

Who should own farm data?	Ansvarlig	JPH
	Oprettet	09-2015
Projekt: 7464, Digitale relationer og datadreven informationsformidling	Side	1 af 6

Who should own farm data?

Dette notat er udarbejdet som led i arbejdet med arbejdsplan A. Big data – benyttelse og beskyttelse i projektet Digitale relationer og datadreven informationsformidling. Notatet giver med en samling cases eksempler på, hvordan andre arbejder med at sikre landmandens ejerskab til data, og hvordan der arbejdes med at sikre strukturer, så data både beskyttes og benyttes.

GiSC – Growers Information Services Cooperative

<https://www.gisc.coop/>

GiSC har fokus på beskyttelse og benyttelse, men synes ikke at håndtere værdien ved at poole data fra mange bedrifter og derefter udbyde adgang til disse. Der arbejdes med beskyttelse og benyttelse på bedriftsniveau. Medlemskab er gratis. September 2015 har de 1.500 medlemmer iflg. artikel Wall Street Journal Europe.



GiSC was formed with one purpose in mind: to assist GiSC members – U.S. Agriculture Producers – with the collection, retention, and delivery of INFORMATION. GiSC defines information in the broadest sense: data, digitized documents, data files, GIS data, Precision Ag files, etc. In order to accomplish its purpose, GiSC will be an advocate for the grower by **protecting members' ownership and control of the information** surrounding their farming and ranching operations.

GiSC believes that the future of efficient information flow must involve a system that assists in the collection, storage, access, and sharing of the Grower's information, but the access to that information **must TOTALLY be under the Grower's control**.

GiSC can assist the Grower in monetizing the information that the Grower decides to share.

By uniting growers together and creating a means for accessing grower information, GiSC is well positioned to **negotiate the value of its grower members' information and data** – monetary value and other potential benefits – with industry players.

GiSC has three primary objectives:

- 1) Establish the precedent that growers should own and control the information and data related to their production agriculture operations.
- 2) Offer growers a private and secure cloud-based repository, [AgXchange™](#), to store all of the information related to a grower's production agriculture operation. AgXchange™ will also provide growers and their trusted third parties a communication channel for exchanging data, digital documents, and information. Central to GiSC's mission, **the grower will be in control – the grower will dictate who may send data to the repository or access the data in the repository and may limit the access granted to his or her repository.**
- 3) **Return value back to the grower members of GiSC.** As the network of information and connections increases in AgXchange™, the value of that network increases. GiSC, through its partnership with Ag Pro Exchange, will deliver patronage dividends back to its grower members from profits generated. Additional benefits are possible for GiSC's members, including insights and analysis derived from the data in grower repositories.

American Farm Bureau Federation

<http://www.fb.org/>

AFBF sætter fokus på problemet, og har fået opbakning fra store spillere som John Deere, Raven og Climate Corp (Monsanto). De opstillede retningslinjer pålægger dog landmanden ansvaret for at indgå en kontrakt, hvoraf det fremgår, at han ejer og kontrollerer data. Der er ingen tiltag til i fællesskab at udnytte værdi af data.



Farm Bureau is an independent, non-governmental, voluntary organization governed by and representing farm and ranch families united for the purpose of analyzing their problems and formulating action to achieve educational improvement, economic opportunity and social advancement and, thereby, to promote the national well-being. Farm Bureau is local, county, state, national and international in its scope and influence and is non-partisan, non-sectarian and non-secret in character. Farm Bureau is the voice of agricultural producers at all levels.

Farmers, Agriculture Technology Providers [Reach Agreement on Big Data Privacy and Security Principles](#) Expected to Accelerate Technology Adoption: The coalition supporting the principles includes: American Farm Bureau Federation, American Soybean Association, Beck's Hybrids, Dow AgroSciences LLC, **DuPont Pioneer**, **John Deere**, National Association of Wheat Growers, National Corn Growers Association, National Farmers Union, **Raven Industries**, **The Climate Corporation**, and USA Rice Federation.

