

POTATO TECHNOLOGY
SUGAR BEET TECHNOLOGY
VEGETABLE TECHNOLOGY

GRIMME
i-systems

High-tech for the field

CONTROL
SYSTEMS

ASSISTANCE
SYSTEMS

DATA
SYSTEMS

RESEARCH/
DEVELOPMENT





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We develop – you benefit

In 1994, Franz Grimme decided as one of the first manufacturers of agricultural technology to develop the entire electronic system for the operation, control and regulation of the machines.

In 1995, the first digitally-controlled potato harvester was introduced. Today, more than 70 highly qualified employees are working on state-of-the-art control, assistance and data

systems. Another important field of activity of Grimme i-systems is research and development, so that in future too, we will be able to offer practical, innovative and powerful solutions.

For more than 15 years, Grimme i-systems has been setting milestones

1995



In cooperation with Fendt, the first digitally-controlled potato harvester SE 75-30 is developed in 1995.

1998



Since 1998, the 2-row potato harvesters SE 150-60 and GZ 1700 GZ 1700 equipped with CAN-Bus based control system as standard.

1998/1999



Self-propelled technology with CAN-Bus-based control system and specifically developed drive control

1999



DLG silver medal for the yield measurement system on the self-propelled potato harvester SF 150-60

2001



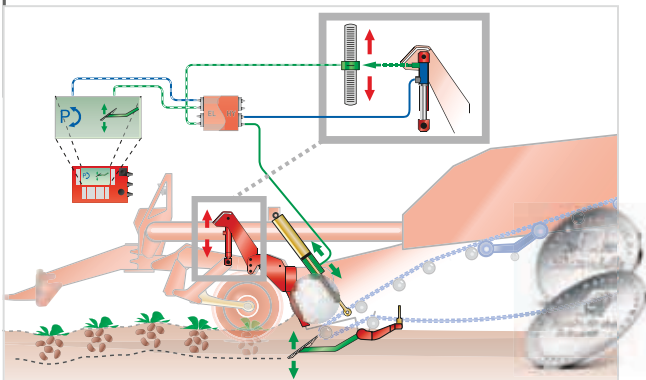
DLG gold medal for an electronic, adaptive speed and performance regulation of all main webs and separators

2003



DLG silver medal for the OPTI FLOW harvesting system for automatic regulation and control processes

2005



DLG silver medal for sensor-controlled depth regulation of the digging share TERRA CONTROL

2007



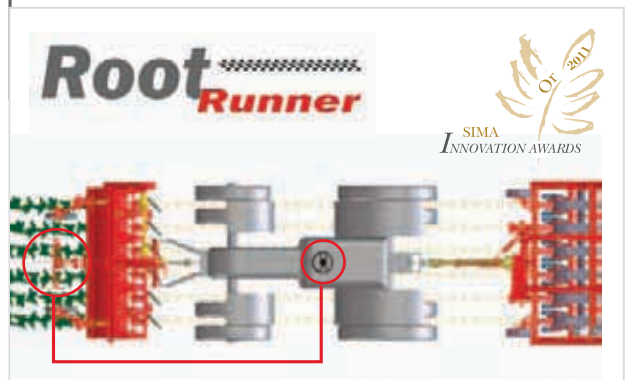
DLG silver medal for the video monitoring system VISUAL PROTECT and the data management system OPTIPLAN PROFI

2009



DLG gold medal for the operating concept CCI 200 for ISOBUS-compatible agricultural machines co-developed by Grimme and spanning various manufacturers

2011



SIMA Innovation Award in gold for the autopilot system ROOT RUNNER in cooperation with John Deere

2011



DLG silver medal for ISOLOG: Online logistic management system for the sugar-beet industry
DLG silver medal for SPEEDTRONIC: Automatic fill level monitoring system for elevators

2011



DLG silver medal for the tractor control by means of planting machine or potato harvester in cooperation with John Deere

Control systems: Everything at a glance – and everything under control

Why intelligent control terminals are gaining increasing importance? To keep it simple: because modern agricultural machines are getting increasingly more complex. The terminals constitute the interface between man and machine. The

simpler and more clearly the layout is, the easier it will be to control the machine. With an intuitive control terminal by Grimme i-systems you are able to keep track even if you have to make several adjustments at once in

the middle of a work process. Your advantages are obvious: You are able to get the optimum out of your machines at any time. In addition, you are not unnecessarily distracted and work safety is increased.





ISOBUS-capable machine control

CCI 200

The DLG-award winning enhancement of the VISUAL CONTROL terminal. The CCI 200 is equipped with all of the functions of the VC 50 – and many additional advantages. Among others, it is equipped with an even larger, glare-free touch display (8.4") and is completely ISOBUS-capable.



