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Webinar
Track & Trace
Crop Protection NL

MONDAY 26 OCTOBER 2018

On behalf of the Agro CloSer workgroup founded by Agrodis and Nefyto I would like to welcome you to the second Webinar Track & Trace Crop Protection in the Netherlands. This Webinar offers the industry, distribution and its IT referents the possibility to be informed about the progress of the workgroup.
You will have the opportunity to ask questions, which you might have, IT related or in general about our traceability steps towards 2020.

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Explanation Webinar

- This Webinar will be recorded.
- **Polling** questions **from** the workgroup
- **Q&A** questions **to** the workgroup.
- **E-mail** questions remaining? E-mail: AgroCloser@agrocloser.nl

This Webinar will be recorded and will be made available via our Dutch crop protection associations Agrodis and Nefyto.
We make use of Polling and a Q&A menu to make this Webinar interactive.
If you have any questions after this Webinar, please contact us by e-mail: agrocloser@agrocloser.nl

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Team

- **Host** Annika Goudswaard-Blankert (Adama)
- **Co-host** Conny Graumans (AgroConnect)
- **Guest** Joachim Crombez (F4F Proagrica)

- **Panel**
  - **Agrodis** Ronnie Kuijs (CZAV)
  - **Nefyto** Wytse Buma (Bayer)
  - **Partners** Floris Rhemrev (Farmusol/Riksen)
  - Remco Hamerling (Imperial/v.d. Anker)

Let me introduce our team: I am Annika Goudswaard, Supply Chain manager at Adama. I am the host of this Webinar and will start by learning what you want to get out of this Webinar and explain the first steps made by AgroCloser. My co-host Conny Graumans, founder of AgroConnect will explain the data messages. Joachim Crombez will present the Proagrica portal, their Web Buyer and Web Supplier solutions for traceability. During the Webinar we will be supported by a panel which consists of workgroup members. They will answer your questions via the Q&A menu.

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Poll 1 – checking in

- Which profession do you have?
  - IT
  - Supply Chain
  - Management
  - Sales
  - Other
- What would you like to learn from this Webinar?
  - Which investments do we need to make?
  - What are the benefits to be gained?
  - Which steps are already made?
  - What is the planning?
  - How can I prepare our company?
  - Other

We would like to know whom joined us today.
Can you please let us know by means of the poll your background and expectations of this Webinar?

Poll 2 – introduction

- In case of a recall, what do you / the company you work for do?
  - The batch number is linked to the sales of our customers, hence a recall is easy to organize.
  - The batch number is not linked to the sales of our customers, but my transport partner/warehouse does keep track of the batch numbers. With their help I can organize the recall.
  - We cannot trace back the batch numbers sent out, in case of a recall we need to take back all the product sold in a certain period.
  - Other.

To get an idea of the traceability steps made by your company or the company you work for, we are interested to learn what you currently do in case of a recall.
Please fill in the poll question.
Your answers will help us further along in our presentation.

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Agro CloSer

The Agro **Clo**ud **Ser**vices foundation, Agro CloSer in short, was founded on the 29th of March 2018 by Nefyto and Agrodis. Distribution and industry partners will become members of Agro CloSer.

This Webinar is organized by AgroCloser, this foundation is responsible for the design and management of a digital platform which enables the trade chain to communicate with each other in a standardized manner about deliveries of agricultural products, which makes Track & Trace of these products possible.

What

- Tracking & Tracing of (Crop Protection) products on batch level from filling line up to farmer, ready for deployment for the whole industry by 2020.
- Every part in the chain can arrange a recall within 24 hours.

Recall actions of crop protection products are luckily rare, but in those cases that it is necessary, the traceability must be well organized. Currently, we see a lot of potential to improve FEFO (First Expired First Out) stock-keeping at batch level and batch registration at goods movements from distributor to end-user. These improvements are essential to make a smooth recall possible. Following the Nocturn case in 2012, the Dutch Ministry of Agriculture, Nature Management and Fisheries (LNV) approached Nefyto to develop a procedure that enables a quick blocking of products in the market. Nefyto and Agrodis jointly started the Track & Trace project to be prepared for the execution of the EU Regulation 1107/2009 in the Netherlands.

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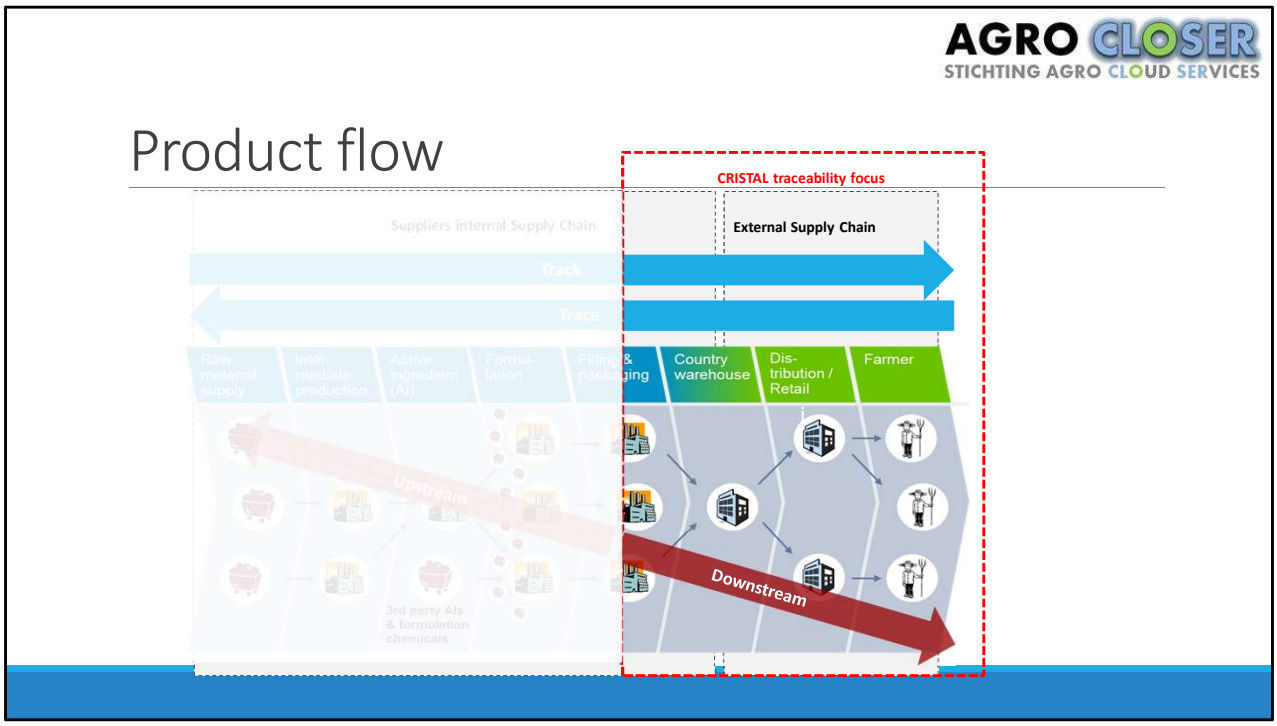
Product flow



AgroCloser focuses on standardization of messages and the realization of a central digital platform to exchange these messages across the supply chain: from filling line up to farmer.

