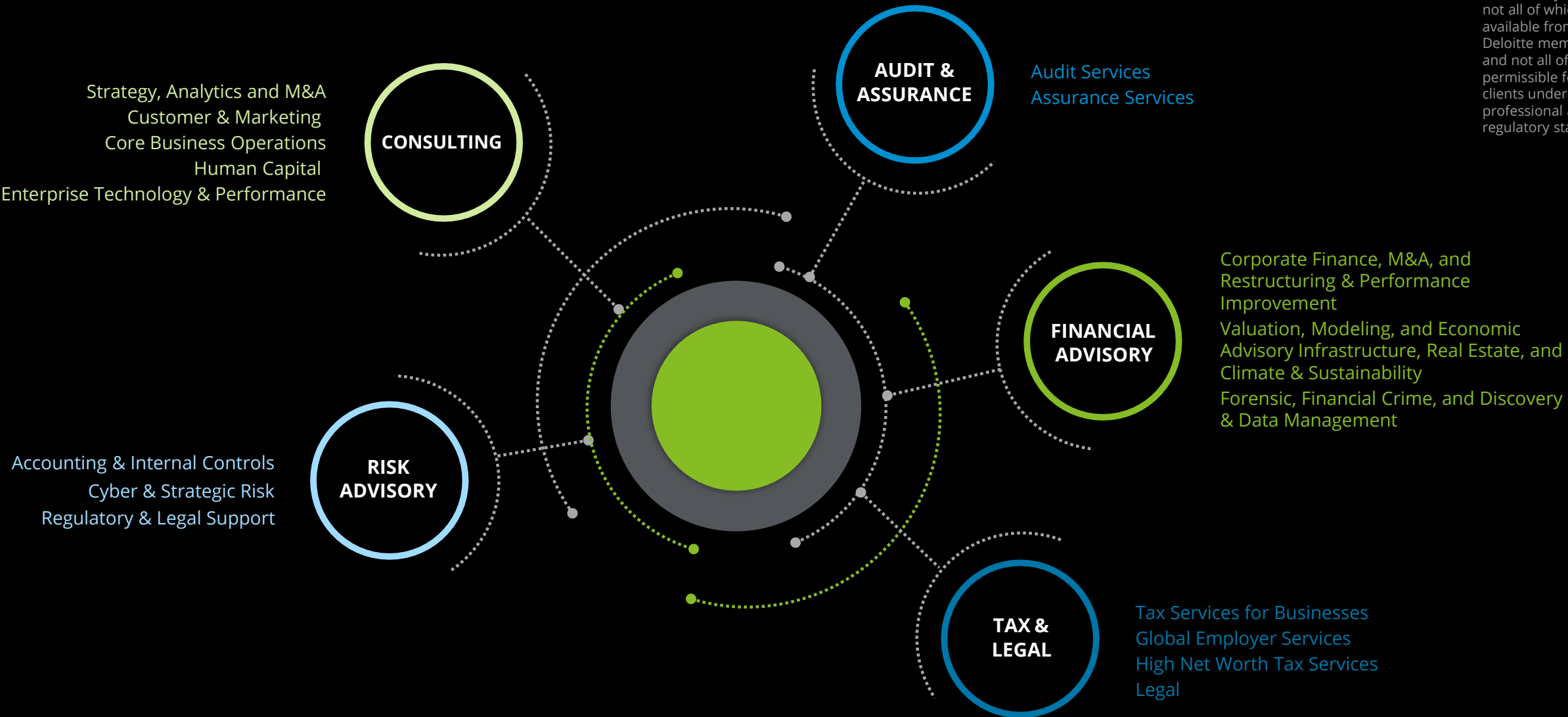


Digital Transformation in Supply Chain

Umberto Mazzucco

Our service areas



Note
The following list of services is a representative sampling of Deloitte business capabilities. Deloitte offers many services, not all of which are available from every Deloitte member firm and not all of which are permissible for audit clients under various professional and regulatory standards.

