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“Gold Medals for Innovations will be awarded for products with a new concept showing crucially modified functions and which can be used to allow a new process or essentially improve known processes.”

Hybrid telehandler - Turbofarmer 40.7 Hybrid
Merlo, Cervasca, Italy, 06-C15

For the first time a plug-in hybrid electric vehicle will be offered for agricultural use with the option of switching the drive between electrical and diesel-electrical. In the electric mode the 30 kWh lithium battery supplies the machine with energy – it works quietly and emission-free and can thus also be used in closed buildings. In the hybrid mode the diesel engine operating at constant speed supplies the power for traction drive and charges the battery at the same time. This drive architecture makes it possible to halve the rated output of the diesel engine without restricting the effective work of the loader. In addition, during the low-load or idling phases that frequently occur in telehandler use, the drive can in turn be powered purely electrically, as a result of which the fuel costs and CO2 emissions in conjunction with the downsized engine can be reduced by up to 30 %. A further reduction in costs results from charging the plug-in hybrids from the electricity grid or the PV system.

Online-Simulator for operating harvesting machinery and tractors
CLAAS, Harsewinkel, Germany, 13-B05

The CLAAS Online-Simulator for operating harvesting machinery and tractors allows the complete working behaviour of a machine under a wide variety of conditions to be mapped dynamically on a PC interface for the first time. Machinery operators can thus be trained in operating a complex harvesting machine or tractor independently and outside operating times, online and interactively at the PC. With the aid of evaluated telemetric and process data, virtual control devices and operating elements, the software largely represents real operating conditions and procedures of a machine. This allows optimal training for the complex operation of harvesting machinery to be carried out already prior to harvesting work. Such training makes it possible to substantially boost the technical potential of the harvesting machinery already during the first days of use for harvesting. Operating faults and damage to machinery can be reduced in this way. New drivers can be familiarized quickly with the machine. Experienced drivers can refresh their knowledge through regular training and continuously improve their performance potential. Considerable savings in cost and time can be achieved already from day one by better handling of expensive harvesting machinery.
**Fertilising**

With AXMAT, Rauch presents the world’s first solution featuring automatic online measuring of fertilizer distribution and automatic adjustment of a disc fertilizer spreader to the fertilizer type in the tank and the desired working width. For the first time high fertilizer distribution precision is achieved automatically with the aid of microwave sensors and an automatic adjustment system on the fertilizer spreader. An arm swivelling about the distributor disc of a disc fertilizer spreader provided with microwaves records the spread fan position beneath the fertilizer spread fan, without contact, and sets the spread pattern automatically to the desired working width with the aid of the rotatable tank bottom and dosing aperture. During the spreading process, the spreading pattern is monitored permanently and the discharge point of the fertilizer to the distributor disc is readjusted automatically as required. The novel, automatic self-setting of the fertilizer spreader to the required working width makes it possible to achieve higher precision than is otherwise encountered in conventional adjustment practice and achieves this without the need for any spreading test on the field. The permanent self-monitoring of the spread fan also allows automatic online readjustment of the setting system to the set working width in response to changing fertilizer batches or changes in weather conditions.

It improves fertilizer efficiency, reduces emissions and fertilizer costs, and increases the yield security. Initial test results of the French test institute IRESTEA confirm the said advantages of the system.

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**AirSep pneumatic impurities separator**

**Grimme, Damme, Germany, 25-F11**

In potato harvesting the systems used for separating tuber-like impurities such as stones and clods of earth are predominantly mechanical. However, these are limited in performance efficiency, and especially with multiple-row harvesting machinery frequently represent a bottleneck. By combining a perforated conveyor base and an uplift airstream flowing through from below, a pneumatic separator device in which the direction of crop flow and hence the machine-specific potato throughput are retained without restrictions has been realized in harvesting machinery for the first time. During the passage through the separation area the tubers are virtually kept gently floating above the vibrating conveyor base, while the heavier stones and clods of earth drop down and are passed via a segmented lock to a removal belt. The quality and performance of separation can be infinitely adjusted from the tractor to the composition of the material being harvested by altering the combination of air flow rate and the inclination and frequency of the conveyor base. In addition to a high output per unit area coupled with reductions in manual post-sorting work, sites can be secured for potato cropping that would otherwise only be used following cost-intensive earth separation in spring.
The Silver Medals

33 x Silver

“Silver Medals for Innovations will be awarded for products which have been developed further in such a fashion that an essential improvement of the functions or the process may be expected.”

Hitch Assist

John Deere, Mannheim, Germany, 13-C31

The tractor can be moved forwards and backwards by push button from outside the cab. Consequently implements can not only be hitched more easily, but also more safely than so far, as especially the accident-prone mounting and dismounting is distinctly reduced. The system is operated with the hand-brake activated and can thus also be used on slopes.

CLAAS AQUA NON STOP COMFORT – Automatic wet grinder

CLAAS, Harsewinkel, Germany, 13-805

The AQUA NON STOP COMFORT is the first automatic wet-grinding device for self-loading trailer and baler knives. Independently of the wear condition of the knives, they are no longer ground according to fixed radii, but instead exactly along their individual blade contour. The device processes up to 45 knives per cycle. Thanks to the exchangeable templates a wide range of knife types can be ground exactly to the right contour.
Automatic PTO speed change
SAME DEUTZ FAHR, Lauingen, Germany, 04-B27

A pto gear unit that can be switched under-load has been realized for the first time. Depending on the engine load, switching takes place automatically between nominal pto shaft speed and eco shaft speed. This is of particular benefit where conditions of use change frequently and it expands the spectrum of the eco pto shaft applications considerably – instabilities in operation are avoided.

Hydraulic engine brake concept
SAME DEUTZ FAHR, Lauingen, Germany, 04-B27

By contrast with a conventional engine brake, the braking effect is achieved by choking the oil flows of the working hydraulics and at the same time closing the electronic visco coupling of the fan. This increases the braking action and ensures cooling of the heated hydraulic oil. Altogether, in conjunction with a 3.6 l diesel engine, the system achieves a higher braking effect than with the 4.1 l predecessor model that used a conventional engine brake. For safety reasons the braking effect is limited depending on the steering angle.

LINTRAC 90
Joint development:
Traktorenwerk Lindner, Kundl/Tirol, Austria, 05-C05
ZF Friedrichshafen, Friedrichshafen, Germany, 03-E19

"Four-wheel steering on a standard tractor"
In order to improve the manoeuvrability and suitability of the tractor for front loading operations, the rear axle can be steered too. In conjunction with the infinitely variable drive, which is not very widespread in this performance category, the front-loading tractor achieves almost the same functionality as a wheeled loader and can save the farmer having to invest in an additional special machine.
Silver Medals

PCS-Precision Combiseeding
Alois Pöttinger, Grieskirchen, Austria, 27-C30

With the PCS-Precision Combiseeding implement Pöttinger presents a novel, innovative concept that realizes grain drilling and precision drilling (e.g. maize, sunflower) in a single machine. This combined implement saves investment in a separate precision drilling machine. The changeover from seed drilling to precision drilling can be carried out simply and comfortably. One machine allows four applications: grain seeding, maize seeding with or without fertilizing and maize seeding coupled with under-sowing (erosion control). Multiple use of this machinery combination expands the spectrum of applications and reduces the fixed operating costs per hectare. Furthermore, this machine features sensor monitoring of the longitudinal seed distribution and displays incorrect and double placement per row on the terminal.

