

SIMA INNOVATION AWARDS 2021

PRESENTATION OF NOMINEES BY CATEGORY

CATEGORY 1 : SOILS AND CROPS

AGROWIN INTERNATIONAL / E.V. DÉVELOPPEMENT (FRANCE)

The first scalper-seeder with independent rows on the market.

Commercial name: **SCALPWIN®**

AGROWIN® International addresses the needs of today's and tomorrow's farmers with its new patented concept, the Scalpwin® scalper-seeder! Equipped with 3 or 4 independent rows of Ø72 cm discs, the Scalpwin® performs a complete superficial scalping, in 1 single pass, at a depth of about 2 cm.

Each row of discs has a double adjustment:

- Translation adjustment, made easier by the presence of wear indicators on each disc.
- Depth adjustment by means of a magnetic key, every 7mm.

Double tandem wheels at the front and a roller at the rear provide depth control for good ground tracking. Versatile and modular, the Scalpwin® performs the following operations:

- Stale seedbed: the Scalpwin® allows for fine soil preparation thanks to its large, closely spaced discs. At the rear, its roller establishes good soil-seed contact, promoting the emergence of weed seedlings before the next crop is planted.
- Mechanical weeding: in the scalping version, the Scalproll (ring roller + a series of discs), is used to blow the soil away to expose the root system so that it dries out (reduces the use of phytosanitary products)
- Seeding: Combined with the SEMWIN® seed drill, the seeds and/or fertilisers are directed to the bottom of each disc trench.

They are then covered by neighbouring discs pushing soil over them. The roller compacts the soil.

Contact

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AMAZONE (FRANCE)

Spot-accurate fertiliser application.

Commercial name: **FertiSpot**

FertiSpot for Precea precision air seeder. Spot-accurate fertilisation ensures that the plant receives a supply of nutrients during its growth. With today's precision fertilisation systems, the fertiliser is applied continuously next to and below the level of the sowing line. However, the fertiliser in the areas between the seeds may not be fully absorbed and may not benefit the plant completely. For sowing maize at 75 cm and 100,000 grains/ha, the seed spacing is barely 13 cm. For sowing at 50

cm, the seed spacing is 20 cm. In this case, part of the fertiliser does not benefit the plant (loss of fertiliser as there is a risk of leaching before the roots reach the intermediate zone). is transferred from the fertiliser metering system to the FertiSpot fertiliser portioning unit. The fertiliser is pushed together by a dosing finger and delivered as a portion. The fertiliser portion then passes through the shaft of the burier discs and is deposited exactly level with and below the seed. The rotation speed of the spoon finger is synchronised with the forward speed and the seed rate by electronics. The FertiSpot concept allows all types of fertiliser to be spread and is compatible with high forward speeds.

Contact

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EVRARD (FRANCE)

The EVRARD R-ACTIV air-controlled spraying circuit.

Commercial name: **R-ACTIV**

The EVRARD R-ACTIV R-activ spraying circuit is a compact circuit concept - very fast because it is air-controlled - from the regulation to the control of each function. The operations are performed by the CommandBox 7 terminal located at the sprayer's operating station or by the tractor controls in the cab. Its electro-pneumatic valves are positioned in line and in a logical order to facilitate circuit cleaning and rinsing. This circuit automates function changes

seamlessly with the control valve acting as a clutch and guaranteeing the operator's safety. The pneumatic servo control valve, located on the pump outlet, optimises the flow rate of the pump(s) and permits very large changes in flow rates during modulation for example. Its operating principle also protects the circuit because its pressure is regulated for each function. Several pump drive options are available to power the R-Activ, PTO or hydraulic circuit equipped with the HARDI diaphragm pump alone or coupled. The use of two diaphragm pumps on the R-Activ circuit will give the user the possibility to combine the two pumps for a faster filling rate or dissociate them for the purposes of continuous dilution (tank

rinsing simultaneous to the spraying operation).

Contact

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CATEGORY 1 : SOILS AND CROPS (cont'd)

SKY AGRICULTURE (FRANCE)

A solution for the agro-ecological transition.

Commercial name: **EasyDrill Ferti-sem Pro II E-drive Premium**

In recent years, a number of measures have been put in place to encourage farmers to be less dependent on pesticides by reducing the use of plant protection products. In these circumstances and to respond to the agro-ecological evolution, SKY Agriculture has developed a comprehensive solution to support farmers in this transition process.

- Easydrill 4 hopper seed drill
- VIVEA training
- Education through agronomic training
- Supporting farmers (Technical Assistance)
- Direct Seeding and soil conservation techniques.

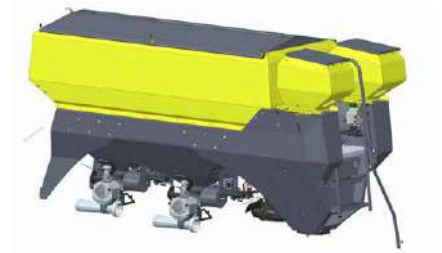
By presenting the new versions of the Easydrill (SD/TCS), SKY Agriculture is the first manufacturer to offer seed drills equipped with 4 electrically driven hoppers controlled by a single ISOBUS terminal. In many respects, the Easydrill seed drill with 4 independent hoppers provides real technical solutions to the majority of farmers. The 4 high-precision metering units

are distributed two by two in two different injectors and placed on the same seeding line with the possibility of operating at different depths on each element.

