

## MAINSTREAMING PRECISION FARMING – May 24<sup>th</sup> 2016

During the CAPIGI-GEOAGRI conference (24-26 May 2016) a special session was dedicated to mainstreaming precision agriculture. The solution to existing barriers were discussed by several speakers. Here a short summary of the session is presented.

James Szabo from Trimble separated barriers in emerging markets and the next barrier perceived by adopters to make the next step. In emerging markets the access to knowledge on best practices and training is low and this should be the first thing to improve to inform and convince farmers about the benefits. Secondly, several infrastructural complexities should be removed to increase adoption. Szabo referred to RTK signals from base-stations that will now be provided by networked solutions that will make the complexity a lot less. Also, transferring data between tractor board computer and the farm office can be simplified by wireless transfer, rather than by USB stick or HD memory card. Farmers that are taking the next step are facilitated by better data analysis tools, in particular a central data storage for the veracity of data and 3<sup>rd</sup> party access to that for advisors, suppliers and others that help farmers in analysis and decision making.

Corné Kempenaar from Wageningen University and Research put forward the recommendations provided by the EIP Mainstreaming Precision Agriculture focus group. He confirmed that training, awareness raising are important and should be accompanied by means for farmers to investigate their own benefit in their own farm (so-called PA Calculators). Also, he noticed that farmers are not well participating in the design and development of decision support tools that are part of the PA 'suite'. This will improve alignment with the cultivation process as well as adoption. Kempenaar concluded that PA should be seen as a part of 'Big Data' and that data access and quality, as well as sharing and integrating data are main issues to address in order to make in particular Variable Rate Technology more economically interesting and more effective on the farm.

Clive Blacker from the UK Trade and Investment board also stipulated the big data aspect to overcome barriers in PA adoption. The auto-guidance is well taken up, but in particular for VRT the adoption is lagging behind. Blacker identified the big data issues that are most urgent to resolve as the i) transfer of data, ii) ownership of data, iii) responsibility on data quality, iv) ethical issues around fair data use (by third parties) and v) the security of data. Blacker sees that solutions in uptake acceleration also require a change in farm management as farmers can only create higher benefits if they adopt data informed decision making in their practice. By far, this is the most difficult solution to implement.

Ulrich Adam representing the European organisation of machine manufacturers (CEMA) presented the view of the industry to overcome adoption barriers. They see a priority in improving the investment capacity of farms today, in particular to overcome the scale aspect that PA is only profitable above a certain farm size. He also mentions that training and skills must be promoted in order to increase awareness and know-how. Adam also has a solution for his own members: the machine manufacturers must work on ease-of-use, reduced complexity and ensuring higher compatibility of machines and systems. He also sees an important role for the Commission and the EU parliament in promoting the uptake of PA, as it is a three-win technology: higher efficiency, higher profitability and lower environmental impact of agricultural production. Adam concluded with the challenge to manage the disruptive nature of digital technology integration, as is inevitably taking place alongside uptake of PA and big data. It will provide new arrangements in the production chain where digital platforms and farm software will have a large relevance and also might weaken the position and role of the farmer.

In summary, this session shows that from different stakeholders point of view (PA industry, science, government and agricultural machine manufacturers) awareness creation, knowledge transfer and understanding of individual benefits are important still. Furthermore, simplification and integration of technology will facilitate more farmers to adopt and machine manufacturers and PA manufacturers are aware of this and working on it. Standardisation however requires patience. Furthermore, the further adoption of VRT in particular must be viewed in the light of big data adoption, resulting in more focus on the software, data storage and analysis part rather than on hardware technology.