

Farm machine data & DataConnect

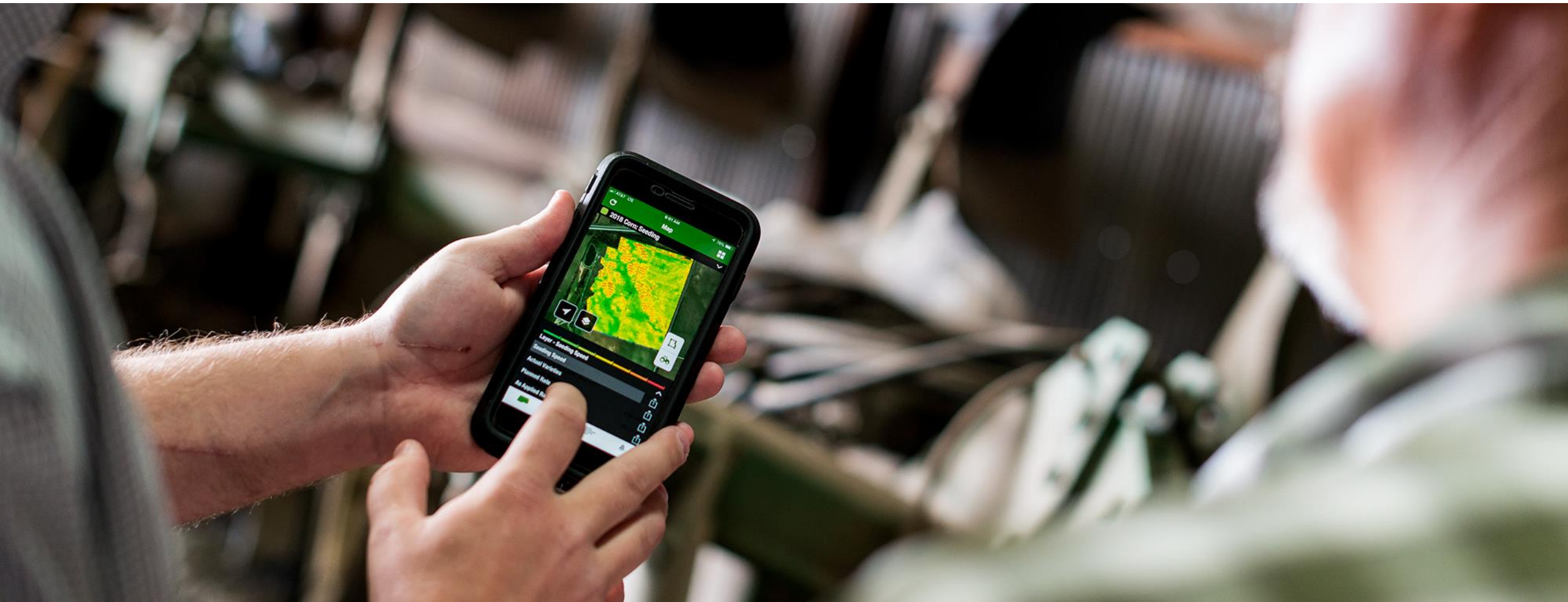
How JohnDeere organises farm data and data sharing

Dr. Thomas Engel

Manager Technology Innovation Strategy



NOTHING RUNS LIKE A DEERE



European Technology Innovation Center **Kaiserslautern - Germany**

- Opened in 2010 in Kaiserslautern
- Engineers, IT and marketing specialists develop 'intelligent solutions' for precision farming and other future technologies
- Cooperation with universities & research institutions
- 210 employees