Precision drill meter for grain and oilseed rape
Horsch, Schwandorf, Germany, 12-C47

The trend towards lower seeding intensities when drilling grain and oilseed rape strengthens the demand for thinning equipment for these crop types. Furthermore, practical tests confirm not only an increase in yield, but also potentials for savings in seed, fertilizers and fungicides. Horsch presents a new, innovative metering method based on the platform of the existing Pronto DL drilling machine. The seedbed is prepared from a central hopper with the aid of a central volume metering unit. This pre-dosed seed is conveyed pneumatically and delivered to the respective seed row via a deflector distributor head. Thus up to the coulter, the seed delivery takes place totally conventionally without further changes to the standard drilling machine. Each seed row possesses a dosing unit on the top side of the coulter for thinning the seed flow from the distributor head. In this dosing unit the unsorted, volumetrically dosed seed flow is prepared and passed, thinned, to the down-tube. The desired orderly and thinned seed flow is then obtained at the outlet of the dosing unit. The newly developed equipment for precision drilling of grain allows very high thinning frequencies in order to keep up with the performance efficiency of today’s drilling machinery with travel speeds of 10 to 12 km/h. The new precision metering unit is able to dose up to 120 grains/sec with a frequency of up to 120 Hz, i.e. a seeding rate of 240 grains/m² at 12 km/h with row spacing of 15 cm in precision drilling quality. High grain frequencies combined with high travel speed do not permit a longitudinal distribution variation coefficient at the level of maize and sugar beet of 20 to 30 % to be achieved safely in the field. However, the newly developed thinning metering unit makes it possible to achieve variation coefficient levels of 40 to 50 % in practice and thus come very close to the classic precision drill implement. This solution will upgrade existing pneumatic drilling machinery to precision drills without losing the performance rate of the drilling machine.
IDS Intelligent Distribution System

Alois Pöttinger, Grieskirchen, Austria, 27-C30

Making tramlines with pneumatic drilling machines when changing tramline rhythms and at different track widths is frequently connected with complicated readjustment work. For these cases the Intelligent Distribution System from Pöttinger with individually switching distributor head outlets offers unique flexibility and exceptional comfort when forming tramlines, with exact and constant seeding quantity per row. Track gauges, track widths and tramline rhythms can be selected simply at the operator terminal. Once a tramline is formed, the seed quantity per hectare remains constant due to seed return coupled with proportional reduction of the volume dosed. The individually selectable half-width shut-off (left or right) allows drilling to be started from both sides. „Section Control“ allows exact drilling on wedge-shapes in fields. These technical solutions set new standards in flexibility, precision and comfort.

Working depth guidance for contour adjustment via depth wheel support independently of traction reinforcement

Lemken, Alpen, Germany, 11-B43

“Novel working depth control for semi-mounted cultivator”

The depth guidance of semi-mounted cultivators has so far generally been managed via depth guidance wheels (support wheels) mounted on the vehicle frame and the following roller. On level ground, this construction design enables relatively constant adherence to the set working depth – and the load on the support wheels is comparatively constant. However, when cultivating on rugged ground, long cultivators particularly work too deep when crossing over a hump and too shallow when passing over a short dip. Customary traction reinforcement systems that act exclusively on the cultivator drawbar and not via the three-point hydraulic lift admittedly allow good ground adjustment under these conditions – but the load transmission to the tractor is uneven. In the new control system the load acting on the support wheels is continuously measured and serves for hydraulic control of the roller position. If the support load drops, the roller is raised – the cultivator works into the ground until a pre-set support wheel load is reached again, and vice versa. The effect of the traction reinforcer is virtually constant despite the control. This novel system relieves the load above all on the operator and serves to achieve constant quality of work.
Flow Check

Joint development:
Josef Kotte, Rieste, Germany, 15-A11
Hochschule Osnabrück COALA, Osnabrück, Germany, 02-C15

Especially when introducing slurry into the ground, irrespective of the type of implement selected for spreading, the monitoring and regulating of the flow in the spreading hoses is a challenge. The novel Flow Check sensor monitors the flow in each spreading hose with an acoustic signal. If the slurry flow is interrupted, the driver receives an acoustic warning – an LED display shows the clogged hose. Thanks to this automatic warning the burden of work on the driver is relieved and it is also ensured that no gaps due to blocked spreading equipment occur when fertilizing. Clogging by the sensor itself is ruled out – there is no contact with the slurry. For protection against external influences the sensor is accommodated in a box so that cleaning with a high pressure cleaner is also possible. Furthermore, this sensor can be retrofitted.

Curves~Control~Application C~C~A

Herbert Dammann, Buxtehude-Hedendorf, Germany, 15-C12

The problem of different spreading rates when negotiating bends is frequently encountered in practice, as the spreading rate is lower than the set value at the outer edge of the bends, and higher at the inner edges. Many arable fields are not rectangular, or include obstacles that involve driving round them. This can cause deviations of 40 to 160 % from the set value of the application quantity for a 36 m boom. The Curves~Control~Application regulates the spread quantity in such a way that the average value per section corresponds to the set value. This is made possible by calculating the data in the bend travel module. The necessary data are generated by a sensor for the curve radius (similar to the sensor for steering true track following), the measured speed of the wheel sensor, the machine data and the set value of the spreading rate per hectare (l/ha or kg/ha). This calculation determines how much percentage deviation exists in the individual sections compared with the set value. The job calculator balances the deviations in the sections. It controls the quantity spread by switching nozzles on the multiple nozzle carrier on or off, changing the spray pressure in the section, or combining both parameters.
Swingcut
LEMKEN, Alpen, Germany, 11-B34

The LEMKEN Swingcut achieves improved, more uniform spreading of plant protection agents by active cushioning of the boom yawing movements. These horizontal movements in and against the direction of travel develop e.g. as a consequence of acceleration when starting, lifting and lowering, ground unevenness or wind. So far booms on field sprayer equipment have generally been attached on the basic implement in pendulum form and carried with passive spring and shock absorbing elements. However, active adjustment of these elements to various movement stimuli during travel was not possible. The use of semi-active cushioning systems (including shock absorbers with electrical or magneto-rheological fluids) on the boom of the plant protection implement represents a novel form of damping the movement and allows the system to be controlled. With the help of a novel 3-D camera, the movements of the boom are recorded and if they exceed the set boundary values (calibration) the system intervenes actively in the damping work. This represents a continuous response to the current driving situation. Thanks to the optimized boom position, the uniformity of transverse and longitudinal distribution in dynamic operation is considerably improved.

Boom Guidance
HORSCH, Schwandorf, Germany, 12-C47

The new development of the Horsch Leeb boom control allows exact and safe sprayer boom guidance over the crop. This type of active boom guidance is the basic module for application at a very low distance from the target surface. Precise adaptation of the boom to the field contour is made possible by de-coupling the boom absolutely from the chassis. This minimizes the negative influences of wind and thermal current on drift behaviour. The Horsch Leeb boom is mounted almost friction-free (ball bearings) close to the centre of gravity. Thus centrifugal forces such as occur, for instance, when negotiating bends have practically no influence on the boom position. In order to be able to adjust the boom to the ground contour, a control that allows forces to be introduced selectively into the boom via two hydraulic cylinders in such a way that the boom remains free despite introduction of this force has been developed. This is achieved by the adjusting element following the movements of the carrier vehicle in real time, so that no interfering forces are introduced into the boom. In cases of necessary adjustment to slopes, the adjusting element presses on an elastomer element with a defined calculated path and accelerates the boom in rotational direction. Shortly before the desired position is reached, the opposite elastomer element is pressed and the rotational movement is slowed down. During this adjustment the position of the adjusting cylinder is constantly measured and regulated to compensate any rolling movements of the machine during adjustment too. This method has been made possible by using an extremely fast proportional hydraulic valve and developing a new control software with gyroscopic sensors.
easyFlow
agrotop, Obertraubling, Germany, 15-C30

easyFlow is a closed, contamination-free unloading system for liquid plant protection agents from small containers and canisters. The system consists of a tank and canister adapter. The tank adapter mounted on the implement side has a flushing water supply line. The canister adapter is screwed onto the canister (sealed or unsealed) using a cap nut. The fastening is secured by a bowl handle and unloading is only possible by rotating this. The opening path can be controlled infinitely variably via the turning angle of the bowl handle, thus regulating the speed of unloading. Once the desired amount has been reached, unloading is ended by turning the bowl handle to the right and the closing piston is automatically locked. If a canister is emptied completely, it can be cleaned immediately via the flushing water connection. The cleaning fluid is also conveyed into the tank. The canister can thus be passed on immediately for waste disposal (e.g. PAMIRA) without any further measures being necessary. The canister adapter is also cleaned and can be used again directly. In developing easyFlow, special attention was paid to the product costs. Accordingly the actu-

tions for most functions are located in the tank adapter, as only one per unit is required. This made it possible to keep the canister adapter simpler and lighter, so that procuring a number of canister adapters for different preparations no longer represents an essential cost factor.