Fra pressemeddelelse om Big Data and Privacy agreement:

- **Ownership:** The group believes that *farmers own information generated on their farming operations*. However, farming is complex and dynamic and 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.
- **Collection, Access and Control:** An ATP'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.
- **Notice:** Farmers must be notified that their data is being collected and about how the farm data will be disclosed and used. This notice must be provided in an easily located and readily accessible format.
- **Third-party access and use:** Farmers and ranchers also need to know who, if anyone, will have access to their data beyond the primary ATP and how they will use it.
- **Transparency and Consistency:** ATPs shall notify farmers about the purposes for which they collect and use farm data. They should provide information about how farmers can contact the ATP with any inquiries or complaints, the types of third parties to which they disclose the data, and the choices the ATP offers for limiting its use and disclosure. An ATP's principles, policies and practices should be transparent and fully consistent with the terms and conditions in their legal contracts. An ATP will not change the customer's contract without his or her agreement.
- **Choice:** ATPs should explain the effects and abilities of a farmer's decision to opt in, opt out or disable the availability of services and features offered by the ATP. If multiple options are offered, farmers should be able to choose some, all, or none of the options offered. ATPs should provide farmers with a clear understanding of what services and features may or may not be enabled when they make certain choices.
- **Portability:** Within the context of the agreement and retention policy, farmers should be able to retrieve their data for storage or use in other systems, with the exception of the data that has been made anonymous or aggregated and is no longer specifically identifiable. Non-anonymized or non-aggregated data should be easy for farmers to receive their data back at their discretion.
- **Data Availability:** ATPs agree they should provide for the removal, secure destruction and return of original farm data from the ATP, and any third party with whom the ATP has shared the data, upon request by the account holder or after a pre-agreed period of time.
- **Market Speculation:** ATPs will not use farm data to illegally speculate in commodity markets.

- **Liability & Security Safeguards:** The ATP should clearly define terms of liability. Farm data should be protected with reasonable security safeguards against risks such as loss or unauthorized access, destruction, use, modification or disclosure. Policies for notification and response in the event of a breach should be established.

Se dokumentet på <http://www.fb.org/tmp/uploads/PrivacyAndSecurityPrinciplesForFarmData.pdf>
I [denne video](#) redegøres for farer ved udlevering af sine data til brug i big data sammenhænge.

Open Ag Data Alliance (OADA)

<http://openag.io/>

Fokus er på at give landmanden et sikkert sted at opbevare data fra diverse ASTP'er på en måde, så han kontrollerer og uddelegerer, hvem der kan tilgå hans data. OADA udvikler alene standarder (API'er), hvor brugen af disse standarder vil sikre landmandens kontrol og udnyttelsesmuligheder.



OADA will create a secure data ecosystem that enables data security, privacy and interoperability for the entire agriculture industry. OADA will achieve this through an open standards software effort to establish secure data exchange protocols.

Starting with a common, secure, and interoperable Application Program Interface (API) specification, an environment can be created in which farmers have complete freedom to choose best-in-class products from precision ag vendors with confidence in the data security and privacy and no danger of vendor data lock-in. Farmer participation in the newly-enabled OADA-compliant precision ag services market will drive innovation across the agriculture industry to enable the next generation of sustainable agriculture. With the mission to ensure farmers have full data access, security and privacy, OADA:

will operate with a farmer-focused approach through a central guiding principle that each farmer owns data generated or entered by the farmer, their employees or by machines performing activities on their farm,

will develop open reference implementations of data storage and transfer mechanisms with security and privacy protocols,

A verification suite will be created that can automatically be run against vendor implementations of the OADA API specification. Results of the verification suite will be used to measure a platform's compliance with the OADA API specification and ensure interoperability across the industry.

[OADA Data Privacy and Use](#) is a set of privacy and use components (PUCs) by which farmers can compare products and services that interact within the OADA ecosystem.

Big Data, Big Deal: Which unified platform will take root at U.S. farms?

<http://www.carrollfamilyfarms.com/blogpostview.php?postid=26>

CEO for et større amerikansk/brasiliansk landbrug er klar over, at landbrugsdata er særdeles værdifulde, hvorfor nogle firmaer nu tilbyder gratis at håndtere landmandens data. Han forholder sig dog ikke til, hvorvidt landmanden – som individ eller som del af fællesskab, ville kunne høste en del af denne værdi frem for blot at aflevere data.



What's the perfect business model?

Another primary challenge to the unified database is determining the revenue source. Three years ago it was assumed that the revenue would come from farmers subscribing to a service. Today, it appears there may be providers willing to give the service away for free in exchange for the ability to access, use, and sell data to chemical, fertilizer, seed, and machinery companies. A host of companies realize that access to this kind of detailed information on tens of millions of acres across the U.S. is incredibly valuable, not only to the farmers but to themselves.

For instance, CPS and its [Echelon platform](#) is being offered free of charge, and the company has been willing to help farmers view, interpret, and take action on their collected data.

The race is on to see which company will grab up market share first, and offer the whole package, for this new revenue stream in agriculture. Will it be a manufacturer, supplier, or software company? Will the winner have a model that doesn't charge the farmer for use of its platform in exchange for data, or will farmers have to pay in order to keep their data private? How much will a chemical manufacturer pay for data that shows that its product is undervalued? How much will a manufacturer pay to own data that proves that its product is worthless? Time will only tell.