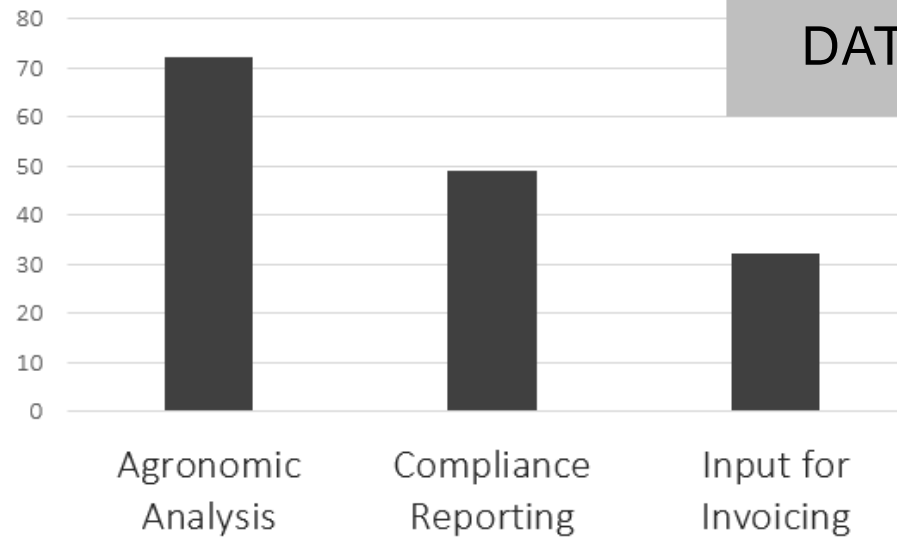
Machine capacity doesn't stop at field boundaries

FIELD

OFFICE

ANYWHERE / ANYTIME

Top 3 reasons
for data recording



N=258 (UK, GER, FR)*

DATA



**DATA
handling
matters!**

* EMR study on technology adoption, 2020

Technology Adoption Level

Digital Needs Study 2018/2019

High Tech Users

Guidance

+ Yield Monitoring / Mapping / Section Control

+ >1 x Prescription, Variable Rate, Controlled Traffic, Telematics

Mid Tech Users

Guidance

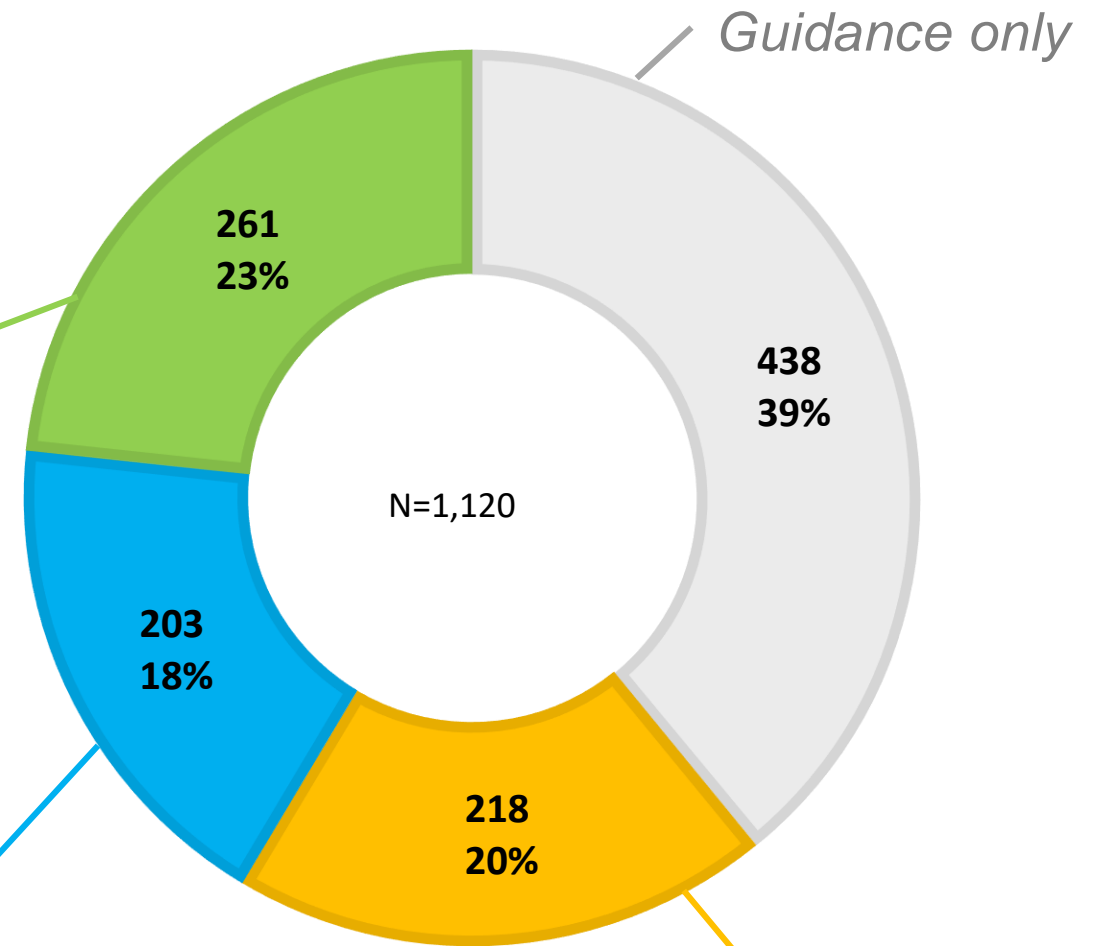
+ 1 x Yield Monitoring / Mapping / Section Control