Smart Irrigation System
John Deere, Mannheim, Germany, 13-C31

Optimal water supply for productive plants is a prerequisite for maximum yields, especially in professional irrigated farming. At the same time the growing demand for water calls for significant improvements in irrigation efficiency in order to conserve the globally diminishing water resources. With the Smart Irrigation System, John Deere presents an innovative concept for row crops (e.g. maize) that allows the farmer to plan and control site-specific and plant-specific irrigation, based on real-time measurements of the soil water content and wireless transmission of the measurement data to the office computer using a web-based expert system. The complete solution offered contains John Deere’s high-precision, RTK-controlled installation of soakage hoses, a special soil moisture sensor for measuring the soil water content in several layers, wireless data transmission (alongside water content and air temperature and humidity, also rainfall quantity, solar radiation etc.), different soakage hoses (optionally) for precise water distribution, and a head station with coordinated components (pumps, filters, valves, fertilizer infeed etc.). This system allows efficient use of water, nutrients, energy and labour in irrigation, coupled with fertilizing at the same time. The RTK-controlled and correspondingly documented laying out of the soakage hoses also allows problem-free use of tillage and drilling machinery and equipment without damaging the hoses.
Grain Quality Camera

CLAAS, Harsewinkel, Germany, 13-B05

Most of the optimizing work in combine adjustments is carried out by a simple visual check of the harvested material in the grain tank. Yet, looking into the grain tank is not only difficult to realize ergonomically, but can also deceive. Sensor developments for assessing the grain quality have, however, not been effectual so far. The Grain Quality Camera from Claas is a high-resolution, colour camera on the elevator head. It produces pictures of the threshed material in the crop flow. The images are evaluated with regard to non-grain components and broken grain and the results are shown in the operator terminal display as bar charts, including boundary level warnings. In addition, for the first time the driver is able to see the colour images continuously and thus distinguish between loose and adherent non-grain components. This creates a new and more exact basis for assessing the grain quality and thus for optimizing the threshing and cleaning settings on combines.

Wind and slope incline sensor for radial spreader

CLAAS, Harsewinkel, Germany, 13-B05

Particularly where large working widths are concerned, uniform distribution of the chopped material is a challenge that is rendered more difficult by side winds and slope locations. So far drivers have had to correct the throw direction of the chopped material by visual checks in the rear view mirror or on a camera image. Thus in side wind and side slope conditions it was vital to adjust the direction of throw on each turning operation. The Wind and Slope Incline Sensor from Claas is located at the two rear lighting arms of the combine. With its plate-shaped design, it records the side wind at this position and at the same time the slope incline by moving sideways or swinging vertically depending on the wind strength. The highest sensor deflection and its frequency are offset, so that influences due to slipstream and wind gusts are suppressed. The radial spreader throws the straw accordingly against the side wind or upslope. Thus for the first time instrumentation and control technology for uniform straw distribution from a combine is available.
**Opti-Speed – variable straw-walker shaft rpm**
CNH / NEW HOLLAND, Heilbronn, Germany, 03-C03

Straw-walker combines cause high grain losses on hilly fields because the flow of crop onto the straw-walkers is impaired – resulting in higher grain losses uphill and downhill. Moreover, threshing crops such as e.g. maize require adapted straw-walker frequencies because the conveyor properties differ from those of grain straw. The Opti-Speed control system from New Holland alters the speed of the straw-walker shafts as a function of the slope inclination and the crop to be harvested. The speed is reduced during uphill travel and increased on the downhill track. In both cases this results in a crop layer thickness similar to that achieved when harvesting on level ground. Accordingly, grain losses are reduced by comparison with a fixed straw-walker shaft speed. Furthermore, when selecting the combine settings for a different grain crop, the straw-walker shaft rpm matching this crop is loaded in the information system. This adjustment and instrumentation control of the straw-walker shaft speed to the harvesting and working conditions is being shown for the first time and is therefore to be assessed as a significant further development in straw-walker combines.

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**“LaserLoad” – Chopped crop transfer for self-propelled forage harvester Big X**
Krone, Spelle, Germany, 27-F15

A controlled laser scanner identifies the truck-trailer train driving behind the forage harvester and controls the throw curve. This avoids feed losses at the start of chopping. Automatic parallel loading in normal chopping operation is also possible with this system. The laser head is moved up and down by electric motors resulting in a three-dimensional map. Mathematical algorithms determine the top frame of the collection vehicle and adjust the throw curve accordingly. The automatic loading of the following collection vehicle means an enormous relief of the operator’s workload, especially at the start of harvesting and chopping the crop from the field. At the same time feed losses are minimized, so that in practical operation time and cost savings are achieved and at the same time the workload of the harvester driver is relieved.
**Square baler LSB 1290-ID**  
**KUHN, Schöpsdorf, Germany, 12-C04**

In square balers a higher compaction density has so far been achieved by a higher flywheel mass in the drive train. Kuhn solves the challenge of torque peaks with the “twin pact principle”. Instead of one plunger, two plungers arranged on top of each other compact the crop in two phases. Using a triangular linkage between crankshaft and piston, the lower plunger first compacts the lower part of the harvested material. The upper plunger then follows and compacts the upper part of the package. This interrupts the torque peaks developing and distributes them between two stages. The result is bale densities up to 25% higher with the same flywheel mass. The necessary drive power is comparable with that for the conventional baler LSB 1290.

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**Foldable maize picker with narrow road width**  
**Cressoni F.lli spa, Volta Mantovana, Italy, 13-A38**

As with all harvesting headers on combines, the working widths of maize headers and hence the transport widths are increasing too. In the case of maize headers with customary folding technology the pivot points have so far been arranged horizontally and lengthways to the direction of travel. For maize headers that fold in this way with a row spacing of 0.75 metres, the admissible transport width of 3.5 metres was exceeded for working widths of more than eight rows. The foldable maize picker from Cressoni is different. It is equipped with a new turning mechanism that limits the transport width of ten-row and twelve-row maize pickers without chopper units following the pickers to 3.45 metres. The side section widths are connected with the centre section via a vertical thrust rotating shaft. For transport they are first lifted, then turned through 90 degrees lengthways to the direction of travel and fixed with the divider hoods against each other over the centre section. This new folding mechanism not only limits the transport width, but also improves forward visibility during transport travel and is thus an innovative further development of maize pickers.
Automatic elimination of blockages in the crop flow of loader and combination wagons  
CLAAS, Harsewinkel, Germany, 13-B05

So far, eliminating blockages in the area of the crop intake on self-loading trailers and combinations has always meant more or less labour-intensive and time-intensive interruption of the loading operation. The new system allows the previously manual individual steps of eliminating blockages to proceed automatically. After the overload safeguard responds, the articulated drawbar is raised automatically, the cutter unit base lowered, the pick-up drive uncoupled and the scraper bottom allowed to run forward a little. An acoustic signal then provides the instruction to switch on the pto shaft. The trailer is subsequently restored automatically to ready-to-operate condition. In addition to distinctly higher operating comfort for the driver – connected with a perceptible relief of the workload, especially on long working days – the new system leads to faster and more efficient elimination of blockages. This improves the process and working safety and hence the cost-efficiency of the machine operation. Furthermore, it is gentle on the machine.

Optimizing electronic-hydraulic positive steering for trailer axles  
CLAAS, Harsewinkel, Germany, 13-B05

In positively steered axle systems, the steered axles of the trailer are steered in a predetermined (fixed) ratio depending on the steering angle of the tractor. If the basic setting of the system is selected such that the positively steered axles only carry out relatively small steering movements in relation to the steering angle of the tractor, this has positive results for driving stability at fast speeds, but negative consequences for manoeuvrability of the tractor-trailer train. The tyres are exposed to stronger wear in tight bend radii. If a larger steering angle of the steered axles is realized, this promotes manoeuvrability – but at the cost of driving stability. The solution from Claas now offers speed-dependent automatic adjustment of the positive steering. This is adapted optimally and completely automatically to the driving situation. Accordingly faulty operation is avoided – the system always selects the optimal compromise between manoeuvrability and driving stability. In addition, in tight bends the driver is warned by the articulation angle assistant using an acoustic signal before any collision occurs between tractor and trailer drawbar.
Cornrower
CNH / New Holland, Heilbronn, Germany, 03-C03

Recovering harvest residues after the grain-maize harvest is becoming increasingly significant. This additional biomass can be used as renewable raw material in heating power stations or biogas plants, but also as litter or feedstuff in animal husbandry. The new Cornrower is a chopping corn head attachment that reduces the harvest residue at the maize header with special knives and deposits it in a swath using elbow-shaped deflector panels. This forms the bed for cobs and cleaning tailings from the combine. Accordingly, for the first time a high component of harvest residues can be harvested from the finished swath with low dirt content and without additional labour outlay.

Fliegl Weighing System FWS 2014
Joint development:
Fliegl Agrartechnik, Mühldorf, Germany, 04-B35
LAND-DATA Eurosoft, Pfarrkirchen Germany, 13-D24
Müller-Elektronik, Salzkotten, Germany, 17-B19

Prompt weighing of the crop with appropriate precision, integrated into the agricultural processes, is a key prerequisite for determining the yield in harvesting or for monitoring solid manure spreading or mineral fertilizing. The central property of the ISOBUS-based weighing system FWS 2014 is that it can be calibrated. This solution functions with all task controller-capable ISOBUS displays, so that data are provided for farm management information systems (FMIS). The basis for legally secured billing is formed by an “alibi memory” for the plausibility of all data and coded communication. Further benefits of the overall system include the universal compatibility, data documentation, new functions (such as determining the spreading rate), relieving the workload for the driver/operator and avoiding recording errors.