AgXchange

<http://agpro-x.com/agxchange/>

Snævert samarbejde med GiSC. Brugergrænseflade og struktur baseret på "geografi" dvs. GIS.



An open platform that allows growers to capture data from a variety of devices and sources, normalize and store their data in a secure repository, and manage access to their data for use by technology or service partners.

Once the AgXchange platform provided by GiSC is populated and amasses a certain level of information, the data contained in AgXchange™, in various aggregations, becomes a valuable resource for stakeholders in the agricultural industry. The data contained in AgXchange™ will be de-identified, stripped of all personal information, before it is aggregated and marketed to third parties.

Farmers Business Network

<https://www.farmersbusinessnetwork.com/>

Dette firma samler data sammen og udnytter den samlede data mængde i beslutningsstøtte til den enkelte landmand. De sidder på data og opkræver 500 \$ for adgang til deres service.



Farmers Business Network is the brainchild of Charles Baron, a former program lead of energy innovation and geothermal projects at Google. For \$500 a year farmers can contribute to and access FBN's giant store of farming data that tells them which products and methods deliver the highest yields for a specific crop in a given location. The database aggregates information about individual farms, like type of seeds used, amount of fertilizer sprayed, pressure applied during planting, as well as environmental factors, soil nutrients, and farmer yields, to show farmers how they can make their operations more efficient. It allows farmers not only to get a global view of their farming operations, but also to see what techniques and products other farmers are using and with what success.

Farmobile LLC

<https://www.farmobile.com/>

I første omgang har de fokus på via egen udviklet dims at opsamle data på tværs af forskellige maskiner og udstyr og efterfølgende opbevare og stille data til rådighed for landmanden.



Next year Farmobile, which is based in a suburb of Kansas City, Mo., plans to open an electronic marketplace where pesticide companies, tractor makers or commodity traders could search for data on farmers' harvests and quote prices to individual farmers to see detailed information. If a farmer sells, proceeds would be split evenly between the farmer and Farmobile.

Granular Inc.

<http://www.granular.ag/>

Nok en virksomhed med intentioner om at sælge data – ingen indikationer af konkrete tiltag i den retning.



Granular farm management software company also plans to set up a data platform, farmers can store and sales data on the internet. Granular recently obtained investment from Google Ventures and Andreessen Horowitz 2500 million dollars. <http://en.egg-life.net/article/96935>

FieldScripts by Monsanto

<http://www.fieldscripts.com/>

<http://www.economist.com/news/business/21602757-managers-most-traditional-industries-distrust-promising-new-technology-digital>



Monsanto, the world's largest hybrid-seed producer, has a library of hundreds of thousands of seeds, and terabytes of data on their yields. By adding these to the Climate Corporation's soil- and weather database, it produced a map of America which says which seed grows best in which field, under what conditions. FieldScripts uses all these data to run machines made by Precision Planting, a company Monsanto bought in 2012, which makes seed drills and other devices pulled along behind tractors. Planters have changed radically since they were simple boxes that pushed seeds into the soil at fixed intervals. Some now steer themselves using GPS. Monsanto's, loaded with data, can plant a field with different varieties at different depths and spacings, varying all this according to the weather. It is as if a farmer can know each of his plants by name.

Dataindsamling – eksempler

Jaguar Forage Harvester made by Claas of America in Sarpy County measures more than 40 parameters as owners operate the machine; the company's Lexion combine tracks and records more than 70. ([Omha.com, 15-3-2015](#))

Terms of agreement - eksempler

Kontrakt med maskinstation

- The custom farming contract needs to define the "farm data."
- The contract should explain who owns the farm data. This should be simple in the custom farming arrangement, because in most instances, the farmer or landowner should own the data. However, custom harvesters may want to retain some data so that they can analyze their efficiency from field to field and year to year.
- The contract should state how and when the farm data will be transferred to the owner.
- The contract should explain what obligations the custom harvester has to retain the farm data after transferring to the farmer.

John Deere – [udpluk af betingelser](#)

1. Typer af oplysninger, som vi indsamler

Maskindata er data, som er genereret af, indsamlet af eller gemt i dit udstyr eller i andet hardware eller andre enhed, der kommunikerer med dit udstyr. Maskindata inkluderer data vedrørende dit udstyrs geografiske placering, dit udstyrs antal motortimer, data vedrørende motordrift (eksempelvis, hvor meget brændstof der er forbrugt) og udstyrets diagnosedata.

