

What is Beyond Remote Logistics Management?

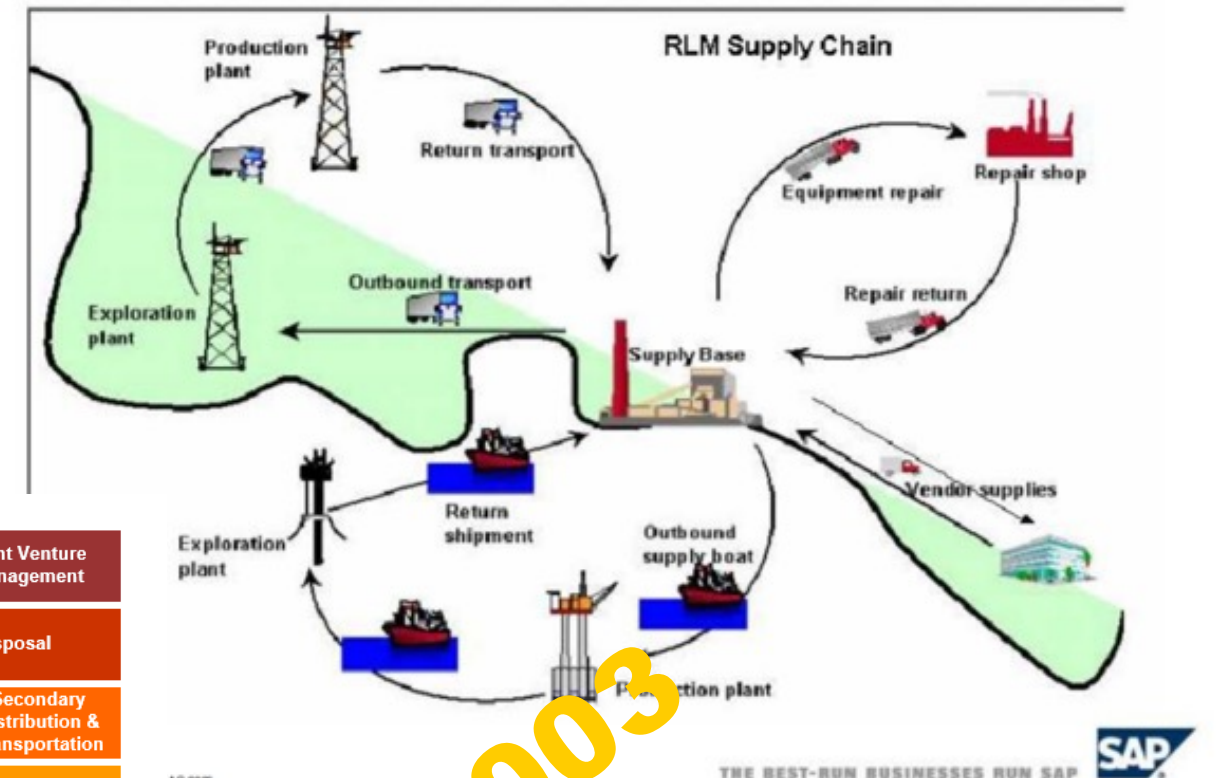


SAP Remote Logistics Management (RLM)

What is RLM?

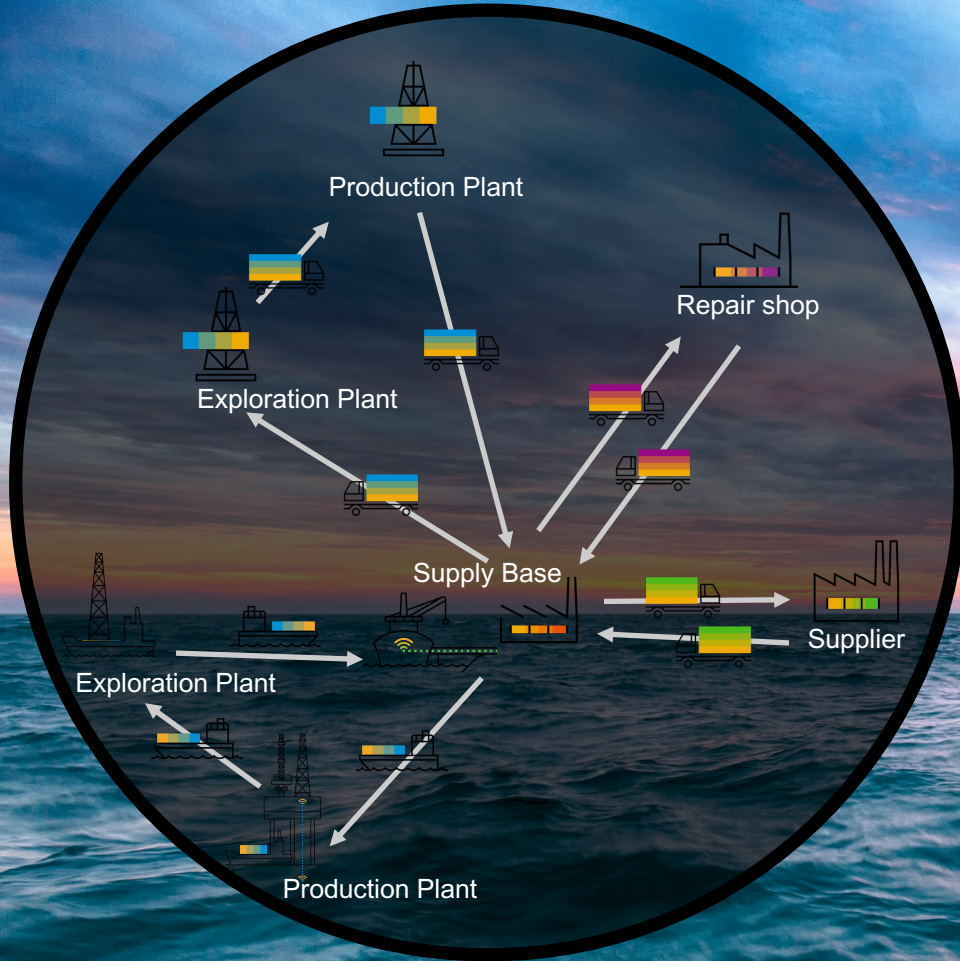
Enterprise Management	Strategic Enterprise Management	Business Analytics	Intell Decision	RLM	Relationship Management & Workforce	Joint Venture Management		
Upstream	Exploration & Appraisal	Development			Marketing	Disposal		
Supply	Supply Chain Planning & Optimization	Acquire, Trade & Sell	Exchange & Throughput Handling		Scheduling	Inventory Management	Primary Distribution & Transport	Secondary Distribution & Transportation
Manufacturing	Manufacturing Planning & Optimization	Manufacturing Process			Batch Manufacturing	Blending & Packaging		Product Quality Management
Sales, Service & Marketing	Marketing		Contracts, Sales & Pricing		Service		Analytics	
Service Station & Convenience Retailing	Convenience Retailing		Fuels Management		Site & Headquarter Accounting		Business Analysis & Reporting	
Enterprise Asset Management	Specify & Design		Procure & Build		Operate & Maintain		Decommission & Dispose	
Business Support	Employee Life-Cycle & Transaction Management		Procurement		Financial Supply Chain Management		Environment, Health and Safety	

RLM Introduction: Scope of RLM



5

Going Next Generation Remote Logistics Management



Our Vision

Establish the next generation of future proof Remote Logistics Management solution

With Beyond RLM we will provide an unbroken chain, from suppliers, through the supply bases, offshore and back.

