How Nouryon is improving Logistics by Collaborating with Freight Forwarders and Carriers via SAP Business Network for Logistics and Descartes

Hugo van Rijn
20 June 2024

Nouryon

Nouryon

Your partner in essential chemistry
for a sustainable future

Nouryon

Our company profile

We build on our nearly 400-year history with 10,000 dedicated, experienced employees in 80 countries around the world.

We have a shared commitment to business growth, strong financial performance, safety, sustainability, and innovation.

We offer a broad portfolio of industry-leading brands serving our customers' needs.

Nouryon

The markets we serve

Paints, coatings and construction

Agriculture

Pulp and paper

Cleaning and personal care

Water treatment

Polymer production and processing

Oil and gas

Electronics

Food

and many more…

Nouryon

Our project: ILP

International Logistics Program
'A shipload of improvements'

International Logistics Program

The Why and How

Design & implement standard operational processes required to **control and automate the execution of international trade and logistics** with proven technology & related organizational changes.

Global project addressing all regions and businesses within Nouryon.

Delivering

Improved customer satisfaction and service offering

Improved compliance with all external and internal regulations

Improved visibility and control of transportation costs and duties

Global standard, **optimized and harmonized processes**

Support Nouryon's **revenue growth objectives**

Reduced manual workload, improved productivity and better employee experience
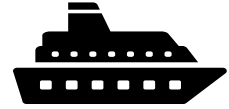
208 Shipping Points (137 plants, 71 Warehouses)

+1400 outbound lanes

+100 Loading ports

Dangerous goods

~67k TEU per year

110 Carriers

6 Regions (APAC, IMEA, Nordics, Mainland, NAM, SAM)

Nouryon

High level requirements to drive new IT landscape design

High level requirements are aligned to design principles and regional inputs

Flexible and agile model to adapt to market conditions

Seamless connectivity with all external parties

Process standardization supported by end to end tools

One single source of data to enable monitoring and control

Full visibility of the end to end processes enhancing proactive exceptions management

Ensure compliance with process adherence mechanisms and document management

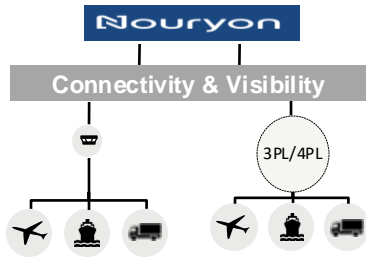**Financial control** supported by a robust rate management and Freight bill audit approach

Scalability to support future growth

Hybrid Model Overview

Adaption to requirements obtaining the benefits of both Direct and External logistics management

A hybrid model is considered the best option:

Nouryon in direct control over key shipping lanes

- For higher Volume, higher criticality scenarios, manage pre & post leg + ocean carriers directly and leverage Nouryon organizational capacity

- Strong relationship with the carrier will limit third party impacts and provide first-hand information in case of issues.

Leverage freight forwarders' capabilities to execute lanes with lower business impact

- Lower volume/lower criticality lanes that do not warrant the overhead cost of direct Nouryon control