ECO-Twin front pto shaft for cable and winch drive on forest tractors
Joint development:
ZUIDBERG Transmissions, De Ens, The Netherlands, 01-H124
Kotschenreuther Forst- & Landtechnik, Steinwiesen, Germany, 13-C31

The two-stage front pto shaft transmission can be switched via radio. This makes it possible to work with the front cable winch at low load with either lower engine rpm or higher skidding speed. The engine rpm can also be remotely controlled for fine adjustment. If the front pto shaft is not needed, the automatic function switches the engine off after three minutes.
Exchangeable hydraulic couplings
AGCO Fendt, Marktoberdorf, Germany, 09-D24

Depending on customer wishes, \( \frac{1}{2} \)", \( \frac{3}{4} \)", standard or optionally appropriate flatface couplings (FFC) can be screwed into a universal coupling block. For the first time it is possible for customers to change over or retrofit from standard to flatface couplings. Together with the coupling block and FFC, this secures a leakage-oil-free break-away function and minimizes flow losses and dirt influx into the hydraulic system. Hitching and unhitching under pressure becomes possible and oil losses are minimized.

NUTRI-STAT - „Lab-on-Chip“
MMMM tech support, Berlin, Germany, 21-E03

Fertilizer rates are generally measured on the basis of soil sample analyses. The samples have to be sent to a laboratory for the soil nutrients to be determined – which is expensive and time-consuming. In the manual equipment presented, nutrients (N, P, K) are determined quickly directly on the field (“lab on chip”). For this purpose a watery solution of soil samples or plant extracts is produced and analyzed by special sensors in the equipment. Thanks to the low analysis costs and immediate availability of the results, the number of analyses can be distinctly increased. The developments thus make it possible to enhance the precision of needs-driven fertilizing in agriculture and horticulture.

CLAAS ICT (Implement Controls Tractor)
CLAAS, Harsewinkel, Germany, 13-B05

The ICT (Implement Controls Tractor) software is an electronic system for optimizing the process and performance of tractor-implement combinations. The software uses the assignment parameters of a mounted agricultural machine to control the pulling tractor. Here the system is used for the first time in a square baler/tractor combination and allows the baler to run permanently at optimal performance via an automatic speed control. It is possible to choose between the working modes “maximum performance” and “maximum bale quality”. In the case of faults or overloading of a unit, the pto shaft is switched off automatically. Monitoring of the work components pick-up, knouter, cutter rotor and gatherer in the baler allows the workload to be substantially relieved. The automatic control of driving speed to achieve optimum performance leads to performance improvements of the machine combination and hence to savings in costs.

Optifert Nutrient Sensor
Pessl Instruments, Weiz, Austria, 17-25a

Electronics

“Lab-on-Chip”

“Optifert Nutrient Sensor”

“Optifert Nutrient Sensor”

“Lab-on-Chip”
Concentric zig-zag separator for cleaning grain crops
Ambros Schmelzer & Sohn, Waldershof, Germany, 06-G25

The zig-zag separator from Ambros Schmelzer & Sohn (ID 286) with its further development of previous air separator technology represents an essential improvement of the previous system. Newly developed guiding panels in the implement allow the crop to move in zig-zag course. This allows air to flow through the crop in several streams and clean it intensively. The crucial innovation is not only the modified flow of crop, but the actual loss measurement using piezo sensors. For the first time sensors allow measurement that opens directly in the blower control. Consequently, depending on the crop to be cleaned and on the basis of real-time loss measurement, the air volume of the blower can be controlled. This can lower losses to below 0.05 %, which represents a substantial improvement of the cleaning process.

Silver Medals

„IsoMatch Simulator“ and „IsoMatch InDemo“
Kverneland Group, Soest, Germany, 05-D38

The potential of agricultural machinery and equipment is frequently not exhausted, as so far attention has hardly focused on training in the use of the complex functions outside actual field assignments. With IsoMatch InDemo and IsoMatch Simulator, alternative didactic concepts for using simulation technology for practical operation are offered. In the case of IsoMatch InDemo, an ISOBUS plug is connected on the tractor and allows training or demonstration of a mounted implement via the ISOBUS terminal without having to mount the genuine machine. IsoMatch Simulator brings the functions of the ISOBUS – without any further additional equipment – to the PC at home and allows training of work operations using the GPS data of the farm’s own field. From user training to demonstration by the dealer, both variants increase transparency, save time and are easy to handle.

„IsoMatch InDemo“

„IsoMatch Simulator“
All Innovations

Tractors, Transport

AGCO Deutschland GmbH - Challenger, Marktoberdorf, 09-A15
- MT700 and MT800
AGCO Deutschland GmbH - Valtra, Marktoberdorf, 09-D16
- Valtra S-Series 4th Generation
Joint development:
AGCO Massey Ferguson, Marktoberdorf, 9-A24
AGCO international (AGCO Power), Neuhausen, Switzerland, 9-D15
- Valtra Unlimited
AGCO Deutschland GmbH - Massey Ferguson, Marktoberdorf, 09-A24
- MF 8700 Series CYCLAIR cooling system
AGCO GmbH - Fendt, Marktoberdorf, 09-D24
- Exchangeable hydraulic couplings
- Uniframe
- LED Driving lights with headlight range adjustment
- 300° Windscreen wipers with VSG windscreen
- Rear light through brake light
- Reversible fan
ALTEC SAS, Marthon, 27-F48
- M44MC : GRAB FOR SQUARE BALEs
Anselm Lischka, Frankfurt, 12-B63
- Fieldball
AUSA Center S.L.U., Barcelona, 06-B36
- T 144 H PLUS
Autec srl, Caldogno (VI), 26-E34
- FJR transmitting unit
Autotestgeräte Leitenberger GmbH, Kirchentellinsfurt, 01-G123
- Fuel consumption meter KVM 2012
- Fuel identification kit KIK 01
- Universal digital pressure meter UDD 01
- Ultrasonic bath USB 01
- DFL 10-150 Blow-by gases meter
- EV 30_12VDC Electric vacuum pump
- CRES - CREL Common Rail injection nozzle testing device
- DISU GSI Test rigs for Common Rail injectors & Direct Injection injectors
- LTBG 01 Leakage tester for battery housings of E-, hybrid and fuel cell vehicles
- RFM_03_AB Refractometer for determining AdBlue
- VB 01_AB Vacuum Box for suction extraction of AdBlue
Bosch Rexroth AG, Echingen, 03-B06
- EHC-8 Electrohydraulic lift unit control for tractors up to 80 hp
BPW Bergische Achsen, Wield, 01-B218
- Active hydropneumatic control system
Joint development:
Weber Hydraulik GmbH, Güglingen, 25-L19
- ECO Air Tank
CLAAS - Vertriebsgesellschaft, Harsewinkel, 13-B05
- Automatic swivelling power lift for tillage in crop mode - CLAAS XERION Saddle Trac
Comercial Agrinava S.L., Pamplona, 02-B39
- AIR-ROPS: AUTOMATIC EXPANDABLE ROPS
Continental Aftermarket GmbH, Frankfurt, 01-H311
- cab.let, the innovation console for agricultural machinery
Joint development:
RAFI GmbH & Co. KG, Berg, 01-H230
Cummins Ltd., Darlington, Durham, 01-H118
- QS512
Daimler AG, Wörth, 09-C05
- Unimog
- Synergetic traction drive
- Tyre pressure control system with intuitive operator interface
Ernst Wagner, Hattersing, 01-D113
- KENNFIXX hose marking grip
Fachhochschule Südwestfalen, Soest, Exphodach Pavillon 33 und 02-A09
- Turning device for tyre pressure control system on tractors and agricultural machinery
Fliegl Agrartechnik GmbH, Mühlendorf, 04-B35
- K80 Ball socket with integrated measuring elements for bearing load and tensile force measurements
- Three-point measuring frame with integrated measuring elements for bearing load, lateral force, top link pulling and traction force measurements
- Fliegl ISOBUS Lightbox (FLB)
- Fliegl ISOBUS Frontloader Automation FLA
GDS GmbH, Gleisdorf, 01-C212
- Quick coupling system for agricultural machines
GRAMMER AG, Ansbach, 03-F02
- Adaptive back support
HAWE - Wester GmbH & Co.KG, Wippingen, 04-B10
- Silage transfer loading wagon SUW
Hilken Fahrzeugbau GmbH, Lentze, 01-K316
- PAD
ISEKI-Maschinen GmbH, Meerbusch, 05-B35
- ISEKI TJ 8000-Series (all-round tractors)
Jacobs Service Station Ltd., Enniscrone, Co. Sligo, 27-F57
- Bale Cat
John Deere GmbH & Co. KG, Mannheim, 13-A11
- John Deere Hitch Assist
Kramer Werke GmbH, Pfllendorf, 06-C39
- „Smart Connect” / „Easy Connect” Joint development:
Weidemann GmbH, Diemelsee-Flechtdorf, 06-C25
Landmaschinen Wihonhoff GmbH, Bawinkel, 16-C28
- Twin frame for dolly and centre axle front section
LEEWES & LUDMANN, Essen (Oltdg.), 16-C27
- Twinloader
- V-Typetanker semi-trailer
Merlo SpA, Cervasca, 06-C15
- Merlo Hybrid telehandler - Turbofarmer 40.7 Hybrid
Michelin, Karlsruhe, 09-D05
- MICHELIN AxioBib IF 900/65 R 46 with 2.32 m diameter
- MICHELIN BIBLOAD HARD-SURFACE
RAUCH, Sinzheim, 15-D30
- TIM fertilizer spreader automation
Joint development:
John Deere GmbH & Co. KG, Mannheim, 13-C31
S.A. GOUDRON Freres, Aire sur L’Adour, 04-C08
- Hydrostatic 4WD with steering axle for trailers
Joint development:
POCLAIN Hydraulics, Verbier, France, 01-D117
SAME DEUTZ-FAHR, Lauringen, 04-B27
- Automatic PTO speed change
- Hydraulic engine brake concept
- SDF Agrolink
satconsysytem, Königswinter, 17-A35
- Universal terminal holder
Schippers GmbH, Kerken-Nieukerk, 02-D28
- MS Greende MINI + wall mounting
SEKO S.p.A, Curtarolo (PD), 25-A06
- Chopping-mixing distributing wagon for cattle feeding samurai 7 self power
STERY, St. Valentin, 05-C13
- ECOTRONIK
Traktorenwerk Lindner, Kandl/Tirol, 05-C05
- LINTRAC 90 Joint development:
ZF Friedrichshafen, Friedrichshafen, 03-E19
TRELEBORG Wheel Systems, Erbach, 9-E06
- Trelleborg Progressive Traction (Trademark)
VDS Getriebe GmbH, Wolken, 01-H135
- CVT Modul VTP550
Vredo Dodewaard bv, Dodewaard, 16-B06
- Vredo VVT 600 Joint development:
Zuidberg Transmissions, Ens, Niederlande, 01-H124 and Sauer Bibus GmbH, Neu-Ulm, 01-C201
- Vredo VT5518 32000Z
Weidemann GmbH, Diemelsee-Flechtdorf, 06-C25
- eHoltrac
WIESE GmbH & Co. KG, Petershausen, 04-B53
- OptiTwin
ZUDBERG Frontline Systems B.V., Ens, 03-B19
- ECO-Twin Front PTO
ZUDBERG Tracks B.V., Ens, 03-B19
- E-Frame tracked system
- 3D suspension
### Cultivation