Contact

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SMART-APPLY® (USA)

Spraying system based on the LiDAR which identifies canopy and foliage density with precision; then controls each nozzle individually.

Commercial name: **Smart-Apply® Intelligent Spray Control System™**

The LiDAR based Smart Apply® Intelligent Spray Control System™ which adapts to any air blast sprayer, identifies canopy and foliage density with precision; then controls each nozzle individually to achieve accurate density-based spraying. This system can control up to 20 nozzles per side while scanning 120,000 points per second with an accuracy of .5mm per scan. The system

also shows the operator where sprayed while spraying using Google Maps overlays :

- Prevents spraying the same row twice
- Can target spray plants or trees based on user selections, such as minimum tree height, width or density
- Can count and inventory trees by size while spraying and saved to a database in the cloud
- Can compare density heat maps from previous sprays
- Can track density per row or field vs. yield
- Provides coverage maps for government reporting

All this without additional expense of hiring external services such as drones. Other uses are variable rate chemical thinning based on flower density and variable rate liquid

fertilizing based on real-time or historic plant/tree density.

Contact

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STECOMAT (FRANCE)

Sowing and weeding robot.

Commercial name:
FARMDROID FD20

FARMDROID FD20 is the first robot in the world capable of sowing and then mechanically weeding between plants and rows. Unlike other systems, the FarmDroid FD20 does not depend on a camera for crop or weed recognition, as cameras are not optimal for sown crops. This is because the seeds all grow individually and need to be protected from weeds when they are very small. The FarmDroid FD20 instead uses high-precision GPS technology to sow the crops. The robot records the position

of each individually sown seed from the sowing process, so it knows where to weed with millimetre accuracy. Weeding between rows is performed by FarmDroid's patented weeding blades. Weeding in the row between each seedling is carried out with a plowshare driven by a tried and tested electric motor. The FarmDroid FD20 does not need to be recharged externally or manually. It is operated by a battery bank connected to four solar panels. These batteries provide enough energy for the robot to operate up to 24 hours a day with no CO2 emissions. If it runs out of power, it will stop and wait for sunrise and then resume work automatically. The FarmDroid FD20 carries the CE hallmark and is authorised to work autonomously.

Contact

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SIMA INNOVATION AWARDS 2021

PRESENTATION OF NOMINEES BY CATEGORY

CATEGORY 1 : SOILS AND CROPS (cont'd)

SULKY (FRANCE)

The new spreading technology.

Commercial name: **Speed Control**

Forward speed is becoming increasingly important in the execution of work in the fields. This means that both mounted and towed implements must be upgraded to absorb these high speed variations. Centrifugal spreaders spread the fertiliser on the ground in a semi-circular pattern. This swathe is usually measured using CEMIB test benches. The effect of the speed of the fertiliser spreader is not taken into account in these measurements. However, forward speed of travel does influence the

swathe produced by the fertiliser spreader by deforming it, particularly in the direction of travel of the spreader. SULKY has thus observed during its work with the INRAE and AgroSup Dijon that the quality of fertiliser distribution in the field varies with the speed of travel. Based on this observation and following a patented concept, the French brand has developed a technology to adapt the spreading swathe according to the speed of travel: SPEED CONTROL. This Sulky innovation stands out due to the absence of direct competition on the market for mounted fertiliser distributors. Indeed, the majority of competitors currently offer technologies capable of modulating the dose, cutting sections

or even edge spreading. The technical challenge represented by the homogeneity of the spreading layer as a function of speed has so far only been met by SULKY.

Contact

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XARVIO™ DIGITAL FARMING SOLUTIONS (GERMANY)

Innovative experimentation of a disruptive business model in the crop protection sector.

Commercial name:

Xarvio HEALTHY FIELDS

xarvio HEALTHY FIELDS is the innovative experimentation of a disruptive business model in the crop protection sector, based on the foundations of the functionality and cooperative economy. The experiment began in the 2019-2020 agricultural season

in close cooperation between xarvio Digital Farming Solutions (by BASF) and distributors, agricultural contractors and farmers. This new model transforms the traditional plant protection scheme, moving from the simple sale of goods or services (phytosanitary products, field treatments, crop tours, decision support tools, etc.) to the collective sale of a final result to the farmer (the guarantee of healthy wheat on the plot). By selling the final result rather than the necessary means, the economic model becomes virtuous, as the economic development of the stakeholders is directly related to the reduction of the inputs applied and therefore to the reduction of the environmental impact

of the activity (maximum limitation of the use of phytosanitary products, tractor passages, etc.).

Contact

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ZÜRN HARVESTING GMBH + CO KG (GERMANY)

Weed Harvester.

Commercial name:

ZÜRN TOP CUT COLLECT

The ZÜRN TOP CUT COLLECT weed harvester cuts the stems of weeds (ryegrass, vulpine, thistle, etc.) which rise above the crop thanks to its double-bladed cutter bar. It is equipped with helix-shaped reels and conveyor belts that transfer the weed

seeds to a hopper. Hydraulic motors, supplied with oil from the tractor's hydraulic system, drive these components. The speed of rotation can be easily adjusted by the driver according to the volume harvested or the speed of travel. Depending on the type of crop and weed, the working speed varies between 5 and 10 km/h. Height-adjustable gauge wheels, hydraulically adjustable from the cab, stabilise the harvester. Depending on the working width of the attachment, the theoretical work output is between 9 and 18 ha/h.

