



Making agriculture more connected, more grounded in data and insight, unlocking the value for all

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# Who is Proagrica?

Deep customer understanding

Leading content & datasets



- Technology capabilities
- Sophisticated analytics

We help scientists make new discoveries, lawyers win cases, doctors save lives and insurance companies offer customers lower prices.

We save taxpayers and consumers money by preventing fraud and help executives forge commercial relationships with their clients.

In short, we enable our customers to make better decisions, get better results and be more productive.

Over  
**30,000**  
people

...based in around  
**40 different countries**

Customers in  
**180+ countries**

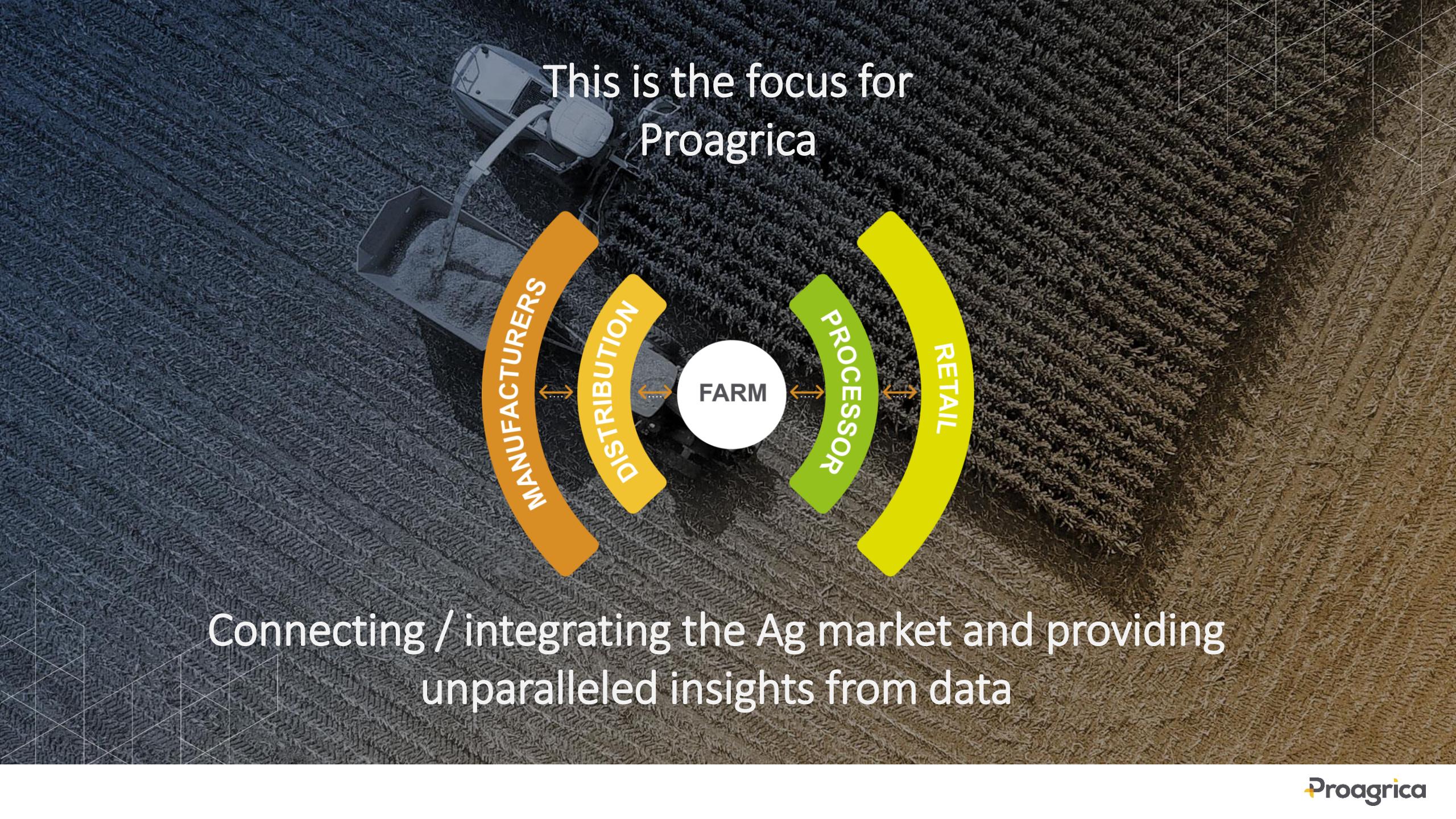
Revenues (2017)  
**£7.35bn, €8.38bn, \$9.49bn**