- Freight forwarders extended network facilitates the end-to-end shipments execution, by managing all pre-legs and resolving all exceptions related.
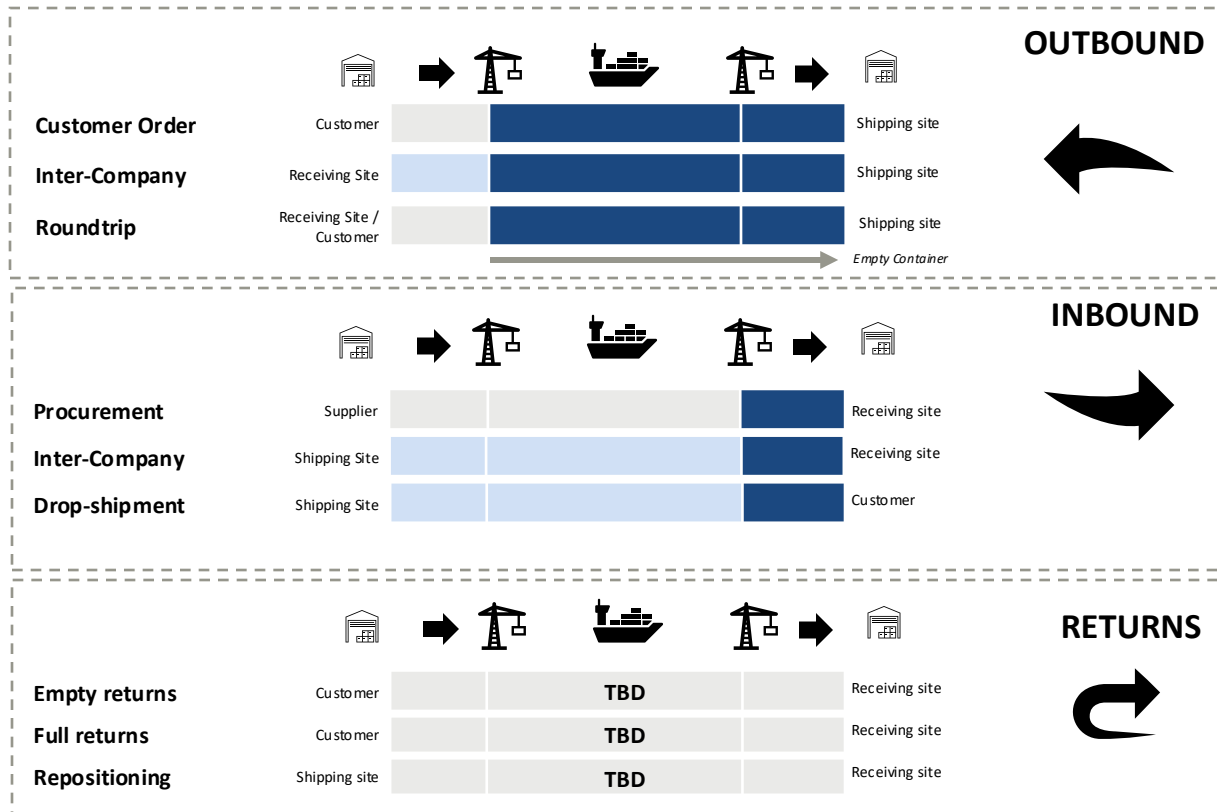
Connectivity platform to enable scalability and flexibility.

Direct –to-carrier will imply managing all operations in house.
When outsourcing, end-to-end shipment will be outsourced.

Booking Scenarios Overview

Process Scope

OUTBOUND

Customer Order	Customer				Shipping site
Inter-Company	Receiving Site				Shipping site
Roundtrip	Receiving Site / Customer				Shipping site

Empty Container

INBOUND

Procurement	Supplier				Receiving site
Inter-Company	Shipping Site				Receiving site
Drop-shipment	Shipping Site				Customer

RETURNS

|				
Empty returns	Customer	**TBD**		Receiving site
Full returns	Customer	**TBD**		Receiving site
Repositioning	Shipping site	**TBD**		Receiving site

International Logistics Program

System Scope

Implementing:

- SAP GTS edition for HANA Private edition
- SAP S/4 Cloud TM Private Edition using p44 Carrier Schedules
- SAP BNL, freight collaboration for Freight Forwarder Model
- SAP BNL, Global Track and Trace
- P44 Track & Trace
- P44 Schedules
- Integrations with ECC, VIM, Descartes, Transporeon and Carriers
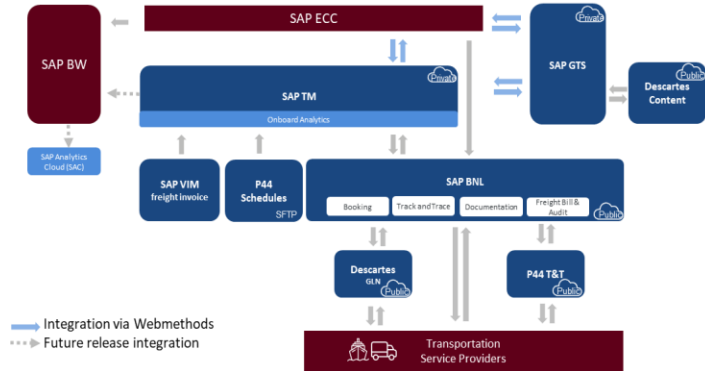
SAP Transportation Management
Integrated Transportation Management System combines visibility and control to optimize logistics and improve services