Contact

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CATEGORY 2 : FROM HARVEST TO STORAGE

CLAAS (FRANCE)

Telescopic wheel loader.

Commercial name: **TORION 738 T**

The TORION 738 T combines an efficient SINUS steering system (comprising a central articulated joint plus a steered rear axle)

with a smart tilt protection system. These two innovations significantly improve the working safety of this agricultural telescopic wheel loader.

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CLAAS (FRANCE)

Automatic transport protection device on ORBIS.

Commercial name: **ORBIS**

Integrated transport protection

Safety is one of the major concerns of manufacturers. CLAAS understands this and has therefore enhanced the safety of the ORBIS maize header by introducing a new automatic transport protection device. The aim of this system, which is integrated into the

header's folding/unfolding system, is to enable it to be activated at the touch of a button from the cab. This means that the driver no longer needs to leave the cab, which ensures his safety and that of road users, while optimising transfers between fields. This new automatic protection is available from 8 to 12 rows and includes the entire signalling system (lighting and reflective strips).

Contact

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DANGREVILLE (FRANCE)

Composite monobloc chassis.

Commercial name: **OPTIMUM 100 Chassis MC**

A true technological feat: for the first time, a chassis is manufactured in one piece, without the use of steel or any nuts or bolts. DANGREVILLE has designed its chassis in 100% composite, starting from a blank page to obtain the best possible weight savings, while preserving its robustness over time. The idea was not to replace metal elements with the same composite parts, but to offer a unique and optimised chassis. This innovative chassis is a response to farmers' expectations:

- Preserve soil structure, limit settling
- Reduce empty weight
- Gain payload on the road
- Increase productivity
- Reduce fuel consumption

DANGREVILLE offers an alternative to steel to save 2 tonnes on the empty weight of its 3-axle agricultural trailer thanks to this 100% composite monobloc chassis and thus meet the above objectives. In 2019 at SIMA, DANGREVILLE successfully launched a chassis made up of composite beams assembled with metal elements. This first chassis was then tested on farms for 2 seasons. Historically used in the aeronautics and naval sectors, composite offers excellent potential for agricultural machinery. This material had not yet been

used to make chassis. After validating the robustness and durability of its solution, Dangreville launches the MONOBLOC chassis, a first in Europe for agricultural and road vehicles.

Contact

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SIMA INNOVATION AWARDS 2021

PRESENTATION OF NOMINEES BY CATEGORY

CATEGORY 2 : FROM HARVEST TO STORAGE (cont'd)

DOWNS (FRANCE)

Optical sorter for unwashed potatoes.

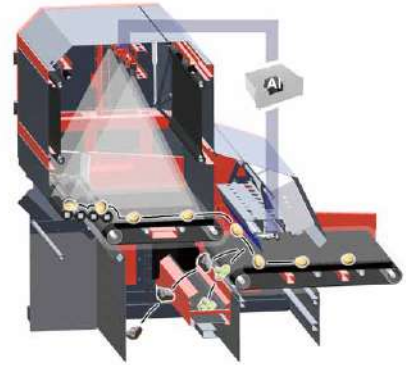
Commercial name:
DOWNS CropVision®

The DOWNS CropVision® is a new generation optical sorter for unwashed potatoes. Equipped with the latest technological innovations, it provides qualitative sorting of potatoes before storage at high throughput (100 tons/h). The DOWNS CropVision® is equipped with industrial cameras coupled with an Artificial Intelligence algorithm. This unique and patented combination makes it possible to analyse the entire surface of the

product (360°) in order to classify it precisely according to its quality: waste, good potatoes, green potatoes, cut potatoes, spoiled potatoes, misshaped potatoes and cracked potatoes. Also unique, the DOWNS CropVision® has 3 outlets for the product: one to keep the product, one for the product to be disposed of and one for second category potatoes. Thus, according to the user's requirements, the ejector fingers will direct the product to the correct outlet. Following 4 years of development, this new generation optical sorter provides the solution to recurrent problems encountered before storage: labour availability, sorting quality, economic profitability, food safety and environmental impact.

Contact

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HYDROKIT (FRANCE)

Solution to clean the wheels of a tractor and towed attachments.

Commercial name:
Integrated wheel cleaner

In addition to a tank for firefighting, Hydrokit offers you a complete solution to clean the wheels of a tractor and towed attachments that will thus enable easier legal compliance (art.116-2-4). It is a kit in which pressurised water is sprayed using the tractor hydraulics, and pressurised jets are directed onto on the wheels of the tractor and attachments, with automatic axle by axle management for optimised cleaning while on the move. 1 solution for 3 uses :

- Automatic cleaning of the wheels of the equipment in operation (example: tractor + slurry tanker)
- Complete cleaning of the whole unit thanks to the hydro-spraying lance (high water flow)
- Extinction of fires on combine harvesters or balers.

The advantages of this innovative system :

- Safety: clean road surface = less risk of accidents. Accident = driver's responsibility.
- Discreet: the nozzle holders are integrated under the mudguards.
- Optimised: axles cleaned separately. Cleaning can always be performed in the same place of the field or at the field exit.
- Smart: a terminal manages the individual axles according to the progress of the whole unit.

- Practical: possibility of cleaning the whole unit with the lance that is included.

Contact

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HYDROKIT (FRANCE)

Driver assistance system.