2. Sådan indsamler John Deere oplysninger og data

Hvis dit udstyrs indstillinger tillader det, indsamler vi Maskindata fra dit udstyr eller enheder via JDLink™ Telematics Service, Service ADVISOR™ eller lignende services. Det er også muligt, vi modtager oplysninger om, hvor du befinder dig, fra din smartphone eller andre enheder, som kan fastslå din geografiske placering. Vi behandler disse oplysninger som Personoplysninger, hvis disse oplysninger forbindes med dine Kontaktoplysninger.

3. Sådan bruger John Deere oplysninger og data ("Formål")

John Deere bruger Personoplysninger og Maskindata til en række Formål, herunder følgende Formål:

- Kundeservice: Til at gennemføre produkt- eller servicebestillinger og til andre services, der er relateret til din bestilling, eksempelvis levering, vedligeholdelse, garantiservice, finansiering, udlejning og kreditservice.
- Produkt- og Kundeservice: Til at yde support, herunder overvågning og tilstandsstyring af dine maskiner, at levere opgraderinger og produktforbedringer via programmeddelelser og til diagnosticering og reparationer, produktsikkerhed og tilbagekaldelser.

- Markedsføring: Til at sende dig meddelelser og produkt- og servicetilbud fra John Deere eller vores forhandlere, leverandører og partnere, herunder tilbud, som er baseret på dine interesser, personlige og forretningsmæssige karakteristika samt din geografiske placering.
- Undersøgelser og Salgsfremstød: Til at administrere undersøgelser, afstemninger, udlodninger, konkurrencer, loyalitetsprogrammer og andre salgsfremstød.
- Berettigelse: Til at afgøre, om du er berettiget til visse produkter, services eller tilbud.
- Meddelelser: Til at sende dig information, som kan have din interesse, såsom nyheder fra John Deere, virksomhedsblade (eksempelvis The Furrow og Homestead), kataloger, meddelelser, påmindelser og nyhedsbreve vedrørende teknisk service.

4. Hvorfor John Deere videregiver oplysninger og data

Vi begrænser vores deling af Personoplysninger og Maskindata til følgende:

- Vi vil eventuelt dele Personoplysninger og Maskindata med selskaber kontrolleret af John Deere, leverandører, autoriserede John Deere-forhandlere og -distributører samt samarbejdspartnere, som muligvis vil bruge oplysningerne til de ovennævnte Formål.
- Vi vil også eventuelt dele Personoplysninger og Maskindata med vores serviceudbydere, så disse kan opfylde Formålene på vores vegne. Vores serviceudbydere er ifølge lov eller kontrakt forpligtet til at beskytte oplysninger og data og til kun at anvende oplysninger og data i overensstemmelse med vores instrukser.
- Vi vil udlevere Personoplysninger og Maskindata, hvor det er nødvendigt for at gennemføre salget af eller overførsel af forretningsaktiver, for at håndhæve vores rettigheder, beskytte vores ejendom, eller beskytte andres rettigheder, ejendom eller sikkerhed, eller hvor det er nødvendigt i forhold til ekstern revision, overholdelse af lovkrav og god virksomhedsledelse. Vi vil også videregive Personoplysninger og Maskindata, når loven foreskriver det, herunder som svar på en stævning, samt til retshåndhavende myndigheder og domstole i USA og andre lande, hvor vi driver virksomhed.

Vær opmærksom på, at vi også kan videregive oplysninger og data om dig, som ikke kan identificere dig personligt. Eksempelvis kan vi offentliggøre rapporter, der indeholder samlet og statistisk data om vores kunder og udstyr. Disse rapporter indeholder ingen oplysninger, som vil gøre læseren i stand til at kontakte, identificere eller lokalisere dig geografisk.

7. Dine valgmuligheder

Du kan også fravælge deling af Maskindata med John Deere. Hvis du ønsker at gøre dette, skal du enten logge ind på JDLink-hjemmesiden og afvise online Telematics System-kontrakten eller bede din John Deere-forhandler om at afbryde JDLink-servicen på din maskine. Vær opmærksom på, at hvis du annullerer JDLink-servicen, vil du ikke længere have adgang til Maskindata. Desuden vil John Deere ikke kunne tilbyde dig produkter eller services, der kræver telematisk adgang, såsom Deere Fleet Care-services og Service ADVISOR™ fjernforbindelser til diagnostik og softwareopdateringer.

Lely T4C InHerd software

Third Party Software

The T4C Software may make use of third party software. ...Customer hereby agrees to adhere to the terms and conditions of such third party software.

Customer authorizes Lely to obtain information through the internet about the Hardware modules that are in use by Customer and to verify if the Customer has paid the license fee(s) for the Hardware modules in use. **Lely is entitled to extract and process data** resulting from Customer's operation of such Hardware modules, aimed at improving products and services of Lely and for benchmarking purposes.

Customer shall not be entitled to any form of compensation for the data so obtained by Lely.