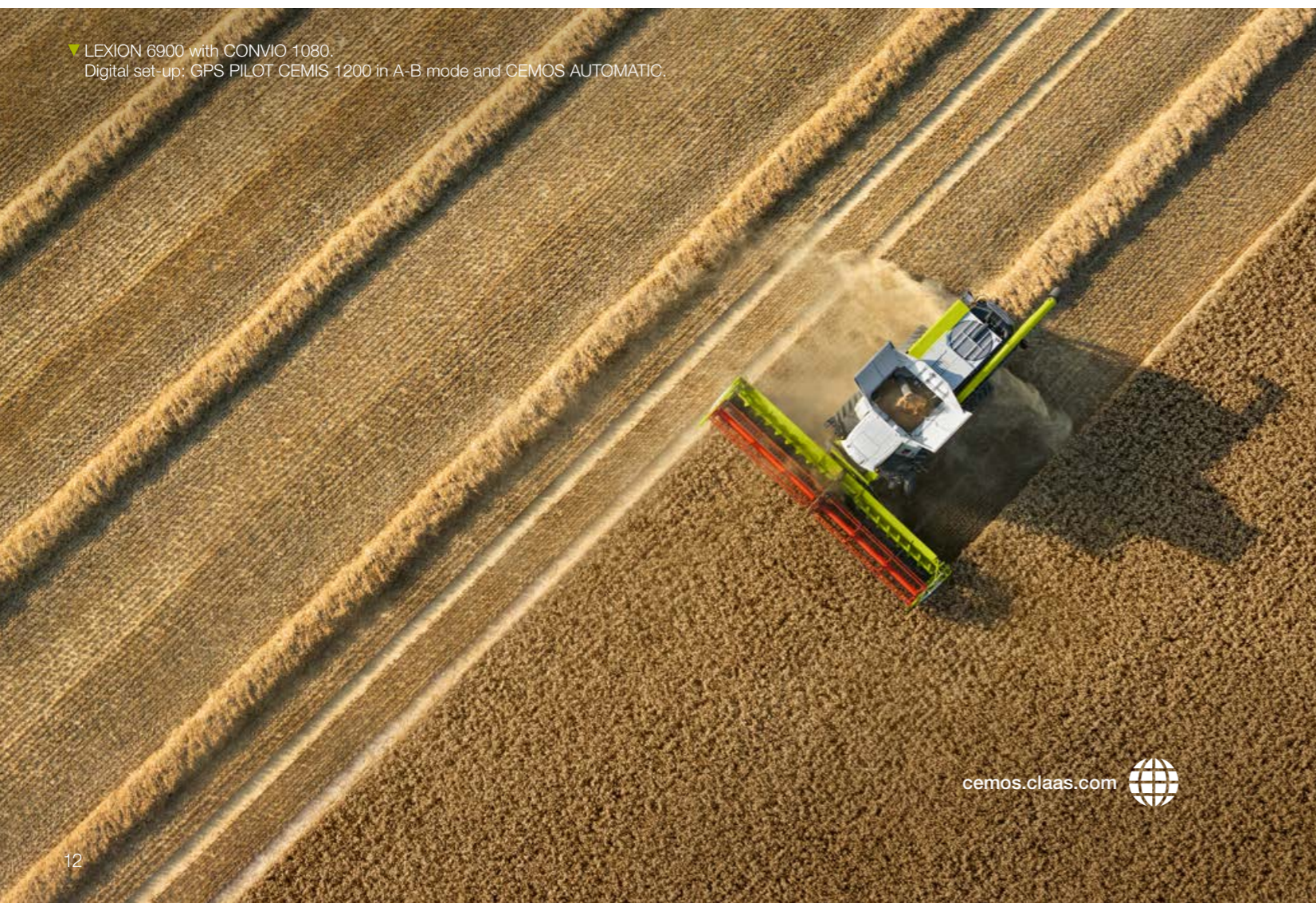
In addition, tramline management prompts you to create a tramline in the right position. Tramlines are highlighted in colour on the screen, giving you a perfect overview of your work. You can also activate an acoustic signal.

Correction signals.