Commercial name: **Assist'Load**

Hydrokit has developed a screen with a text display installed on the side of the harvester cabin. The aim is that it is positioned to be seen by the driver of the trailer. The harvester driver will use it to tell the trailer driver to move forward or backward according to the fill level. There are 3 different indications on this sign. This sign has several benefits:

- Better yield: no loss of raw material, cereals, maize...
- Easier driving: thanks to the screen, it is easier to adapt the driving of the trailers on harvesting and silage sites...
- Visible: text is easy to read due to the design of the screen.
- Easy to use: understandable from the outset.
- Time-saving: quicker trailer changeover.
- Convenient: simple to install.
- Durability: robust product.

Contact

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CATEGORY 2 : FROM HARVEST TO STORAGE (cont'd)

KRONE FRANCE (FRANCE)

KRONE DYNAMIC prop stand on Vendro tedders.

Commercial name: **KRONE DYNAMIC**

The KRONE DYNAMIC prop stand on Vendro tedders provides both safety for the farmer and durability for their equipment. Unique on the market and patented, the KRONE DYNAMIC stand allows the VENDRO tedder to be uncoupled at 3 fixed points once the stand has been deployed. This means that in the event of an inadvertent move when coupling or uncoupling, there is no risk of the tedder trapping the user against

the tractor, or of a user being injured when passing behind: their position is automatically compensated for by the light built into the prop stand, and it automatically compensates for the movement of the tedder head stabilisers. Another advantage is that the 2 central wheels of the tedder no longer touch the ground and therefore no longer bear the weight of the tedder for 11 months of the year as was previously the case. This saves time when the haymaking season resumes and therefore guarantees rapid intervention if the weather becomes threatening, but it is also a substantial saving since the risk of wheel cracking or punctures is low. Finally, the tedder can be uncoupled in the folded position without risk, which can

make it easy to find a sheltered place for the winter but also free up more space for fodder for example.

Contact

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KRONE FRANCE (FRANCE)

Automatic and integral protection system KRONE COMFORTCOVER system for the Xcollect.

Commercial name:
KRONE COMFORTCOVER

Legislation requires that maize harvesting headers be protected when driving on the road to protect users and especially road users in the event of impacts. If these protections are not fitted, the driver could be held responsible and the safety of the road users he comes across is compromised. The COMFORTCOVER system for the KRONE XCollect harvesting head is an integral protection system with a real front

bumper and full height side tarpaulins to ensure the safety of road users in the event of an accident or collision. User comfort is also greatly increased: the process is fully automatic and synchronised with the unfolding / folding of the header. It also means greater safety for the driver, who no longer needs to get out of the cab, often in wet conditions, and is less prone to slipping and stress when clearing the road before turning. Finally, visibility is maximum, both for the driver on the road since the protection does not obstruct vision, when at work the system is completely folded up and protected behind the header, and for road users: the protections are equipped with LED lights with a dual function: position and flashing lights: they indicate the direction

that the vehicle is taking, while continuing to show other road users the clearance gauge of the vehicle, which is important for people unfamiliar with harvesters.

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SIMA INNOVATION AWARDS 2021

PRESENTATION OF NOMINEES BY CATEGORY

CATEGORY 2 : FROM HARVEST TO STORAGE (cont'd)

NEW HOLLAND AGRICULTURE (ITALY)

Analysis tool for nutrients during harvest.

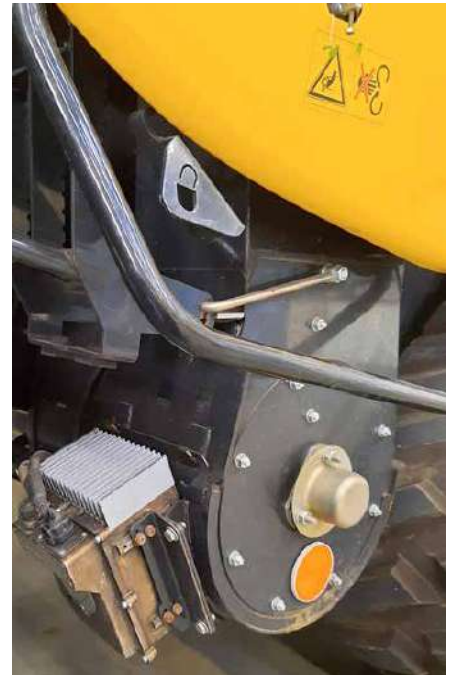
Commercial name: **NutriSense™**

The integration of the NIR sensor allows crop composition to be analysed, recorded and mapped during harvest. The operation is based on the measurement of the absorption of electromagnetic radiation (in near infrared radiation - NIR).

This enables customers to :

- Maximise their sales by:
 - Separating cereals according to protein or other relevant parameters in order to maximise their selling price,
 - Mixing different qualities of grain to reach a certain quality (minimum or maximum) and reach industry standards –
 - Capitalising upon the agronomic knowledge of their fields:
- Modulation of inputs according to nitrogen exports linked to protein rates
- Overall knowledge of their parcels
- Ability to evaluate varieties and their growing location.

Contact
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PÖTTINGER (AUSTRIA)

Glide bar and rotary rake hydraulic suspension.

Commercial name: **FLOWTAST**

The PÖTTINGER FLOWTAST system (available as an option on the TOP 842 C rakes) consists of a ROBALON composite glide bar replacing the jockey wheels under the rota-

ry rake, combined with hydraulic rotor suspension. This innovative solution guarantees high quality swathing in all conditions, while respecting the plant covering and avoiding soil compaction.