How

- Standardized XML messages via a shared cloud platform:

  Optimized EDI.

We want to reach this by standardized XML messages, to enable order and shipment data transfer between the industry, the distribution and any involved third party warehouses via common cloud based platform.

Our first speaker Conny Graumans from AgroConnect will tell you more about the standardized datasets which we are developing.

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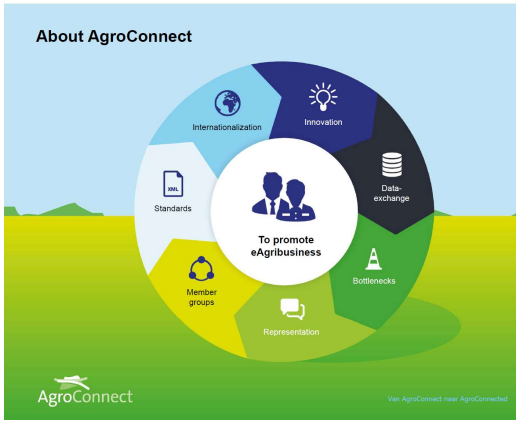
About AgroConnect



AgroConnect is a non profit association with members. Members being agribusiness companies and organisations, solution providers (IT companies), and service providers. AgroConnect supports its members in implementing digital data sharing. Agreements are made concerning: semantics (in terms of standard data models), code lists that are to be used, identifiers that are to be used and message standards and exchange protocols that are to be used. And also agreements are made about authentication, authorization, data privacy and data security.
AgroConnect supports AgroCloser in organizing the data exchange in the supply chain of crop protection products.

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Poll 3 - IT

- Which ERP software system is used?
  - SAP
  - Microsoft Dynamics AX
  - Microsoft Dynamics NAV
  - Exact
  - Other
  - We do not make use of an ERP

- Would you like to make use of EDI for our orders, despatch advices, and invoices?
  - Yes
  - No

- If you answered yes, which message format has your preference?
  - CSV
  - XML
  - Edifact
  - Json
  - Other

Before we go into the details of our datasets, we would like to learn about your IT readiness. Please answer the following 3 poll questions.

2D Matrix data carrier GTIN identifier

When you communicate data you need an easy to read data carrier you can print on the product item. In line with the global Cristal recommendations we us the 2D data matrix in combination with GS1 defined GTIN and SSCC codes.

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Sharing data in a standardized way

- Based on Cristal recommendations:
  - See: https://croplife.org
  - Use GS1 identifiers:
    - GLN's to identify the parties and locations involved
    - GTIN's to identify products and packages
    - SSCC's to identify pallets
- Share batch numbers
- Keep record of what products were received when from which party and what products were delivered when to which party

To make track & trace in the supply chain possible, we need to agree on what type of identifiers are to be used to identify locations, product units, and pallets and we need to share batch numbers and production dates (the sharing of serial numbers is optional). Inbound product flows and outbound product flows need to be scanned.
<see text slide>

Traceability Concept

CropLife INTERNATIONAL

The process potentially include four major steps for each event of an item from the beginning of its life to its final use.

Traceability does not exist without the last step of transmitting data.

In order to share traceability data we need to print, read, record and transmit the data.

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Requirements

- Functional and technical requirements:
  - Build on already existing exchange of Orders, DespatchAdvice sand Invoices.
  - Make it easy for small companies and distributors to connect to the frame work for data exchange.
  - Align with existing standards.
  - Make use of an existing platform for the exchange of standard EDI messages.
  - A platform that offers functionality to convert message formats (EDIFACT, XML, Json).
  - For those that have not implemented yet the digital exchange of Orders, DespatchAdvices and Invoices, offer very simple and easy to implement message designs.

In developing the AgroCloser framework, first the functional and technical requirements were set.
<see text slide>

