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Current and Emerging Issues for Ag Tech

Does GDPR Apply to Ag Data?

With the May 24, 2018 deadline for compliance the European Union's General Data Protection Regulation (GDPR), ag data companies may be wondering whether their privacy policies need to be in compliance with the EU's regulation. This is the first in a series of posts on GDPR and its impacts on north American ag data platforms.

This post will answer the threshold question: Does the GDPR apply to collection of ag data in North America?

To answer this question, two definitions from the GDPR are important: "personal data" and "ag data."

The GDPR applies only to "personal data" collection. Personal data is defined in the GDPR as:

> any information relating to an identified or identifiable natural person ("data subject"); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.

GDPR, Art. 4, 1. There is lot in that paragraph, so let's break it down into its constituents. The first required element here is that personal data is from a "natural person." This means data generated by tractors, farm equipment, cows, or pigs are not covered by the GDPR--only data related to people.

The second required element is that the data contains "reference to an identifier" tied to that natural person. The definition gives us lots of examples, including name, ID numbers, location data, and other identifiers related to physical, physiological, genetic or cultural characteristics.

Of these, only "location data" potentially applies to ag data since yield data, planting data, machine data, etc. all include location information. Still, I do not think that is enough to bring ag data into the definition of the GDPR's "personal data" since these data streams are not tied to, or related to, a natural person.

My conclusion might be different if an ag data platform recorded location information about specific employees which is cross-referenced to collected ag data. For example, if a platform recorded not only machine location data but also which employee was driving that machine, this might pull "machine data" into GDPR's personal data definition.

In general, however, ag data is not "personal data." GDPR authorizes organizations to create "codes of conduct" for specific data uses. A number of EU farm organizations recently created an EU Code of Conduct on Agricultural Data Sharing by Contractual Agreement. This document defines "ag data" as inclusive of a number of data streams, including: farm operation data, agronomic data, compliance data, livestock data, machine data, service data, agri-supply data, and agri-service provider data. These definitions are different than "personal data" since they are not tied to a natural person.

Back to the question: does the GDPR extend to protect ag data? In general, the answer is "no," ag data is not "personal data." But, there may be examples where ag data does fit within this definition. All ag tech providers should examine this issue for their unique situation.

What Does it Mean to Be "Ag Data Transparent"?

John Deere's announcement that it had certified the John Deere Operations Center as "Ag Data Transparent" this week might have you wondering, what exactly does that mean? This post answers that question. But first, a quick history lesson about how we got here.

Ag Data's Core Principles

In 2014, American Farm Bureau Federation (AFBF) observed that many of its farmer-members were concerned about the variety of new ag data products that were arriving on the market. What would happen to ag data once provided to these platforms? Would the tech providers use this data for their own purposes? Could the farmer ever get this data back? Should they trust these providers, which included legacy companies like John Deere that were developing new cloud-based products, as well as new start ups from Silicon Valley and the Midwest?

To address these concerns, AFBF hosted a series of meetings with representatives of other interested farm groups, such as American Soybean Association, National Corn Growers, National Association of Wheat Growers, National Farmers Union, and National Sorghum Producers. These organizations had similar concerns.

Ag tech providers were also invited. Representatives from the big equipment manufacturers were there: Deere, CNH, AGCO, as well as large seed and chemical companies, Dow, DuPont, and Monsanto. Smaller and start-up ag tech companies were there too. (I was fortunate to attend a couple of these meetings.)

After a series of these meetings, the group drafted *The Privacy and Security Principles for Farm Data*, or what today we call ag data's "***Core Principles***." These Core Principles represented basic guidelines that ag tech providers should following when collecting, using, storing, and transferring farmers' ag data. After publishing, 37 different companies signed onto the Core Principles, pledging to incorporate them into their contracts with farmers.

The Ag Data Transparent Seal

Of course, a pledge to follow non-binding guidelines is good, but incorporating the Core Principles into actual data contracts is much better.

To verify compliance with the Core Principles, AFBF and the other interested organizations and companies formed the Ag Data Transparency Evaluator, Inc., a non-profit organization (ADT) to audit companies' ag data contracts. This organization developed the Ag Data Transparent seal of approval (above). Much like the Good Housekeeping seal of approval verifies compliance with Good Housekeeping's standards, the Ag Data Transparent seal recognizes compliance with the Core Principles.

How do companies get the Ag Data Transparent seal?

Companies that want to be recognized as Ag Data Transparent must submit their contracts with farmers for certification to the ADT. In addition, companies must answer 10 questions about how they collect, store, use, and share farmers' ag data. The contracts and answers to the 10 questions are then reviewed by a third party administrator* for accuracy. If the answers match what the company's contracts say, the Ag Data Transparent seal is awarded. If there is a discrepancy, the company is required to make a change before the seal is awarded.