Our correction signals offer different degrees of accuracy. You can select a correction signal to ensure precise track guidance and positioning to suit your requirements. Pass-to-pass accuracy of up to $\pm 2-3$ cm can be achieved. Using the full working width with fewer overlaps increases efficiency – leaving you relaxed and free to focus fully on the machine settings.

Correction signals	Basic accuracy
RTK NET	$\pm 2-3$ cm
RTK FARM BASE	$\pm 2-3$ cm
SATCOR 3 FAST by Trimble RTX	± 3 cm
SATCOR 3 by Trimble RTX	± 3 cm
SATCOR 15 by Trimble RTX	± 15 cm
Bridging Service for RTK	Bridging in the event of loss of RTK correction signals

▼ LEXION 6900 with CONVIO 1080.
Digital set-up: GPS PILOT CEMIS 1200 in A-B mode and CEMOS AUTOMATIC.



▲ AXION 800 tillage.
Digital set-up: GPS PILOT CEMIS 1200 in A-B contour mode and CEMOS.



▲ The automatic steering system offers absolute precision at night too – reducing strain on the operator and boosting efficiency.

CEMOS machine optimisation system.

Always perfectly set up.

The CEMIS 1200 steering system significantly reduces the workload of CLAAS operators. But there's plenty more we can do: CEMOS is our operator assistance system for tractors, forage and combine harvesters. CEMOS recommends settings and helps operators adjust the machine to the conditions. With combine harvesters, it even does this fully automatically.



▲ JAGUAR 970 with PICK UP 300 harvesting grass.
Digital set-up: GPS PILOT CEMIS 1200 and CEMOS AUTO PERFORMANCE.

Perfect communication.

At CLAAS we believe that connectivity is key to improving efficiency and precision in farming. You can define reference tracks and create application maps in your farm management system (FMIS) on your office PC. Tasks are then transferred to the tractor via Machine connect.

The CEMIS 1200 offers seamless communication between machine and office and optimises the application of fertilisers, pesticides and seed. ISOBUS functionalities enable the use of automatic section control, geo-referenced application and standardised task management.

Save time and resources, optimise your day-to-day work and complete your documentation online.

Planning in the office.

In the office you can streamline planning and use your farm management system (FMIS) to pre-plan jobs, including tracks and application maps. Jobs are sent directly from a connected FMIS or via TELEMATICS to the CEMIS 1200 terminal.

On the machine.

Receive your jobs online with the CEMIS 1200 terminal and use pre-planned reference tracks for precision fieldwork. The ISOBUS implement can be operated with ISO-UT and individually adjusted to the conditions. When variable rate application is activated and an application map has been transferred, the terminal controls your implement with pinpoint precision. In addition, Section Control allows you to switch sections of the implement on or off automatically. This reduces overlaps and untreated areas. The terminal documents your activities, including machine data and amounts applied.

Evaluation in the office.

On completion of the work, the task is transferred online from the machine to the office in the FMIS. All information, including application rates and consumption data, are available in the task, providing ample scope for evaluation and analysis. This holistic solution from CLAAS enables you to optimise your work processes and produce accurate documentation.

ISOBUS functions for GPS PILOT CEMIS 1200

ISO-UT	Implement view in CEMIS 1200 for control of implements
AUX-N	Assignment of tractor function keys to implement functions
TC-BAS	Provision and exchange of task data in ISO-XML format
ISOBUS GPS Application – CEMIS 1200	Preparation of application maps
GPS Task Management – CEMIS 1200	Documentation of as-applied and yield maps
GPS Section Control – CEMIS 1200	Automatic section control