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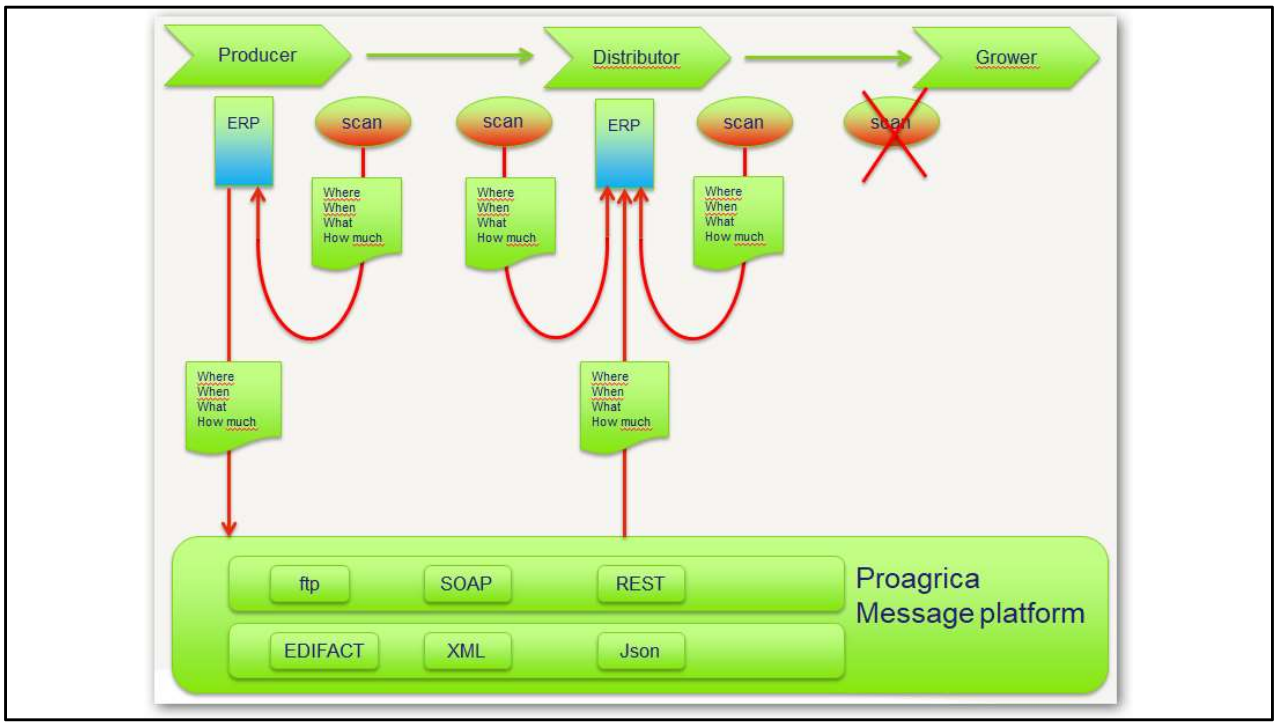
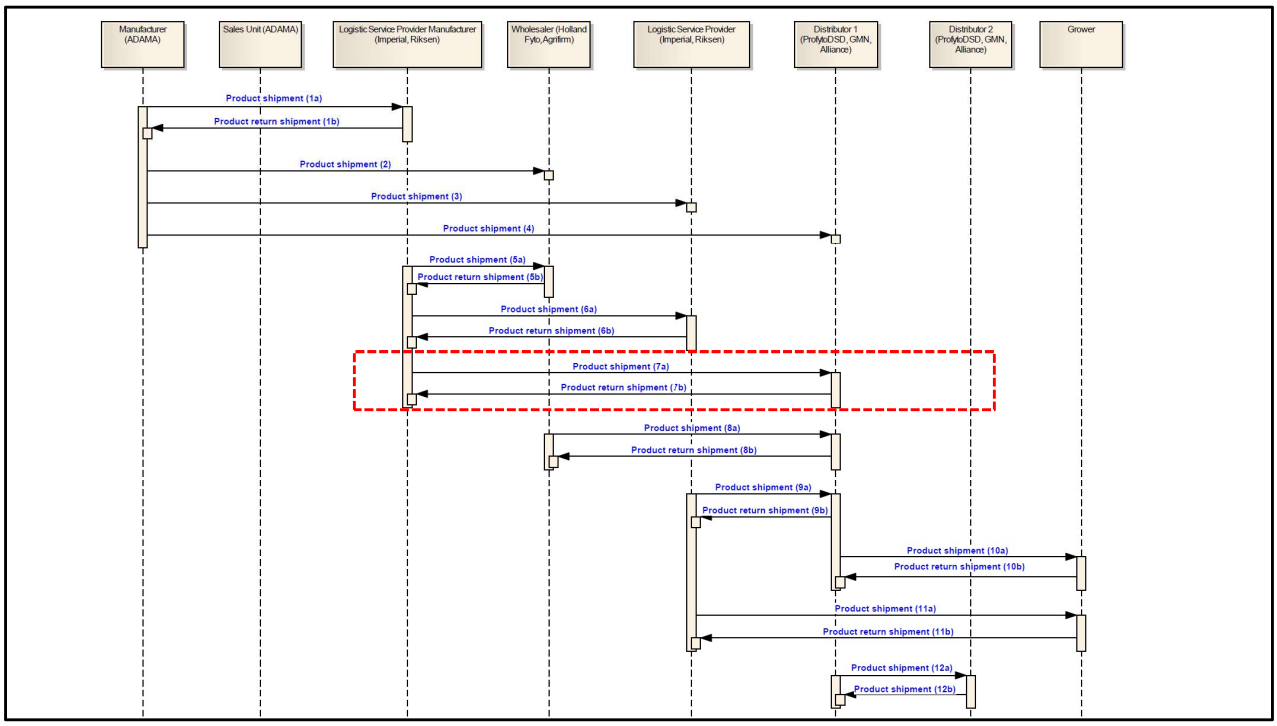
Step wise approach

- Information analysis:
  - Sequence diagrams, class model (semantics)
  - Code lists and identifiers
- Message design:
  - Order, DespatchAdvice, Invoice
  - Inspired by UN/Cefact, UBL
- Infrastructure:
  - Proagrica platform for message exchange and syntax conversion.
  - WebSupplier and WebBuyer portals: a sort of cloud ERP for small businesses to handle EDI messages and to keep track

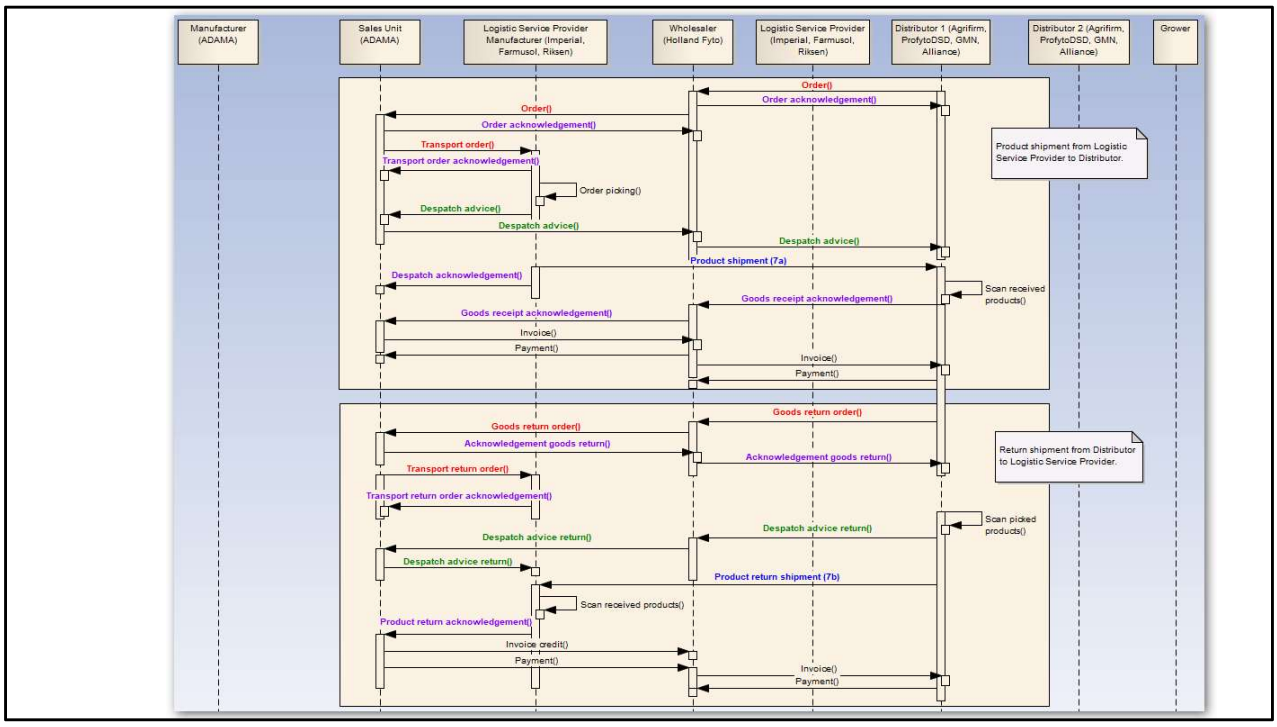
Based on these requirements an information analysis has been carried out, followed by the message design, and the design of the infrastructure to exchange the data.
<see text slide>