SAP Global Trade Services
The platform to support all our Logistic Trade Compliancy processes
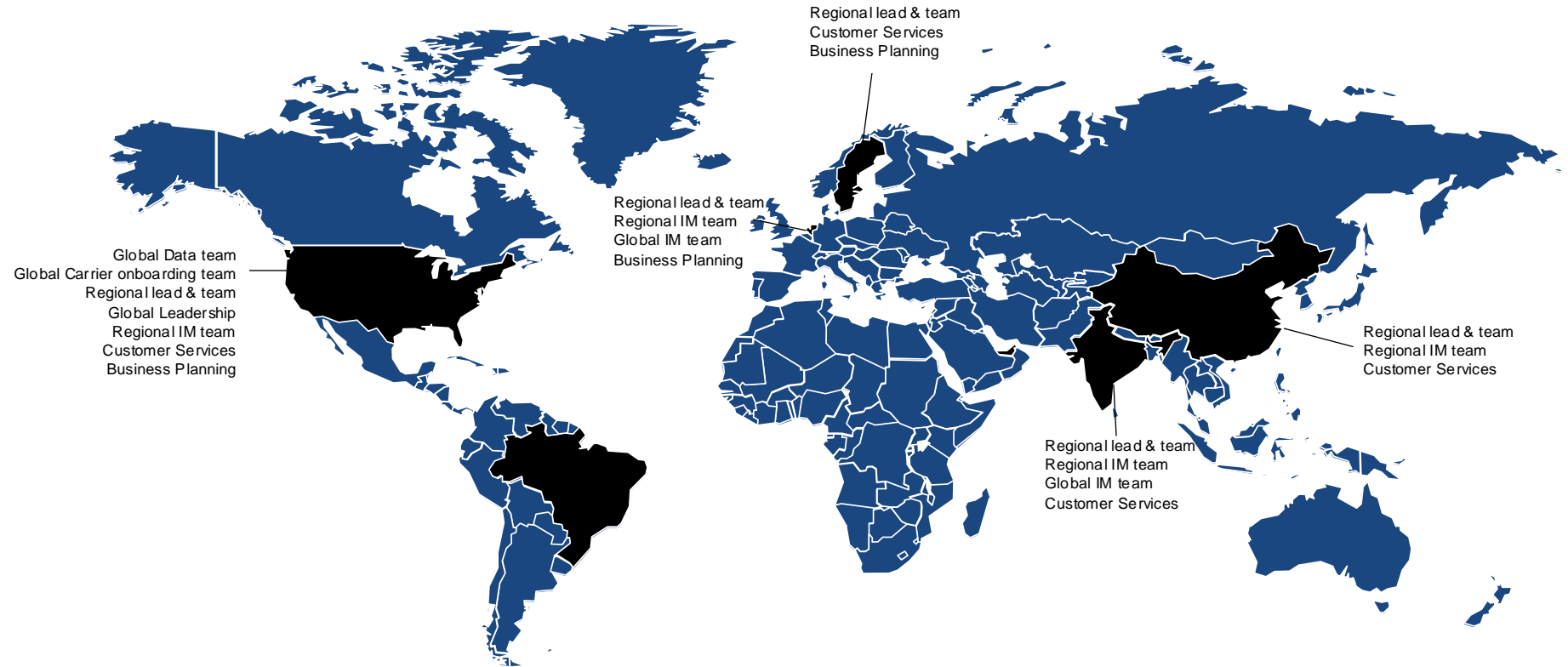
SAP Logistics Business Network
The Platform where to collaborate with our Logistic Partners and other Logistic Networks

project44
The provider of all Tracking & Tracing and shipment update information to our Logistic Hubs

Nouryon

International Logistics Program

Organisational Scope

Regional lead & team
Customer Services
Business Planning

Regional lead & team
Regional IM team
Global IM team
Business Planning

Global Data team
Global Carrier onboarding team
Regional lead & team
Global Leadership
Regional IM team
Customer Services
Business Planning

Regional lead & team
Regional IM team
Customer Services

Regional lead & team
Regional IM team
Global IM team
Customer Services

Nouryon

Milestones delivered

Feb 2022 — Technical platform selected: SAP RISE TMS and GTS and P44 Track & Trace