Supply Chain & Network Operations in Italy



GLOBAL
2.700

EMEA
800

ITALY
+115

5 OFFICES

1 CENTER OF EXCELLENCE FOR
SUPPLY CHAIN SERVICES

MILANO
ROMA
TORINO

TREVISO
BOLOGNA
BARI

SUPPLY CHAIN & NETWORK OPERATIONS

MARKET OFFERINGS

SUPPLY CHAIN STRATEGY	PLAN	SOURCE	MAKE	DELIVER
• DIAGNOSTIC & DESIGN • ORGANIZATION • PROGRAM GOVERNANCE	• ADVANCED PLANNING SOLUTIONS ○ DISCRETE ○ PROCESS ○ RETAIL / FASHION • DDMRP	• PROCUREMENT STRATEGY & OPERATING MODEL • DIGITAL PROCUREMENT • CATEGORY MANAGEMENT • SUSTAINABLE PROCUREMENT • RISK SENSING	• PRODUCT DEVELOPMENT • MANUFACTURING ○ ADVISORY ○ DIGITAL • ASSET MANAGEMENT ○ MAINTENANCE	• NETWORK RE-DESIGN • WAREHOUSE OPTIMIZATION (WMS) • TRANSPORTATION OPTIMIZATION (TMS) • ORDER FULFILLMENT

ALLIANCES

&
OTHER PARTNERS

GROWTH PLATFORMS

ERP-ENABLED TRANSFORMATION	SUSTAINABILITY	AI & ANALYTICS	OPERATE
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Our Deliver offering

OUR OFFERINGS



NETWORK DESIGN

Guide the client business to shape the organization to optimize the Distribution Network, transport and warehouse operations, by leveraging advanced simulation tools to make digital twin of the end-to-end supply chain, developing alternative optimized scenarios to reduce transportation costs, go to market lead time and inventory levels, while addressing distribution model evolution



WAREHOUSE OPTIMIZATION (WMS)

Define and deliver next generation Warehouse Management processes, organizations and solutions (WMS) to enhance and automate fulfillment execution activities within the four walls of distribution



TRANSPORTATION OPTIMIZATION (TMS)

Design the Transportation operating model and deliver next generation Transportation Management Solutions (TMS) to enhance visibility, automate execution, increase operational efficiency and cost sensitivity, and connect network providers across all modes and regions, by leveraging our key partnerships with software vendors as well as our strong credentials



CONTROL TOWER & DECISION INTELLIGENCE

Enhance organizations capability to monitor and manage supply chain processes and indicators to ensure efficiency and responsiveness, with the possibility to take the concept to the next level by incorporating advanced analytics, artificial intelligence, and machine learning capabilities leveraging data-driven insights to predict trends, identify opportunities, and recommend optimal actions



ORDER FULFILLMENT

Design the Order Fulfillment operating model, from customers order receiving to order fulfillment, to payment collection while assessing OMS tech solutions