- **AGROTOP KACZMAREK Sp.z.o.o., Ostrzeszow, 21-B16** • Ridge former sator strong
- **AMAZONEN-WERKE, Hasbergen-Gaste, 14-E20** • C-Blade
- **BELLOTA Agrisolutions S.L.U., Legazpi, Guipuzcoa, 11-A12** • INTOP long-life plough points
- **FarmaX Metaaltechniek BV, Denekamp, 11-A22** • FarmaX Super Six high performance digging machine
- **Kverneland Group, Soest, 05-D38** • Transport solution for mounted reversible ploughs • FurrowControl
- **LEMKEN GmbH & Co.KG, Alpen, 11-B43** • LEMKEN working depth control for contour adjustment by depth wheel control independently of traction reinforcement • LEMKEN semi-mounting concept for mounted heavy duty short disc harrows • LEMKEN “Headlandcontrol” for mounted ploughs
- **Maskinfabriken, Randböl, 12-A40** • Rollomaximum 1230
- **NARDI S.p.A., Selci Lama - San Giustino (PG), 11-A38** • Polyvalent harrow with electronic control • Zappettificio Alto Lazio di, Arlena di Castro (VT), 11-E06 • BLADE DRAINING
- **VÄDERSTAD GmbH, Werder, OT Derwitz, 12-B24** • Väderstad CrossCutter Disc
- **Zappettificio Alto Lazio di, Arlena di Castro (VT), 11-E06** • BLADE DRAINING

### Sowing, planting

- **Ag Leader Europe bv, Heumen, 17-E55** • Hydraulic Down Force
- **AGCO Deutschland GmbH - Challenger, Marktoberdorf, 09-A15** • CH 9812 Planter
- **ALL-IN-ONE GmbH, Pürring-Dötting, 25-H21** • ALL-IN-ONE Profi • ALL-IN-ONE Profi eight-row • Vario ridge former with multifunction ridge
- **Alois Pöttinger, Grieskirchen, 27-C30** • IDS intelligent distribution system • PCS precision combi seeding

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### The Innovations comission

**Till Belau,** Kuratorium für Technik und Bauwesen in der Landwirtschaft e.V. KTBL, Darmstadt
**Prof. Dr. Hamdi Bilgen,** Faculty of Agriculture, Bornova-Izmir (TR)
**Prof. Dr. Stefan Böttinger,** Uni Hohenheim, Stuttgart
**Christoph von Breitenbuch,** Agrar BG Leine-Solling GbR, Parensen
**Dr. Joachim Brunotte,** Thünen-Institut für Agrar-technologie, Braunschweig
**Dr. Lars Fliege,** Agrargesellschaft Pfließelbach mbH, Pfließelbach
**Prof. Dr. Ludger Freichs,** TU Braunschweig
**Peter-Eric Frobose,** Frobose-Landbau, Lage
**Alfons Fübbeker,** Landwirtschaftskammer Niedersachsen, Oldenburg
**Heinz-Günther Gerighausen,** Landwirtschaftskammer NRW, Kleve
**Dr. Hans-Werner Griepentrog,** Universität Hohenheim, Stuttgart
**Bahne Hansen,** MVB GmbH, Fahrenwalde
**Prof. Dr. Eldert van Henten,** Farm Technology Group Wageningen UR & Wageningen UR Greenhouse Horticulture, Wageningen (NL)
**Prof. Dr. Thomas Herlitzius,** TU Dresden
**Dr. Reiner Hofmann,** Kuratorium für Waldarbeit und Forsttechnik e.V., Groß-UMstadt
**Prof. Dr. Hermann J. Knechtges,** HFWU Nürtingen, Nürtingen
**Prof. Dr. Karlheinz Köller,** Universität Hohenheim, Stuttgart
**Thomas Korte,** Surwold
**Harald Kramer,** LWK Nordrhein-Westfalen, Münster
**Dr. Hans-Jörg Nußbaum,** ART Reckenholz-Tänikon, Ettenhausen (CH)
**Dr. Ovidiu Ranta,** USAMV Cluj-Napoca / Catedra III Mecanizare, Cluj-Napoca (RO)
**Prof. Dr. Vito Reckleben,** Fachhochschule Kiel, “Fachhochschule Kiel“ Osterfeld
**Wilfried Richarz,** LWK Nordrhein-Westfalen, Bonn
**Prof. Dr. Arno Ruckelshausen,** FH Osnabrück
**Doniyor Sattarov,** M. Sc. Justus-Liebig-Universität, Gießen
**Dr. Matthias Schick,** Eidg. Forschungsanstalt für Agrar-wirtschaft und Landtechnik, Ettenhausen (CH)
**Dipl.-Ing. Henning Schoof,** Julius Kühn-Institut (JKI) Braunschweig
**Dipl.-Ing. Dirk Rautmann,** LUK Nordrhein-Westfalen, Bonn

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**Franz Nydegger,** ART Reckenholz-Tänikon, Ettenhausen (CH)**
**Dipl.-Ing. Heinrich Prankl,** BLT Wieselburg Lehr- und Forschungszentrum Francisco Josephimum, Wieselburg (A)**
**Dr. Rolf Peters,** Versuchsstation Dethlingen, Munster
**Prof. Dr. Jacek Jan Przybyl,** Universtytet Przyrodniczy w Poznaniu Wydzial Rolnicwta i Bioinzynerii, Posen (PL)
**Prof. Dr. Thomas Rademacher,** Fachhochschule Bingen, Bingen a. Rh.
**Dr. Ovidiu Ranta,** USAMV Cluj-Napoca / Catedra III Mecanizare, Cluj-Napoca (RO)
**Dipl.-Ing. Dirk Rautmann,** Julius Kühn-Institut (JKI) Braunschweig
**Prof. Dr. Yves Reckleben,** „Fachhochschule Kiel“ Osterfeld
**Wilfried Richarz,** LWK Nordrhein-Westfalen, Bonn
**Prof. Dr. Arno Ruckelshausen,** FH Osnabrück
**Doniyor Sattarov,** M. Sc. Justus-Liebig-Universität, Gießen
**Dr. Matthias Schick,** Eidg. Forschungsanstalt für Agrar-wirtschaft und Landtechnik, Ettenhausen (CH)
**Dipl.-Ing. Henning Schoof,** Dörentrup
**Dr. Heinz Sourell,** Schwülper OT Lagesbüttel
**Dr. Klaus Spohrer,** Universität Hohenheim, Stuttgart
**Prof. Dr. Karl Wild,** HTW Dresden (FH)
**Prof. Dr. Klaus Ziegler,** Verband Fränkischer Zuckerrübenbauern e.V., Eibelstadt
Fertilising

