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The human factor in a data-driven service process:
Support vs. supervision for CLAAS tractors

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2023 – today: Head of Field Data Analysis @ CLAAS Global Aftersales

2010 – 2023: Data Analyst @ CLAAS Service & Parts GmbH

2010: Master of Science – University of Applied Science Münster

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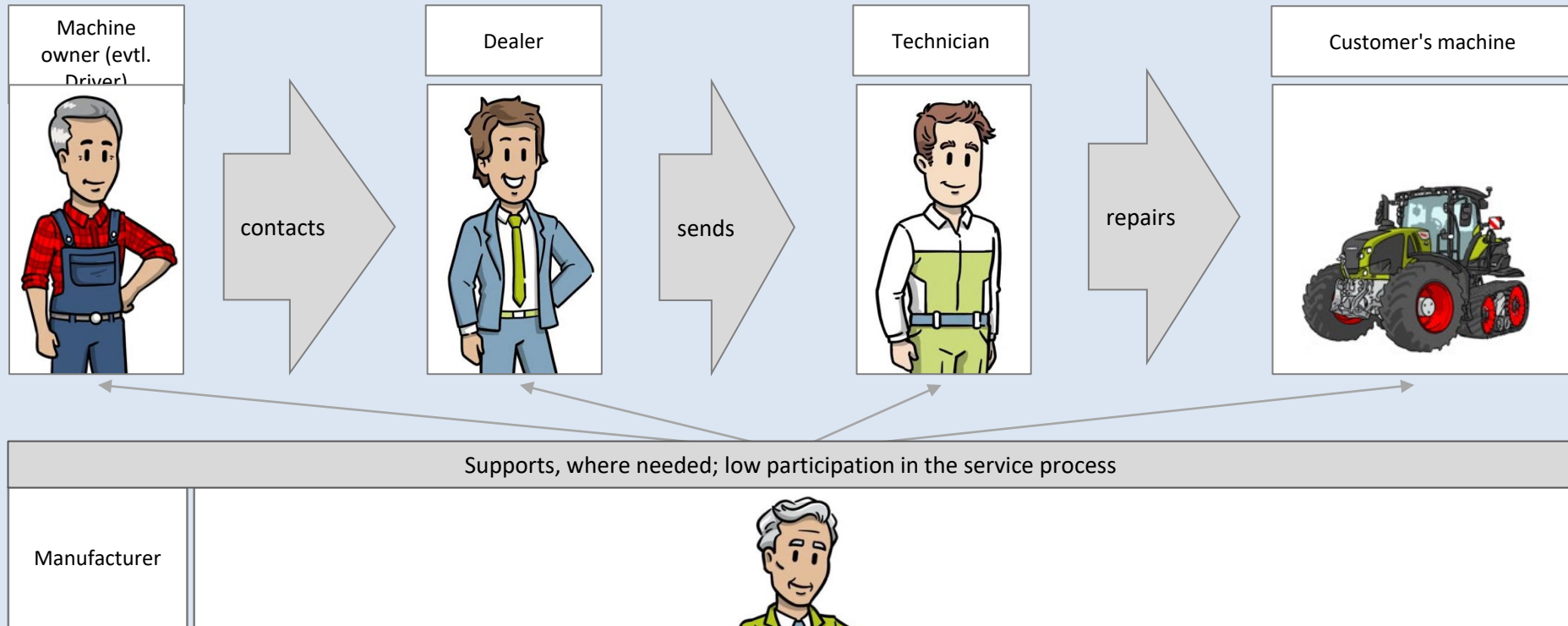# The roles in a service process:

Manufacturer

Dealer

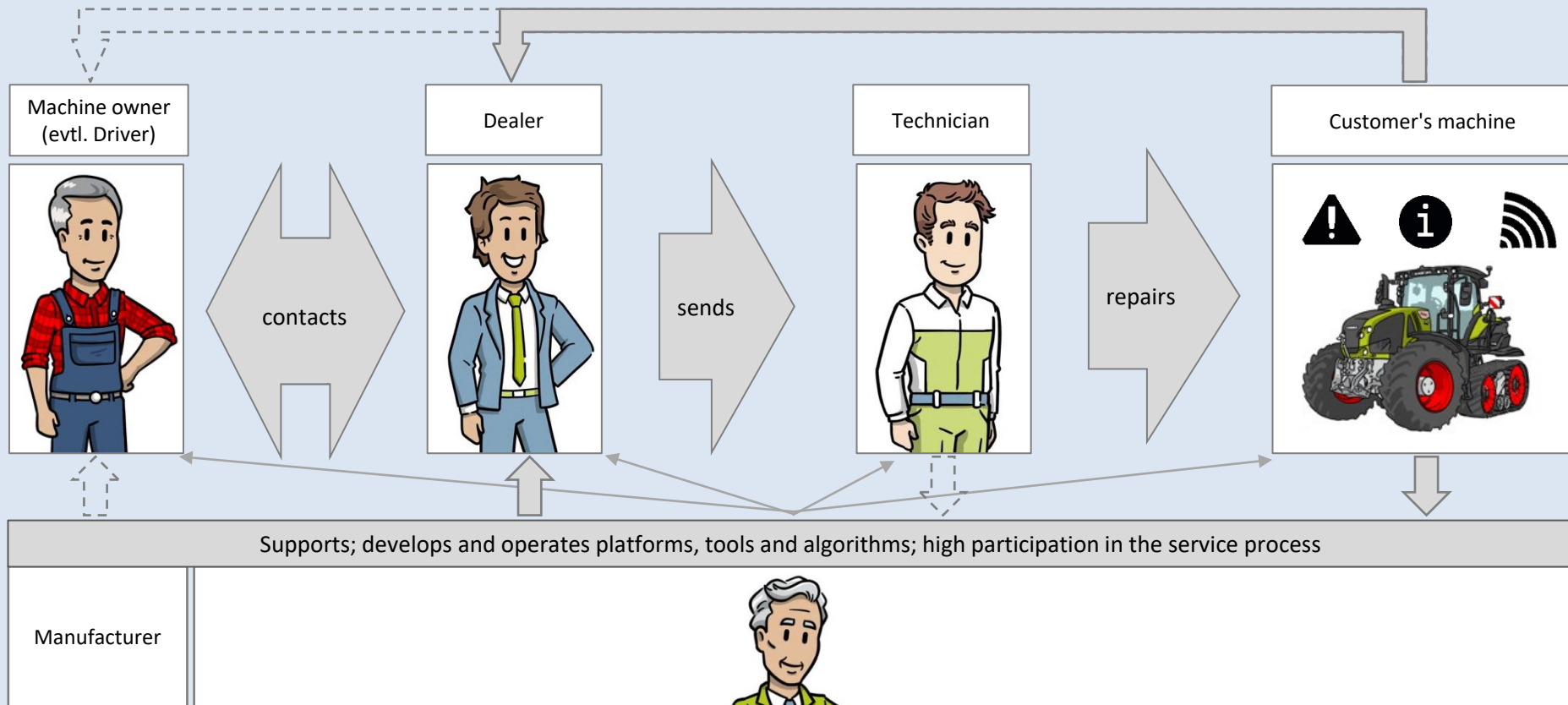Technician

Machine Owner
(and/or Driver)

The traditional service process

Machine owner (evtl. Driver)		Dealer		Technician		Customer's machine
	contacts		sends		repairs	

Supports, where needed; low participation in the service process

Manufacturer

Today, when the machine owner has a problem with his machine, he contacts his dealer. The dealer schedules a technician, orders required parts and gives additional instructions. His technician performs the repair. After a successful repair, the owner is capable to use the machine again. The manufacturer supports in various ways along this chain.

The data-driven service process

Machine owner (evtl. Driver) — contacts — **Dealer** — sends — **Technician** — repairs — **Customer's machine**

Manufacturer — Supports; develops and operates platforms, tools and algorithms; high participation in the service process

In a digitalized service process, a manufacturer offers a platform for the service process (CLAAS Service Office) to his dealer. The machine turns into a mobile data plant and allows the owner, dealer and manufacturer a look on the machine. With the correct tools and skills, a "predictive" data analysis can be done. Machine uptime can be increased.

But will the owner (or the driver) really stop his machine due to a predictive alert?

The machine shows neither malfunctions nor performance problems... Must I really stop? Look at that weather! The work must be done...

Is the dealers workshop manager willing to send out a technician to a still running machine?