By connecting inbound, outbound and return flows, we will create unprecedented visibility, reduce waste and material loss, ensure uninterrupted business operations while maintaining the highest levels of safety and efficiency.

Utilizing SAP's latest generation of standard solution components and best practices

Provide flexibility in deployment – Cloud and OnPremise, with SAP ECC and/or S4/HANA

First Shipment

Support the existing supply chain processes in RLM

Beyond RLM **Solution Overview**

Solution Components

SAP IBSO
Innovative Business Solution Organization



SAP S/4HANA

Model Company for Logistics
Execution

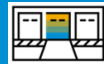
SAP S/4HANA

Transportation
Management



SAP S/4HANA

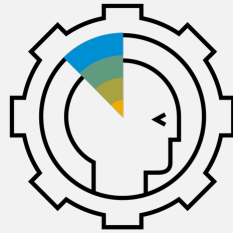
Extended Warehouse
Management



- SAP Extended Warehouse Management and SAP Transportation Management form the **basis of the solution**.
- SAP Model Company for Logistics Execution provides **Best Practices** for shorter time to value.
- SAP Innovative Business Solutions (IBSO) captures the **industry specific** requirements.



Summary of **Sprint Zero**



Pre-Project carried out 1H 2020

Wholistic and collaborative engagement centered around discovery and documentation of Equinor's functional and technical requirements.



Real life testing in Sandbox Environment

Sandbox established and connected with Equinor's current test environment, for rigorous testing of material flows on Equinor's data.

Beyond RLM – What does the **Proposed Solution** give Equinor?

Future Proof

Utilizes New
Technology

Flexible

Independent of S4
upgrade of ERP

Standardized

Based on SAP
Standard Solutions

Global Solution

Regions and
Business Areas

Time to Value

Early Release at NES

Industry Solution

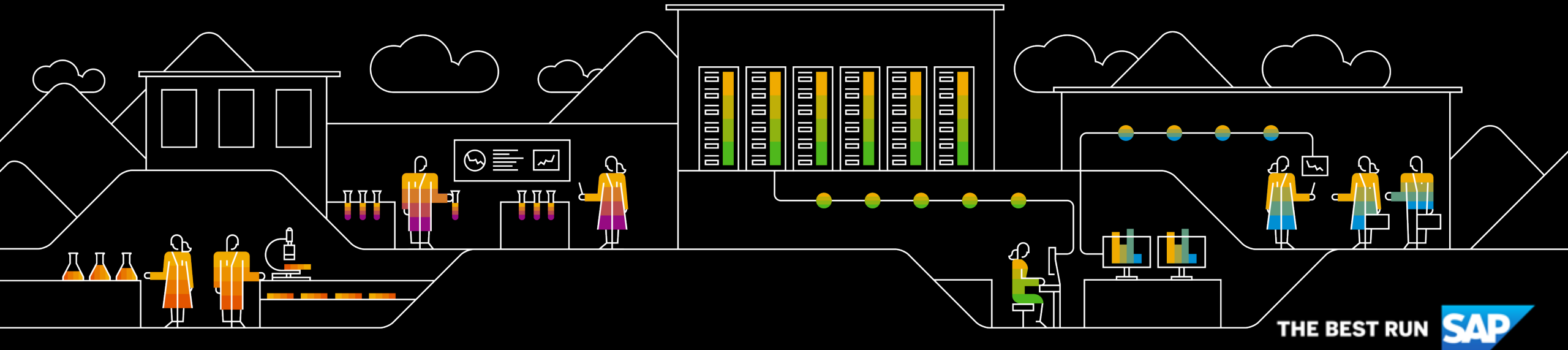
Adapted to the Energy
Industry

Business Benefits – Estimated XXm EUR Annual Savings*

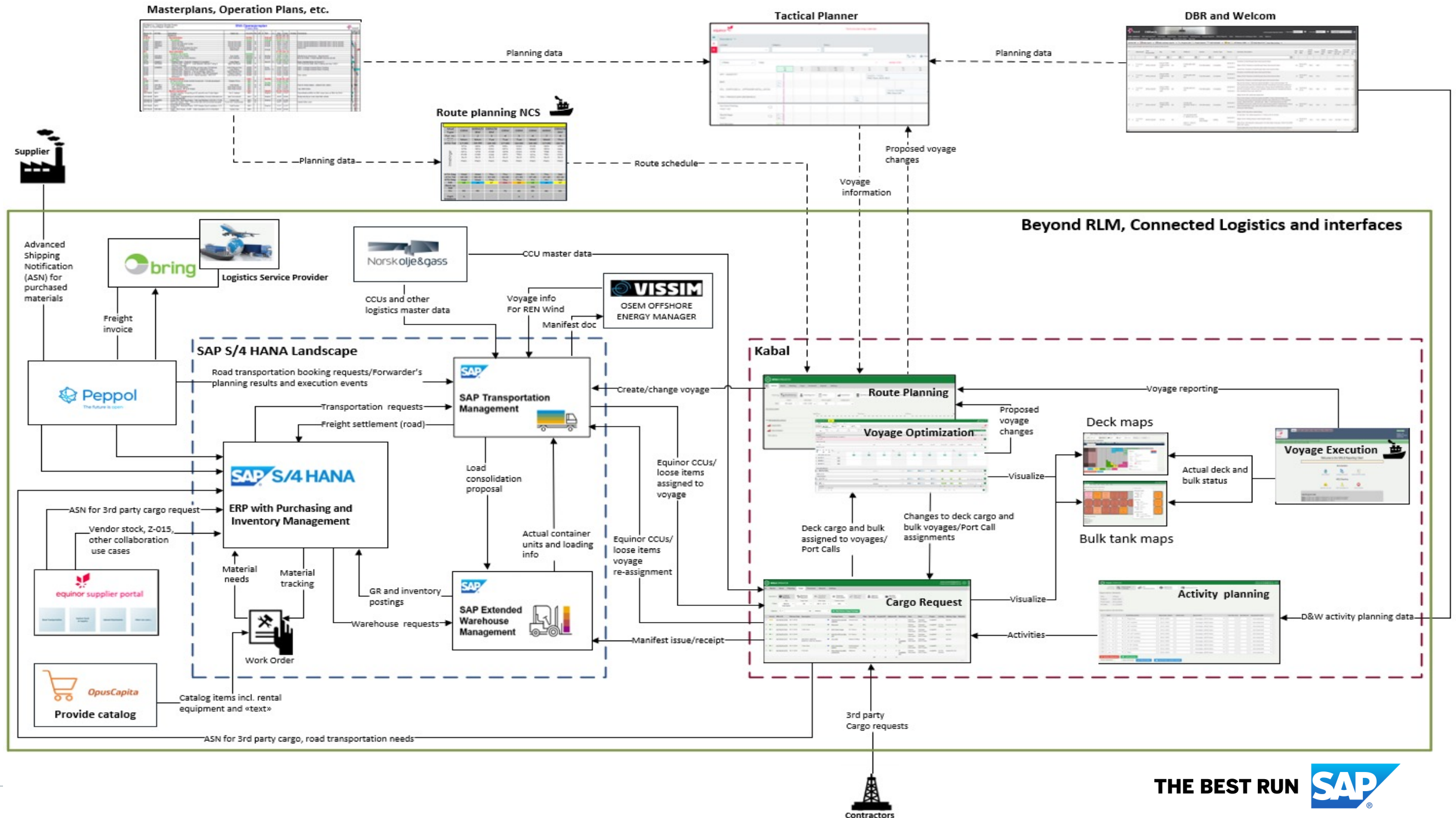
SUPPLY CHAIN	PLANNING	Expected Business Benefits > X Million € (annually)
	SHIPPING	
	INTER - COMPANY	
WAREHOUSING	INVENTORY	Expected Business Benefits > X Million € (annually)
	SPARE PARTS	
	WAREHOUSE MANAGEMENT	
OPERATIONS	PLANT MAINTENANCE	Expected Business Benefits > X Million € (annually)
	ASSET UPTIME	
	MOBILITY	
CROSS	ONBOARDING	Expected Business Benefits ~ X Million € (annually)
	TRAINING	
	REPORTING	
TCO	SUPPORT	Expected Business Benefits ~ X Million € (annually)
	INTEGRATION	
	LEGACY	