Over  
**7,000**  
technologists

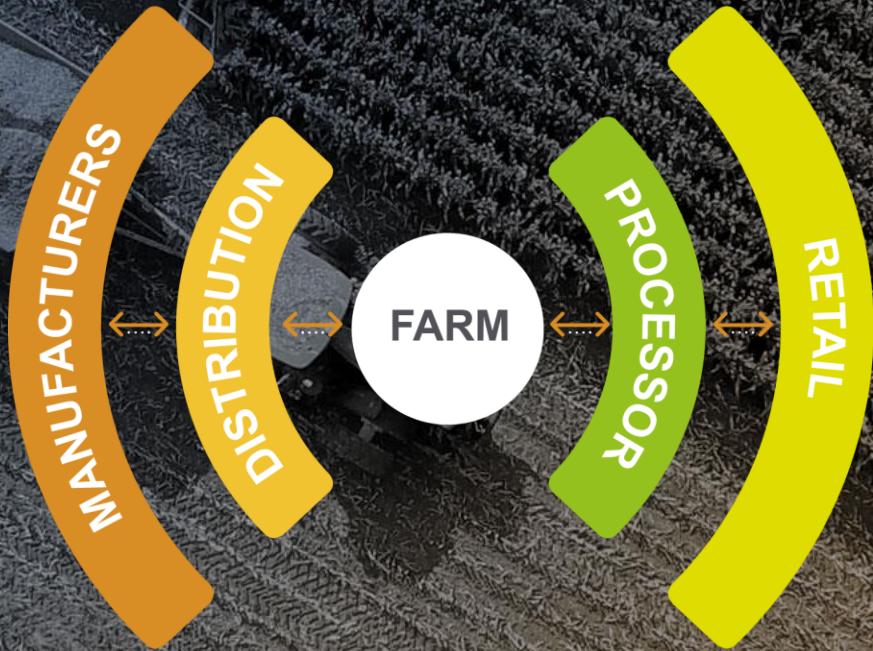
...Technology hubs  
across the world with  
**c50% software engineers**

**\$1.3bn technology spend**  
c20% of operating costs

\$500m average capex spend  
with **>95% on technology**



This is the focus for  
Proagrica



Connecting / integrating the Ag market and providing  
unparalleled insights from data

# Agro Closer : a fresh start



- An environment with little or no EDI experience
- An industry having clear standards (CRISTAL)
- Manufacturers, distributors and logistics service providers working together from the start
- The drive to succeed

