Artificial Intelligence

AI in agriculture – contractual challenges

Agricultural technology (AgTech) and smart farming – AI, automation, robotics and big data analytics – can have a huge impact on productivity. However, any malfunction in this advanced technology can have serious consequences. This insight paper addresses some of the legal and contractual issues facing AgTech companies and farmers.

Tinder for bulls

Tech-driven agriculture uses many novel technologies and solutions, which the contract between the AgTech company and the farmer must regulate. The contract might deal with the use of agricultural robots for weeding, spraying robot, plant-transplantation, fruit picking or nut harvesting. Sensors and image recognition systems allow for remote and real time crop monitoring. Even after harvesting, sensors can track food in the supply chain.

Complex legal questions arise in relation to trending and prediction tools using AI, machine learning, deep learning or data mining. Cambridge Consultants's Mamut AI tool identifies the optimal time for harvesting crops. Herdwatch's Bullmatch software, essentially Tinder for bulls, lets farmers find the right match for their cows within seconds. These AI solutions process huge amounts of data, which raises questions of ownership and protection.

Protecting and sharing data

AgTech AI solutions are data driven and can learn only from big data sets, which serve as an asset for farmers and, in some cases, for AgTech companies. Protection of this asset is crucial for both parties. Firstly, for the AgTech AI project to succeed, the parties must agree the definition of the data and the person responsible for its collection and curation.

The second issue relates to ownership and sharing of the data sets. Farmers usually own the data. AgTech companies often just store and process the data and are not entitled to share the data with anyone. However, some business models based on data sharing involve a common data set with multiple users and processors. In that scenario every client of the AgTech company can use the data collected from other farmers. For example, sensor technology or predictive AI tools require sufficiently large databases, with data from several farmers, to enable deep learning. In these cases, AgTech companies usually have special rights on the data sets and the farmers are obliged to provide the data to the supplier.

A common misunderstanding is that parties to AgTech agreements often talk about personal data and include strict personal data protection provisions in the contract. AgTech solutions usually do not process personal data, data identifying human beings, and mostly cover soil, crops, animals and the external environment. Protection of personal data is usually not relevant in these agreements.
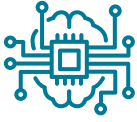
Liability for autonomous farm equipment

Self-driving tractors or robots can cause serious damage to crops, animals or even farm labourers. Predictive AI tools like, such as weather forecasting for heat protection, can make wrong decisions causing harm, to animals and crops. In a 2017 US case the AgTech company was held liable for crop loss on the basis that the AgTech negligently recommended spraying. Would the same apply if the farmer provided inadequate data sets or failed to use the tool properly?

These liability questions must be addressed in the agreement. This is particularly important for AgTech solutions using AI, as most countries have no legislation in this area. If the parties do not regulate this in their agreement, the law will be of little help in case of any legal dispute. The most common practice is the introduction of strong limitation of compensation and liability clauses on the side of the service provider. It is also worth dealing with the responsibility of farmers to provide data in appropriate quality and quantity in order to teach the AI tool.

Security is always important

The use of advanced precision technology and smart farm systems in the agricultural sector is introducing new vulnerabilities into an industry, which had previously been mainly mechanical in nature. Risks include theft of data and resources, loss of reputation, destruction of equipment or gaining an improper financial advantage over a competitor. Any AgTech agreement should address the crucial issues of cyber security and physical security. It should also include strong confidentiality clauses for both parties, and a security obligation on the AgTech company covering the farmer's right to request certification from the service provider and to conduct an audit.

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