LOGISTICS AS-A-SERVICE

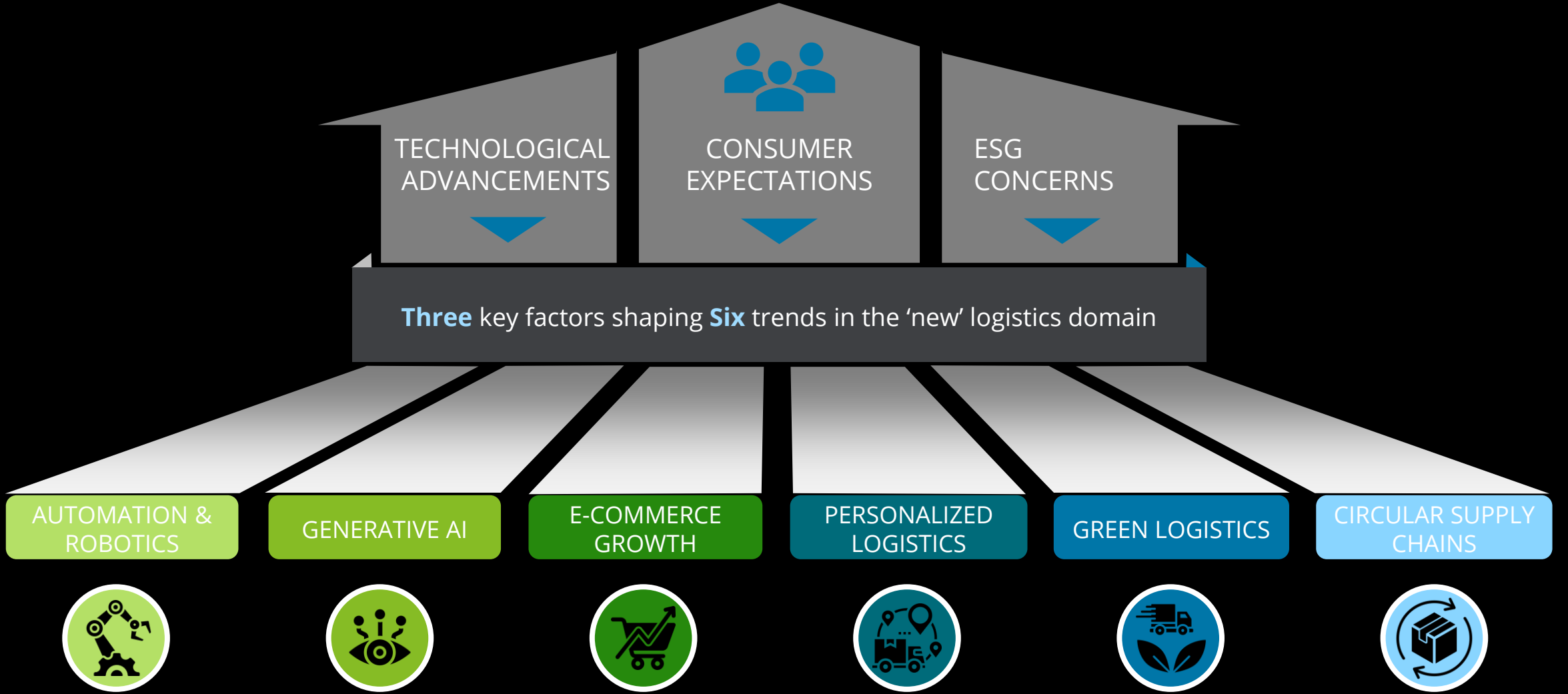
Run as-a-service the following set of processes – inbound / outbound logistics, transportation management, warehouse management –, powered by digital technologies

Delivery Mode of the services offered

Consolidated & Emerging Trends



Consolidated Drivers setting goals in the Consumer Industry



Emerging Influences paving the need for Digital Transformation in Logistics Area

DECISION INTELLIGENCE SOLVING EXCEPTIONS

It is estimated that on average the employees spends up to **30% of their time on non-value-added tasks**. Decision Intelligence can support the daily operations; as an example, when a shipment is **delayed**, AI systems can automatically **re-route** shipments, **adjust** delivery schedules, and **notify** relevant stakeholders without human intervention.



LABOR SHORTAGE

A scarcity of manual workers isn't the only labor constraint that companies are facing as businesses become increasingly digitally-enabled, they need to attract a **growing number of knowledge workers**. In the future, companies will need to invest in **AI-equipped robots** to face the workers' shortage, especially in **manufacturing and warehousing settings**.



INCREASED OUTSOURCING IN LOGISTICS

The global 4PL market (\$57.9B in 2021) is forecast is to reach **\$111.7B by 2031**, indicating a growing trend towards logistics outsourcing. About **67%** of companies worldwide entrust their **transportation** operations to 3PL providers, while **63.5%** outsource their **warehousing** operations.

REAL-TIME RISK SENSING

Supply Chain Visibility Platforms helps in building a more resilient supply chain by identifying weak points and providing insights into how to strengthen them. This might involve **diversifying suppliers**, **increasing inventory buffers**, or investing in more reliable **transportation options**.



