Press release

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Less input, more output and lower environmental footprint – How precision farming and digitalisation revolutionise agriculture worldwide

The impact of the new technologies, such as robotics, drones and Artificial Intelligence (AI) goes beyond what is seen in daily life and is already revolutionising our food production system. Precision farming has shaken up a number of large companies to invest in the development of new solutions for future farming technologies. Which companies are part of this new wave and what technical products are available on the market? The major players of this field will come together and present their newest products at "Revolution in Food and Biomass Production (REFAB)", October 1 and 2 in Cologne (Germany).

The digitalisation of agriculture, including various technologies for precision farming, artificial intelligence (AI), robots and drones, holds the promise to make modern agriculture more efficient and sustainable. This may be achieved by drastically increasing the amount of information available to make educated farming decisions on fertilizer and plant protection or by substituting human labour altogether. These technologies will not only boost biomass production, but also livestock farming will improve its environmental footprint. Or, to put it in a nutshell: Less input, more output and lower environmental footprint.

The digitalisation of food and biomass production is in full swing all over the globe, though at different paces and levels, equivalent to the extent of the farmers' realities and needs. Technology providers with the ambition to globally supply their products are therefore faced with the challenge to meet the farmers' needs. In addition, as in other applications of digitalisation, the question of data security and data ownership arises. This affects not only the interests of the farmer but also the economic interests of technology companies and countries.

At the upcoming REFAB Conference, major players from the agricultural, chemical and IT sector will present their views and experiences on the digitisation of agriculture. Contributions of the conference include Dr. Srinivasu Pappula, Global Head, Digital Farming Initiatives, Tata Consultancy Services (TCS) (IN), Egbert Schröer, Worldwide Managing Director of Process Manufacturing & Resources Industry at Microsoft (US), Tobias Menne, Head from Digital Farming at Bayer (DE), Prof. Dr. Stefan Pelzer, Director Innovation Management Animal Nutrition from Evonik Nutrition & Care (DE) and Dr. Joachim Stiegemann, Head of CES Product Management at CLAAS E-Systems (DE).

With these contributions by globally operating companies, the conference will provide a balanced perspective on the state of play of precision farming technologies, their markets and how they meet the diverse needs of farmers.

TCS Digital Farming Initiatives developed a suite of flexible multi-pronged technologies, termed InteGra™, combining the so-called five digital forces – social networks, mobility, analytics, Cloud and Internet of Things (IoT) to create "market smart" and "climate smart" farming enterprises, coined Progressive Rural Integrated Digital Enterprises (PRIDETMs). According to Dr. Pappula (Tata), PRIDETMs have been created across various states in India and have a transformative effect on the lives of small and marginal farmers moving them towards a future of economic prosperity and food security.

Egbert Schröer (Microsoft), as the lead of the teams responsible for empowering chemical & agrochemical companies and industries, says that *"Digital Agriculture is transforming how the world farms to feed the world population. Food safety, integrity and security are major issues. 'Feeding the world in a sustainable manner' has become core of Microsoft's strategies and traditional agriculture companies are changing their business models leveraging technology and e-commerce capabilities to launch new value-added digital services for growers. Together with our great partners we are committed to empower people and organizations to solve global environmental challenges by increasing access to AI tools and accelerating innovation".*

At the heart of precision farming solutions at Bayer Digital Farming is the xarvio FIELD MANAGER, a digital solution for monitoring the health of agricultural fields via remote sensing, and xarvio SCOUTING, an app for monitoring the health of crops via your smartphone, including their nutritional and infestations status. Both products have only been introduced in 2017 and are currently available in Germany, the Netherlands, France, Austria, Poland and the Ukraine.

As already mentioned, precision farming does not only transform crop production but also animal husbandry. In an interesting example, researchers and developers at Evonik Nutrition & Care work on the so-called Precision Livestock Farming (PLF) for poultry. The term stands for using digital technologies to employ knowledge and data in order to develop effective recommendations with verifiable benefits. In this case, not only body temperature, nutrition and the climate in the barn are monitored and analysed, but also the communication within the flock. Based on its analytical services for amino acids, Evonik already has many years of experience with digital business models in agriculture.

Last but not least, at CLAAS, one of the world's leading manufacturers of agricultural machinery, the focus on precision farming solutions lies in data collection during field operations and its processing into cultivation decisions. As examples, the application CROP SENSOR allows to instantly adapt the application of fertilizer or growth regulators during field operations and the conductivity meter EM 38 collects information about the soil status, such as its heterogeneity, yield potential and composition during a field operation. Furthermore, CLAAS advocates for a manufacturer-independent data integration, using the prominent, holistic farm management software 365FarmNet, a CLAAS subsidiary.

These and more projects and prominent companies will be present at the conference "Revolution in Food and Biomass Production (REFAB)", 1-2 October in Cologne, Germany. Altogether, 50 speakers and 30 exhibitors will show the future of food and biomass production (www.refab.info). Don't miss this chance to look ahead into the future of agriculture!

Visuals (free for press purposes):

- Connected machines for smart farming (Source: CLAAS) http://news.bio-based.eu/media/2018/06/Connected-Machines-for-smart-farming_CLAAS.jpeg
- Arial pesticide application with drones (Source: USDA) http://news.bio-based.eu/media/2018/06/Drone-Demonstration-on-Aerial-Pesticide-Application_USDA.jpeg

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