AGCO Deutschland GmbH - Challenger, Marktberdorf, 09-A15
• RoGator RC600C
Agrio s.r.o., Kremze, 15-E05
• HydroControl – control block
Joint development:
• Gunter Till GmbH & Co. KG, Helmond, 01-B102
agrotop GmbH, Ottertrabbing, 15-C30
• easyFlow
altek GmbH, Rottenburg-Hailfingen, 15-C33
• Elektra

AMAZONEN-WERKE, Hasbergen-Gaste, 14-E20
• Matrix Pro - Tyre pressure control system for Cirrus 03
APV - Technische Produkte, Hützelsdorf, 15-D04
• Seeding bar SB1500
• Machine carrier MT3
Einböck GmbH & Co KG, Dorf a.d. Pram, 11-B06
• PNEUMATICSTAR-PRO 1200
Grimme Landmaschinenfabrik, Damme, 25-F11
• CompoStar compost spreader for potato planting machines
HORSCH Maschinen GmbH, Schwandorf, 12-C47
• Precision seedling meter for grain and oilseed rape
Kverneland Group, Soest, 05-D38
• VISIONcontrol
LEMKEN GmbH & Co KG, Alpen, 11-B43
• LEMKEN trinoline control per GPS
Magquinaria Zocapi S.L.
Las Pedroneras (Cuence), 21-A04
• Union device between spoon and their support in a garlic planter
Maschinenfabrik SCHMOTZER GmbH, Bad Windsheim, 15-C18
• Schmotzer Expansion frame - seeding and hoeing up to 18 m working width for use on large areas
MaterMacc S.p.A., San Vito Al Tagliamento (PN), 12-A37
• MATERMACC MS TWIN PLANTER
MONOSEM, Altheim b. Essenbach, 11-A52
• MonoV tip - rapid removal
• Monoshox®.EU suspension with shock absorber
Vredo Dodewaard bv, Dodewaard, 16-B06
• Vredo Agri Air

Dura Products Sarl, Fay sur Lignon, 03-A25
• SecuriTank
EURO-P Kleindienst GmbH, Bad Schwartau, 23-G29
• Accelerator slurry pump for filling drums
Flieg Agrartechnik GmbH, Mühldorf, 04-B35 und 22-F19
• Manure Flow Control
Joint development:
• John Deere Vertrieb, Bruchsal, 13-C30
GREGOIRE BESSON GmbH, Bad Essen, 11-B21
• RABE RTS (Ready To Spread)-System for fertilizer spreaders
Joint development:
• Fa. Sulky, Noyal Sur Vilaine Cedx, Frankreich, 11-C12
Hugo Vogelsang, Essen (Oldb.), 16-C43
• SynCult
• ExaCut ETX
• FlowPerformanceMonitor
• VX 215 – 320 Q
• 3-gear shift transmission
John Deere GmbH & Co. KG, Mannheim, 13-A11
• John Deere Organic Nutrient Management System
Joint development:
• Kotte Landtechnik, Rieste, 15-A11
Flieg Agrartechnik GmbH, Mühldorf a. Inn, 04-B15
• Vervaat, Bievler, Niederlande, 17-E10
Josef Kotte, Rieste, 15-A11
• FlowCheck
Joint development:
• Hochschule Osnabrück
• COALA (competence of applied agricultural engineering), Osnabrück, 2-C15
• SmartControl for iPad
• MultiSteeringSystem (MSS) with TrueTracker function
Joint development:
• Tridare Holdings GmbH / Agriculture, Raunheim, 17-E49
JOSKIN S.A., Soumagne, 04-A42
• Smart Pressure Management
Kverneland Group, Soest, 05-D38
• SpreaderSetApp
Landmaschinen Wienhoff GmbH, Bawinkel, 16-C28
• Outflow test of fertilizer tubes for maize under-root fertilizing and for direct incorporation
• Initial dosage with liquid manure for under-root fertilizing of maize
PEECON, Etteln-Leur, 25-D10
• Spreading system for slurry tanker
RAUCH, Sinzheim, 15-D30
• AXMAT: Automatic spreading pattern adjustment for a twin disc spreader
Joint development:
• MISO Medientechnik und Ortung GmbH, Bad Münstereifel, 17-A26
• Large-area precision spreader
RAUCH AXENT 100.1
Joint development:
• Streamaster Maschinenbau GmbH, Egglikofen, 15-E42
SULKY-BUREL S.A.S., Chateaubourg Cedex, 11-C12
• TRIBORD 3DI: intelligent fertilizing at field edges
Veenhuis Machines b.v., Raalte, 05-C28
• Online registration of slurry transport via NIRS
• Hygienizing of organic fertilizers
• Duo-Injection
Vredo Dodewaard bv, Dodewaard, 16-B06
• Vredo 12-meter slurry injector with Vogelsang distributor
• Vredo Electrically Driven Slurry Cutting Separator
ZUNHAMMER GmbH, Traunreut, 16-C47
• ZUNIX-TRAC 16
• PROFIFANT 30

Plant protection

AGCO Deutschland GmbH - Challenger, Marktberdorf, 09-A15
• RoGator RC600C
Agrio s.r.o., Kremze, 15-E05
• HydroControl – control block
Joint development:
• Gunter Till GmbH & Co. KG, Helmond, 01-B102
agrotop GmbH, Ottertrabbing, 15-C30
• easyFlow
altek GmbH, Rottenburg-Hailfingen, 15-C33
• Elektra

AMAZONEN-WERKE, Hasbergen-Gaste, 14-E20
• Smartfill – Automatic filling of plant protection sprayers from large packages
Joint development:
• BASF SE, Limburgerhof, 17-D44
• HELM Software, Ludenburg, 17-D43

Einböck GmbH & Co KG, Dorf a.d. Pram, 11-B06
• ROW-GUARD
• ROTARYSTAR
• AEROSTAR-EXACT

Herbert Dammann GmbH, Buxthude-Hedendorf, 15-C12
• Curves – Control – Application C-C-A
• Multi-Fluid-System MF5
• Sensor-assisted nozzle control system S-D-S
Joint development:
• FRITZMEIER Umwelttechnik GmbH & Co. KG, GroßBellenдорf, 15-D16

HORSCH Maschinen GmbH, Schwandorf, 12-C47
• Horsch boom guide
KONGSKILDE Industries A/S, Sora, 05-A38
• Kongskilde Robotti
Joint development:
• Trimble Germany GmbH, Raunheim, 17-B47
Kverneland Group, Soest, 05-D38
• Multi-Tank-Management-System
LEMKEN GmbH & Co.KG, Alpen, 11-B43
• LEMKEN Swingcut, active shock absorbing for yawing movements in sprayer booms of plant protection equipment

PLA S. A., Las Rosas, 15-D48
• MAP4000 SPRAYER WITH COMPOSITE FIBER CARBON 36 m WIDTH

STIHL Vertriebszentrale, Dieburg, 26-G20
• STIHL SR 200-D

VECTORFOG (BROWN Y KOREA), Si Heung City, Kyungki Province, 14-G34
• Vectorlog™ C150 ULV Fogger

John Deere GmbH & Co. KG, Mannheim, 13-A11
• John Deere Integrated Harvest Automation

Linamar Hungary Zrt., Oroszhaza, 13-C56
• Cornado 16 row corn header

MITAS a.s., Prag, 09-B06
• 900/70R32 CHO SVT, front tyre for big combine harvesters

ROCHLING Lepa Papertech, Oettingen, 11-B04
• ROBALON Ahrenheber [Easy-Fix]

Root crop harvest

AGROTOP KACZMAREK Sp.z.o.o., Ostrzeszów, 21-B16
• HARVESTER SATOR DOUBLE MAX

Grimme Landmaschinenfabrik, Damme, 25-F11
• AirSep pneumatic trash separator
• Mechanical axle cleaning shaft for trailed and self-propelled potato harvesters
• Comfort Drive active damping system for potato lifters