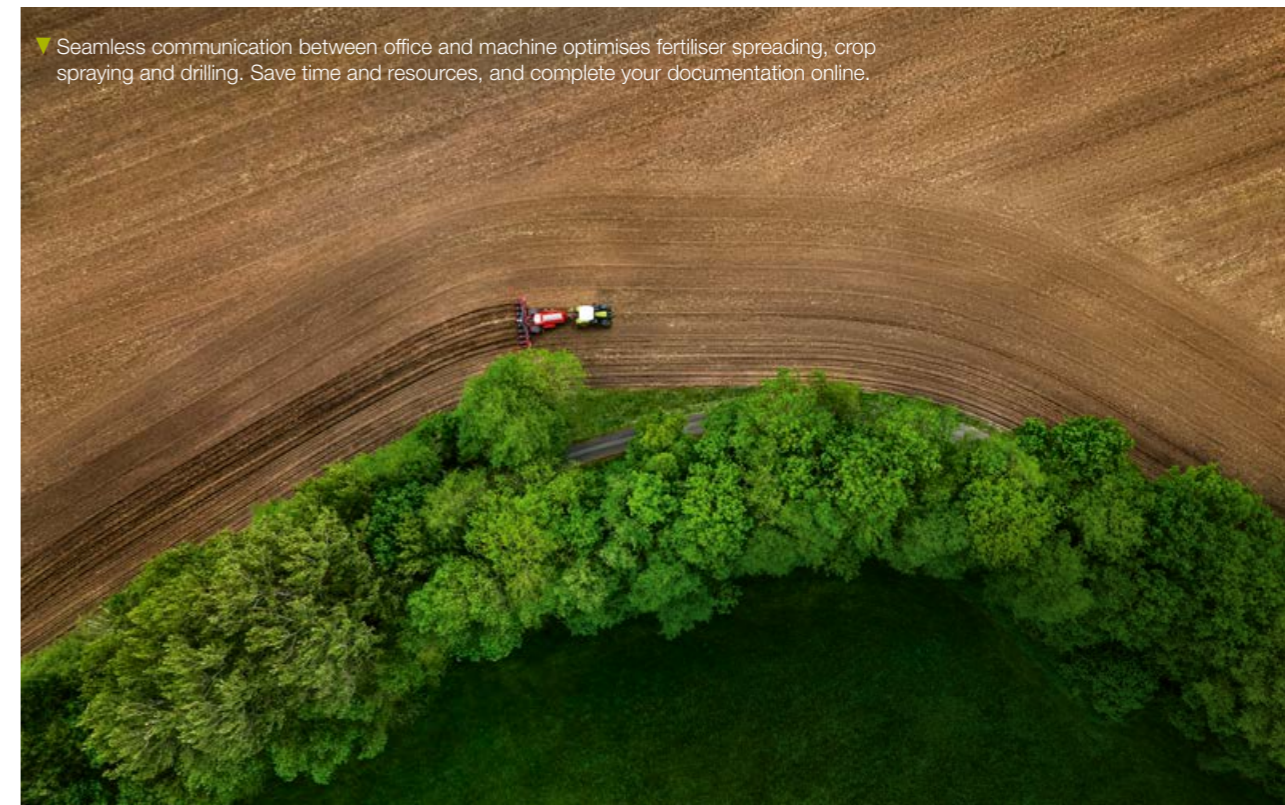


Protect the environment and conserve resources: use less fuel and save on consumables with the GPS PILOT CEMIS 1200 for tractors.

▲ Relax and focus fully on the machine settings – day or night, even when visibility is poor.



▼ Seamless communication between office and machine optimises fertiliser spreading, crop spraying and drilling. Save time and resources, and complete your documentation online.



Easy and efficient documentation of yield data.



Perfect interplay: planning and analysis in the office means that your machines work efficiently as a team with centimetre precision.



- ▲ Optimise your work processes
 - plan tasks in your farm management software
 - transfer them to the machine via Machine connect
 - pass-to-pass accuracy of up to $\pm 2-3$ cm

By transferring the same reference tracks to different machines, CEMIS 1200 encourages efficient teamwork and makes it easier to use several machines in one field at the same time. Using standard formats such as ISO XML which are compatible with your farm management system (FMIS), you can streamline the operation of your harvesting fleet.



When TELEMATICS receives the yield data from Machine connect, it automatically creates a new yield map.



Optimise your operating data with CLAAS connect.
With CLAAS connect you can check what your machines are doing at any time and optimise them by recording and analysing their operating data. Documentation helps you record your work by automatically generating log entries for each field. All data is prepared for booking in your FMIS.

 connect.claas.com



- ▲ Always on track: CEMIS 1200 enables you to apply precision farming techniques all year round easily and cost-effectively. Efficient, connected and automated. With tractors, combine and forage harvesters.

Planning in the office.

Plan tracks in advance in the office and send tasks with reference tracks online to CEMIS.