**Outside-in Business Case, based on SAP benchmarks from other customers, provided to Q2 2020.*

To-be architecture



Logistics Management – «to-be» architecture



Beyond RLM improvements



Enterprise Resource Planning (ERP)

- Move from RLM software adoptions to standard ERP functionality for offshore supply processes, including cross-docking
- Move from legacy returns transactions and processing to ERP standard features
- Overall improved visibility for cross-docked non-stock items
- Improvements for handling/tracking of catalog and text items
- Improved integration to O&M and better usability for maintenance planners and operators



Warehousing

- Serialization of materials also in the physical warehouse
- Enablement of preservation and maintenance of stocked materials
- Better shelf-life management
- Improved batch control in general (today's batch is used to track customs handling)
- Devices and scanning for transaction handling and tracking of movements (RF-framework)
- Warehouse management processing improvements



Transportation

- Improved visibility in supply chain, planning horizon
- Improved voyage planning and optimization
- Improved tools for loading, unloading and cargo management in general
- Improved land transportation planning and execution capabilities
- Clear separation of responsibilities/processing of 3rd party and Equinor owned material

Beyond RLM improvements



Operating models

- Prepared for alternative operating models
- Voyage planning and execution by Equinor, by O&G partner or by Logistics Service provider
- Physical warehousing in Equinor's warehouse management system or in service provider's external warehousing system
- Run alternative operating models in parallel for different countries or geographies within a country



Openness and usability

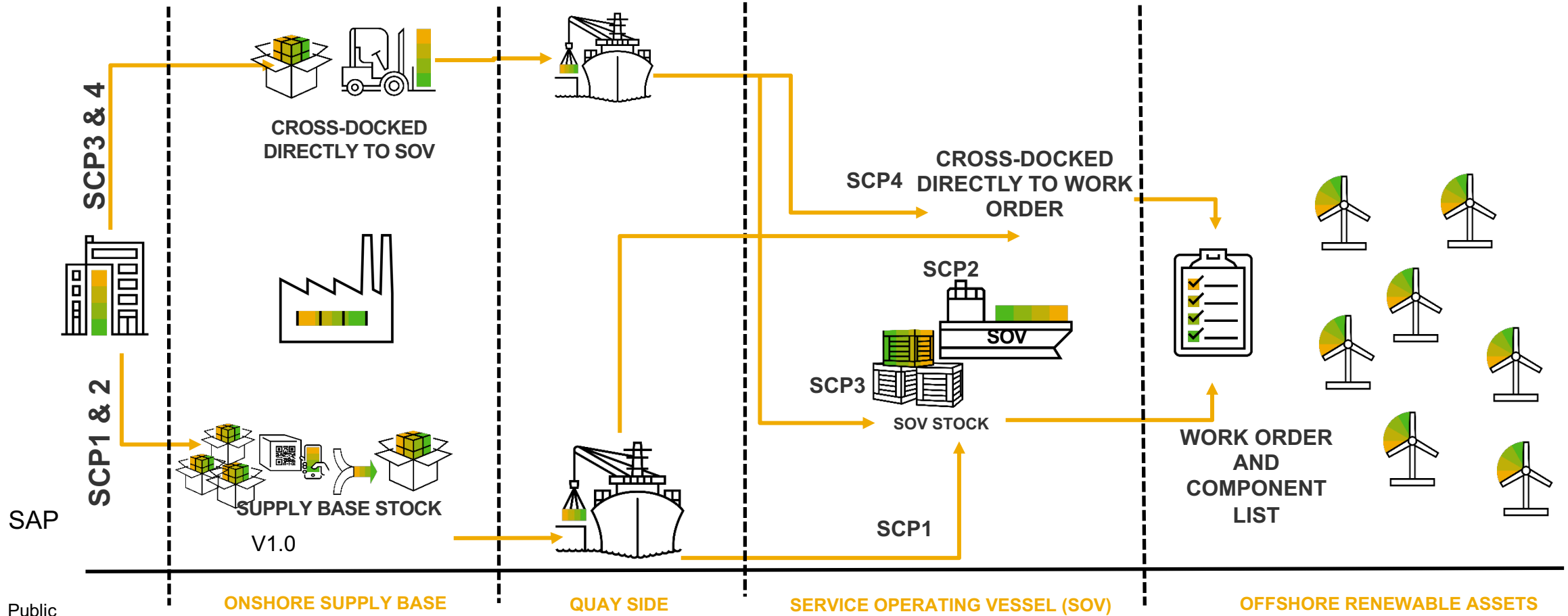
- Will pursue international standards for logistics identifiers and transactional message exchange i.e., GS1 and Peppol
- Identifiers for locations, handling units, containers, etc.
- Messages for ASN, transportation booking and tracking
- Standardized interfaces to external warehouse management system
- Standardized interface to tax and customs handling solution
- Improved Fiori usability adaptations, for all form factors
- UX adaptations for specific roles