Each of the 10 questions is based upon one or more of the Core Principles. For example, one principle is *portability*--farmers should be able to move ag data from one platform and use it in another. Accordingly, question 4 asks: *After I upload data to the Ag Tech Provider, will it be possible to retrieve my original complete dataset in an original or equivalent format?*

Participating companies must answer yes or no and provide an explanation. The final results are posted only at the Ag Data Transparent website so that farmers, agronomists, and other ag professionals can review. The results also include hyperlinks to the companies' ag data contracts, in case someone wants to more closely examine a particular answer.

When a participating company changes or updates its ag data contracts, the company's answers must be updated as well if they want to continue to use the Ag Data Transparent seal.

What can you do to help?

Many companies that collect ag data have not yet agreed to follow the ag data Core Principles. (Read: Few Big Ag Companies have yet to follow through on data transparency pledge). This should be step one. Many have signed onto the Core Principles, but not achieved the Ag Data Transparent certification. This should be step two.

Ask your ag tech provider to incorporate the Core Principles into their contracts with farmers. Ask your provider to become Ag Data Transparent. Congratulate those companies that have already taken these steps.

What Does Blockchain Mean for Agriculture?

One of my predictions for 2018 was that we would start hearing about blockchain implications for agriculture. But I did not expect it would be this quick.

On January 22, 2018, Reuters reported that a Louis Dreyfus Co. transported a shipload of soybeans from the US to China using blockchain as to documentation tool. The sales contract, letter of credit and certificates were digitalized on the Easy Trading Connect (ETC) platform.

The US soy shipment did not involve Bitcoin or other cryptocurrency, which often goes hand-in-hand with blockchain, but it is still a big step.

For those new to blockchain, think of it as decentralized ledger recording various transactions in a process. Rather than record transactions in a central, single database, blockchain syncs various databases together creating a digital record that, in theory, is difficult to tamper with or hack. Bitcoin is a blockchain.

Blockchain, as it was used here, simplified the paperwork necessary to transport and transfer a shipload of soybeans.

The real challenge for agriculture will be figuring out how to combine blockchain record keeping with easy to move funds from buyers to sellers.

Still, the US soy transaction is a sign that blockchain has some real potential for transfer of agricultural commodities. Blockchain can help simplify record keeping, documentation of payment, and traceability. Reducing these burdens on agriculture should reduce transaction costs, and as a result, ultimately return more money to the farmer.

Will OSHA be an Obstacle for Robotic Farm Equipment?

The talking points surrounding robotic farm equipment usually focus on the decreased need for humans to interface with machines. We use words like "driverless" and "autonomous" to describe the lack of human involvement with farm equipment. Marketers talk about the shortage of farm labor and the ability to do more with fewer employees. For the most part, as long as driverless machinery stays in the field and off of public roads, there are few regulations that prevent these new technologies.

But what about farm-worker safety around autonomous farm vehicles?

Perhaps this is the question that drove California to add regulations prohibiting driverless machinery unless a person remains at the wheel (somewhat defeating the point). California's OSHA regulations require all "self-propelled equipment" to have an operator "stationed at the vehicular controls" whenever the machine is moving. There is an exception for furrow guided equipment, which allows an operator to control the vehicle remotely provided he or she stays within 10 feet of the controls and the equipment is not moving at greater than 2 mph.

Here is the full text of the California OSHA regulation:

> *All self-propelled equipment shall, when under its own power and in motion, have an operator stationed at the vehicular controls. This shall not prohibit the operator occupying or being stationed at a location on the vehicle other than the normal driving position or cab if controls for starting, accelerating, decelerating and stopping are provided adjacent and convenient to the alternate position. If the machine requires steering other than ground or furrow steering or operates at ground speeds in excess of two miles per hour, steering controls shall also be provided at the alternate location.*

Seedling planters and other similar equipment traveling at a speed of two miles an hour or less where a control that will immediately stop the machine is located at the operator's work station will satisfy this requirement.

Furrow guided self-propelled mobile equipment may be operated by an operator not on the equipment provided that all of the following are complied with:

(A) The operator has a good view of the course of travel of the equipment and any employees in the immediate vicinity.

(B) The steering controls, when provided, and the brake and throttle controls are extended within easy reach of the operator's station.

(C) The operator is not over 10 feet away from such controls and does not have to climb over or onto the equipment or other obstacles to operate the controls.

(D) The equipment is not traveling at over two miles per hour ground speed.