# Lessons learned from 20 years of EDI experience in Ag



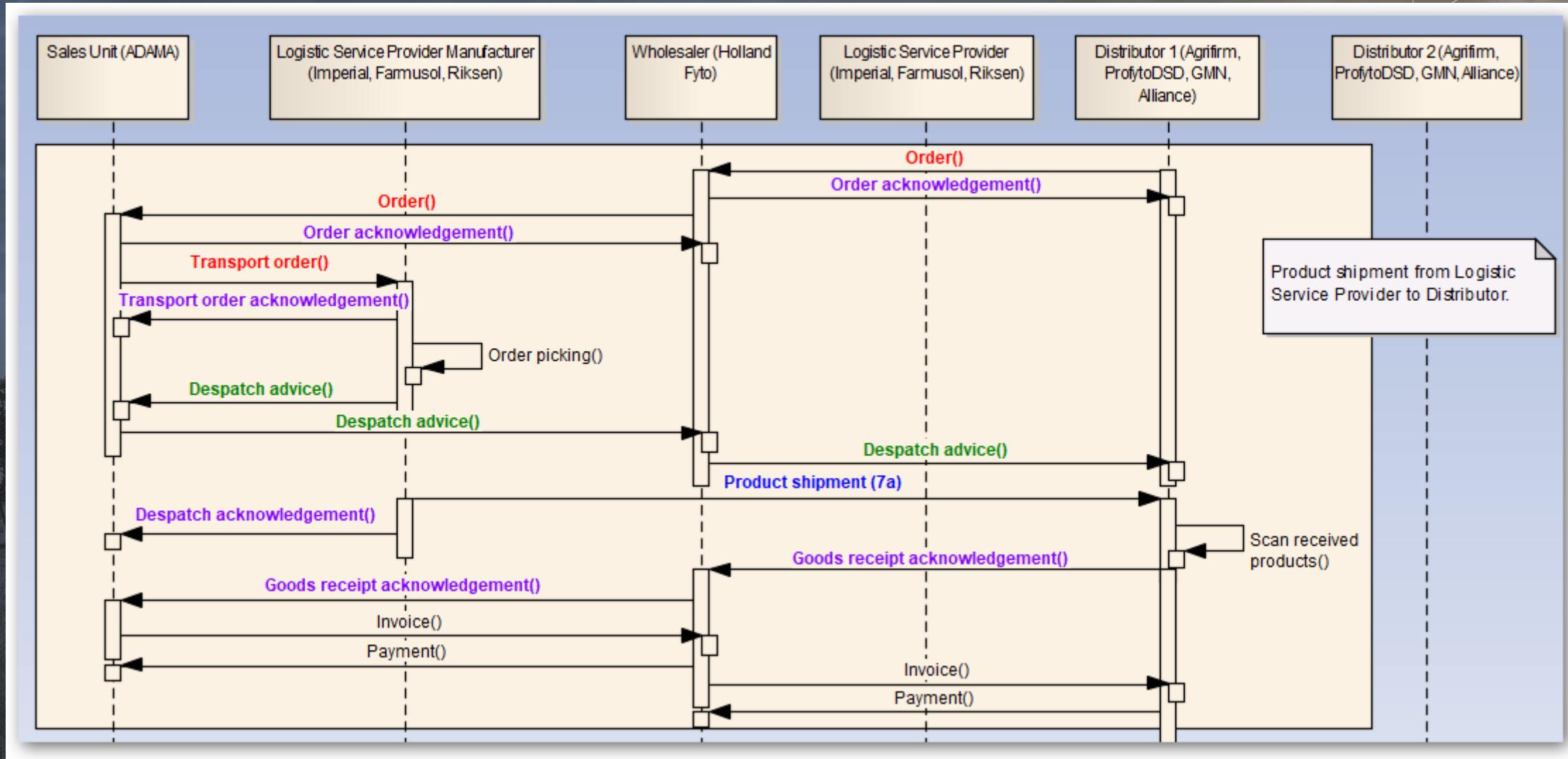
- How do we decide on the business rules?
- How do we connect two partners?
- What message format do we use?
- How do we manage master data?
- How do we manage/guide people?

# Business rules



- CRISTAL standards – describing the offline and online world
- The standards improve standardisation and visibility across supply chain
- On top of the guidelines, Agro Closer described use cases for each scenario of doing business in crop protection – manufacturers, 3<sup>rd</sup> party suppliers, wholesalers, warehouses, distributors, ...

# Business rules



# Business rules

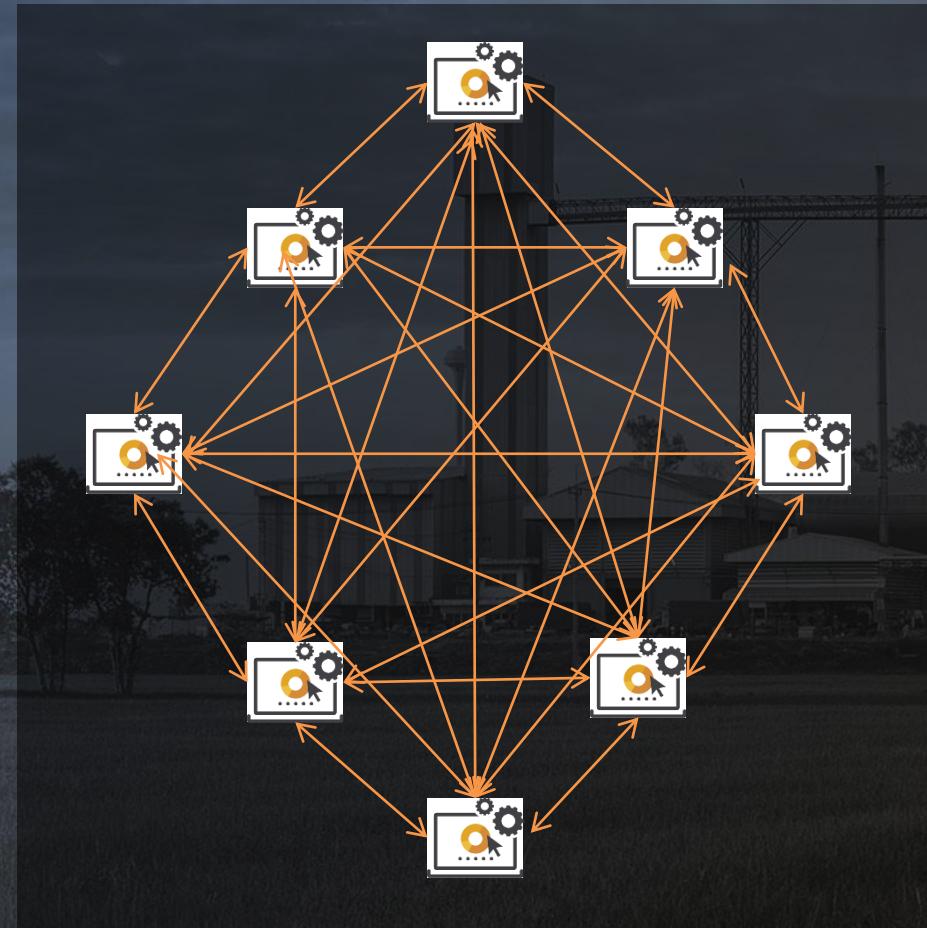
- Existence of the CRYSTAL standards and the fact Agro Closer mapped all possible use cases provided us with a solid basis to start from
- It avoids a number of excesses seen in many other Ag standards
- Every industry should have similar guidelines