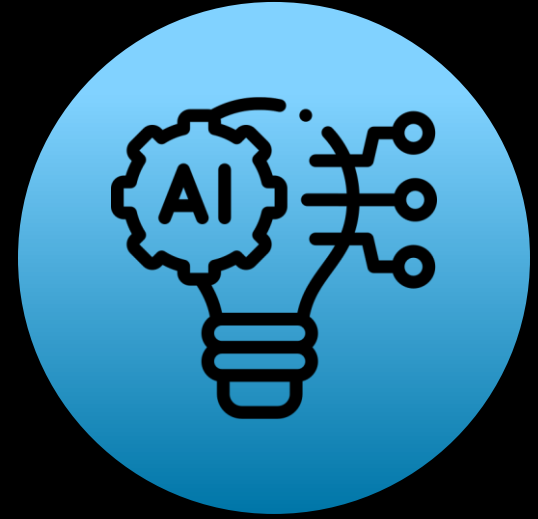
Focus of today session



TRANSPORTATION
MANAGEMENT



SUSTAINABILITY



CONTROL TOWER &
DECISION INTELLIGENCE

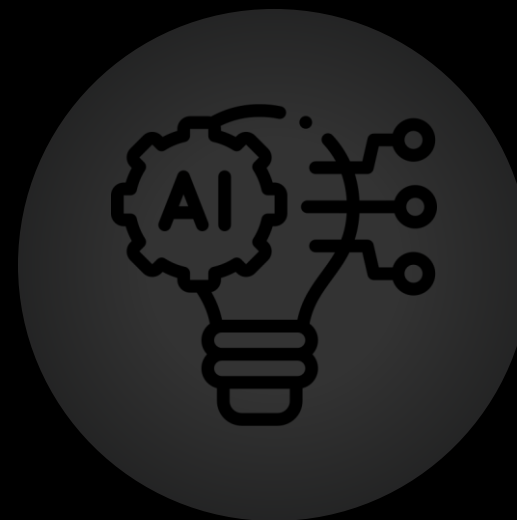
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TRANSPORTATION
MANAGEMENT



SUSTAINABILITY



CONTROL TOWER &
DECISION INTELLIGENCE

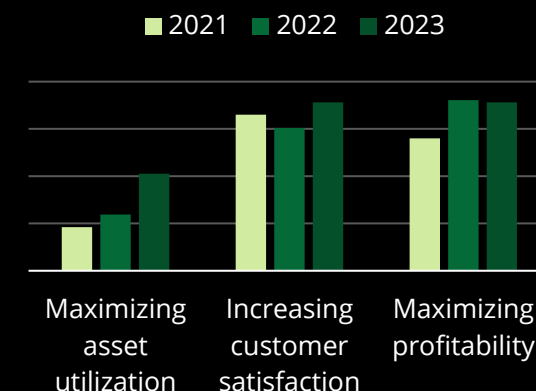
Transportation & Logistics Market Outlook



- Increased **complexity** and **costs** on delivery processes: **multi carriers/modes, fragmented deliveries, multi countries**
- Amazon logistic performance** is affecting the market behavior
- Increasing **reverse logistic**
- Faster **inventory management**
- Increasing importance of **environmental sustainability**
- Implementation of **real time tracking through connected logistic technologies**: (e.g. Bluetooth, Satellite, Blockchain...)
- More large enterprises invest **Cloud/SaaS software**
- Digitalization of **Supply Network communication** and **innovative solutions** (e.g. Fleet Tracking, Dynamic Routing, Demand Sensing)

MARKET INSIGHTS

Logistics and Transportation Trends



Carrier costs and rates have increased, leading to a **strategic focus** on **innovation** to **maximize** and derive **value** from assets.

Source: [Logistics Management](#)

Global TMS software investment growth

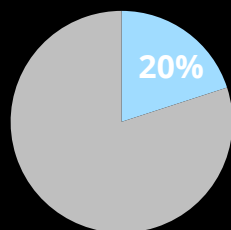


Source: [MarketDigits](#)

Logistics & Transportation raising issues

Logistics & Transportation data collected over the last years show a sets of potential improvements

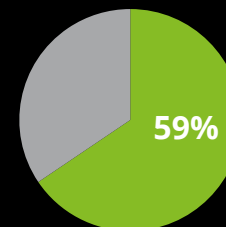
Empty Truck Journeys %



At EU level, *one fifth* (20.2 %) of the total distances travelled was performed by empty vehicles in 2022.