I have not found any other states that have imposed similar restrictions on driverless farm equipment. The federal OSHA regulations, upon which state regulations are based, do not include this driverless prohibition.

I understand that California agriculture includes a number of specialty crops that require slow moving farm equipment saddled with many workers close by on implements or in the field. This regulation appears to be aimed at protecting those workers' safety. However, I can't help but think this is also road block for new driverless farm technologies--at least in California.

If you are aware of other laws or regulations that restrict driverless technologies on the farm, please let me know.

Can an Ag Tech Provider Collect Data without Your Consent?

During a recent webinar, an audience member asked: "Can a machine track and send data to the manufacturer without the owner's consent?" I think you could even broaden this question to ask: "Can a machine can send data to a manufacturer without the owners' knowledge?"

From my research, the general answer to this question is "yes." A manufacturer can track information from their machine and send that data back to the manufacturer without the owner's consent, or even without the owner's knowledge.

There are likely many exceptions to this general answer, however. If the transmission of data includes personally identifiable information, the transmission may be subject to certain state laws protecting personal information.

There are also state statutes and common law that protect person's right to privacy. Unauthorized data sharing from a machine might violate these statutes or case law. For example, a machine that collects video might collect images that would be protected by certain state privacy statutes.

The Privacy and Security Principles for Farm Data provide this guidepost for this issue:

> *An ag tech provider's collection, access and use of farm data should be granted only with the affirmative and explicit consent of the farmer. This will be by contract agreements, whether signed or digital.*

This principle is not legally binding, but a court may look to statements like this as what is commonly accepted practice in the ag tech industry. This could be helpful when determining what is the expected standard of care for an ag tech provider.

Tesla collects data from its drivers' cars. Here is what Tesla asks its customers before collecting video information:

> *We are working hard to improve autonomous safety features and make self-driving a reality for you as soon as possible.*
>
> *In order to do so, we need to collect short video clips using the car's external cameras to learn how to recognize things like lane lines, street signs, and traffic light positions. The more fleet learning of road conditions we are able to do, the better your Tesla's self-driving ability will become.*

We want to be super clear that these short video clips are not linked to your vehicle identification number. In order to protect your privacy, we have ensured that there is no way to search our system for clips that are associated with a specific car.

Please click "I accept" below in order to allow us to collect these clips. You can change or mind at any time. (Quote from Electrek.com)

I think Tesla has the correct approach. It is OK to collect data from your customers, but ask first, anonymize the information, and give customers the option of changing their mind later. Put this in your contract.

As attorneys we often tell clients: Just because something is legal, does not mean it is advisable. The same is true with collecting data without affirmative consent.

What's Old is New Again: What New Holland's Methane Tractor Means for Ag

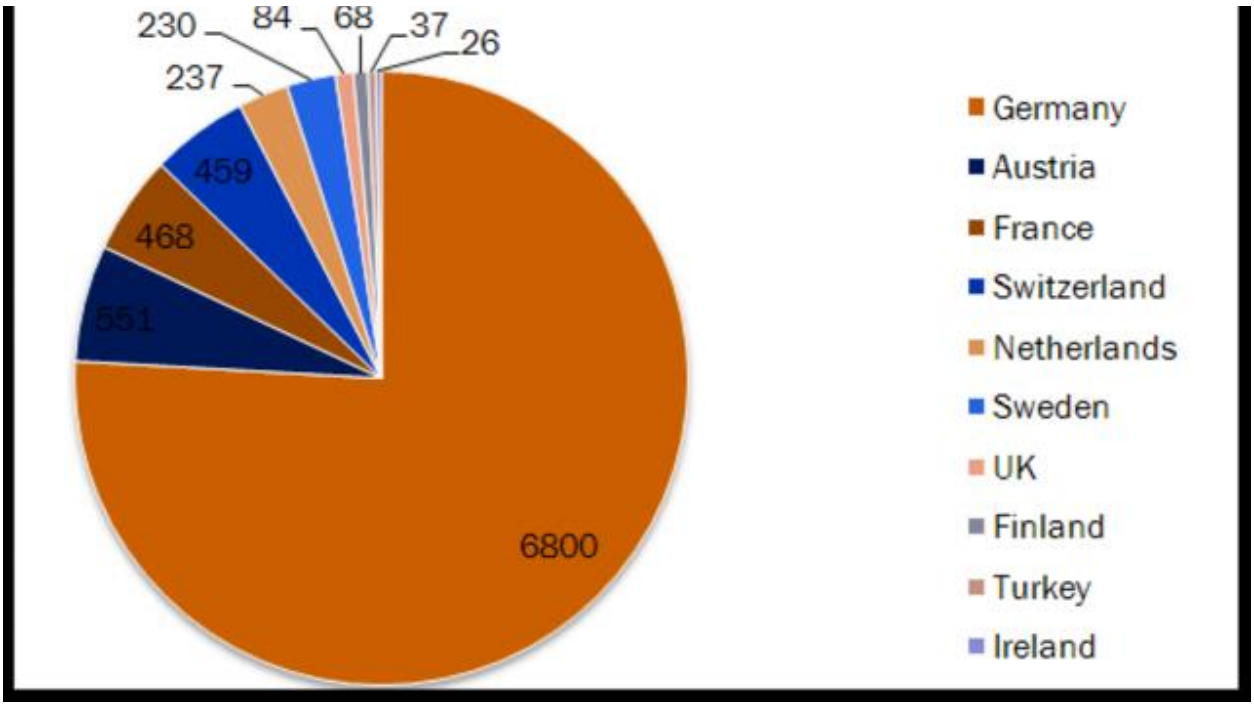
At a recent Farm Progess Show, New Holland rolled out a new concept tractor that appeared mostly conventional but had one stand out feature--it runs on methane rather than diesel. My first impression when seeing this was--*didn't we have this same concept 50 years ago?* Growing up, our farm included an International 504 LP than ran on natural gas (until it spectacularly caught on fire when I was about 10). Is the New Holland concept any different?