# How do we connect two partners?

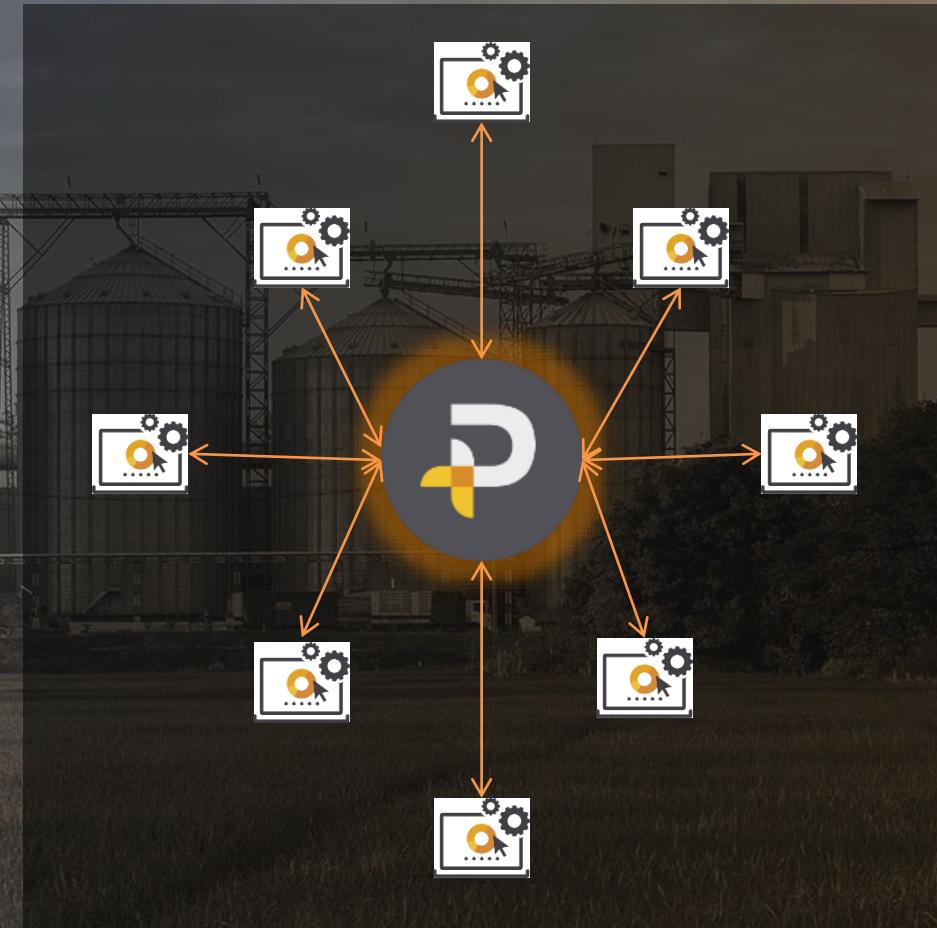


- Point to point
- APIs without centralized orchestration = point to point v2
- Centrally orchestrated API
- Central hub + professional services =  Proagrica