CC-ISOBUS

Machine control with touch screen function

VC 50

Colour monitor with touch screen function, easily comprehensible symbols (pictograms) and multifunction rotary knob. The VC 50 is a professional terminal with extensive special functions, fully programmable and with comprehensive diagnostics function for the machine.



Standard terminal for machine control

SKE-S

From axle control and hydraulic levelling up to transfer elevator: With the clearly laid out and easy to operate SKE standard control terminal, all the important functions can be quickly checked and set from the driver's seat.



More convenience during machine control

Rootster control terminal

With this extremely sturdy terminal, all functions of the pulled sugar-beet harvester Rootster are easy and intuitive to operate. For example, the current position of the axle steering is indicated in a clearly laid out manner by means of LEDs.





Adjustment possibilities directly at the picking table

GBT 817

The clearly laid out control terminal GBT 817 has been specially developed for the picking staff on potato harvesters. The display shows all the essential parameters that are important for the picking process. Operation is effected very intuitively via clearly structured pictograms and symbols. For even more convenience, settings can be programmed individually.



Practical combination

Joystick box GBX 860

If desired, the control terminals VC 50, VC 100 and CCI 200 can also be combined with the convenient joystick box. The box can be assigned all the functions of the terminal. Your advantage: axle steering at the headlands is rendered even more convenient and easy with the joysticks.



Assistance systems: Full-hearted support

Different weather conditions?
Different soils? Planting distances?
Digging depth? Protection of soil
and product? – People being
involved in modern agriculture

must remember countless
things at a time and coordinate
numerous work steps. This is
why i-systems has developed
assistance systems that support

you in your work. Or even better:
That make the different work
steps quite simply superfluous.

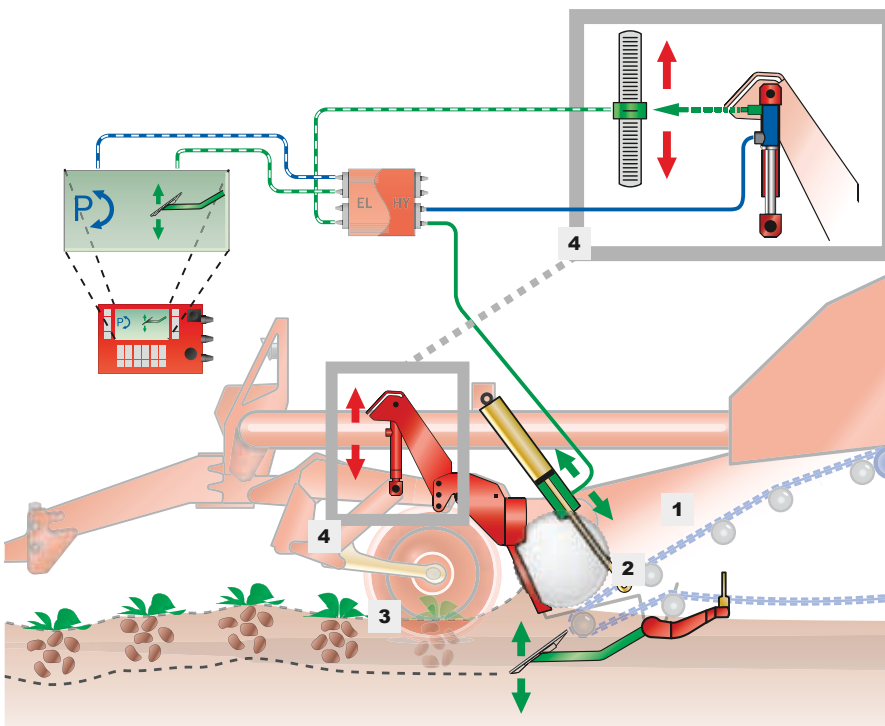




Harvesting at reduced pressure

TERRA-CONTROL

The hydraulic share depth guidance with integrated diablo pressure adjustment. The swing frame (1) is held in position by 2 cylinders (2). When TERRA CONTROL is used, the diablo rollers (3) are supported on 2 special hydraulic cylinders with integrated path measuring system (4). These hydraulic cylinders register every deviation of the ridge crest height and transfer the signal electrohydraulically to the two swing frame cylinders. The result: Digging depth and diablo pressure remain constant at any time and with every soil contour – even individually per row!



Always everything under control

Grimme video systems

The Grimme video system consisting of high-quality colour monitors, colour cameras, special cables and multiplexer has been specifically designed for use under harsh conditions in agricultural machines. The driver is even able to program camera sequences, thus saving himself the cumbersome manual switch-over.