Source: [Road freight transport by journey characteristics - Statistics Explained \(europa.eu\)](#) (Eurostat)

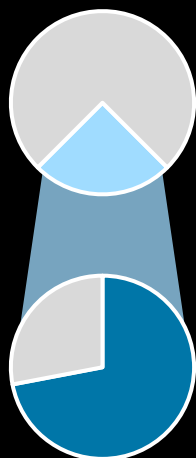
Waiting Time %



Over 80% of drivers run out of available hours due to detention time, with an **average of only 6.5 hours** out of 11 available hours spent on the road. Many of those drivers also experienced wait times longer than six hours at some point.

Source: [Reducing Truck Driver Detention Times | RTSinc](#)

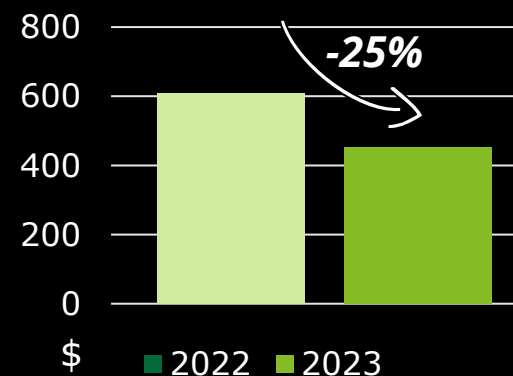
CO2 Emissions



The transport industry is responsible for approximately **one quarter** of greenhouse gas emissions. Road Transport was responsible for almost the **76% of total emissions** from transport in the EU.

Source: [Chapter 10: Transport \(ipcc.ch\)](#), [Greenhouse gas emissions from transport in Europe \(europa.eu\)](#)

Detention and demurrage charges



Average Demurrage and Detention charges register a year-on-year decline of about **25% in 2023**, with a significant **14% decrease compared to the rates in 2020**.

Source: [Container xChange's Annual Report: Demurrage and Detention Charges benchmark report 2023 - Container News \(container-news.com\)](#)

MAIN TARGETS



Increase **planning** performance and capacity



Optimize processes of **Omnichannel fulfillment**



Support **efficiency** into **transportation networks**



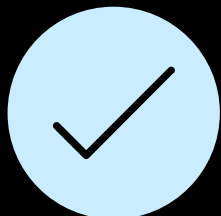
Increase **visibility** throughout the **overall Supply Chain**

*INCREASING **SERVICE LEVEL** AND
MAXIMIZING THE **PROFITABILITY***

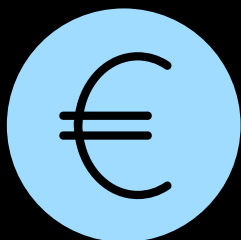
Support efficiency and visibility into Transportation Networks

The Transportation Management System faces the complexity of the logistic networks

TRANSPORTATION MANAGEMENT SYSTEMS act on these 2 factors:



Maintain high level of **Service**



Lower Incidence of **Costs**



Scheduling aligned with required delivery times



Tracking travel and delivery statuses



Dynamic management of estimated delivery times



Integrated **load and route optimization**



Automated tariff management for different carriers



Service accounting integrated with the operational process

TRANSPORTATION MANAGEMENT SYSTEM scope:



Contract Tariffs



Transport Request



Trip Planning



Carriers Engagement



Slot Booking



Event Tracking & RT Visibility



Costing & Accounting

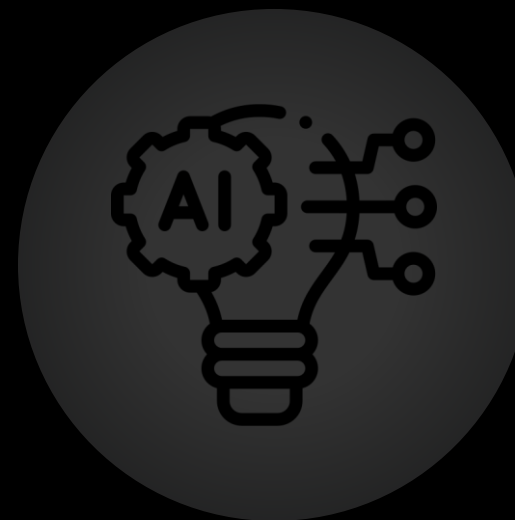
Focus of today session



TRANSPORTATION
MANAGEMENT



SUSTAINABILITY

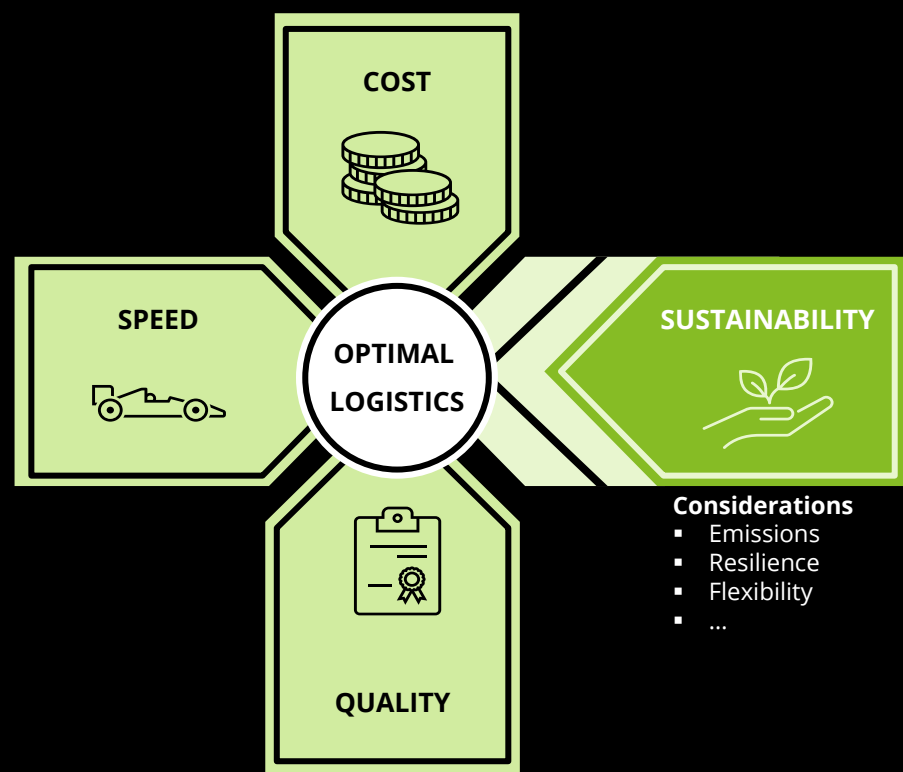


CONTROL TOWER &
DECISION INTELLIGENCE

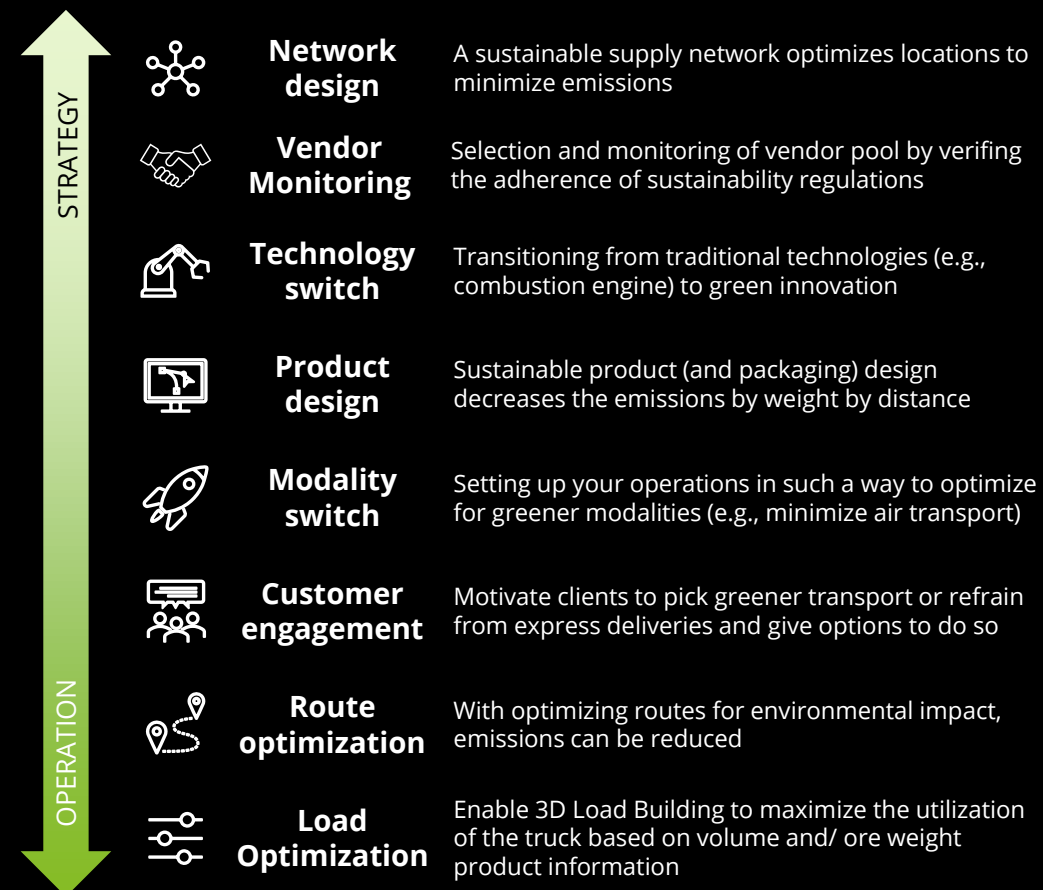
Sustainability role in Logistics and Distribution



Next to optimizing logistics for cost, speed and quality, sustainability is adding requirements to the equation...



... to optimize for sustainable logistics, there are key levers to turn from strategy to operations



*SUPPLY CHAINS ARE MEANT TO REDUCE THE **GHG SCOPE 3 EMISSIONS** LEVERAGING BOTH ON **UPSTREAM & DOWNSTREAM** TRANSPORTATION & DISTRIBUTION STRATEGIES*

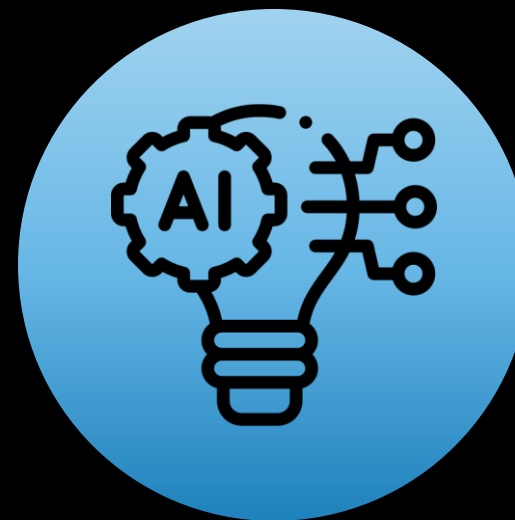
Focus of today session



TRANSPORTATION
MANAGEMENT



SUSTAINABILITY



CONTROL TOWER &
DECISION INTELLIGENCE

Past: What we (think we) know... the definition of a control tower

A Control Tower is an enterprise capability which allows your organization to proactively identify and resolve exceptions from day-to-day, business-as-usual transactions



Real-time connectivity, no data-dumps or lagging indicators and 24/7 always-on



Focus on the **exceptions** in the bulk of all transactions



Drive **process improvement** through new insights enabled by advanced analytics

*Continuously track the **signals** of a specific business issue from its **symptom** to its **root cause** and supports the **decision-making process** to come to **concrete actions** to **solve** the issue or **mitigate** its impact*