# How do we connect two partners?

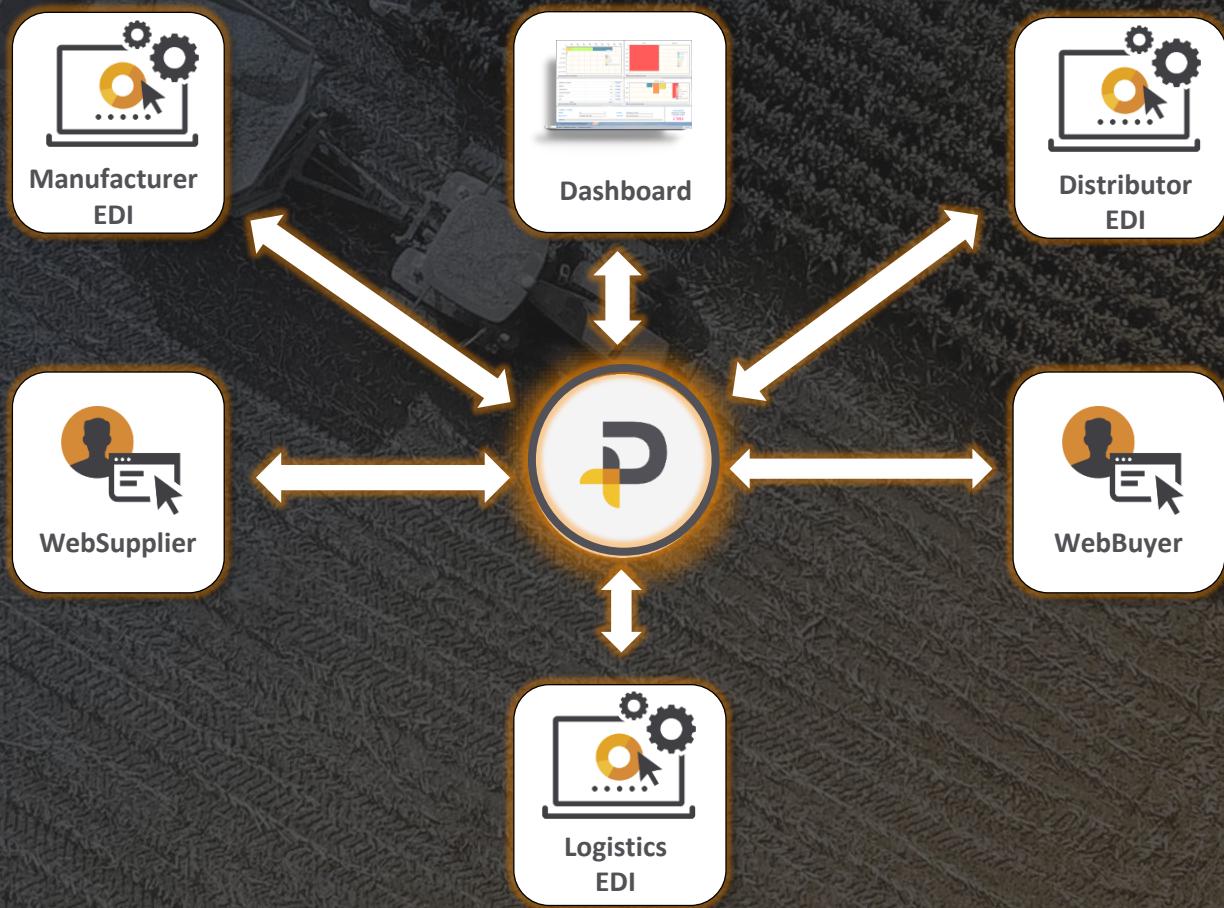


VS



# How do we connect two partners?

- Cloud hosted central hub with EDI & API connections and hub-to-hub connections to other networks



# How do we connect two partners?



- A web based solution can lower the threshold for companies new to EDI: start with a portal solution and move towards EDI once the ROI of the EDI investment is positive
- A central hub allows us to add additional services, tailored to less EDI savvy customers, who benefit from our 20 years of EDI experience in Ag