Future proof

- Based on S/4HANA platform
- Move from legacy Equinor custom development to standard software
- Easy data provisioning for external consumption
- Improved integration to SAP and 3rd party cloud solutions via Business Technology Platform = BTP (previously called SAP Cloud Platform)
- Access to new functionality/ business process support and operational reporting coming with S/4HANA
- Move away from soon to be obsolete SAP platform

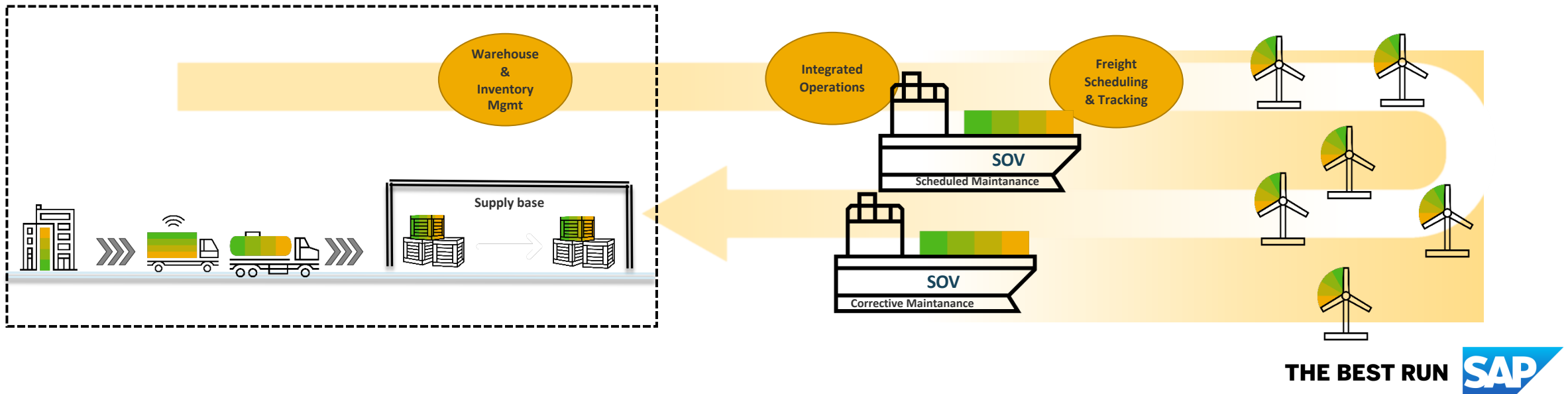
Main Wind Farm BRLM processes: High-level overview



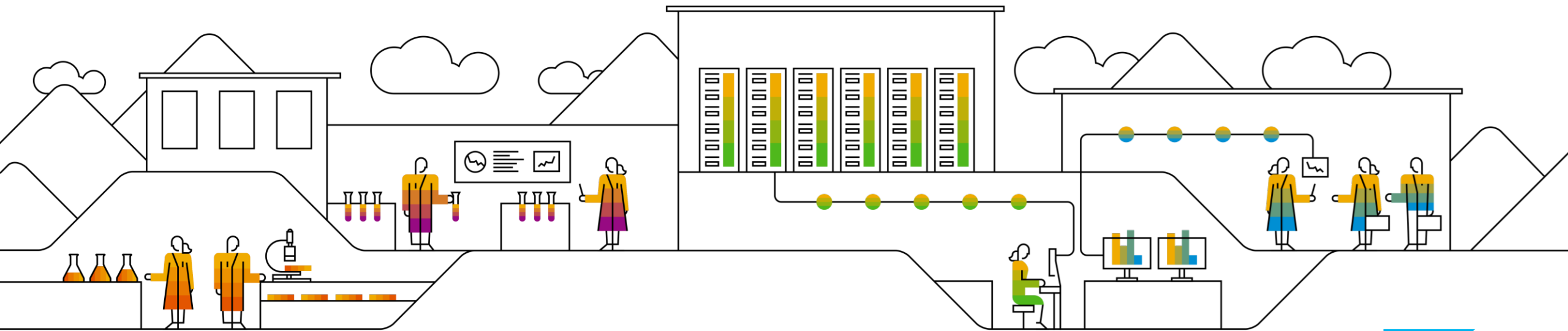
BRLM is core SAP functionality adapted to offshore wind business

OBJECTIVES

- Build a future-proof SAP BRLM Configuration Template for Offshore Wind Farm.
- Reduce supply chain operating cost by standardizing ways of working and digital enabling efficient processes
- Foundation for more efficient, more collaborative and transparent work processes within material logistics and warehouse operations
- Develop operation model that drives safety and efficiency across the supply chain



1. PM Order Planning



Benefits with BRLM



Easy identification of various supply chain processes.



Good visibility of various logistical steps by working with dates and business partners



Third party and rental equipment in one viewdata.

2. ASN – Advanced Shipping Notification



Benefits with BRLM



Early visibility when external/rental equipment is available



Helps with not only inbound logistics but also outbound logistics



Reduces considerable manual work when receiving materials at base

3. Container Planning



Freight Unit Stages (51) Freight Unit/Package Unit Stage Hierarchy (51) Freight Unit/Package Unit Stages (51)

Transportation demand

Split/Merge Stages Create Capacity Document

Create Multiple Capacity Documents Remove Capacity Document

	Freight Unit	F	Loading Locat...	Unloading Locati...	Earliest ...	Latest ...	Gros...	G...	Gros...	G...	Execution Docu...
▼	26.04.2022 (9) (Earliest Requested Date (Loading Location))										
☐	4100014550	✓	Base Kristiansund	Heidrun Platform	26.04.2022	30.04.2022	90 KG	0,200	M3		8000002172
☐	4100014551	✓	Base Kristiansund	Heidrun Platform	26.04.2022	30.04.2022	85 KG	0,200	M3		8000002172
☐	4100014552	✓	Base Kristiansund	Heidrun Platform	26.04.2022	30.04.2022	110 KG	0,210	M3		8000002172
☐	4100014576	✓	Base Kristiansund	Heidrun B	26.04.2022	27.04.2022	110 KG	0,100	M3		8000002166
☐	4100014577	✓	Base Kristiansund	Heidrun B	26.04.2022	27.04.2022	85 KG	0,200	M3		8000002166
☐	4100014578	✓	Base Kristiansund	Heidrun B	26.04.2022	27.04.2022	76 KG	0,170	M3		8000002167
☒	4100014696	✓	Base Kristiansund	Heidrun Platform	26.04.2022	30.04.2022	25 KG	0,010	M3		8000002172
☒	4100014697	✓	Base Kristiansund	Heidrun Platform	26.04.2022	30.04.2022	20 KG	0,010	M3		8000002172
☒	4100014703	✓	Base Kristiansund	Heidrun B	26.04.2022	27.04.2022	140 KG	0,400	M3		8000002205
▼	27.04.2022 (6) (Earliest Requested Date (Loading Location))										
☐	4100014544	✓	Base Kristiansund	Heidrun Platform	27.04.2022	01.05.2022	150 KG	0,500	M3		8000002172
☐	4100014545	✓	Base Kristiansund	Heidrun Platform	27.04.2022	01.05.2022	120 KG	0,100	M3		8000002173
☐	4100014546	✓	Base Kristiansund	Heidrun Platform	27.04.2022	01.05.2022	2.010 KG	1,800	M3		8000002174
☐	4100014579	✓	Base Kristiansund	Heidrun B	27.04.2022	28.04.2022	110 KG	0,200	M3		8000002166
☐	4100014580	✓	Base Kristiansund	Heidrun B	27.04.2022	28.04.2022	1.200 KG	1,900	M3		8000002168
☐	4100014581	✓	Base Kristiansund	Heidrun B	27.04.2022	28.04.2022	76 KG	0,200	M3		8000002166
▼	28.04.2022 (6) (Earliest Requested Date (Loading Location))										
☐	4100014553	✓	Base Kristiansund	Heidrun Platform	28.04.2022	02.05.2022	200 KG	0,180	M3		8000002172