Reacting faster

VISUAL-PROTECT

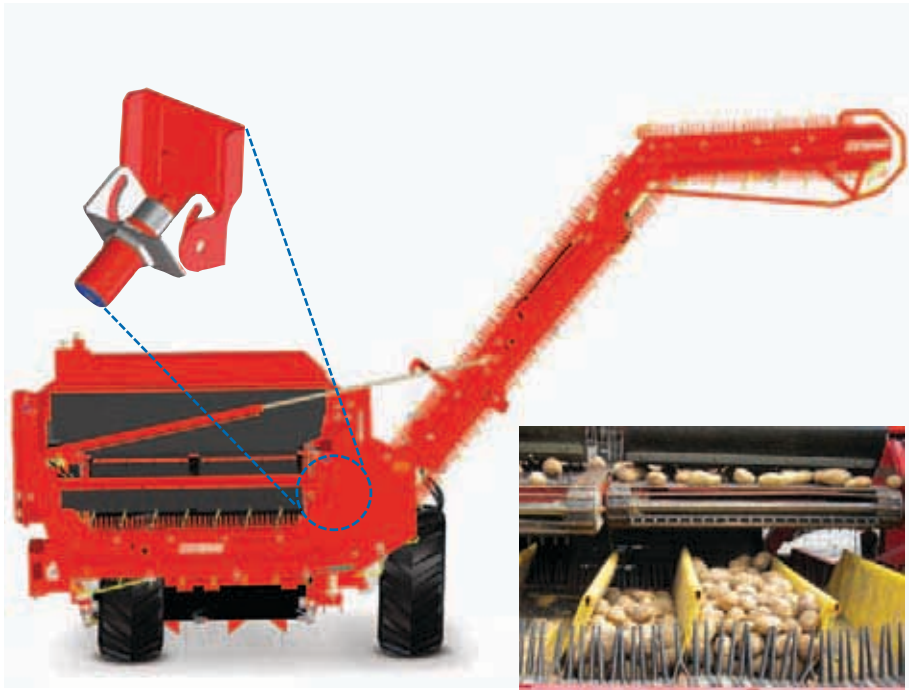
The use of several video cameras makes it possible to monitor the functions of your harvester all around – so you can fully concentrate on your work. If there is a problem in the machine, the screen automatically switches to the corresponding camera.

You see directly the failure and are able to react quickly.



Visual
Protect





Additional relief for the driver

SPEEDTRONIC

SPEEDTRONIC controls fill level in the elevator pocket and calculates the lowest speed. A special sensor, which continuously determines the fill level in the elevator pockets.

Data is sent to the machine's main electronic, which automatically calculates and controls the speed of the elevator web to ensure an optimum filling of the pockets.

The driver is completely relieved from all manual monitoring and control tasks, while potato protection is maximized.



Intelligent fuel saving

Automotive driving

Fuel-saving automotive driving with speed adaptation. Depending on the machine's degree of utilisation, the electronic system facilitates a constant adaptation of the engine speed.



Machine controls tractor

Autopilot

The Grimme/John Deere solution ISOBUS ROOT RUNNER is an autopilot system that automatically assumes the accurate tracking of the tractor during the sugar-beet harvest. At the SIMA show in Paris, this trend-setting system was awarded the gold medal at the SIMA.



**Root
Runner**





Machine controls tractor

POTATO SUITE

Within the scope of the POTATO SUITE, application-relevant data is determined by the potato harvester by means of which the tractor is controlled. The tractor's travelling speed is controlled with SPEED CONTROL as a function of haulm web slip, separator utilisation and main web fill level. The system thus achieves a permanently optimised degree of utilisation for the harvester while simultaneously ensuring very gentle product handling. The tractor driver is relieved from the usual control and monitoring tasks.



Within the scope of the POTATO SUITE, it has for the first time become possible to automatically control the tractor hydraulics by means of the potato planter shaping board. HITCH CONTROL provides a permanent constant depth guiding of the planter, the rota tilla and the rotary harrow, thus always ensure an optimum ridge shaping. Time-consuming manual corrections of the tractor hydraulics can be dispensed with and relieve the driver. In addition, fuel consumption is reduced.



Data systems: Good planning is paying off!

The larger the tasks, the more important becomes data management and documentation. However, this is not only decisive for optimising one's own planning, but also for coordinating work with others, for instance during

the sugar-beet harvest with the logistics or the sugar-beet factory. The effort required in this regard is sometimes enormous. This is where the solutions by Grimme i-systems come in: They reduce the time required for

administration, systematically rule out error sources and support your data communication. Thus, planning that is optimised as far as time, requirement and effort are concerned is made possible.



Data management with a system

OPTIPLAN-PROFI

Trend-setting and easy: the data management system OPTIPLAN PROFI enables you to process jobs and to evaluate performance on your home PC. Data transmission is safely effected via USB stick or via the mobile network OPTI-Sync. Master data entry on the machine terminal is also possible in the course of the campaign – on your home PC, the data will then be automatically aligned.