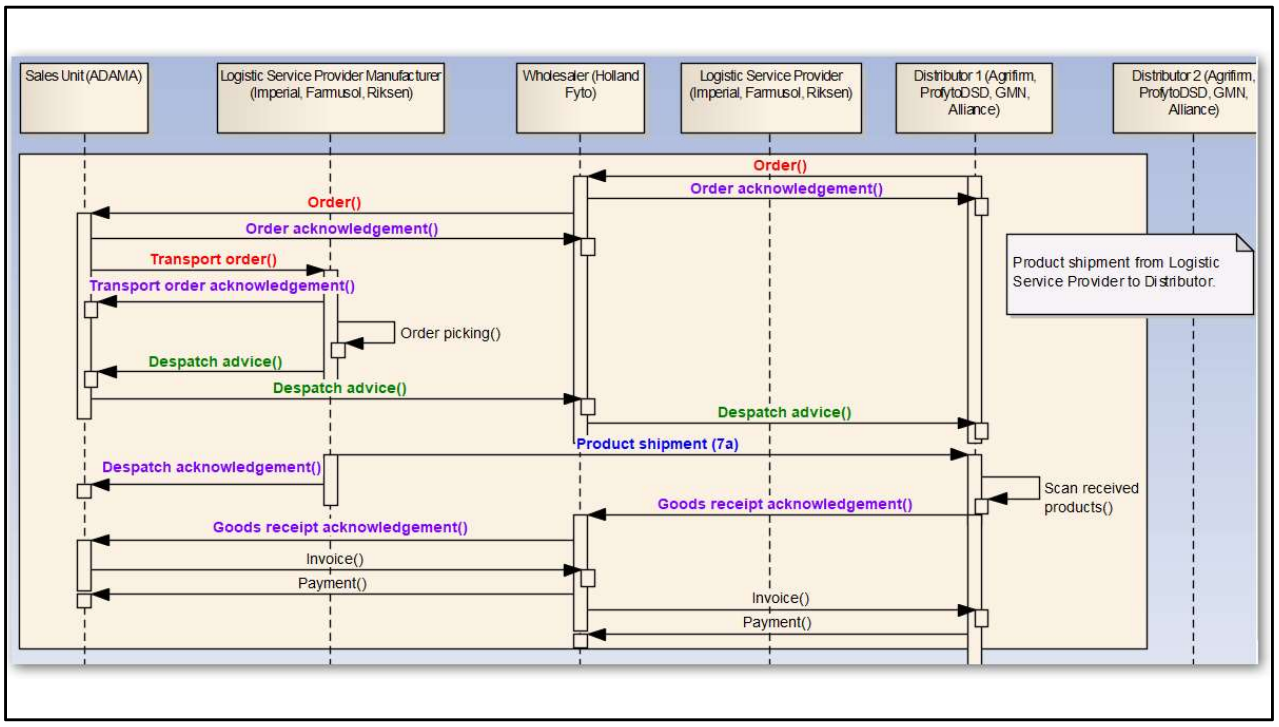
So the idea of AgroCloser is to realize an open architecture to exchange Orders, Despatch Advices and Invoices throughput the supply chain.
For this the Proagrica message platform is used to exchange the data. Each party in the supply chain links to the platform. For parties that do not yet exchange this type of messages and have to do a first implementation, simple XML standard messages are specified. Parties that already have implemented the digital exchange of this this type of messages, can use their existing interfacing, as long as the mandatory data fields are exchanged (GLNs for party identification, GTINs for product identification, batch numbers, etc.)
The message platform support several different protocols and offers services to convert company specific message types into AgroCloser message types and vice versa.



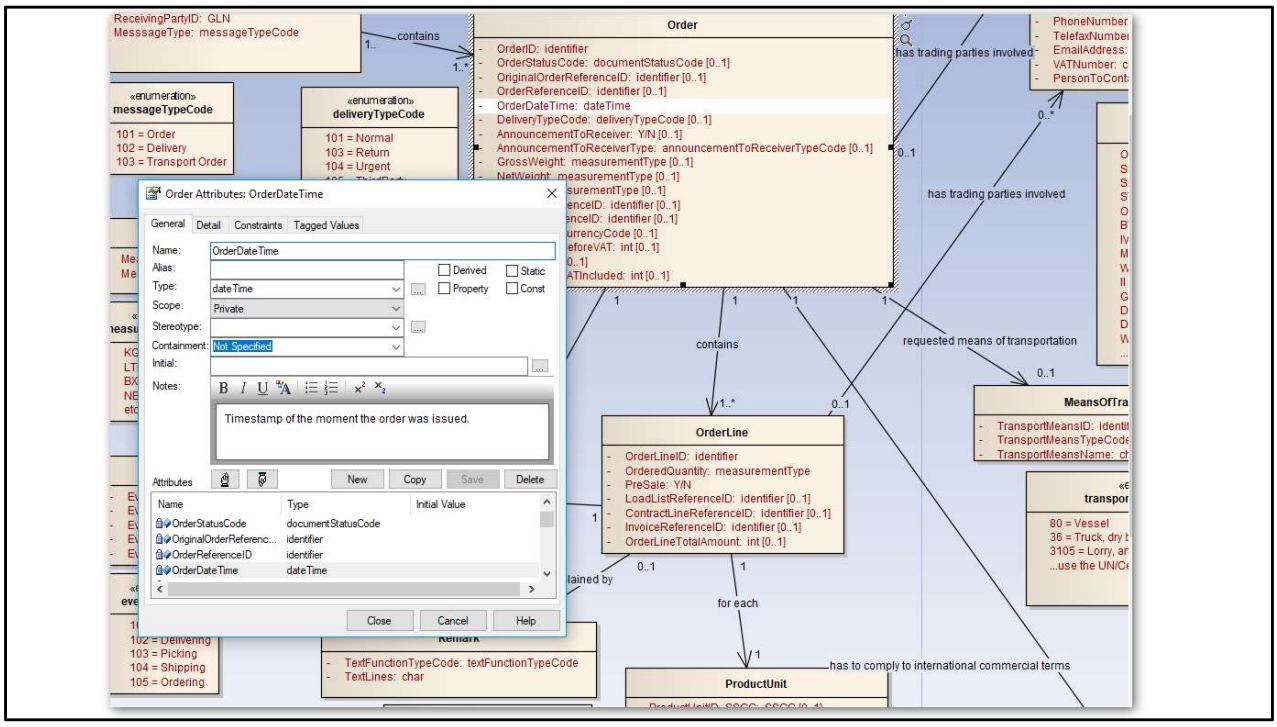
This sequence diagram shows 12 different use cases concerning product delivery and data exchange in the crop protection products supply chain.
We started with implementing the digital data exchange for use case nr. 7, that covers the sales unit of the manufacturer, the wholesaler, the logistic service provider and the distributor.