+ 1 x Prescription, Variable Rate, Controlled Traffic, Telematics

Low Tech Users

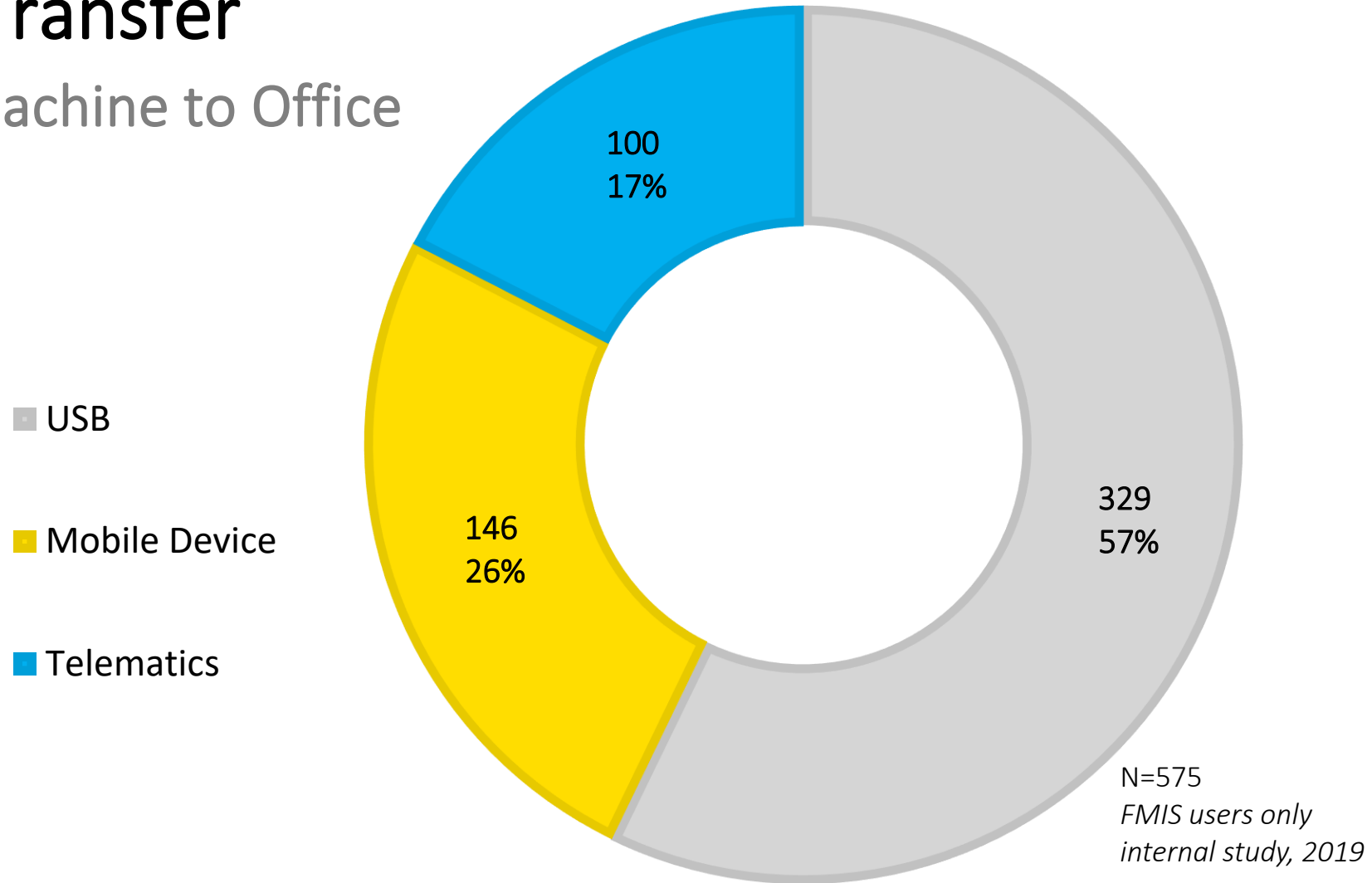
Guidance

+ Yield Monitoring / Mapping / Section Control