We hardly find skilled technicians! All are performing repairs right now! Shall I really send someone out, even though the owner did not contact us?!
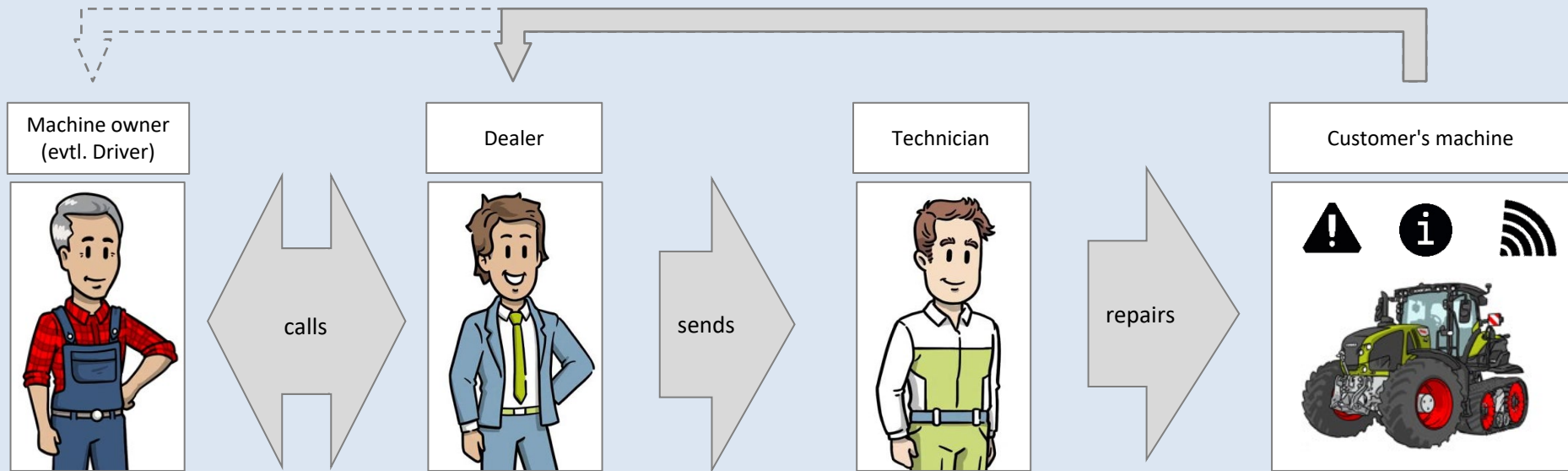
Manufacturers are driven by many questions to achieve customer satisfaction:

Is the customer satisfied?
Are the machines performing?
Are the dealers capable to
handle their processes and jobs?
Is the legal framework complete ?
Do the platforms work well?
How do I get feedback on alarms?
What if alarms are ignored?
What is the next alarm?

The data-driven service process

Machine owner (evtl. Driver) — *calls* → **Dealer** — *sends* → **Technician** — *repairs* → **Customer's machine**

In summary, we can state that:
- the service process gets <u>more complex</u> due to additional input (platforms, data, algorithms, interfaces, ...), but can be <u>accelerated</u> and made <u>transparent</u> like never before
- <u>acceptance</u> for data collection and processing (e.g. for alarms) needs to be developed constantly and can be lost easily
- the <u>needs</u> of the involved parties are partly <u>contradictory</u>, what may lead to conflicts of interest
- A lot of <u>communication</u> between the parties is useful and needed

Basics for a data-driven service process
paired with predictive alerts

Digital components	Legal components
Create a frame set for a digital service process (incl. platform, process description, etc.)	Create a legal base for the collection & analysis of (personal) data
Invest a lot of effort into data quality and data validation and transmit only relevant things into the backends	Consider an agreement or contract with the customers & dealers with fixed rules before the first alarms are send
Choose machines with sufficient connectivity, population and runtime to develop first alarms (CLAAS goes for AXION)	Clarify, who cares for machines with lost connectivity
Validate your alarm results and ensure helpful descriptions & send them to the right recipient	Clarify the monetary settlement channels

Human aspects
Be transparent and communicate your activities and rules!
A significant change in mindset is required for all participants. That takes time!

Customer might feel <u>observed</u> and <u>controlled</u>, when transparency lacks!

➡ Loss of trust

➡ Loss of acceptance

➡ Legal issues

A data-driven service process and Predictive Maintenance is not just data collection, platforms and algorithms.

…that might be the easiest part of it…

It requires a digital service process strategy.

It means and requires a change in the mindset of the people involved.
So, you need to convince them!