Contact
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S.A.S JAVELOT (FRANCE)

An original device dedicated to ventilation.

Commercial name: **Venti'Javelot**

Because it helps to cool down grain, ventilation is a key factor in storage. Javelot, which develops connected thermometry solutions to measure the temperature of grain piles, has just developed Venti'Javelot, an original device dedicated to ventilation. Its unique feature is the possibility of remotely triggering ventilation from a smartphone or computer, but also its automatic mode. It detects the outside temperature and grain temperature in

real time, and starts ventilation at the appropriate time to maintain optimal storage conditions. Controlling ventilation with Venti'Javelot according to the temperatures detected by our Javelot probes avoids over-consumption and places the priority on operating during "off-peak hours" when the price of electricity and the outside temperature are conducive to cooling the grain pile. For a site manager who is in the habit of switching on their ventilation when they leave the office and switching it off when they return the next morning, this represents significant energy savings. This optimised control of the temperature of the stored grain creates a deterrent to the development of insects which are a major

cause of stock deterioration, and totally eliminates the need for storage insecticides.

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CATEGORY 3 : LIVESTOCK FARMING AND RENEWABLE ENERGY

AGROINTELLIGENT SL (SPAIN)

Digital solution designed to improve the monitoring and reporting of manure spreading.

Commercial name: **Agroxcontrol**

The AgroxControl solution represents a new generation of tools for precision and modulated fertilisation. It is a digital solution designed to improve the monitoring and reporting of manure spreading, thus facilitating relations between the livestock farmer, the farm operator and the administrative authorities. The AgroxControl solution manages the entire life cycle of manure, from its collection from the farmer's premises to its application on the farmer's plot.

Entirely automated, the AgroxControl platform makes it possible to:

- Indicate the place where the slurry is loaded and the parcel(s) of land where it is to be spread;
- Calculate in real time the composition of the slurry loaded and thus validate compliance with the Manure Plan;
- Modulate in real time the quantity of slurry spread in relation to the needs of the parcel;
- Automatically record the operations carried out in a digital Spreading Logbook (according to local regulations)
- Automatically transmit the spreading declaration to the administrative authorities.

The Agroxcontrol solution is compatible with any spreading system on the market and can therefore be mounted on any slurry tank.

Contact

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BASE (FRANCE)

Thermovoltaic fodder drying solutions.

Commercial name: **Cogen'Air® thermovoltaic solar panels**

The dryers marketed by BASE are equipped with Cogen'Air® thermovoltaic solar panels, i.e., which produce both electricity and heat, thanks to a heat recovery system developed and patented by the company. This technology is particularly suitable for barn dryers as it heats up the outside air before blowing it under the fodder. The air can thus gain an additional 5 to 15°C compared to

the temperature of the outside air. At the slightest ray of sunshine, the panels heat up very quickly. The air heats up and dries out, considerably increasing its evaporation capacity. Drying is therefore faster. The electricity generated is sold on to the grid, ensuring an annual revenue for the farmer. These Thermovoltaic dryers meet economic, environmental and societal challenges. They are a high-performance and profitable solution for the farmer, allowing them to play their part in the energy transition while fulfilling demands from society. The farm becomes self-sufficient in terms of feeding its herd, and an energy producer.

Contact

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DEGUILLAUME (FRANCE)

2-in-1 tipper for the transport of liquid and solid materials.

Commercial name: **FUSION**

The FUSION DEGUILLAUME tipper trailer: ever greener transport.

With the development of anaerobic digestion, farmers have new transport needs. They have to transport the organic matter, solid and/or liquid, to the digester and transport the digestate for spreading. This brings about a substantial need for the transportation of liquid and solid matter. Anaerobic digestion units have high profitability objectives. DEGUILLAUME offers a solution specially

designed to meet these needs and which is in line with resource preservation, fuel savings and reduction of CO2 emissions, investment efficiency and productivity gains. To avoid having to invest in 2 transport trailers – a tipper and a transfer tank – Deguillaume offers a 2-in-1 tipper, the "FUSION", for the transport of liquid and solid materials: ever greener transport! The FUSION tipper avoids empty transport runs: the driver feeds the digester with organic matter and takes away a load of digestate. The FUSION has a double watertight bottom and perforated cross dividers that can be deployed to allow the transport of liquid materials in complete safety. The partitions prevent sloshing and provide on-road stability at high speeds,

when braking or cornering. This trailer has excellent capacity: 56m³ for silage and 21m³ for liquids.

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SIMA INNOVATION AWARDS 2021

PRESENTATION OF NOMINEES BY CATEGORY

CATEGORY 3 : LIVESTOCK FARMING AND RENEWABLE ENERGY (cont'd)

KRONE FRANCE (FRANCE)

KRONE EASYNET loading trolley for VariPack round balers.

Commercial name: **KRONE EASYNET**

Despite the significant technological evolution of round balers in recent years, net roll reloading is an action that has not changed much in principle: the roll should be loaded in the centre of the machine, and carried by hand or on the shoulders so that it can be placed in its cradle next to the baling chamber. However, a user may have to carry more than 1 tonne of consumables

over a year of baling, not to mention their other daily tasks. Musculoskeletal disorders (MSD) are the leading cause of recognised occupational diseases in agriculture (93.3% in 2016, source: MSA). The new KRONE EASYNET loading trolley designed by KRONE for VariPack round balers makes it easy to load a roll of net single-handed and without any accessories. It greatly reduces the risk of MSDs for the operator as they no longer need to carry the roll. It also increases safety as there is no need to climb up a ladder and platform. Finally, it increases productivity, since the changeover is very quick, so downtime is reduced.