# What message format do we use?



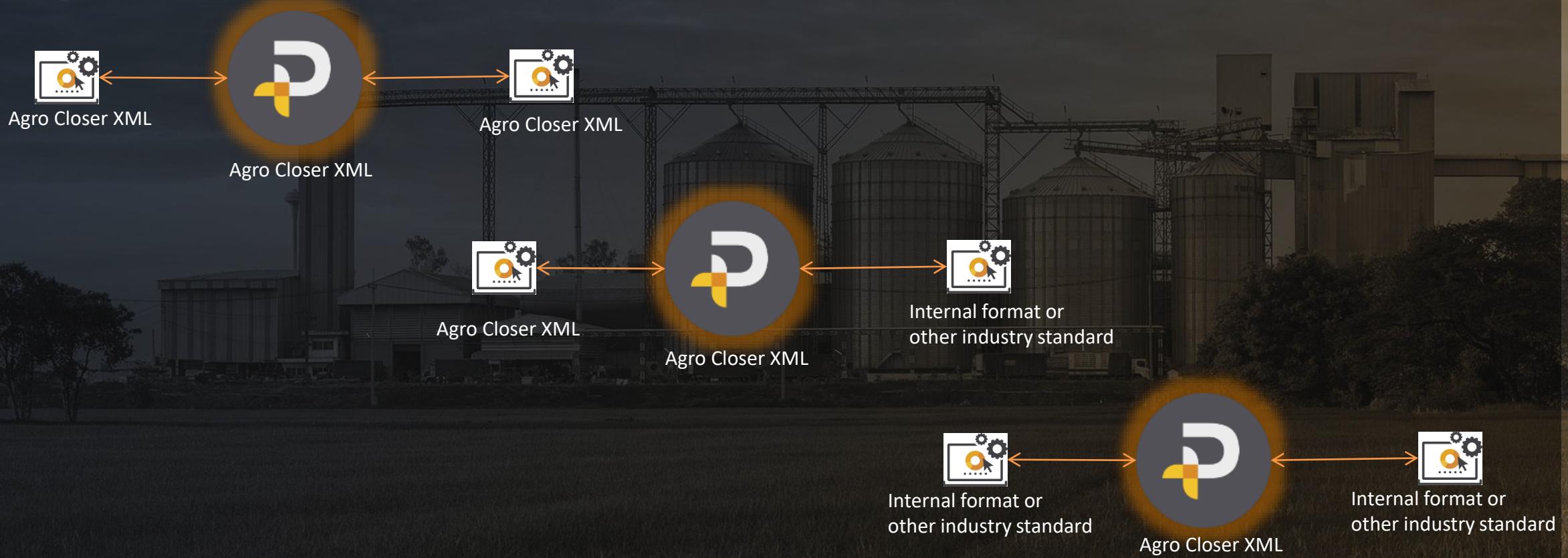
- Answer : doesn't really matter as long as the underlying business rules are uniform – ensuring compatibility
- But : in the Netherlands most parties had to start from scratch so creating an industry made a lot of sense. Basing it on the CRISTAL standards makes the new format compatible with other CRISTAL standards
- Agro Closer XML was created by Agro Connect using UN/Cefact components – started small, without ambiguity and XML allows for automatic XSD validation

# What message format do we use?



- Proagrlica provides this automatic XSD validation + introduces the validation of business rules that can't be expressed in XSD
  - Rejections are sent by mail to the sender of the failed message
- Each new partner has a decision to make: implement Agro Closer XML or have Proagrlica build a mapping from/to their internal format, or use another, compatible industry standard
- Proagrlica added Agro Closer XML as a central hub format

# What message format do we use?



# How do we manage master data?



- Managing product and location master data is one of the most underestimated tasks in EDI projects
- Central or decentral solutions to map buyer codes from/to supplier codes are available but require a lot of administration
- Agro Close chose:
  - GS1 GTIN codes for products > manufacturers order product GTINs
  - GS1 GLN codes for locations > distributors order delivery location GLNs

# How do we manage/guide people?



- EDI is an IT niche – knowledge intensive with steep learning curves
- Outsourcing EDI to a specialized partner is advised
- We provide project management and become the glue between our customers and their IT departments
- Agro Closer also created implementation guidelines, reference guides, use case scenario descriptions and decision flowcharts

# How do we manage/guide people?



- This sort of initiative is only successful when you create critical mass: start slowly with 2 or 3 companies piloting each role (manufacturer / distributor / logistics provider)
- Push too hard too early and people will lose interest because the solution is not ready or because there are not enough of their partners connected

# Going forward

- Other countries (Belgium, Germany, others being considered)
  - Benefits the manufacturers
- Other sectors (seeds, fertilizer, animal feed)
  - Benefits the distributors
- Enlarge the message scope (product & price data, safety data sheets, ingredient info)
- Provide analytics
- Add farmer to the process



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