Precision work on the machine

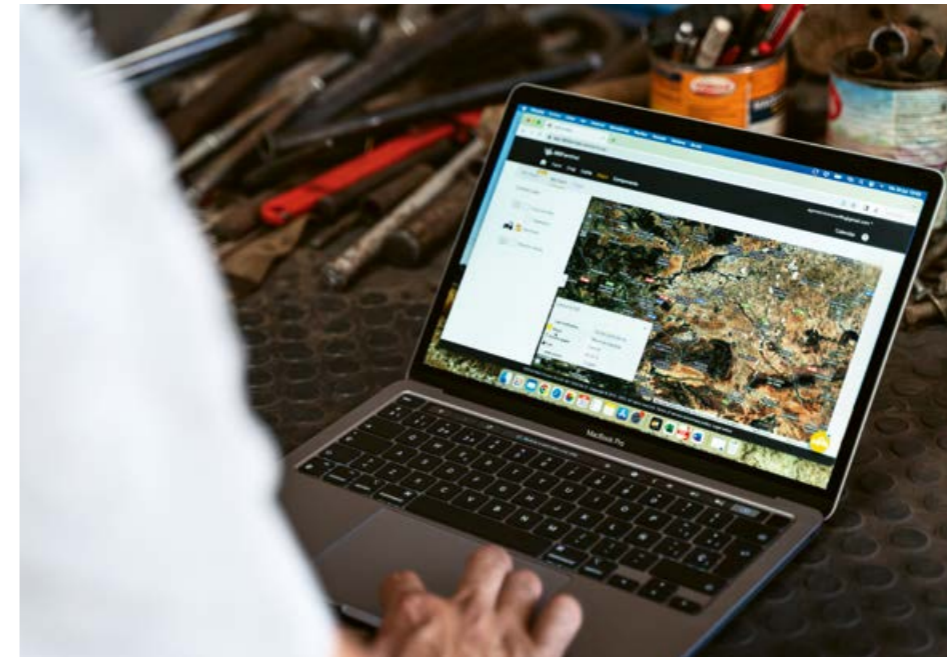
With CEMIS 1200 you can make optimal use of your steering system and document your work – including machine and yield data. Tasks can be created and managed directly on the machine, tracks can be used for precision work.

Evaluation in the office.

All work and yield data, including consumption figures, are available in the task, providing ample scope for evaluation and analysis. This holistic solution from CLAAS enables you to optimise your work processes and produce accurate documentation – so you can conserve resources, analyse fields easily and map yields precisely.

"CEMIS 1200 saves costs by speeding up all our work processes. At the same time, it makes us more productive because the operators don't tire as easily."

Eduardo Ruiz Villaverde



▼ Eduardo Ruiz Villaverde, Agroservicios Ruvilla, Argamasilla de Calatrava, Ciudad Real, Spain

Farm type:
farmer and contractor

CLAAS machines:
LEXION 6700 with CEMIS 1200,
ARES 696, ARES 626,
ARION 650 with S10



"CEMIS 1200 is very intuitive.
Everything is easy to find."

Work soon becomes more profitable.

Eduardo Ruiz Villaverde is the manager of Agroservicios Ruvilla. The agricultural services provider deals with all aspects of harvesting. Eduardo also runs a farm in the Spanish province of Ciudad Real, some 150 km south of Madrid.

From personal experience, he understands the value of digital CLAAS products such as GPS PILOT CEMIS 1200.

What prompted you to get your first steering system?
It was on my first CLAAS ARION. I was advised to equip it with ISOBUS, TELEMATICS and GPS. Then I started using the S10. And within a year the S10 came with all the available licences. Productivity increased because the operators were less tired. Before I got the S10, everything was done manually. You had to drive the machine yourself, the tracks always overlapped. Everything was much slower

How many CEMIS 1200 do you currently use and how many do you plan to in future?
At present I use just one CEMIS 1200, on the LEXION. I would like to fit it to the tractors too. Any machine I buy in future will be equipped with a steering system – preferably CEMIS 1200.

How does CEMIS 1200 ease your workload?
CEMIS 1200 is very intuitive and easy to navigate. And with the latest update, it's got even better. We just open a task, define a field boundary and create an A and B contour. CEMIS 1200 helps save time and costs and boosts our productivity. The operator can get more done in a day without tiring and the farmer benefits from a much more professional job.