Sept 2022 — Selected implementation partners

April 2023 — Go-Live 1st Pilot: 1 Stenungsund Shipping Point

Oct 2023 — Go-Live 2nd set Pilots: 1 Houston and 1 Ningbo Shipping points

Jan 2024 — Full TMS roll out starting up

**July 2024** — Finalise TMS roll out

H2 2024 — Continuous Improvement

Nouryon

Implementation

Using BNL and Descartes for Freight Collaboration

Using BNL and Descartes together because of hybrid model

- Nouryon decided to have a hybrid model:
  - Working with Freight Forwarders as well as directly dealing with carriers

- Ocean carriers will not work with portal solution, but will work with EDI/API connection
  - Limited time in project to roll out APIs
  - Descartes already has API integration with carriers and an integration with BNL

- BNL used for Freight Forwarder model
- Descartes for Carrier Direct model, Descartes function as Aggregator

Nouryon
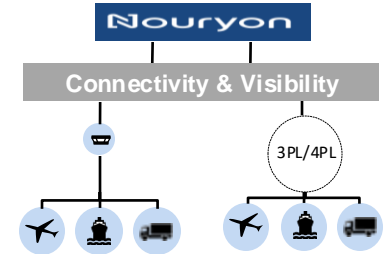
Landscape for SAP TM, SAP BNL, Descartes and P44
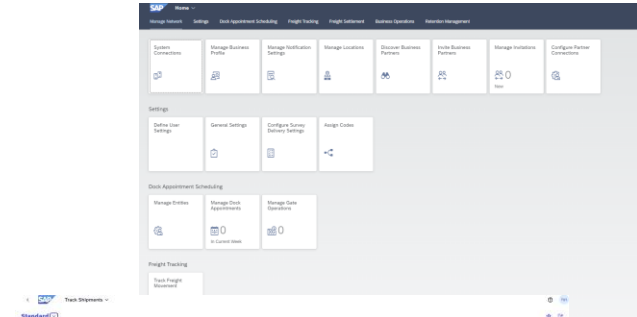
Main flows between the different platforms
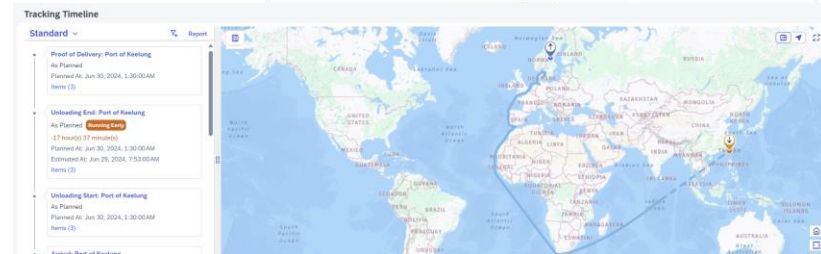

Through FF

SAP ECC → SO/PO/STO → SAP TM

SAP TM → Booking → Freight Collaboration

Booking
Booking acceptance
Freight Invoice
BNL Portal
Freight Forwarder

Direct to carrier

Booking acceptance

TM charges
Approved surcharges

SAP BNL

Booking
Booking acceptance
Freight Invoice
Descartes

Booking
Booking acceptance
Freight Invoice
Ocean Carrier

Freight settlement

Hybrid

Global Track & Trace

P44 Tracking & Tracing

Ocean Carrier

POD update to delivery

Tracking Events & Milestones

Tracking Events & Milestones

Zoom in on Descartes set up

Nouryon | **SAP LBN** | **Ocean SMF** | **Descartes Global Logistics Network GLN** | **Carrier(s)**