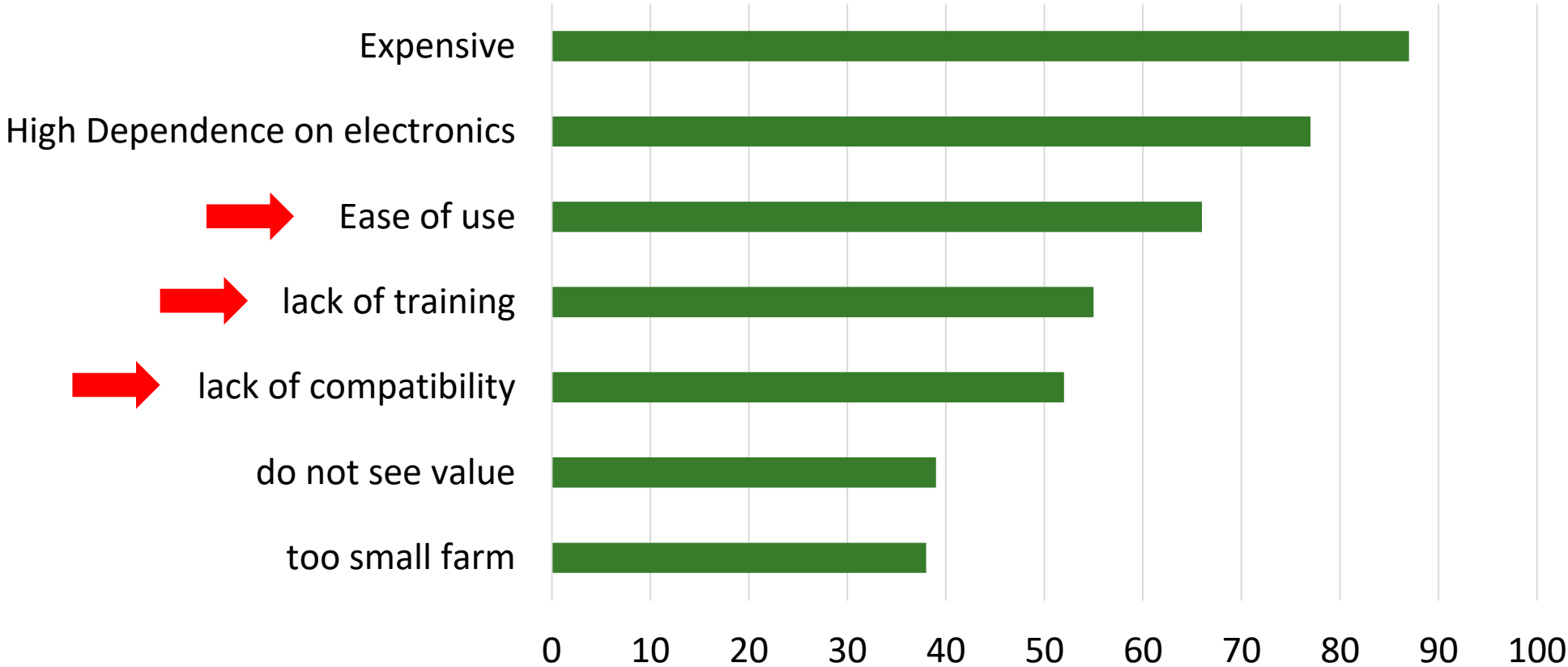
Data Transfer

From Machine to Office



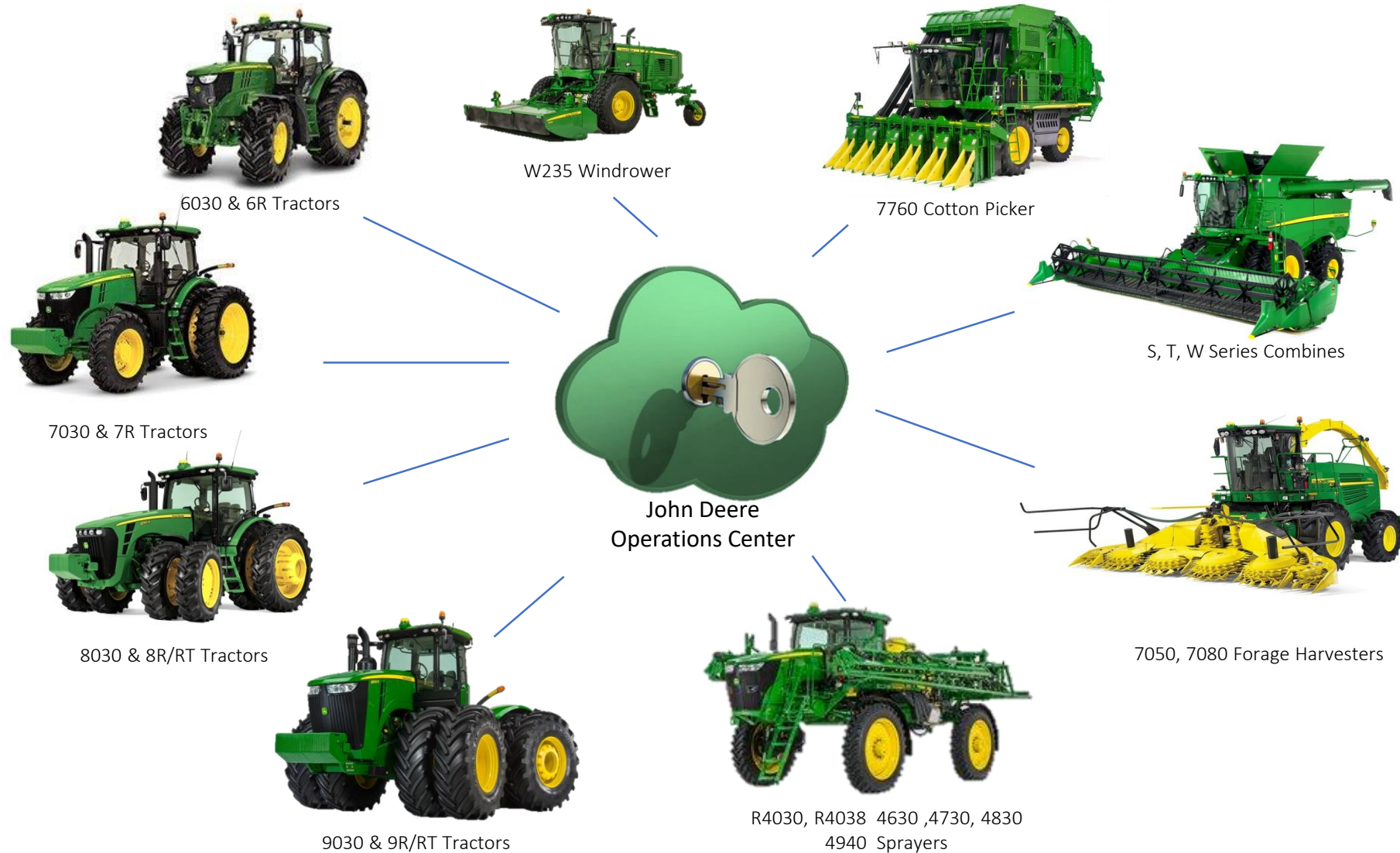
Barriers of using digital tools

Digital Needs Study 2018/2019



N=1,120

Cloud-based Connectivity





Partner



Farm

FMIS

Desktop and/or Cloud based



Dealer



Machine A

Implement X

Planting

Mike (staff)