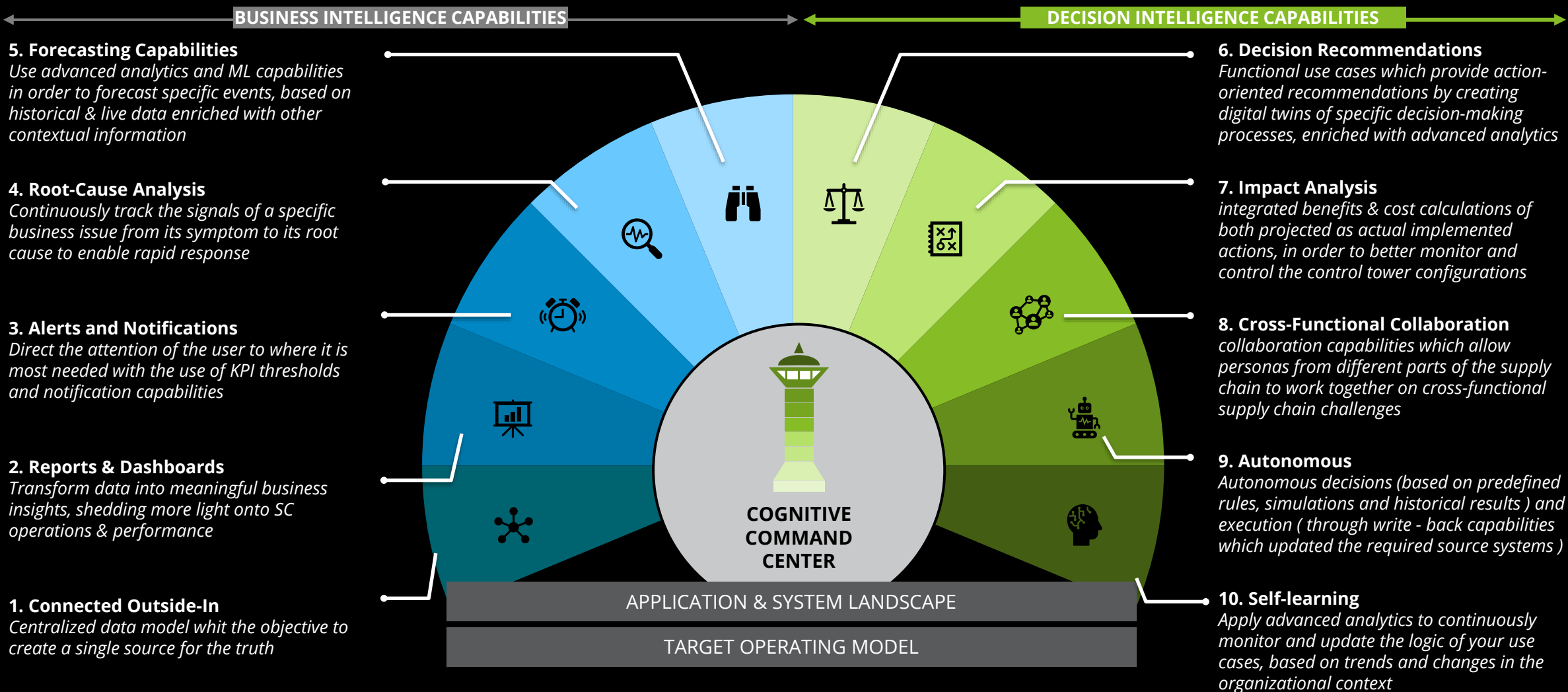
Go beyond the insight alone, and **course-correct** via actionable decisions



Focus on a clear **effort & benefit** generation in order to help prioritize and make decisions

Now: a Cognitive Control Tower with the emergence of Decision Intelligence

A Control Tower has a series of core capabilities ranging from basic to more advanced (i.e. cognitive) ones. They serve as a good indication for the maturity of the control tower, and typically relate to the degree of automation in end-to-end decision-making processes



Thank You!



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