Containers (4) Cargo per Stage

Generic container types

Insert Container Resource Create Container Unit

	Transportation Unit Resource	D...	Max...	W..	Cu...	U...	M...	P...	Max...	V...	Tare W...	U...	Nor...	Nor...	Co
☐	C10		11.000	KG	2,400	M3	11.000	KG	2,400	M3	4.000	KG			C1
☐	DRUM BASKET		5.100	KG	1,920	M3	5.100	KG	1,920	M3	1.900	KG			BA
☐	MINI CONTAINER		4.400	KG	0,960	M3	4.400	KG	0,960	M3	1.560	KG			MI
☐	MINI CONTAINER /W DECK		4.400	KG	1,920	M3	4.400	KG	1,920	M3	1.560	KG			MI

Container Unit (14) Container Unit Hierarchy (14) Freight Orders/Freight Bookings (2)

Preplanned containers

Container Unit Remove Container Resource Mass Change Check

Create Capacity Document Create Multiple Capacity Documents

	Container ...	Source Locati...	Destination...	Maxi...	Depart...	D...	Arrival ...	A...	Container Re...	Contain...	Registration I
▼	0000001149 (7) (Destination Location)										
☐	8000002166	Base Kristiansund	Heidrun B	94%	29.04.20...	CET	02.05.20...	CET	MINI CONTAINER	MINI CTR	
☐	8000002167	Base Kristiansund	Heidrun B	80%	29.04.20...	CET	02.05.20...	CET	MINI CONTAINER	MINI CTR	
☐	8000002168	Base Kristiansund	Heidrun B	99%	29.04.20...	CET	02.05.20...	CET	DRUM BASKET	BASKET	
☐	8000002169	Base Kristiansund	Heidrun B	91%	06.05.20...	CET	09.05.20...	CET	MINI CONTAINER	MINI CTR	
☐	8000002170	Base Kristiansund	Heidrun B	100%	06.05.20...	CET	09.05.20...	CET	MINI CONTAINER	MINI CTR	
☐	8000002171	Base Kristiansund	Heidrun B	10%	06.05.20...	CET	09.05.20...	CET	MINI CONTAINER	MINI CTR	
☐	8000002205	Base Kristiansund	Heidrun B	4...	29.04.20...	CET	02.05.20...	CET	MINI CONTAINER	MINI CTR	
▼	0000001170 (7) (Destination Location)										
☐	8000002172	Base Kristiansund	Heidrun Platf...	98%	29.04.20...	CET	30.04.20...	CET	MINI CONTAIN...	MINI DECK	
☐	8000002173	Base Kristiansund	Heidrun Platf...	10%	29.04.20...	CET	30.04.20...	CET	MINI CONTAIN...	MINI DECK	
☐	8000002174	Base Kristiansund	Heidrun Platf...	94%	29.04.20...	CET	30.04.20...	CET	DRUM BASKET	BASKET	
☐	8000002175	Base Kristiansund	Heidrun Platf...	99%	29.04.20...	CET	30.04.20...	CET	DRUM BASKET	BASKET	
☐	8000002176	Base Kristiansund	Heidrun Platf...	96%	06.05.20...	CET	07.05.20...	CET	MINI CONTAIN...	MINI DECK	
☐	8000002177	Base Kristiansund	Heidrun Platf...	98%	06.05.20...	CET	07.05.20...	CET	DRUM BASKET	BASKET	
☐	8000002178	Base Kristiansund	Heidrun Platf...	5%	06.05.20...	CET	07.05.20...	CET	MINI CONTAIN...	MINI DECK	

Overview

Detailed view

Move Up Insert Load Plan Status Unload Plan Status Execution Status Customs

	Details	Activity (Descr...	Document	Wareh... Number	Department
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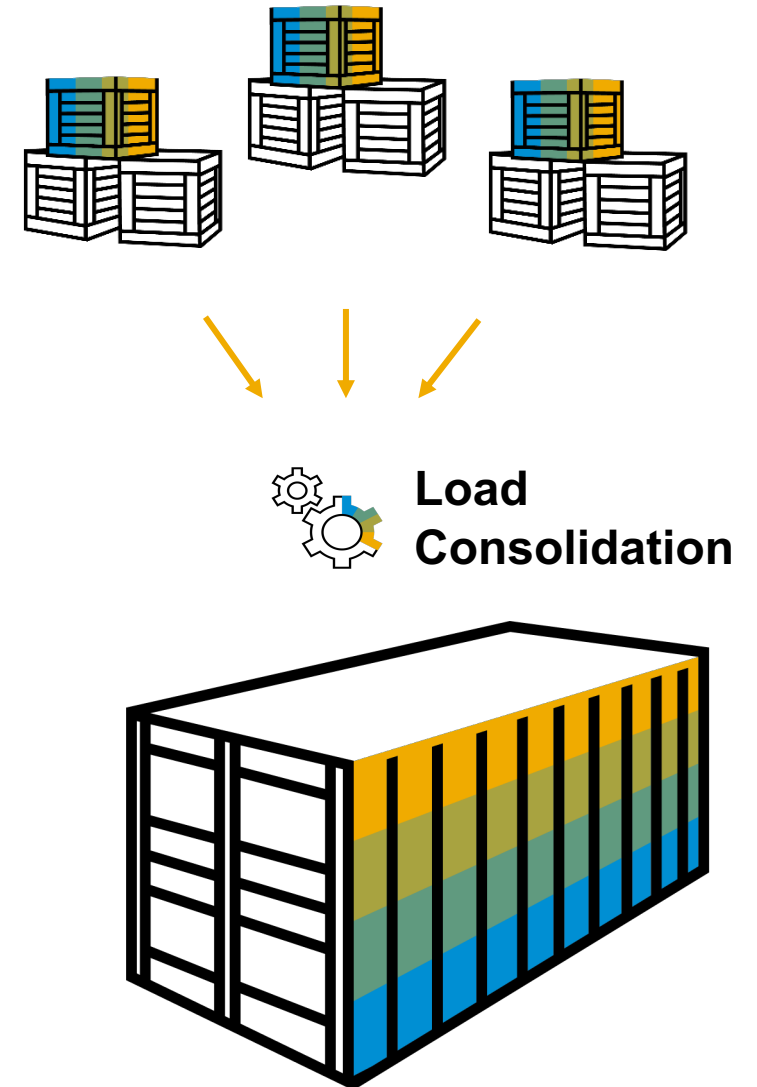
And one of them created a new container as there was no suitable one with enough capacity left