The New Holland tractor unveiled at Farm Progress Show is powered by a 180 hp bio-methane engine. New Holland (CNH) claims that it has identical performance to a diesel tractor but produces ultra-low emissions and a "virtually zero CO2 profile." Another benefit is a 50% reduction in drive-by noise levels, making the tractor well suited to livestock operations. Read more about the concept at CNH's website.

This made me think back to the popularity of LP tractors during my childhood. John Deere, Case, IH, Ford, and others all had LP tractors on the market in the decade that proceeded my farming youth. These machines took advantage of low LP prices that made these models more economical in some parts of the US than their diesel or gas equivalents.

New Holland's methane tractor is different because it addresses different problems. Sustainability is the holy grail of farming. If farms can be self-sustaining and energy independent, there is no reason they cannot continue for generations to come. Sustainable farms must produce not only food, but energy too.

There are relatively few farms in the US that generate methane, but other countries have widely embraced construction and use of anaerobic digesters on farms. Here is a graph from 2011 that shows farms in the European Union with anaerobic digesters. Germany had 6800. The entire US at this time had 167. (Indiana had 7). Farmers I've talked to say the cost/benefit does not work in the US unless you are a really large livestock farm.



SOURCE: CENTER FOR CLIMATE AND ENERGY SOLUTIONS

The New Holland methane tractor concept also addresses climate change concerns. If powered by methane generated by a farm, the resulting CO2 emissions are "virtually zero" according to CNH. Many in the US may think climate change irrelevant, but the issue is arriving on US farms whether farmers embrace it or not. I see climate change in contracts between farmers and purchasers of raw farm products more and more. For example, many milk purchasers are starting to require the farms

they purchase milk from to reduce their carbon emissions. How long before certain countries only buy "low-carbon" grain. A methane tractor could help these farms produce products that meet these standards.

When my grandfather purchased an International LP tractor he likely didn't even know that its emissions were less than the diesel equivalent. How ironic that the 1950's technology is new once again, but for entirely different reasons.