This sequence diagram shows the product and data flows for the specified use case. The upper part describes a regular order by the distributor to the sales unit of the manufacturer.
The lower part describes the use case of a return order.



All messages that are exchanged are bases on the standard Order, DespatchAdvice and Invoice message.



The content (the semantics) of the standard Order, DespatchAdvice and Invoice message is described in a class diagram. Including the instructions for the unique identification of a company, a product, a pallet, etc. And including the code lists that are to be used for example: units, countries, currencies, means of transportation, etc.
This data model can then be mapped to different flavors of message standards (UN / Cefact, GS1, UBL, Json, etc.). For this project mappings have been made to simple xml versions of an Order, DespatchAdvice and Invoice message.

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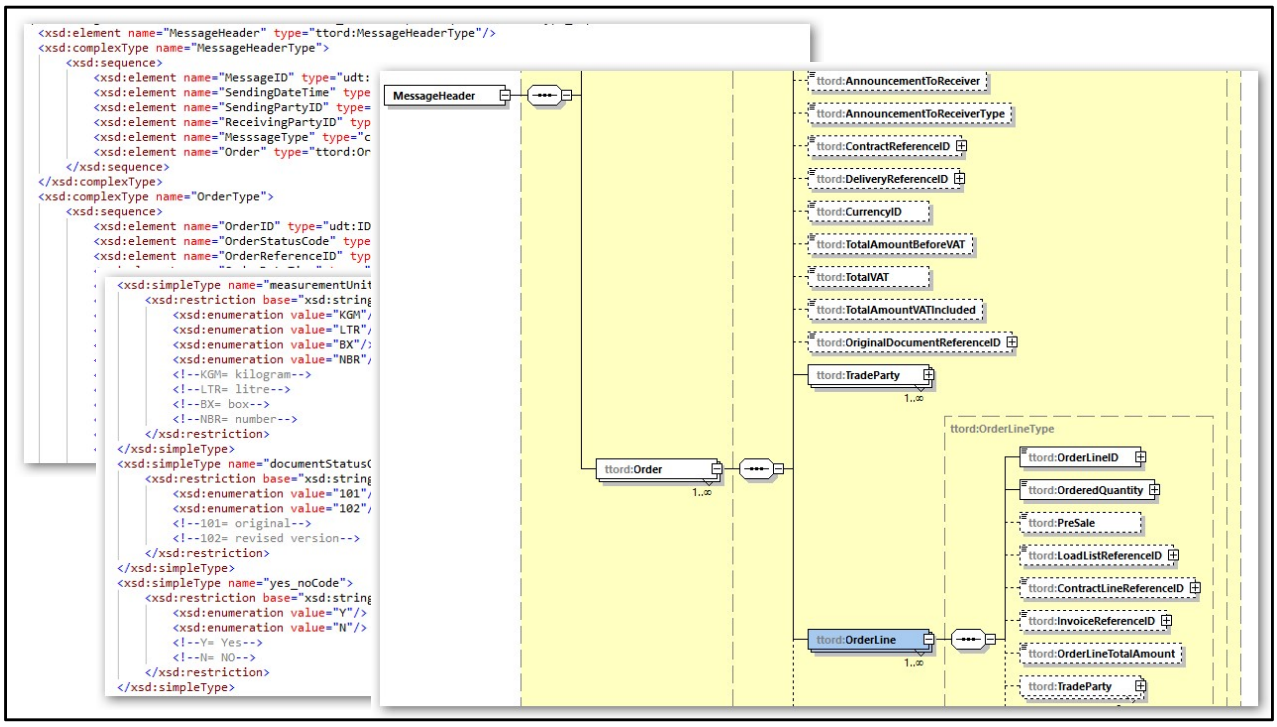
Message design

- XML Schema Definitions: XSD's
- Examples of the standard xml Order, DespatchAdvice and Invoice messages

These xml messages are specified and publishes as xml schema definitions (xsd's). For each message type, several example xml messages are published.



This is what a xsd looks like.

```
<ttord:OrderLine>
    <ttord:OrderLineID schemeID="REF">1808219-2</ttord:OrderLineID>
    <ttord:OrderedQuantity unitCode="NBR">20</ttord:OrderedQuantity><!--20 cans-->
    <ttord:PreSale>N</ttord:PreSale><!--No prepurchase-->
    <ttord:ProductUnit>
        <ttord:ProductUnitID_GTIN schemeID="GTIN">08718077000237</ttord:ProductUnitID_GTIN>
        <ttord:ProductUnitTypeCode>102</ttord:ProductUnitTypeCode><!--TradeUnit-->
        <ttord:SupplierProductUnitID schemeID="REF">15419040/0010NL</ttord:SupplierProductUnitID>
        <ttord:ProductUnitName>Mirage Plus 570 SC, 10LT can</ttord:ProductUnitName>
    </ttord:ProductUnit>
    <ttord:Timing>
        <ttord:EventTypeCode>102</ttord:EventTypeCode><!--= Deliver-->
        <ttord:EventDateTime>2018-02-15T09:30:47Z</ttord:EventDateTime>
    </ttord:Timing>
</ttord:OrderLine>
<ttord:OrderLine>
    <ttord:OrderLineID schemeID="REF">1808219-3</ttord:OrderLineID>
    <ttord:OrderedQuantity unitCode="NBR">30</ttord:OrderedQuantity><!--30 cans-->
    <ttord:PreSale>N</ttord:PreSale><!--No prepurchase-->
    <ttord:ProductUnit>
        <ttord:ProductUnitID_GTIN schemeID="GTIN">08718077001555</ttord:ProductUnitID_GTIN>
        <ttord:ProductUnitTypeCode>103</ttord:ProductUnitTypeCode><!--ConsumerUnit-->
        <ttord:SupplierProductUnitID schemeID="REF">15416040/0010NL</ttord:SupplierProductUnitID>
        <ttord:ProductUnitName>Spirit, 10LT can</ttord:ProductUnitName>
    </ttord:ProductUnit>
    <ttord:Timing>
        <ttord:EventTypeCode>102</ttord:EventTypeCode><!--= Deliver-->
        <ttord:EventDateTime>2018-02-15T09:30:47Z</ttord:EventDateTime>
    </ttord:Timing>
</ttord:OrderLine>
```

This is a view of an example Order message.