1. Booking

Booking Response

1. Booking

Booking Response

2. Shipping Instruction

2a. Shipping Instruction

Ack

VGM Ack

2b. VGM

VGM Ack

Optional: BOL / Invoice

Optional: BOL / Invoice
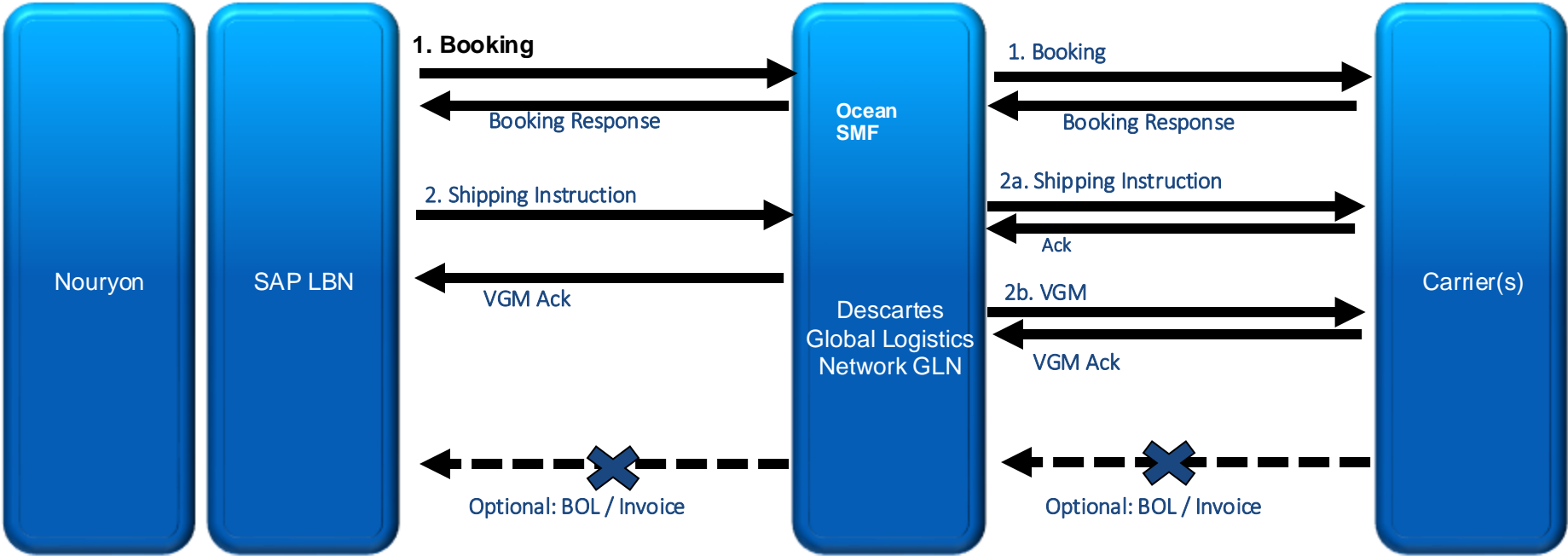
BNL Implementation

BNL is used for our FreightForwarder Model

- Process scope:
  - Collaboration
    - Freight Order placement and confirmation for road freight (pre – and on Carriage)
    - Freight Booking placement and confirmation for ocean freight and Door to Door arrangements
    - Global Track and Trace with P44 T&T information
  - Invoicing
    - Billing requests for Freight Orders and Freight Bookings
    - Invoicing from carriers
    - Disputes

- Organisational sope
  - Freight Forwarders
  - Road carriers, via FF
  - Tank Operators, via FF

- System scope
  - Portal
    - Started with this to enable quick ramp up with Freight Forwarder
    - Clear visibility on what to maintain
    - Manual entries, so cumbersome and error prone
  - API
    - Starting to implement now, priority was given to portal
    - Longer lead time to set up and test
    - Depending on willingness and ability of carrier to invest time
    - Once ready and stable: more robust and scalable

Descartes implementation

Used for our Carrier Direct Model

- Process scope:
  - Collaboration
    - Freight Order placement and confirmation for road freight (pre – and on Carriage)
    - Freight Booking placement and confirmation for ocean freight and Door to Door arrangements
    - Global Track and Trace with P44 T&T information
  - Invoicing
    - Billing requests for Freight Orders and Freight Bookings
    - Invoicing from carriers
    - Disputes
- Organisational scope
  - Road carriers
  - Tank Operators
- System scope
  - Descartes is set up as a network partner in BNL
  - Integration set up between ECC, TMS, BNL, Descartes dependent on standardization
  - Attention points: Incoterms, UN locodes, postal code zones standardisation, movement types

Nouryon
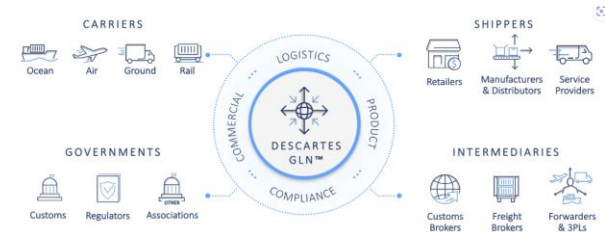
Conclusion

Focus is on delivering in full per Mid 2024

Key Success Factors
- A well thought-out high level design
- Harmonised Processes
- Immediate realisation of interfaces
- Well prepared TMS Master Data
- Harmonized ECC data