SAP Optimizer



Container Planning

- **Early visibility** of the transportation requirements
- System will provide **estimation of number and types of containers** needed to ship the goods on certain voyages
- Solution works also **incrementally**. Newly created deliveries are assigned to existing containers if there is available capacity
- Containers are assigned to voyages and this information is shared with Kabal (Vessel planning)



4. Road Transportation – The new way



The new way

Transportation booking process



- In RLM: e-mail, phone, return worklist, carrier website etc.
- In BRLM: electronic exchange of the transportation demand for all processes (inbound, returns, base to base movements)

Track & Trace



- In RLM: only a small percentage on the transports are tracked withing the system (tracking of the Purchase Orders, etc.)
- In BRLM: The execution monitoring of the road transportation performed by the carrier will be possible.

Transportation Planning by the carrier



- In RLM: no homogenous source to review the transportation planning (e.g. link to the carrier website, return worklist, e-mail etc.).
- In BRLM: electronic exchange of the transportation planning result from the carrier.

Benefits with BRLM



Improvement in the exchanged data and process visibility in the system.



Comprehensive overview of the execution and milestone tracking capability.



One source (SAP system) to store and access the transportation planning data.

5. Goods Receipt App – Fiori



Delivery 210000002922

Edit

Goods Receipt

Reverse Goods Receipt

Create Tasks

Investigate Block

Print Label

Custom Data

Handling Units

Vendor: ABB Offshore Systems AS (3000260) Number of Items: 1



General Data

Items

Attachments

Planned Div. Date:

15.04.2022, 12:55



Carrier:

-

ASN:

ASN

LE Delivery:

1000000920

Items

Total Items (1)



Unpacked Items (1)

Delivery Items Road Inbound ▾



☒	Item Number	Product	Delivery Quantity	Stock Type	Batch	Number of HUs	Warehouse Tasks	Open Pkbl Quantity	Putaway Stat. (Plan)	Disposal Party
☒	10	SAP Material SP01 - REN (do not touch) (52002203)	5,000 PC	Unrestricted (F2)	T			5,000 PC	Not Started	1040

Attachments

Attachments (0)

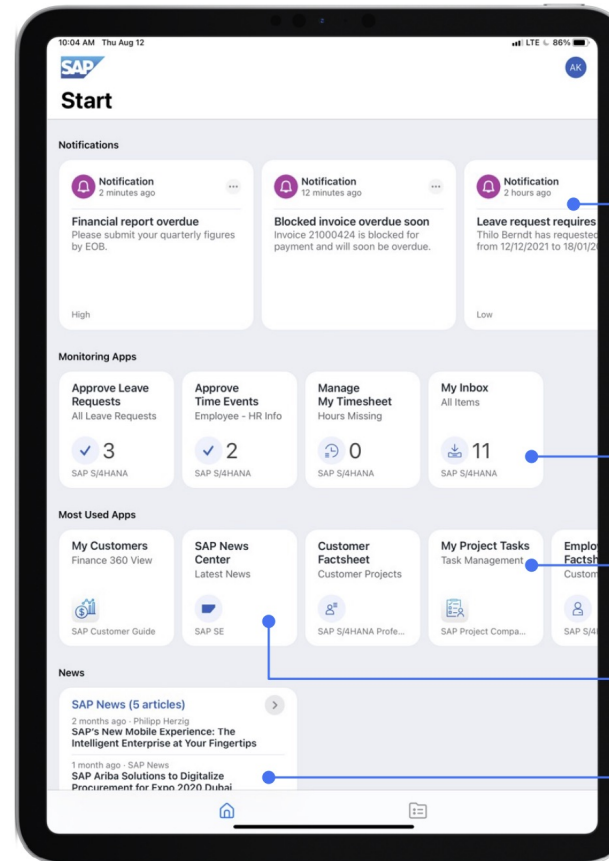
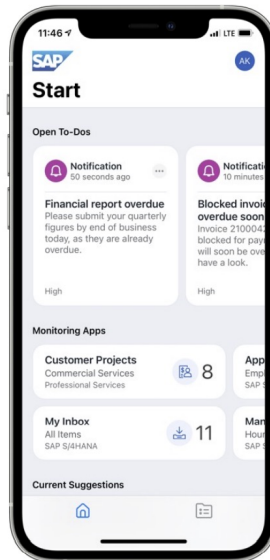
Upload

Add a Link



SAP mobile start enables BRLM flows on mobile devices

Native Entry Point to the Intelligent Enterprise Suite



Notifications

Web apps

Native apps

Web links

News feeds

THE BEST RUN



Benefits with BRLM



One application to create, check, update Inbound Delivery in EWM



Functions to process goods receipt per pallet/delivery, print pallet labels, create warehouse movements, add attachments available via the Fiori application