We also find the variable rate application function very useful. With fertiliser getting increasingly expensive, it helps to apply only as much as we need.

How do you see your job in the next ten years?
Digitalisation in our industry has grown rapidly over the last five years. I can't imagine that any of my machines will be without digital solutions in ten years' time. All customers will require this at some point. Agriculture 4.0 is definitely the future of farming.

The full interview is available on video.



Better planning makes work easier.

Robert Schumacher is regional representative for digital products and services at CLAAS for Mecklenburg-Western Pomerania and Brandenburg. When new digital solutions are launched, he works closely with customers and their dealerships's digital experts to help them get set up. As with GPS PILOT CEMIS 1200.

Tom Nilson is a college-educated farmer and manager of a group of companies with 3,650 hectares of arable land. The group has been using CLAAS machines since 2013/14, and currently has 13 tractors, three combine harvesters and two telehandlers.



"The digital link between machine and office is extremely important. A shared database and good preliminary planning makes fieldwork so much easier."

Robert Schumacher,
Regional Representative
Global Digital Solutions



"CEMIS 1200 enables us to link up all the machines, so everyone can see the current status."

Tom Nilson,
CLAAS customer since 2013/14

How can GPS PILOT CEMIS 1200 help with the biggest challenges facing farmers?

Schumacher: Large farms are currently experiencing a very high staff turnover and tend to rely on seasonal workers at peak times. CEMIS 1200 helps inexperienced operators identify the right area and use the appropriate track for the pass. New staff soon get to grips with it and quickly learn how to create boundaries and reference tracks if these have not already been created.

Nilson: CEMIS 1200 enables us to link up all the machines. We can now scroll through jobs from left to right on the tablet or mobile phone and the tractor drivers can contribute their own ideas. We process this data in the office and then send it straight back to each machine, so everyone always has the latest information.

How do customers respond to GPS PILOT CEMIS 1200?

Schumacher: I often find that it's a generational thing. Younger colleagues have a greater affinity with digitalisation than older ones. Old hands tend to follow their gut feeling and the knowledge they have built up. If you involve both in the planning process, then everyone in the field can benefit from correct boundaries and fixed tracks. That's how to make the system work effectively.

▲ Tom Nilson, Mecklenburg-Western Pomerania
Farm type: arable
Farm size: 3650 hectares of arable land
CLAAS machines: 13 tractors,
3 combine harvesters and 2 telehandlers

Nilson: We deliberately opted for the latest generation CEMIS 1200. It enables us to make more efficient use of the fertiliser, lime and plant protection products available. To be honest, we are still in a transition period because we need to ensure that our staff are fully engaged. Robert has provided some training for us so we can upskill our young lads and bring them on board. The CLAAS After Sales Service is an essential part of this process.

Which digital CLAAS features are most popular with farmers?

Schumacher: Everyone likes Quick Task and Quick A-B – such a simple introduction to the digital world of CLAAS. By pressing just two buttons on the tractor, they can greatly simplify their workload. It's so easy to use.

And where do customers need the most support?

Schumacher: We have to 'nudge' our customers to plan their work on the PC in their office. We want them to understand that good groundwork lays the foundations for easier fieldwork.



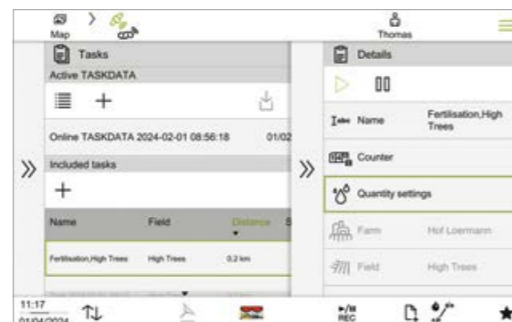
The full interview is available on video.