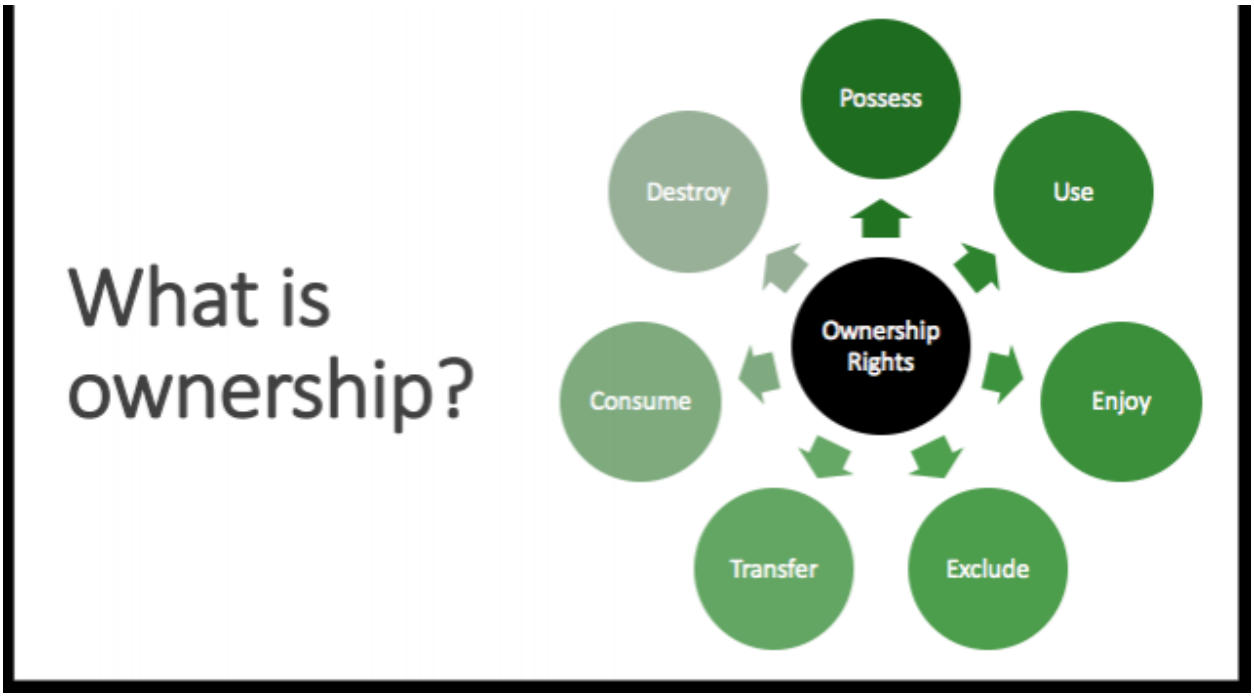
Breaking Down Ag Data Ownership

Over two years has passed since American Farm Bureau Federation (AFBF) led an industry coalition to address issues of surrounding ag data ownership, privacy, and security. When AFBF published the "Privacy and Security Principles for Farm Data"--or as I call them, the ag data's "Core Principles," I expected the industry uptake to be swift. Companies enthusiastically signed on. But here we are, two years later, and many ag tech providers still do not get it--ag data is not just 1s and 0s, but proprietary information that should be grounded in an ownership principle.

The Core Principle's statement on "ownership" was pretty easy to understand:

> ***Ownership:*** *We believe farmers own information generated on their farming operations. However, it is the responsibility of the farmer to agree upon data use and sharing with the other stakeholders with an economic interest, such as the tenant, landowner, cooperative, owner of the precision agriculture system hardware, and/or ATP etc. The farmer contracting with the ATP is responsible for ensuring that only the data they own or have permission to use is included in the account with the ATP.*

You could break this down into a few parts. First, the general principle is **that farmers own the data created on their farms**. Second, there are multiple stakeholders that may have an interest in the farmer's data when using online platforms. Third, farmers are responsible for making sure the data they upload is theirs, or used by permission. This ownership principle is fairly straightforward.



"Ownership" as a legal concept is more complicated. You can only own something if the law recognizes that an ownership right. "Ag Data" is not a traditionally recognized type of property, subject to ownership. In the US, our laws recognize ownership of real property (land), improvements (buildings), personal property (goods), and even animals. Ag data is none of these.

US laws also recognize ownership of "intellectual property" or "IP" in a few instances. You can own a patent on a new invention. You can own a trademark or service mark. You can own a copyright in an original literary, musical, theatrical or other creative work. Ag data doesn't fit into these traditional IP classifications.

That leaves only two options for establishing ownership of ag data. The first option is to view ag data a farmer's "trade secret." The Uniform Trade Secrets Act, which has been adopted in similar forms in most states, defines a trade secret as:

> *Information, including a formula, pattern, compilation, program, device, method, technique, or process, that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.*

In short, a trade secret is something that only the farmer knows, that has economic value to the farmer, and that another person could not easily identify or reverse engineer.

Not all ag data fits this definition. Not all ag data are protected trade secrets. But clearly some ag data is the type of information that a farmer considers his or her trade secret.

The other option for recognizing ownership in ag data is legislative. Congress could enact laws that protects ag data, prohibiting copying or distributing without a farmer's consent. Congress has done this medical data, for example (HIPAA). But nothing like this exists for ag data.

All of this points to one fact. Whether a farmer owns his or her data after transferring it to a cloud-based platform is dependent on the contracts the farmer signs with the provider. If the contracts do not treat ag data as a protected trade secret, saying the farmer owns their data is an empty promise. Ownership means nothing if the farmer has no control.

Before signing up for an ag data platform, farmers should ask what the provider's position is on ag data ownership. Farmers can also look on the Ag Data Transparent website (www.agdatatransparent.com) and see how the provider answered that question when under review. If the provider is not "Ag Data Transparent" certified, farmers should ask why.