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Documentation set

- Implementation Instruction Data Exchange T&T Crop Protection Products
- Sequence diagrams T&T CPP
- Class diagrams T&T CPP
- Information analysis: Enterprise Architect file T&T CPP.eap
- Xsd's and examples T&T CPP
- Excel overview of the structure of the Order message

The implementation specification of the standard AgroCloser messages consists of:

1. Implementation Instruction Data Exchange T&T Crop Protection Products
2. Sequence diagrams T&T CPP.zip
   Contains a set of sequence diagrams, describing the data and product exchange between the different actors in the supply chain for different uses cases.
3. Class diagrams T&T CPP
   Data model describing the class diagrams for the Order and for the Despatch Advice (Delivery) messages and contains the definitions of all relevant classes and data elements. The class diagrams are used as a basis for specifying the standard xml (or Json) messages.
4. Information analysis T&T CPP.eap
   Enterprise Architect file containing the sequence diagrams and class model.
5. Xsd's and examples T&T CPP.zip
   Contains the xml schema definitions (xsd's) and xml examples of orders and despatch advice messages.
6. Excel overview of the structure of the Order message.

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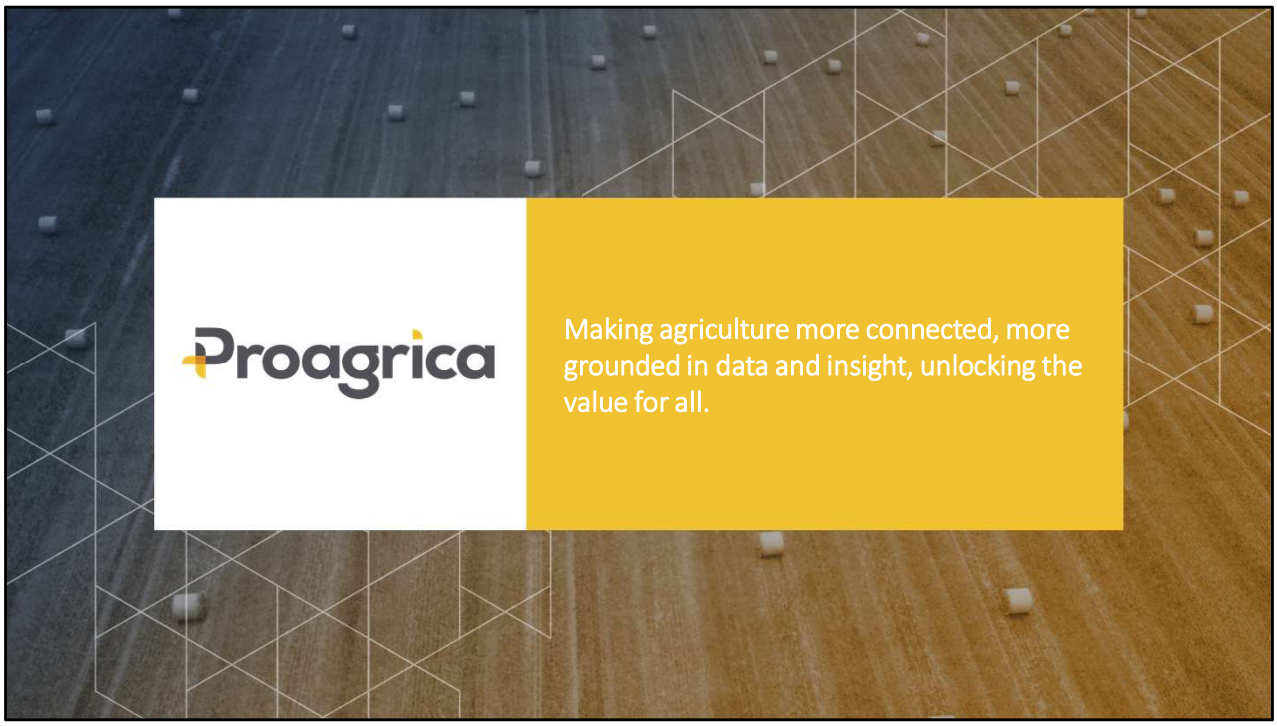
Poll 4 - Proagrica platform I

- Does your company already exchange electronic data (EDI) to support your supply-chain process?
  - No
  - Yes, we have 1 or more connections, requested by customers or suppliers
  - Yes, we have a strategy to maximize the number of EDI connections