Synchronous update of received stock in ERP

6. Picking, Packing & Staging

7. Outbound Execution at Base

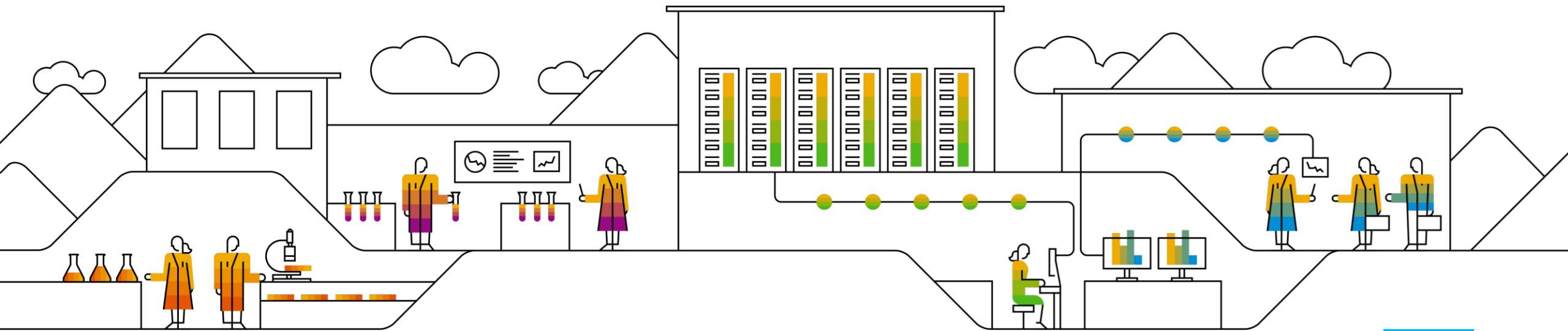
8. Inbound at Platform



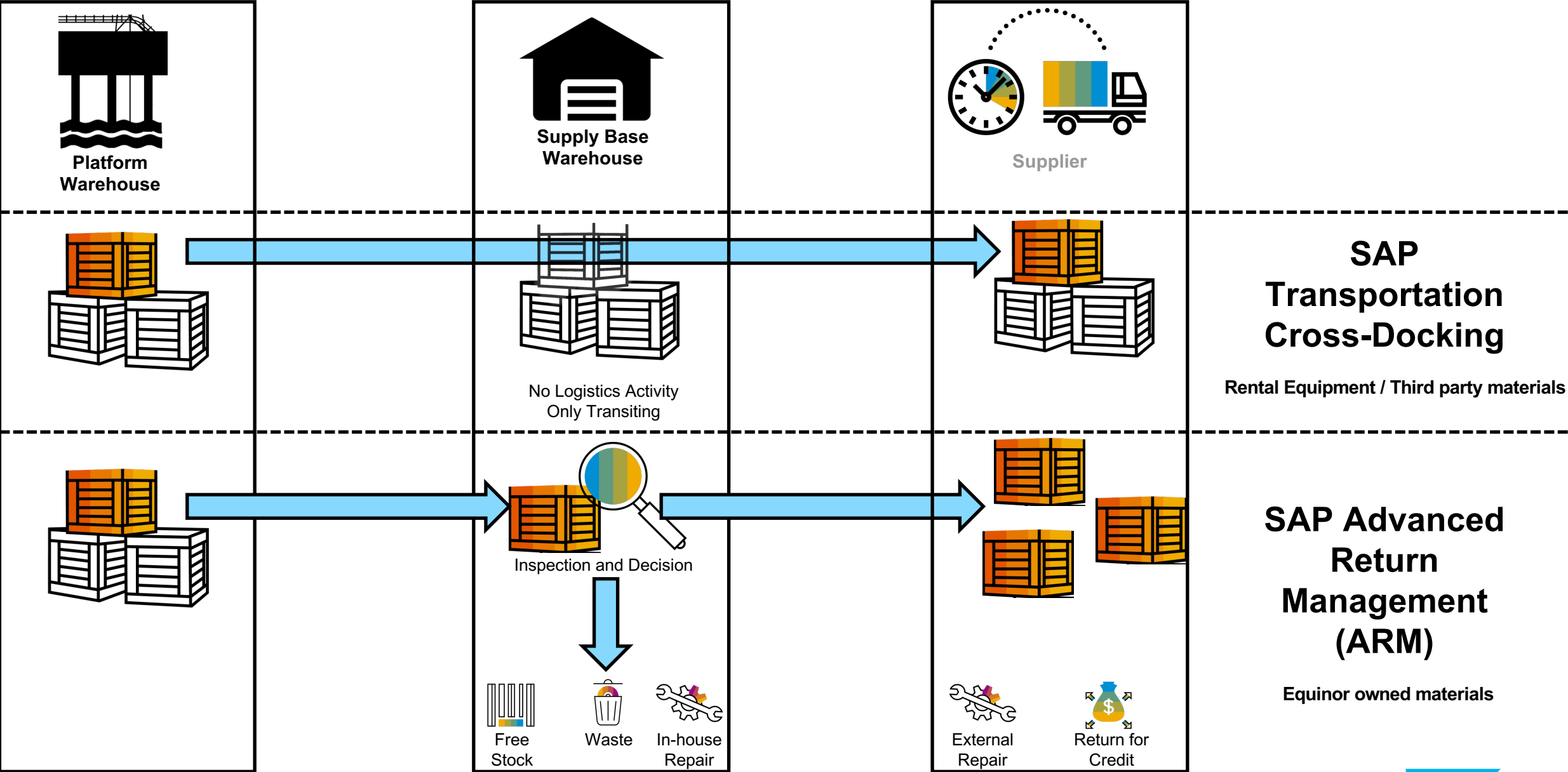
9. Returns of Equinor owned and third party materials

Advanced Returns Management and transportation cross-docking

10. PM Order Tracking progress till completion



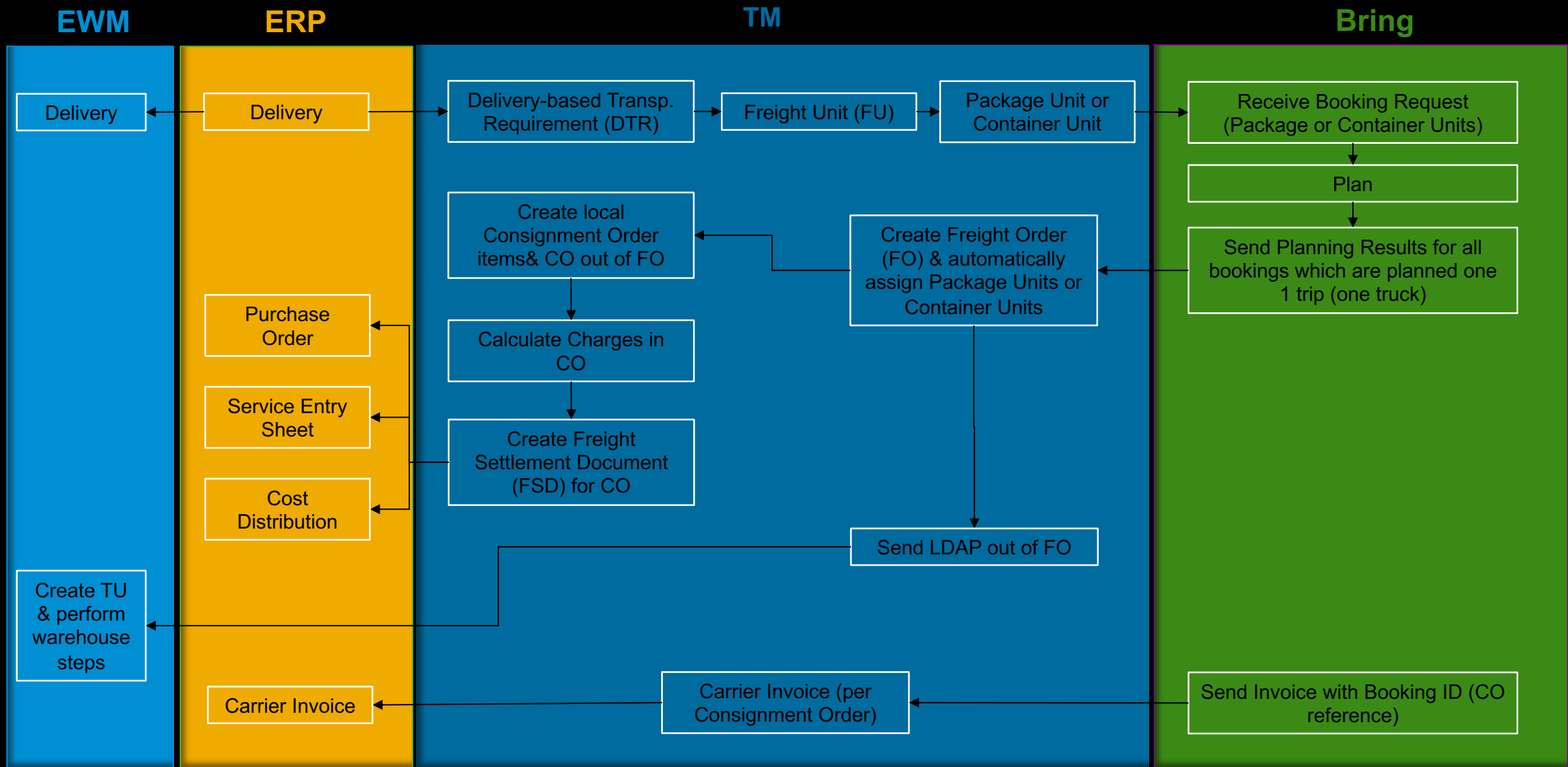
Process Flows to support BRLM Return Processes