Telematics



Machine B

Implement Y

Seedbed Prep

Jon (staff)

USB



Machine C

Implement Z

Tillage

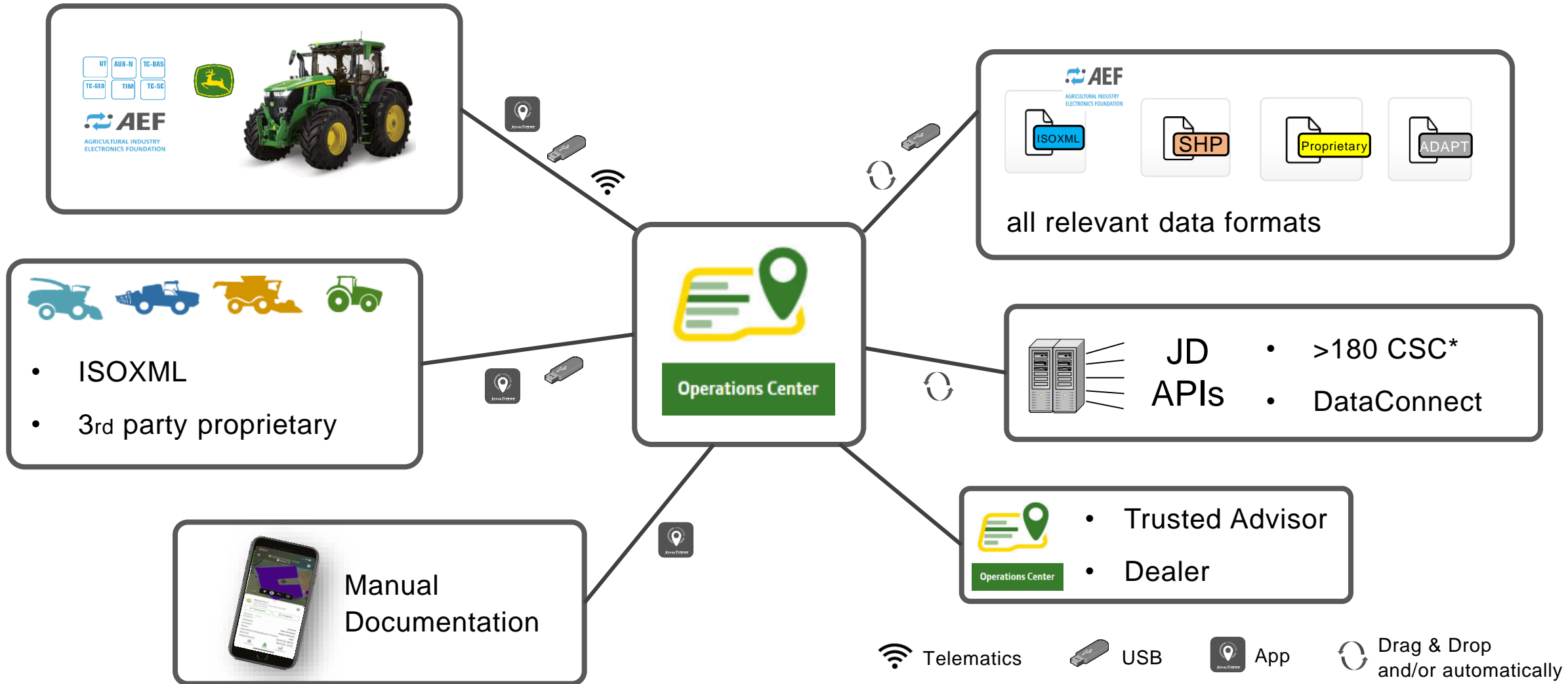
Laura (seasonal)

Smartphone

FIELD

OFFICE

ANYWHERE / ANYTIME



* CSC = Connected Software Company

OPEN ecosystem

John Deere Operations Center Connected

> 180 connected software companies

JOHN DEERE OPERATIONS CENTER CONNECTED*

*AVAILABILITY VARIES PER COUNTRY

YOU WANT TO CONNECT AS WELL?