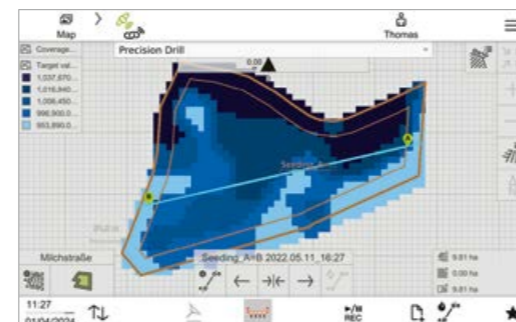
▼ The CEMIS 1200 has a 12" high-brightness multi-touch screen. The working areas and views for automatic steering, variable rate application and documentation are freely configurable. Quick Access gives direct access to key functions and menus.



▲ Automatic steering



▲ Documentation



▲ Variable rate application



▼ The SAT 900 multi-GNSS receiver supports all correction signals.
▶ Receiver and terminal can easily be transferred between different machines in the fleet.



Licences for GPS PILOT 1200 and SAT 900 GNSS receiver

		Licence / period	Trial licence / period	
Steering				
Manual steering assistance	Visual display of steering direction	unlimited		●
Activation of GPS PILOT / SAT 900 GNSS receiver	GNSS-based automatic steering system	unlimited	14 days	○
Reference track management				
Reference track management	Automatic creation of reference tracks based on field boundaries			●
Reference track switching	Direct switching between selected reference tracks			●
Tramline management	Acoustic and visual signal for switching tramlines			●
Reference track exchange via ISO XML				●
A-B straight				●
A-B contour				●
Adaptive A-B contour				●
A+ angle				●
Correction signals				
Activation of RTK / RTK NET / SATCOR 3 FAST	For using RTK correction signals or SATCOR 3 FAST by Trimble RTX including RTK Bridging (runtime licence additionally required)	unlimited	14 days	○
RTK Bridging	Time-limited bridging in the event of loss of RTK correction signal			●
RTK Bridging Premium	Unlimited bridging in the event of loss of RTK correction signal	period 1 year	–	○
SATCOR 3 FAST by Trimble RTX ¹	Satellite-based correction signal Basic accuracy ± 3 cm Short initialisation period means work can start sooner	period 1, 2, 3, 5 years	5 days	○
SATCOR 3 by Trimble RTX ¹	Satellite-based correction signal Basic accuracy ± 3 cm	period 6 months, 1, 2, 3, 5 years	5 days	○
SATCOR 15 by Trimble RTX ³	Satellite-based correction signal Basic accuracy ± 15 cm	5 years as standard period 1, 3, 5 years	–	● 5 years
RTK correction signals ²	RTK correction signal Basic accuracy ± 2-3 cm	period 1, 3, 5 years	–	○
ISOBUS				
ISOBUS UT	Display and operation of ISOBUS-enabled implements			●
AUX-N	Assignment of tractor function keys			●
TC-BAS	Task management in ISO-XML standard format			●
GPS application – CEMIS 1200	Preparation of application maps	unlimited	21 days	○
GPS Task Management – CEMIS 1200	Documentation of as-applied maps and yield maps	unlimited	21 days	○
GPS Section Control – CEMIS 1200	Automatic section control	unlimited	21 days	○

¹ Your SAT 900 receiver requires RTK / RTK NET / SATCOR 3 FAST activation.

² Make sure you have an RTK data volume limit for the SIM card. Note: not all correction signals are available worldwide. Please contact your dealer to check availability.

³ Automatically activated 9 months after production of the machine at the latest

● standard ○ optional □ available – not available

CLAAS continually develops its products to meet customer requirements. This means that all products are subject to change without notice. All descriptions and specifications in this brochure should be considered approximate and may include optional equipment that is not part of the standard specifications. This brochure is designed for worldwide use. Please refer to your nearest CLAAS dealer and their price list for local specification details. Some protective panels may have been removed to present the function more clearly in photographs. To avoid any risks, you should never remove these protective panels yourself. In this context, please refer to the relevant instructions in the operator's manual. All technical specifications relating to engines are based on the European emission regulation standards: Stage. Any reference to the Tier standards in this document is intended solely for information purposes and ease of understanding. It does not imply approval for regions in which emissions are regulated by Tier.

We want to make you the best in your field.

In everything we do, the focus is on you, our customers. We understand your daily challenges. Together with you, we develop agricultural technology ensuring you can farm successfully and sustainably today and in the future. Our digital solutions simplify complex processes and make your work so much more convenient.



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