HOLMER Maschinenbau GmbH, Schierling / Eggmühl, 07-A24
• HOLMER Automatic Depth Control ADC
• HOLMER Driveline Management System DMS

MECHATEC bv., Tolledeweek, 24-A14
• Mechatex Boxmaster case stacking system including filling, washing, emptying

ROPA, Herrnegersdorf, 25-G12
• Deloicator with individually adjustable cleaner rotor rpm
• Automatic folding unit for the euro-panther beet lifter*
• Anti Shake and Balance System*
• Chassis concept with track widening for greater personal and soil protection
• Comfort Harvesting plus Autoadjust
*Joint development:
Rothardt GmbH & Steuerungstechnik, Hungen, 17-A28

Grain harvest

CASE IH, Heilbronn, 05-B15
• Ergonomic display and accessory rail - Case IH combine cab
• Continuous grain tank level measurement - Case IH
• Noise level reduction technology – combine cab

CLAAS - Vertriebsgesellschaft, Harsewinkel, 13-B05
• GRAIN QUALITY CAMERA for combines CLAAS LEXION 760, 770, 780
• Wind and incline detector - Automatic throw direction adjustment for radial distributor on CLAAS LEXION combine
• Automatic air pressure control system for combine rear axle - CLAAS LEXION 770, 780

CNH / NEW HOLLAND, Heilbronn, 03-D06
• Opti Speed - variable straw walker rpm
• Power Feed Roll - with stone trap
• Dual Stream Header
• SmartTrax™ with Terraglide

Cressoni Fili spa, Volta Mantovana (MN), 13-A38
• CORN HEAD 3,45 M-12

John Deere GmbH & Co. KG, Mannheim, 13-A11
• John Deere Integrated Harvest Automation

BioG Biogastechnik GmbH, Utzenaich, 22-C13
• Biochopper

CICORIA s.r.l., Palazzo San Gervasio (PZ), 27-C31
• Big Baler HD1270

CLAAS - Vertriebsgesellschaft, Harsewinkel, 13-B05
• Automated blockage elimination in crop flow on self-loading trailers/ combination wagons
• Optimized electronic-hydraulic positive steering for trailer axles
• CLAAS AQUA NON STOP Comfort – automatic knife sharpener
• Automatic articulated drawbar control for CLAAS CARGOS dual-use wagon

CNH / NEW HOLLAND, Heilbronn, 03-D06
• Intelli Feed - Intelligent working speed control depending on bale form and workload for big balers and tractors

EL-NO OY AB, Bennäs, 27-F07
• ELHO Duett 7300 AutoBalance
• ELHO Arrow 10500 Delta
• ELHO Arrow NK 10500 TwinTrac

FALC S.r.l., Faenza (RA), 12-A11
• FAST

FELLA-WERKE GmbH, Feucht, 09-B24
• beMOVE
• CamControl

Flieg Agrotechnik GmbH, Mühldorf, 04-B35 and 22-F19
• FBM (Fliegl Bale Manager ISOBUS)

KUHN Maschinen-Vertrieb GmbH, Gerthin, 12-C04
• LSB 1290 iD
• STABILIFT
• STABIDRIVE
• WS 320 BIO

Kverneland Group, Soest, 05-D38
• FlexiSwat

NAF Neunkirchner, Neunkirchen a. Br., 1-F21
• Centrally driven steering axle with adjustable axle width for self-propelled harvesting machines

Ny Vraa Bioenergy I/S, Tystrup, 23-G04
• JF Energy Harvester

RECK-Technik GmbH & Co. KG, Betzenweiler, 27-A50
• Throw limiter

ROPA, Herrnegersdorf, 25-G12
• Renewable Raw Materials Mouse joint development:
Technische Universität München - Wissenschaftszentrum Weihenstephan Studienfakultät Agrar- und Gartenbauwissenschaften, Freising, 02-B18
Special crops

Grime Landmaschinenfabrik, Damme, 25-F11
- "Easy-Lift" novel clamping belt holder for carrot harvesting machines

Oliver di Signorini Luciano, Engazzà di Salizze (VR), 21-F02
- ROTOSARK®

Forestry and others

Aebi Schmidt Holding AG, Zürich, 26-D21
- CSP
- Wasa 300+
- ViaTrac Aebi VT 450 Vario

BioG Biogastechnik GmbH, Voronezh, 05-A38
- Fiber laser separator

WELTEC BIOPower GmbH, Vechta, 22-A04
- MULTImix

Zawod Kobzenko Ltd., Sumi region, Lyapa-Dolyna, 04-C53
- Ground-Based Reloading
- Bunker BNP-12 "Kovcheg"

Voronezhsmash, Voronezh, 05-A38
- Fiber laser separator

STIHL Vertriebszentrale, Dieburg, 26-G20
- STIHL AR 900
- STIHL HLA 65
- STIHL HSA 86
- STIHL HTA 85
- STIHL MS 362 C-M
- STIHL MS 661 C-M
- STIHL MSA 160 T

Zuidberg Transmissions, Ens, 01-H124
- 2-stage front PTO for cable winch PTO on forest tractors

Joint development:
- Kotschenreuther Forst- & Landtechnik GmbH & Co.KG, Steinwiesen, 13-C31

Kotzenreuther Forst- & Landtechnik

All Innovations

Agritechnica Innovations Magazine 2013

Storage, conservation

AB AKNOR - Maskiner, Järpas, 06-G23
- Akrom Svegma RC recirculating dryer with active cleaning of air

AGRONIC OY, Haapavesi, 27-D24
- TAWI

Alois Pöttig, Grieskirchen, 27-C30
- Powercut
- Pick-up 2360 super large

Ambros Schmelzer & Sohn, Waldershof, 06-G25
- Concentric zig-zag sifter for cleaning grain crops

BELLOTA Agrisolutions S.L.U., Legazpi, Guipuzcoa, 13-C31
- Silo monitoring online

JENZ GmbH, Petershagen, 26-H20
- GMHS 100

Joint development:
- Lehrneiz Institute für Agrartechnik Potsdam-Bornim e.V., Potsdam, 02-C18

Jin dabeikauen bv, Echt, 26-D13
- Celest
- Hedge Profi

Lochner Forsttechnik KG, Inningen, 26-J18
- MUS-MAX Wood-Terminal 12 Z

POSCH GmbH, Velden/Vils, 26-K20
- SmartCut

Reil & Eichinger GmbH & Co. KG, Nittenau, 26-B21
- Branch pusher

Electronic Systems

Anedo Ltd., Eydelstedt - Barnstorf, 17-B42
- ANEDO UT

BERNARD KRON GmbH, Spelle, 27-F15
- "Auto Calibre" – Automatic harvest calibration for self-propelled Big X forage harvester

Carl Zeiss Microscopy GmbH, Jena, 17-A38
- Corona extreme

DELOX Messtechnik GmbH, Winnenden, 06-E49
- SICon RS

DIGITROLL Kft., Hajdúszoboszló, 17-B03
- XEDSYSYSTEM - Seed Row

ERICH JAEGER GmbH + Co. KG, Friedberg, 01-C310
- ISO BUS Breakaway Connector (IBBC) and 4P E-plug

ExTox Gassmess-Systeme GmbH, Unnà, 21-C35
- interchangeable transmitter module for biogas analysis

FliegL Agrartechnik GmbH, Mühldorf, 04-B35 and 22-F19
- FliegL Weighing System FWS 2014

Joint development:
- LAND-DATA Eurosoft, Pfarrkirchen, 13-D24 und
- Mühldorf, 04-B35 und 22-F19

FliegL Agrartechnik

Grime Landmaschinenfabrik, Damme, 25-F11
- Row Runner

Hansenhof electronic GmbH, Reifland, 17-A18
- Farm display retis

HORSCH Maschinen GmbH, Schwandorf, 12-C47
- Level-dependent traction reinforcement

Kverneland Group, Sand, 05-D38
- Isomatch InDemo
- Isomatch Simulator
- iM Farming Savings Calculator
- Isomatch OnTime
Lykkekontronic A/S, Lögstör, 17-B30
• Wireless Total Machine Control via Smartphone devices
• Field Agent - Virtual Field Access* and Support for Ag Implements
• “All in One” Machine Control* for Self Propelled Sprayers
  *Joint development: Househam Sprayers Ltd, Leadenham, Lincoln, Großrheintien, 15-E48

MC ELEKTRONICA s.r.l., Fiesio Umbertiano (RO), 17-B15
• Row shut-off valve and integrated blockage sensor PMC-23-3V

MMM tech support GmbH & Co. KG, Berlin, 21-E03
• NUTRI-STAT - „Lab-on-Chip“ Basic & Advanced