DEVELOPER.DEERE.COM



2013 2014 2015 2016 2017 2018 2019 2020

OPEN ecosystem

DataConnect

- Cloud-to-Cloud communication

Data:

- Current Location
 - Location history
 - Fuel level
 - Speed
 - Engine on/off
- Near-real-time data exchange
 - No data losses
 - Use of preferred data platform
 - Backwards compatible

New!
Fall 2020



MyPLM
CONNECT

365FarmNet

AFS
CONNECT



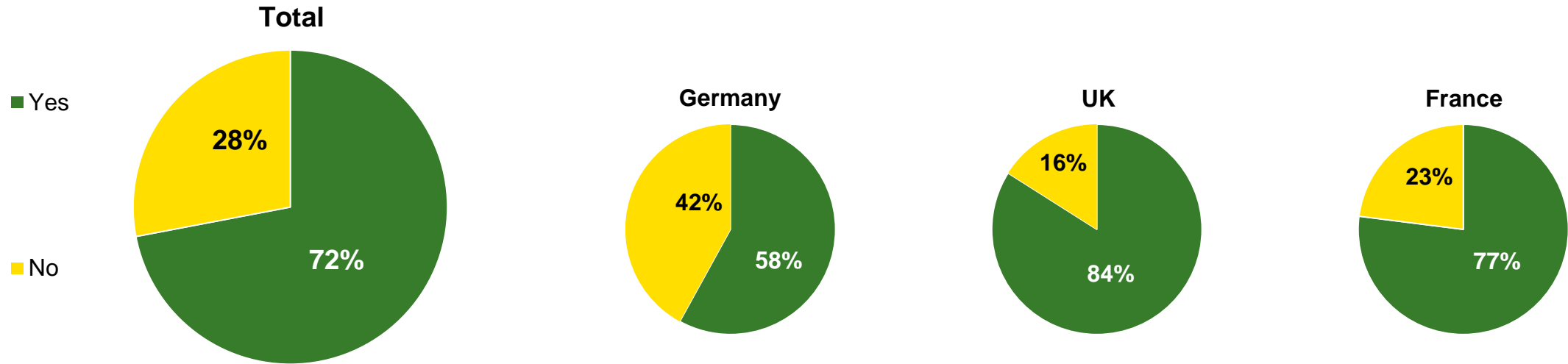
LOCAL

Your local John Deere dealer

- John Deere dealer expertise in
 - Sales (value)
 - Service & Setup
 - Trouble Shooting to provide Uptime
- Is located close by the customer
- Enables Remote Services and Diagnostics



SAFE



Reasons to not trust cloud service security:

- Access to cloud data is not exclusive to me
- The services can be hacked / data can be exposed
- Third parties or other companies could gain access the data