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KUHN (FRANCE)

Autonomous Self-Propelled Mixer.

Commercial name: **AURA**

AURA Awaken the Breeder, Reveal the Breeder! When it comes to feeding herds, French breeders have many solutions adapted to their infrastructures, their technical and economic objectives, their fodder that makes up the rations and of course their organisation. Among these solutions, some of them have chosen to automate this task in recent years in order to free up time, without forgetting the advantages of daily multi-distribution, which offers both health and economic benefits

in terms of production quality. KUHN, the leader in livestock management solutions, has a duty to provide an answer on feed automation, which opens up promising new prospects for livestock farmers. This is the AURA project. AURA, a 100% autonomous solution from the silo to the trough! AURA is an Autonomous Self-Propelled Mixer which, like conventional machines, incorporates a silage loading module. This function, which is a first on a feeding robot, opens up new perspectives for livestock farmers and considerably reduces the current constraints and obstacles to the automation of feeding on livestock farms. AURA is a complete solution that fulfils the functions of loading feed and ration com-

ponents, managing feed weighing, mixing, delivering and pushing of feed.

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TRACKENGO (FRANCE)

Digital assistant for the logistical organisation of the collection of bales (hay and straw).

Commercial name: **Reckeo**

Reckeo is a system to manage the geolocation of bales (hay and straw) that provides new services to livestock farmers. These services assist with the logistical organisation of the collection and the monitoring of the constitution of stocks.

The goals are to improve sustainability of farms :

- Reduce production costs (less fuel consumption)
- Mitigate environmental impact (less GHG emissions, less soil compaction)
- Improve working conditions (time saving, decision-making support, better safety)

Reckeo makes it easier for seasonal workers or trainees to perform this task. It also provides support to meet expectations from society on farm sustainability.

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CATEGORY 4 : PARTS, SERVICES AND ONBOARD ELECTRONICS

AGDATAHUB (FRANCE)

Digital identity management solutions for the agricultural sector.

Commercial name: **Agri-consent**

Digital identity means security and trust. Agdatahub, in co-innovation with Orange Business Services, is developing a decentralised digital identity solution based on consortium blockchain technology for the agricultural sector. The 380,000 farmers and breeders will thus be able to have a digital identity for their farms to interact with their partners in complete security in the physical and digital world. The system created will allow the user to link their

identity as a producer (person) with the identity of the farm (company). They will then have a dematerialised wallet in the cloud which will be provided by Agdatahub and in which all the identities will be grouped and secured. Access to this wallet is then restricted to authorised individuals only. Users will have access to the Agri-consent portal, where they will have a cockpit from which to manage their identities, authorised persons and digital interactions with their partners. "This digital identity will thus enable farmers to secure their CAP declarations, their contracts for the sale of their production to collectors, food manufacturers, distributors and consumers, as well as their technical relations with their

agricultural advisers, while making the most of digital technology in complete security" Sébastien Windsor, President of Agdatahub and a farmer in Seine Maritime.

Contact

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AMAZONE (FRANCE)

Tool which enables real-time soil mapping during tillage.

Commercial name:

Cenius-TX Zone Finder

Cenius-TX Zone Finder enables real-time soil mapping during tillage. The linkage of tractor data (fuel consumption, slippage, tractive force) with that of the Cenius-TX stubble cultivator (working depth, inclination, slope) then leads to real-time data exchange via

telemetry. This device also provides a view of the tractor's condition and the work in progress. Exatrek's calculation algorithms will then be able to weight this information and produce a map that can be directly used or even exported for a multifactorial analysis. All of this in a very simple and seamless way, thanks to the use of on-board sensors already installed on the tractor.



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BPW FRANCE S.A.S (FRANCE)

Mechanical Load-dependent brake force regulator.

Commercial name: **BPW – MLB**

BPW MLB regulator - Braking force of unsprung agricultural machinery fully under control - Function: Adjusting the braking force of towed agricultural machinery, spreaders, sprayers, soil tillage equipment, with a simple handle - Innovative implementation of the new EU regulation for braking of agricultural vehicles - without the

use of electronics and electricity. In order to ensure a higher level of safety for trailers and agricultural machinery, EU legislation (EU 2015/68) places increased requirements on braking systems. For vehicles travelling at speeds above 30 km/h, it is necessary to respect a range of compatibility between braking efficiency and the air pressure required to actuate the brakes. BPW's Mechanical Load-dependent Brake force regulator (MLB) is specially designed for towed vehicles without suspension, with several load levels, where automatic brake force control cannot be used.

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SIMA INNOVATION AWARDS 2021

PRESENTATION OF NOMINEES BY CATEGORY

CATEGORY 4 : PARTS, SERVICES AND ONBOARD ELECTRONICS (cont'd)

FARMLEAP (FRANCE)

Solutions for coordination, net-working and comparing data and practices to help farms progress.