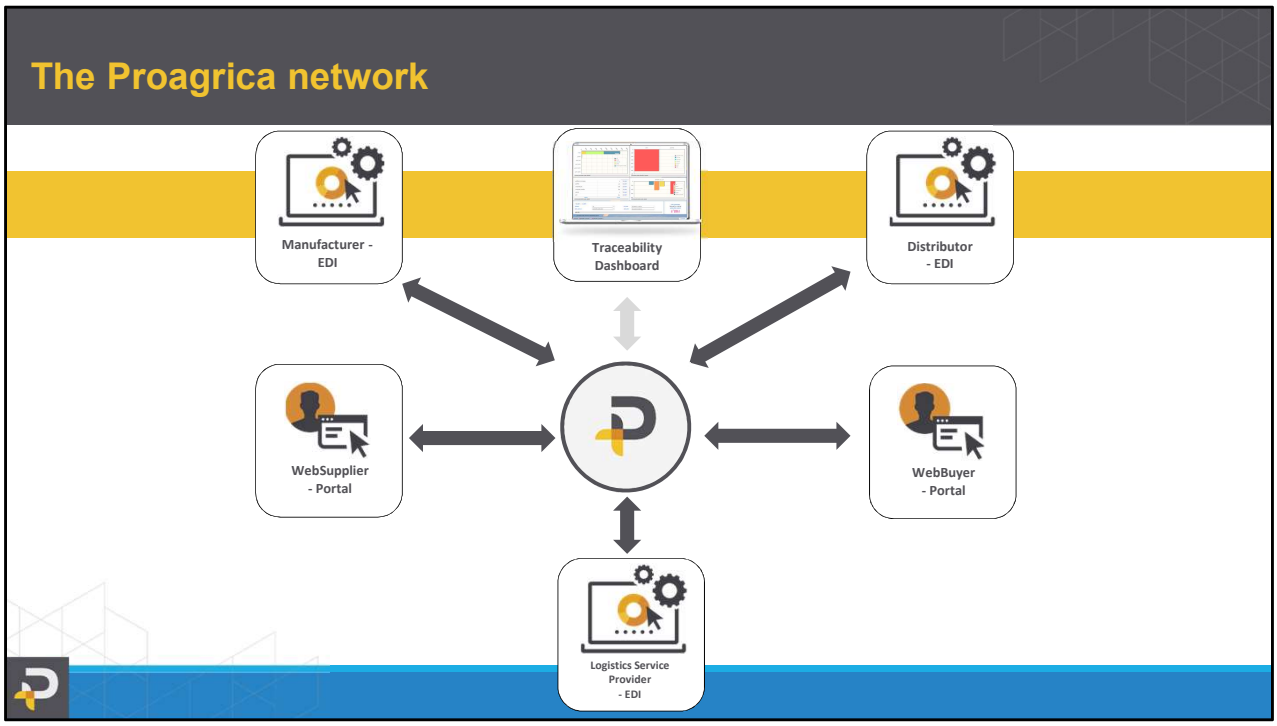
Before we hand over to Joachim and talk about the platform which we will use for the data sharing we will launch a poll.



Proagrica is the brand name for the agricultural division of RELX, a 30,000 people strong international company specialized in data & analytics. We have solutions for raw material suppliers, manufacturers, distributors, growers, processors and retailers. Proagrica has been servicing the agricultural market with electronic data solutions for almost 20 years.

The goal of our involvement is twofold:

- Provide a solution to exchange data that improves the traceability of agricultural products.
- Provide a solution to optimize the agricultural supply-chain.

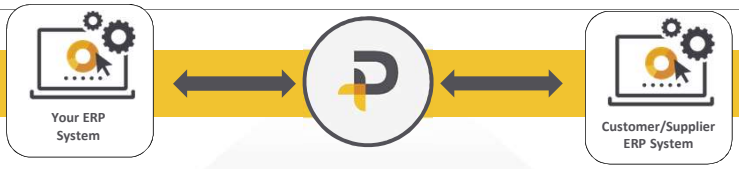


This slide presents you with the different options:

- A manufacturer, distributor and logistics service provider can connect over EDI. Either directly by a connection with the Proagrica network, or by an “interconnection” with the network of another vendor. (Like: Elemica, X400 network, …) The requirements to exchange data over EDI are:
    - Functionally, you exchange the data elements required by the Agro Closer standard. Minimum message set: order & delivery note. Order confirmation & invoice are optional.
    - Technically, you either exchange the Agro Closer XML standard, or ask Proagrica to map your internal format to/from the Agro Closer XML standard. (additional charge)
    - You use GTIN codes for all partners, locations and products
    - Paying partners can use the following transfer protocols by default: sFTP, REST, AS/2, X400 or the Proagrica Interlok adapter. All other partners can use sFTP or REST. Upon request, we can allow other protocols, but this can incur a charge.
    - Proagrica will validate all data using the Agro Closer XSDs. Invalid data will be stopped + the sender will get an email explaining why the data failed.
    - All data passing over the Proagrica network is transactional – Proagrica removes the data after 1 month.
    - Proagrica provides a visual tool to track all data: “Cirrus”. All data is siloed –

everyone can only see his/her data.
    - Proagrica has a proactive support team on standby during business hours. Our network team is on standby 24h/7d.
- A manufacturer who can't connect over EDI has the option to use the WebSupplier portal. An easy-to-use inbox where you will receive all your Pos and where you will be able to reply to those Pos using order confirmations, delivery notes and invoices. The time you have to invest is minimal.
- A distributor who can't connect over EDI has the option to use the WebBuyer portal. (minimum requirement: 20 distributors) You can place Pos with any manufacturer and get status update on the order status, delivery status and invoices.
- Optionally, it will be possible to use a "Traceability" dashboard allowing you to visualize all shipments: quantities, batches, manufacturing data of all deliveries. This tool requires us to store data for a longer period of time.

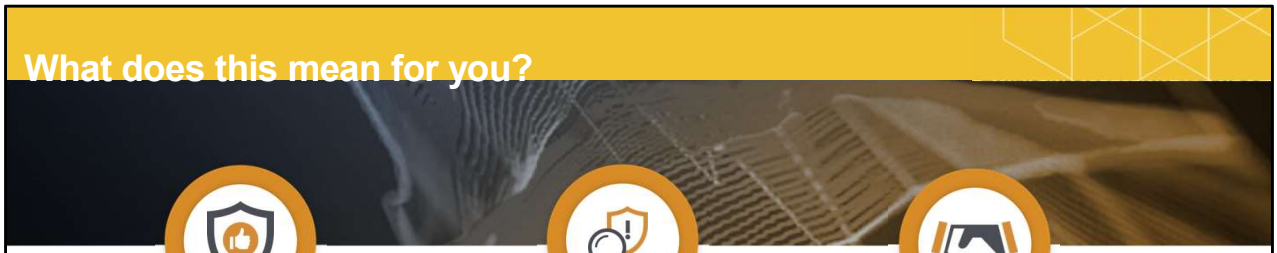
How you can your business benefit from EDI?



Use your time to add value:

- Create revenue by using the time for outbound customer service and other sales and marketing activities
- Create customer loyalty and "stickiness" by delivering better customer service than competitors
- Invest time in internal projects, such as CRM, product development/launch and process improvement.
- Grow customer relationships, collect forecasts, gather product feedback and customer data
- Make doing businesses easier and faster, hence reducing the pressure on your staff and reducing the need to employ untrained and expensive casual staff.
- Grow your business without growing your staffing requirements. EDI connectivity enables your staff to do more with the time that they have available.

What does this mean for you?



Competitive advantage

Make doing business easier, less costly and faster.

Provide more information to your customers and spend more time with them on valuable activities to make you the best supplier to do business with.

Provide more information

Using manual processes is slow, costly, time consuming and ineffective.

EDI connectivity enables you to automatically give your customers valuable information such as order status and shipping information.