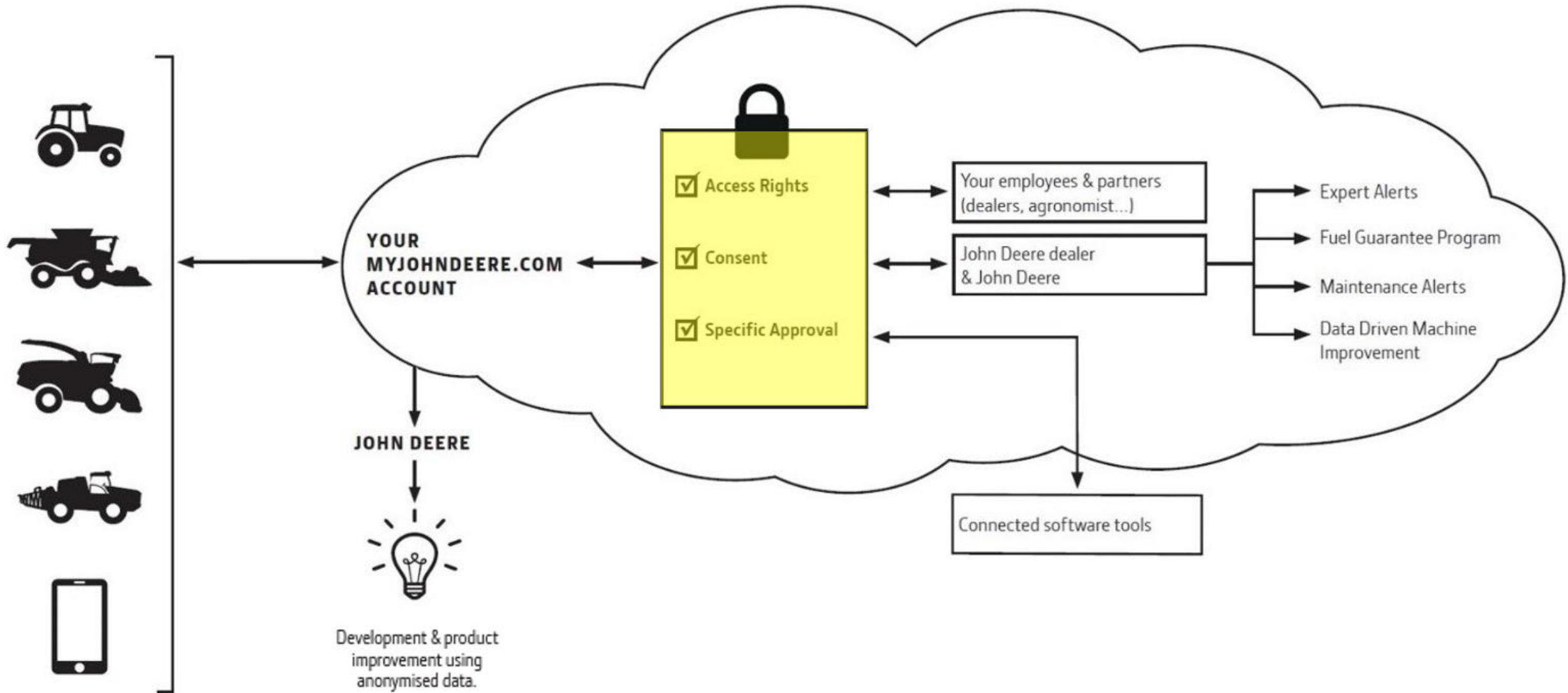
Total	164
Germany	64
UK	45
France	48
Spain	7

N=328

internal study, 2019

"Finally, thinking about the security of your operation's data, do you consider cloud services to be a secure place for your data? If no, please explain why not?"

SAFE



SAFE

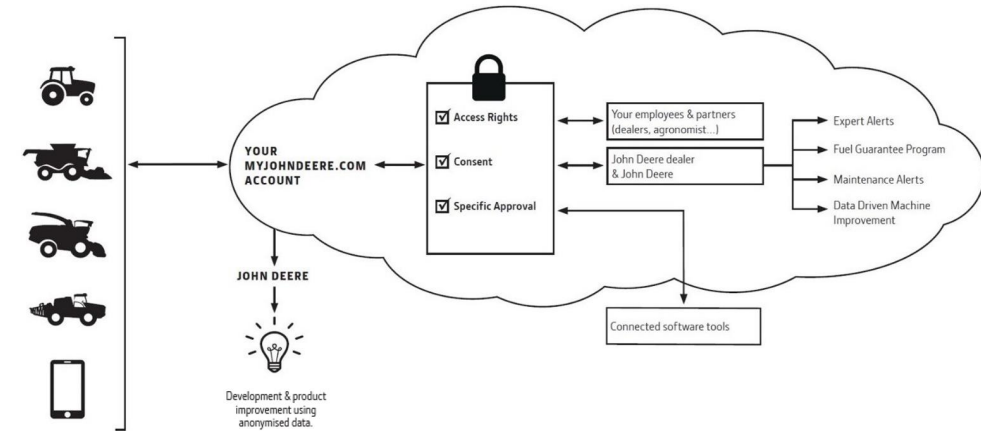
- Full control who has access to the data
- Granted access rights can be revoked at any time
- Data is effectively protected against data-loss and theft



How Data Sharing benefits YOU

Using Data to Improve productivity

- Increasing Uptime
Expert Alerts
- Improving Machine Optimization
Remote Display Access
- Lowering Running Costs
Fuel Guarantee Program
- Remote Machine Diagnostics
Service Advisor Remote





JOHN DEERE