Change Management takes time for the business to absorb

Delivered

- Robust Global Template and System set up, including almost 100 enhancements
- Solution and processes have been rolled out to all Regions and most sites, highly accelerated roll out in past months
- Process Harmonisation and Change Management are not on desired level yet

- Main benefits around customer satisfaction, control and productivity are expected to be delivered as of now with the solution in place and rolled out

Went through Valley of Despair.
Current way is very much up

Nouryon
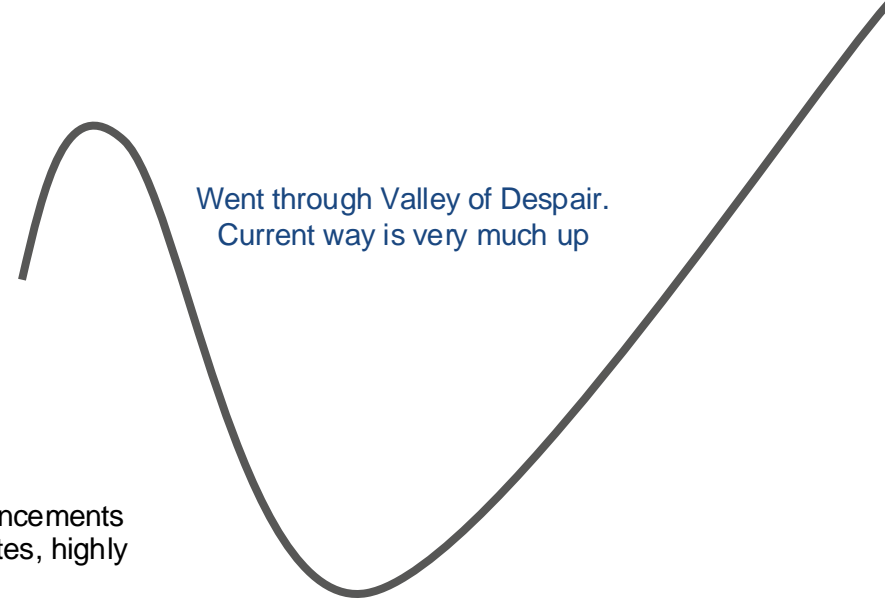
What did we deliver – 1st of July view

Program designed and deployed fit-for-purpose platform enabling execution of standard and variants to standard operational processes required to control and automate execution of international trade and Ocean logistics with new technology in regionally driven and globally supported project addressing all regions and businesses within Nouryon.

Improved customer satisfaction and service offering

Foundation for improved OTIF, customer satisfaction and service offering by:
- Delivering the p44 T&T dashboard to track ocean shipments
- Delivering the BNL T&T dashboard

Improved compliance with all external and internal regulations

Delivered Global Trade Compliance and Trade Preference ensuring improved compliance with all external and internal regulations and reduce effort to ensure compliance

Global standard, **optimized and harmonized processes**

Drove standardization with > 40 key decision documents but also delivered >100 developments to cover Nouryon specific business requirements providing:
- Flexibility to go carrier direct or via a freight forwarder in an automated way also providing direct, on-line booking solution for carriers and FF's.
- Fully automated end-to-end processes for sales orders and ICSTO's with dashboards to handle the exceptions
- Operational reports to manage logistics operations and do financial analyses, already for > 6.000 orders handled in TM

Reduced manual workload, improved productivity and better employee experience

Delivered for 285 of 306 Shipping Points (~95% of order volume) in 6 Regions (APAC, IMEA, Nordics, Mainland, NAM, SAM)
- Fully automated end-to-end processes for sales orders and ICSTO's with dashboards to handle the exceptions to support the new hub structure also improving carrier payment KPI's
- Operational reports to manage logistics operations and do financial analyses
- Assessment on productivity providing insight on how to improve

Improved visibility and control of transportation costs and duties

Delivered improved data capturing and reporting on:
- Spend and volumes of xx of 110 carriers onboarded on BNL and Descartes to improve timely visibility and forecasting of our shipments and costs
- Carrier contract compliance and insight in their ocean schedules
- Duties

N Support Nouryon's **revenue growth objectives**

Delivered platform to support Nouryon's revenue growth, limiting need to grow staff when growing.

Nouryon