Commercial name: **The digital CETA**

FarmLEAP is a platform for technical, economic and environmental comparisons for farmers and their partners. Our offer consists of solutions for coordination, networking and comparing data and practices to help farms progress: a digital CETA (agricultural technical studies centre). With visual reports, farmers can anonymously compare their data with groups, exchange and identify their margins for progress. FarmLEAP builds the bridge between farmers and advisers, by facilitating support

for groups of farmers, thanks in particular to a tool for experience sharing. Since its launch, FarmLEAP has been committed to the establishment of an independent Ethics Committee to ensure the protection and non-disclosure of platform users' data. In addition, FarmLEAP recently received Data-agri certification for the processing and protection of agricultural data. An additional guarantee for FarmLEAP users! Today FarmLEAP is a candidate for the SIMA Innovation Awards for an offer that has evolved. The digital CETA offers a high level of interoperability and automated data entry, but also forward-looking economic assessments (equilibrium crop prices), environmental assessments (support for HVE certification) which are combined with tools for coordinating groups.

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KRAMP (FRANCE)

Mobile app helping users to find the right product within a few clicks.

Commercial name: **Kramp App**

With the Kramp App it's easier than ever to find parts. The app helps users in their day-to-day business by making it easier to find products and the contents of a delivery.

Kramp proposes :

- Visual product recognition: Take or upload a photo and find the product required (in beta)
- Find the right product by scanning product barcodes
- Access to the full Kramp product assortment via search, categories & filters
- Easily see the contents of a delivery/box by scanning the barcode on the package
It's that easy!

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MERLO FRANCE (FRANCE)

Adaptive stability control system.

Commercial name: **Merlo ASCS**

This technology allows machine parameters to be collected, analysed in real time and a diagram with the load position displayed on the MCDC console. The operator can use this system to define limits within which they can operate safely, limiting the risk of damaging infrastructure by hitting a roof or cladding. The advantage of this technology is that it takes into account many parameters:

- The position of the load: updated in real time and takes into account the virtual barriers set up by the operator.

- The weight of the load: displays the weight handled by the equipment and the cumulative weight over a given period.
- The type of attachment (thanks to the Merlo attachment recognition system).

It allows the behaviour of the telescopic handler to be perfectly adapted to the work being carried out. The speeds of the hydraulic movements can be precisely defined and thus take full account of the sensitivity desired by the operator. Among the new features offered, the ASCS can memorise :

- The loads handled over a period of time defined by the operator.
- A position that can be quickly recalled, allowing a significant gain in terms of job throughput.

A new function allows a load to be lifted perfectly vertically and automatically without having to adjust the boom extension/withdrawal manually.

Contact
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CATEGORY 4 : PARTS, SERVICES AND ONBOARD ELECTRONICS (cont'd)

MSA AUVERGNE (FRANCE)

Training pack.

Commercial name: I like using telescopic lifting and handling machines safely

“J’M utiliser les automoteurs de levage et de manutention à mât télescopique en sécurité” Training pack (I like using telescopic lifting and handling machines safely).

Training pack born out of a partnership between the “occupational health and safety” department of MSA AUVERGNE, Jean-Noël ALLARY an agricultural equipment lecturer and L’ASFAUVERGNE (training body at MSA AUVERGNE). Aimed at players in the agricultural employment and training

sector (farm managers, CUMA, ETARF, employers’ groups, replacement services, drivers of telescopic trucks used in agriculture, occupational health and safety prevention officers, trainers), the teaching and prevention method used follows the 5 Ms (Manpower, Equipment(matériel), Method, Environment (milieu), Material). This pack aims to meet the regulatory training obligations for operating equipment used for lifting (off-highway telescopic truck mounts). The acquisition of knowledge and know-how uses various training aids tailored to agricultural activity: a trainee handbook, a film, a trainer’s manual, etc. An assessment booklet describing significant working situations tests the trainee’s knowledge using criterion-based assessment grids. For the

farming profession, the training is delivered face-to-face (basic or vocational training) or by e-learning for the theory part, making it easier to adapt to the rhythm of an agricultural business.

Contact

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MYEASYFARM (FRANCE)

1st mobile application for the traceability of field operations, with no data entry and automatic documentation.

Commercial name: MyEasyFarm DRIVER

MyEasyFarm introduces the ZERO SAISIE (zero data entry) mobile application for automatic documentation of operations in

farm fields, aimed at drivers of agricultural equipment. DRIVER is the 1st mobile application for the traceability of field operations, with NO DATA ENTRY and AUTOMATIC documentation, compared to the many mobile applications that require the input of information, which can therefore be unreliable. DRIVER also makes it possible to use input modulation maps and thus obtain a first approach to Precision Agriculture (the right dose in the right place at the right time) without investing in new agricultural equipment.

Contact

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NEW HOLLAND AGRICULTURE (ITALY)

Cleaning system pressure sensors.

Commercial name: Pressure sensor in the cleaning system

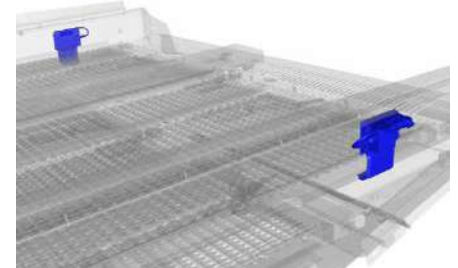
New Holland integrates pressure sensors in the cleaning system, providing real-time information to the operator. The operator

is alerted if the system is overloaded. The operator is also assisted in making decisions about modifications to be made. This innovation provides comfortable working conditions, productivity gains and simplified settings, allowing the machine to be used by an inexperienced operator.