Müller-Elektronik GmbH & Co. KG, Salzkotten, 17-B19
• ISOBUS MULTI-Control

NARO, Ibaraki, 08-C03
• AG-PORT
  *Joint development: Japan Agricultural Machinery Manufacturers Association (JAMMA), Tokyo, Japan, 08-C03

PESST INSTRUMENTS GmbH, Waiz, 17-A25
• Optifert Nutrient Sensor

SATCON SYSTEMS GmbH, Königshofen in Bayern, 17-A35
• ISO-LAN

SCHELLER GmbH, St. Ruprecht/Raab, 17-B12
• humimeter BMA

STEP Systems GmbH, Nürnberg, 17-A25
• COMBI 5000

STW Sensor-Technik, Kaulbeuren, 17-A34
• powerMELA® function library

TERMOREG, spol. s r.o., Prušánky, 06-F43
• SZT – system for temperatures measuring of bulk materials (grain) in the bins and silos
• STZH - Measuring of the temperature and humidity of stored material in silos

Unicom Ltd., Szkodzieszew, 17-B16
• Grain Patrol

Software

Ag Leader Europe bv, Heumen, 17-E55
• SMS™ Advanced Water Management Edition
• Wireless Connectivity
• New Display - to be named
• Intellislope® Tile Plow Control

AGCO Deutschland GmbH - Challenger, Marktoberdorf, 09-A15
• Tillage Control

AGCO Deutschland GmbH - Valtra, Marktoberdorf, 09-D16
• Controlled Traffic

AGCO Deutschland GmbH - Massey Ferguson, Marktoberdorf, 09-A24
• Tyre Pressure Maximiser App

AGCO GmbH - Fendt, Marktoberdorf, 09-D24
• VarioDoc and Agcommand

AgDNA Pty Ltd, Shailer Park, 17-C34
• AgDNA

Agrarbüro & Service S. Krostitz, Eilenburg, 27-F50
• Field24

AGRI CON GmbH, Ostrau OT Jahn, 17-C40
• Agri Base

AGRI-REND Inc., Red Deer, SK, 12-A12
• PowerZones and ADS

BEHA Innovation GmbH, Clopphert, 01-C13
• Ergo welding tool

Bernard Krone GmbH, Spelle, 27-F15
• “LaserLoad” – Automatic crop transfer at start of chopping for self-propelled Big X forage harvester

BM12 Software as a Solution GmbH, Berlin, 17-E39
• Trecker.com

BRIRI GmbH, Bawinkel, 17-D06
• GPS-controlled section adjustment for slurry spreading
  *Joint development: geo-konzept – Gesellschaft für Umweltplanungssysteme mbH, Adelechlag, 17-E47

CARRE S.A.S., St. Martin-des-Noyers, 16-C39
• SERENITY
  *Joint development: HYDROKIT, LE POIRÉ SUR VIE, Frankreich, 16-C39

CLAAS - Vertriebsgesellschaft, Harsewinkel, 13-B05
• Online-Simulator for operating harvesting machinery and tractors
• CLAAS ICT – Electronic system for optimizing process and performance of tractor-implement combinations

Competence Center ISOBUS e.V., Wallenhorst, 27-F40
• CCI.Control Mobile*
• CCI.Courier*

DACOM BV, Emmen,
• Dacom Yield Manager

Dreyer & Timm GmbH, Fintel, 17-B47
• scomsens

GEOSYS SA, BALMA Cedex, 17-C37
• CROPtical™
• R7 Tool

Green Energy, Mittterteich, 22-F15
• “Green Energy CHIP-Tuner” exhaust heat exchanger

Grimme Landmaschinenfabrik, Damme, 25-F11
• Grimme Live Expert
  *Joint development: Anendo Ltd., Eydeke/keht, 17-B42

HORN GmbH & Co. KG, Hunsberg, 02-F28
• HDR per diesel pump – your solution for high flow rates!
• Urea pump HDM eco AUS 32 Indoor

HORSCH Maschinen GmbH, Schwandorf, 12-C47
• Horsch Maestro App

John Deere GmbH & Co. KG, Mannheim, 13-A11
• MyJohnDeere.com

LAND-DATA EUROSOFT, Pfarrkirchen, 13-D24
• AO eGenius

LEYL International N.V., Maassluis, 27-E02
• Lely 4C InHerd mobile farm management system

Meier - Brakenberg, Extball, 02-D20
• Mobile frequency-regulated high-pressure cleaner MBHF
• Cleaning station MBHFSTBOX

MEKRA Lang GmbH & Co.KG, Egggersheim, 01-H06
• Monitor MCM-5029

Miedema B.V., Winsum, 24-A04
• Miedema HDMI GPS Planting Control

Reichhardt GmbH, Hungen, 17-A28
• RIMS

Trimble Germany GmbH, Rainheim, 17-E49
• Trimble® RangePoint™ RTX and xFill
• Trimble® TMX-2050™ display

VÄDERSTAD GmbH, Werder OT Derwitz, 12-B24
• Väderstad V-App

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Project management:
Agnes Gajdzinski

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Where you can find the Gold and Silver Medals:

**Gold Medals**

01 CLAAS - Vertriebsgesellschaft, Harsewinkel, 13-B05
- Online-Simulator for operating harvesting machinery and tractors

02 Grimme Landmaschinenfabrik, Damme, 25-F11
- AirSep pneumatic and trash separator

03 Merlo SpA, Cervasca, 06-C15
- Merlo Hybrid telehandler - Turbofarmer 40.7 Hybrid

**Silver Medals**

05 AGCO GmbH - Fendt, Marktberdorf, 09-D24
- Exchangeable hydraulic couplings

06 agrotop GmbH, Obertraubling, 15-C30
- easyFlow

07 Alois Pöttinger, Grieskirchen, 27-C30
- PCS precision combi seeding
- IDS intelligent distribution system

08 Ambros Schmelzer & Sohn, Waldershof, 06-G25
- Concentric zig-zag separator for cleaning grain crops

09 Bernard Krone GmbH, Spelle, 27-F15
- LaserLoad® - Automatic crop transfer at the start of chopping for self-propelled forage harvester Big X

10 CLAAS - Vertriebsgesellschaft, Harsewinkel, 13-B05
- Grain Quality Camera
- Wind and slope incline sensor for radical spreader
- Automatic elimination of blockages in the crop flow of loader and combination wagons
- Optimizing electronic-hydraulic positive steering for trailer axles
- Automatic wet grinder AQUA NON STOP COMFORT
- CLAAS ICT (Implement Controls Tractor)

11 CNH / NEW HOLLAND, Heilbronn, 03-D06
- Opti Speed - variable straw walker rpm
- Cornrower- Subsurface chopper with swath placement on maize pickers

12 Cressoni Flli spa, Volta Mantovana (MN), 13-A38
- CORN HEAD 3,45 M-12

13 Fliegl Agrartechnik GmbH, Mühldorf, 04-B35
- Fliegl Weighing System FWS 2014
- Joint development: LAND-DATA Eurosoft Pfar Kirchen, 13-D24

14 Herbert Dammann GmbH, Buxthude-Hedendorf, 15-C12
- Curves-Control-Application C-C-A

15 HORSCH Maschinen GmbH, Schwadorf, 12-C47
- Boom guidance
- Recision drill meter for grain and oilseed rape

16 John Deere GmbH & Co. KG, Mannheim, 13-A11
- John Deere Hitch Assist
- John Deere Smart Irrigation System

17 Josef Kotte, Rieste, 15-A11
- FlowCheck
- Joint development: Hochschule Osnabrück COALA, Osnabrück, 02-C15

18 LEMKEN GmbH & Co.KG, Geflin, 12-C04
- LSB 1290 ID

19 KUHN Maschinen-Vertrieb GmbH, Kundl/Tirol, 05-C05
- Hydraulic engine brake concept

20 Kverneland Group, Soest, 05-D38
- Isomat InDemo
- IsoMatch Simulator

21 MM tech support GmbH & Co. KG, Berlin, 21-E03
- NUTRI-STAT - „Lab-on-Chip“ Basic & Advanced

22 PESSL INSTRUMENTS GmbH, Weiz, 17-A25
- Optilert Nutrient Sensor

23 SAME DEUTZ-FAHR, Lauringen, 04-B27
- Automatic PTO speed change
- Hydraulic engine brake concept

24 Traktorenwerk Lindner, Kundl/Tirol, 05-C05
- LITRAC 90
- Joint development: ZF Friedrichshafen AG, Friedrichshafen, 03-E19

25 Zuidberg Transmissions, Ens, 01-H124
- ECO-Twin front pto shaft
- Joint development: Kotschenreuther Forst- & Landtechnik GmbH & Co. KG; Steinwiesen, 13-C31