Make doing business easy

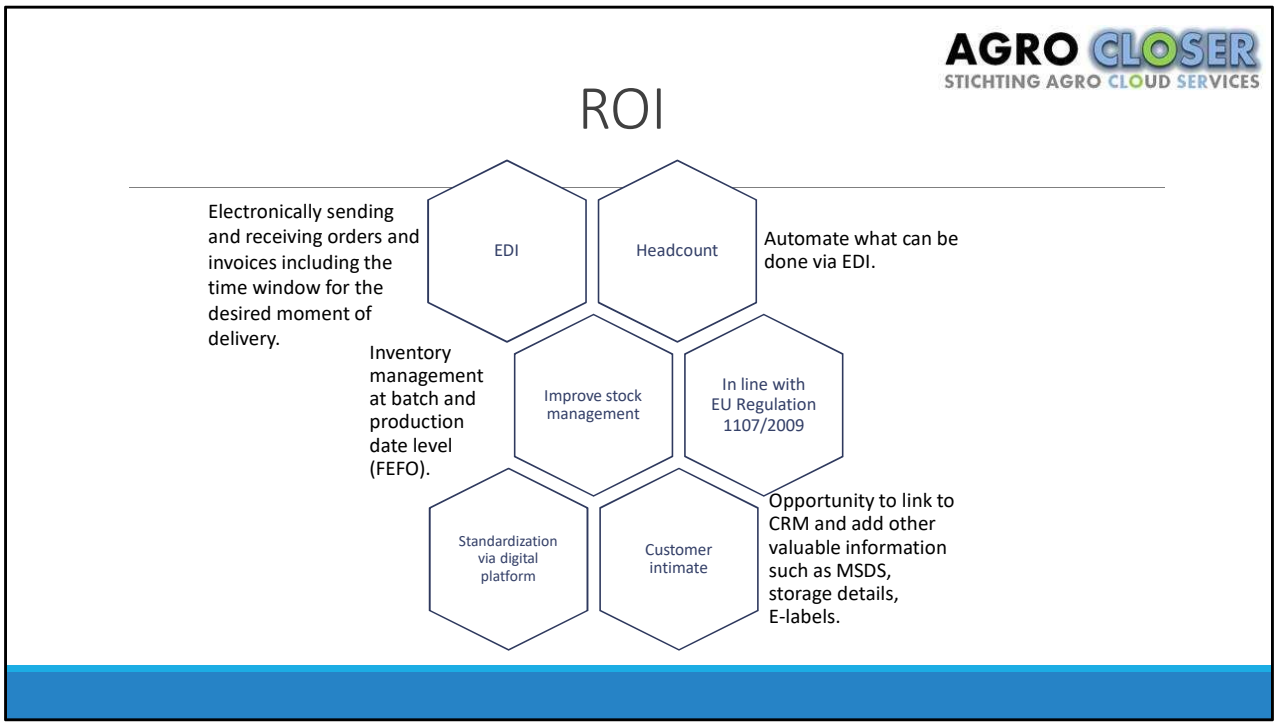
Saving time in your processes and eliminating inefficiencies make doing business easier for you.

It also makes doing business easier for your customer. By deploying EDI connectivity, your staff can focus on value added activities and real customer service.

Poll 5 - Proagrica platform II

- By having this information, will you be able to convince your manager or business division to support the decision to connect to the Proagrica network for AgroCloser?
  - Yes
  - Yes, with some additional information
  - No

To close this part of the presentation we will launch another poll to learn if you have received sufficient information from Proagrica.



The Agro CloSer foundation is convinced that we jointly create a widely supported solution which is practical and adds value for the whole crop protection sector. Furthermore, it is in line with the vision and ambition of Nefyto: "Sustainable and clear towards the future" and with the mission, vision and strategy "Focus on the future" of Agrodis. In our 2nd newsletter we indicated the costs known at this stage. We are happy to inform you that we are working on a set of models which can help you judge the costs depending on the size, type of business and IT level of your company. In any case you can expect that we comply to upcoming traceability legislation as well as offer optimization of your headcount by simplifying inbound and outbound, optimize the health of your stock by facilitation of FEFO stock management and future optimization of CRM, MSDS and storage details. We are even talking with the Dutch authorities (CTGB) to set the first steps towards an e-label which would make it possible to keep the bare minimum of details on the physical label and make the rest available by a single click to the cloud. To prepare our businesses for the future, to make this digital pivot, we need to collaborate. AgroCloser makes this possible.

Planning

Traceability Project Plan NL

Phases	Actions	2016				2017				2018				2019				2020			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Kickoff	implementation project group																				
Approval steps traceability	approval project group																				
	approval distribution																				
	approval warehouse																				
	approval industry																				
Pre-pilot (Bayer-Agrifirm-Imperial)	Setting up labels & defining EDI																				
Roll out pre-pilot	Test scanning labels & EDI																				
Evaluation pre-pilot	Evaluation labels & EDI																				
Pilot (Bayer-Adama-Agrifirm-Holland Fyto-CZAV-v.Iperen-Imperial-Riksen)	Setting up labels																				
EDI I	IT partner choice																				
EDI II	Data sets AgorConnect																				
EDI III	GLN inrichting																				
EDI IV	F4F platform																				
EDI V	ERP aanpassing partners																				
Roll out pilot	Test scanning labels & EDI																				
Evaluation pilot	Evaluation labels & EDI																				
Live Nefyto	Setting up labels																				
Live Nefyto	Alignment to IT platform																				
Live Agrodis	Alignment to IT platform																				
Live Warehouses	Alignment to IT platform																				
Evaluation live	Evaluation labels & EDI																				

Project group
Agrodis (distributors)
Nefyto (Industry)
Warehouse

Our aim is to be ready to go live in 2020.
It is a step wise approach and as mentioned previously, the required efforts depend on according to the size, type of business and IT level of your company.
Via our next newsletter we will help you judge the efforts to get aligned.
For the Dutch partners a demo is planned on the 13th of March 2019.

Poll 6 – closing

- Please rate the quality of this Webinar with a number between 1 and 5. 5 is good and 1 is not good.
- Are you interested in a follow up Webinar in which we share the progress of our pilot in 2019?

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On behalf of the whole team, thank you for participating in this second AgroCloser Webinar!

Can you let us known if you liked the Webinar by rating it a digit between 1 and 5, where 5 is good and 1 is not good?

Last question is; are you interested in a follow up Webinar in which we share the progress of our pilot in 2019?

I would like to remind you that you can send in questions via the Q&A menu.

Questions?

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We will keep the line open or another 10 minutes to answer all open questions.
Thank you again for joining!