Contact

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SIMA INNOVATION AWARDS 2021

PRESENTATION OF NOMINEES BY CATEGORY

CATEGORY 4 : PARTS, SERVICES AND ONBOARD ELECTRONICS (cont'd)

POCLAIN HYDRAULICS INDUSTRIE (FRANCE)

Dual-line hydraulic braking system for agricultural and forestry tractors.

Commercial name: **VBT braking system**

The EU 2015/68 regulation supplements the EU 167/2013 "Mother Regulation" with regard to braking requirements for agricultural and forestry tractors. It applies in all Member States of the European Union and it aims to increase the safety of tractor/trailer convoys in road traffic.

The regulation therefore requires the tractors to be equipped with dual line braking systems. Poclain has developed a dual-line hydraulic braking system called VBT for agricultural and forestry tractors to comply with this regulation. VBT is a valve system with an on-board electronic control unit that modulates pressure sent to the trailer braking system according to the deceleration of the tractor. It manages the pressure of the control line and the supplementary line.

Contact
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SAS GO4IOT (FRANCE)

Connected anti-theft device.

Commercial name: **KHIKO®**

Thefts are a true scourge in the agricultural world, generating financial and operating losses running into the millions of euros. Go4IoT offers KHIKO®, an innovative and professional solution to protect large equipment (machines, vehicles, machinery) against theft with numerous applications and multiple uses in the agricultural world: from tractors to crop protection product stores or livestock buildings, including

trailers, telescopic handlers and GPS antennas. KHIKO is MORE than a GPS! KHIKO is the connected anti-theft device that detects suspicious movements, sends you real-time alerts (SMS, Email & Notification) and can even call you! French design & manufacture & NO subscription required. Intelligent and autonomous, no electrical connection, non-removable, waterproof, robust (shock resistant - IK10), Battery life > 1 year and rechargeable, international coverage, network jam resistant with the mixed use of several communication and geolocation protocols.

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SICK (FRANCE)

Windrow guidance system.

Commercial name: **WGS (Windrow Guidance System)**

To help farmers achieve their goal of increasing yield while reducing process costs, SICK offers agricultural machinery manufacturers driver assistance systems such as the WGS (Windrow Guidance System). The WGS is particularly good at dealing with the problem of windrows: windrows that are curved in some places and straight in others, with variable volume, make driving more complex and can cause material jams. SICK's WGS driver assistance system

is based on a 2D LiDAR with integrated application software and provides swath guidance for the baler and the harvested forage. The ultra-compact WGS determines the position and height profile of the swath from the cab roof. The system uses this information to calculate a target path (swath path) for vehicle control via the CAN bus. All vehicle data processing takes place in the sensor itself, which means that the relevant results are available without the need for extensive calculations by the CPU. There is therefore no need to use an external computer, thus reducing energy consumption and space requirements. This allows and simplifies integration into the existing vehicle. Forage harvesters and

balers can automatically take the optimal route for easy driving.

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CATEGORY 4 : PARTS, SERVICES AND ONBOARD ELECTRONICS (cont'd)

SMAG (FRANCE)

Analysis of ecological footprint of farms: GHG, carbon and biodiversity.

Commercial name: **SMAG TRACE**

SMAG extends its SMAG Trace software solution to address the subject of the ecological footprint of farms on their surroundings: it offers farmers support in tackling issues that have an impact on their resilience and on the climate: greenhouse gas emissions, carbon storage in soils, restoration and development of biodiversity. This solution is integrated:

- It offers the chance to use farmers' traceability data already recorded in their farm management tool (Smag Farmer)
 - To retrieve the additional data needed for diagnostics using dedicated forms generated ad hoc
 - To position the farm with respect to a charter, label or certification
 - To publish all the indicators calculated.
- Smag Trace's perimeter is broad: it is multicultural, multi-industry and multi-label. It aims to integrate at least all the methodologies validated by the French Ministries of Agriculture and Ecological Transition: HVE certification, approved and future Low Carbon (Bas Carbone) Label methodologies (CarbonAgri, Grande Cultures).

Contact

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VITIBOT SAS (FRANCE)

The innovative universal controller that makes electric winegrowing machines and attachments intelligent.

Commercial name: **VitiDrive**

The Vitidrive, made in VitiBot, is a controller that makes electric winemaking machines and attachments intelligent, for unique robotics. Completely designed in-house, this controller facilitates the integration of any electric actuator into our Bakus robot. Consisting of state-of-the-art electronic components and an ultra-resistant aluminium housing (IP66 waterproof), the VitiDrive is associated with each electric motor

on the robot and each electric attachment. It thus transforms a simple conventional electric motor into an intelligent motor. Thanks to these controllers, distributed throughout the machine and the attachments, the robot "understands" and "supervises" the work carried out, in total autonomy. Detection of safety problems, analysis of attachment work, correction of its movements. The range of possibilities is extended to infinity with this VitiBot innovation. Monitoring, information feedback, information processing, automatic corrections and output of situations, regular remote updates, preventive maintenance. In autonomous mode or supervised by our control centre, based in Reims, or by an operator close to the machine. The innovation of the Vitidrive brings

complete intelligence to vinegrowing work, in complete safety. The electric straddling tractor becomes an intelligent robot allowing for the perfect and autonomous management of attachments.

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