Online logistics management

ISOLOG

The worldwide first closed data and logistics management for sugar-beet harvesting: ISOLOG facilitates the automatic data exchange between sugar-beet drill, sugar-beet harvester, clamp coverer, logistics and sugar beet factory. This means, the data is available online to all stakeholders involved – an optimum planning of all activities is made possible.

Errors due to a manual capturing of a large amount of data is finally ruled out due to ISOLOG. It goes without saying that the grower alone will decide about the data being transmitted to third parties.

Another advantage: The data can be retrieved and directly processed onto mobile smart phones or tablet PCs with the aid of the FarmPilot application.



ISOLOG





Towards the future: Our new projects

Research in close cooperation with technical universities and universities plays an important role for Grimme i-systems. As a source of innovative product

ideas and to safeguard the technological edge, the active participation in research projects of different research institutions with varying regional reference

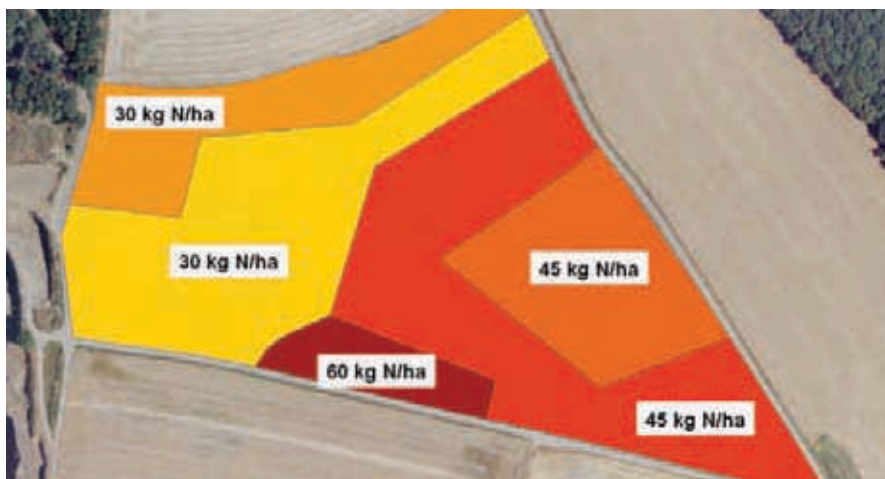
is indispensable. Supplementary to the activities in the different research projects, new technologies are developed in the course of many bachelor and master projects.



BMBF (federal government)

iGreen

This research project aims at linking job and machine data independent of the respective manufacturer. The project is sponsored by the Federal Ministry of Education and Research. Further information under **www.igreen-projekt.de**



InterReg/ EUREGIO (The Netherlands/ Germany)

SMARTBOT

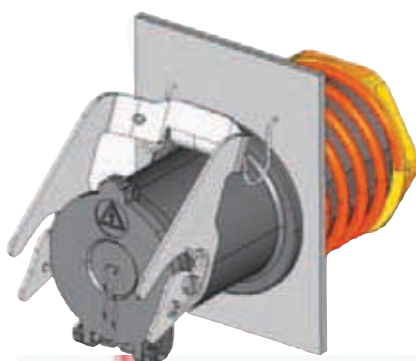
The aim of the project is the development of intelligent multi-sensor-actuator systems (in short: SMARTBOT), among others for industrial and agrarian applications. In the subproject SMART HARVESTER, autonomous, intelligent, cost-efficient harvesting systems, which increase the quality of the harvested crop and put a minimal load on the soil, are being designed.



Tractor/ implement electrification

High-voltage connection

Apart from the already existing interfaces between tractor and implement, which cover the mechanical, hydraulic and 12-Volt connections, future electric drives on the implements require an interface to transmit a high electric power from the tractor to the implement.





Machine controls tractor

TIA (Tractor-Implement-Automation)

First tractor-implement-automation systems are already available on the market. During the next years, great potential is offered by the further linking of the areas steering, hoisting unit control, regulation of driving speed, control of hydraulic / electric installation and power take-off.

The implements fuse with the tractor to make up a "modular self-propelled harvester".



Joint goals

CCI founder member

On 12th February 2009, the companies of Amazone, Grimme, Krone, Kuhn, Lemken and Rauch – six renowned agricultural technology companies – founded the association Competence Center ISOBUS e.V. (CCI) to jointly promote the technical enhancement, accelerated practical launch as well as international implementation of the ISOBUS. In the next few years, the ISOBUS will continue to develop and gain importance. The CCI wants to accompany it on this road and help to shape the future.



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of the QR code!

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