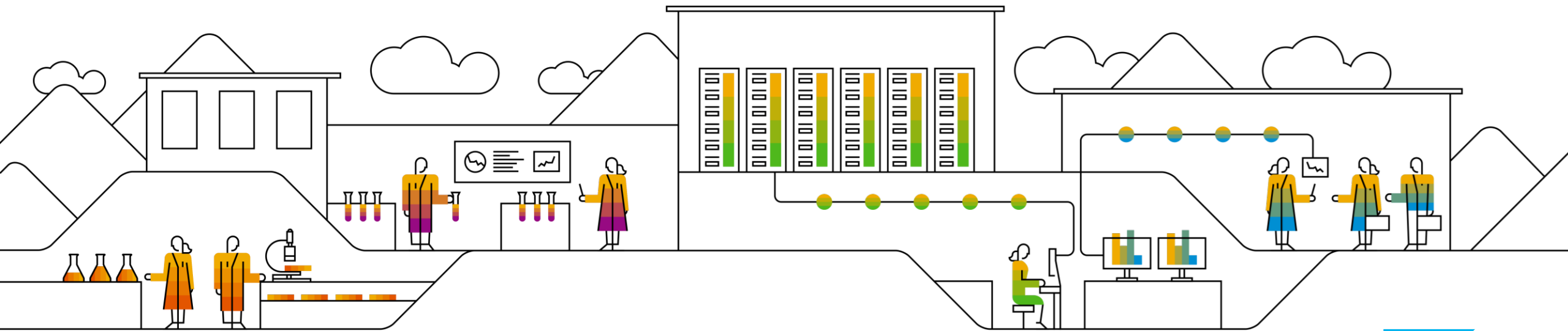
11. Automatic Charge Calculation & Invoice Verification



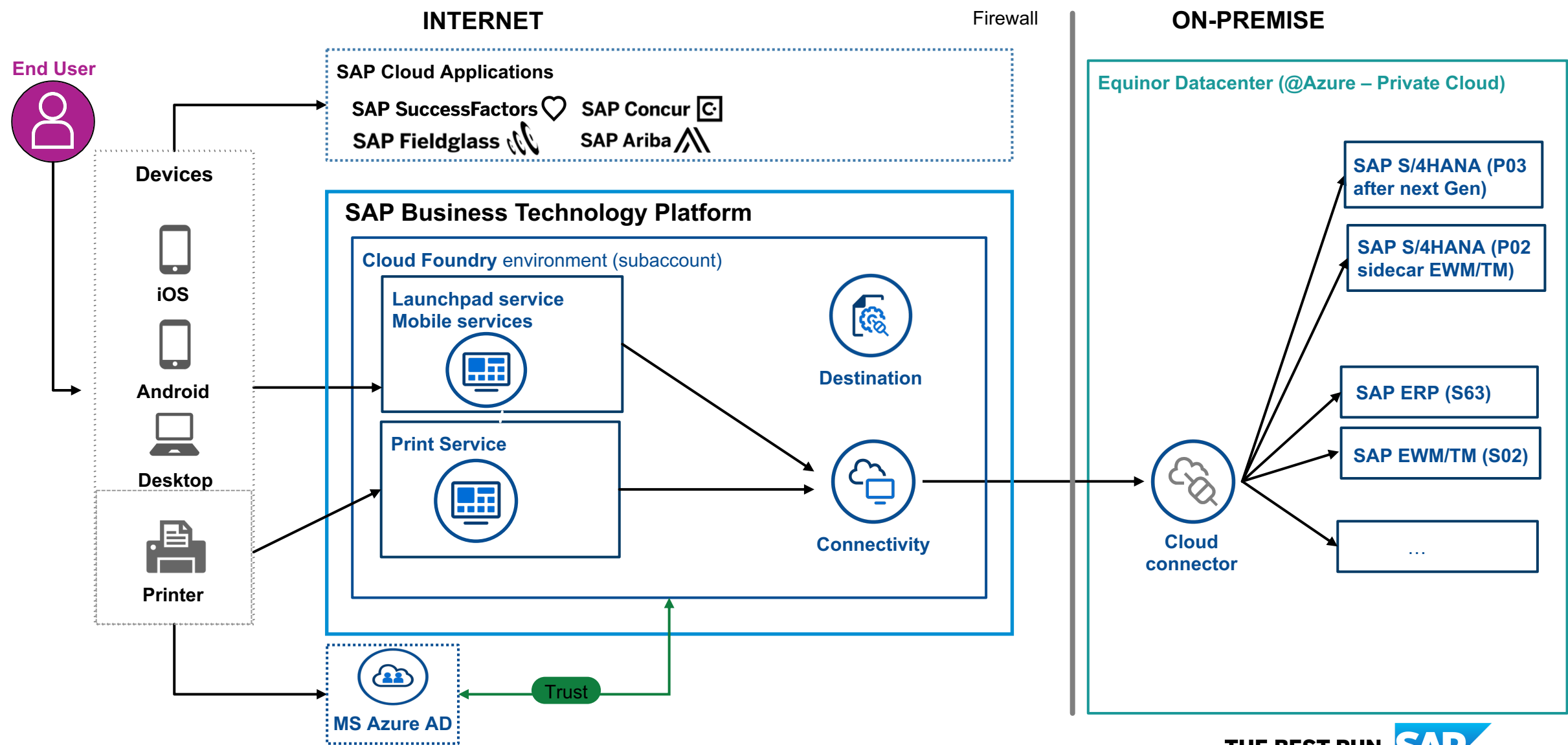
Process flow



12. Business Technology Platform – Central launchpad / SAP Mobile Start



Equinor BTP Launchpad Architecture



Benefits with BRLM



Higher productivity by offering direct access to BRLM transactions via mobile devices



Avoid double work by providing direct access to external employees



Leverage advantages of intelligent technologies for barcode scanning and optical character recognition

Thank you.

Contact information:

