# Capacity Crisis & Efficiency Factor in FVL Europe

For background on Capacity Crisis in FVL please see ECG's Briefing Paper



ECG Business Intelligence

State of the FVL Industry

# NEW CAPACITY IS IN THE PIPELINE
# TODAY THE PROBLEM IS INEFFICIENT USE OF EXISTING CAPACITY

"Ports congested –causing bottleneck. Europe sales up but ports blocked, now backlog of getting vehicles out to market"

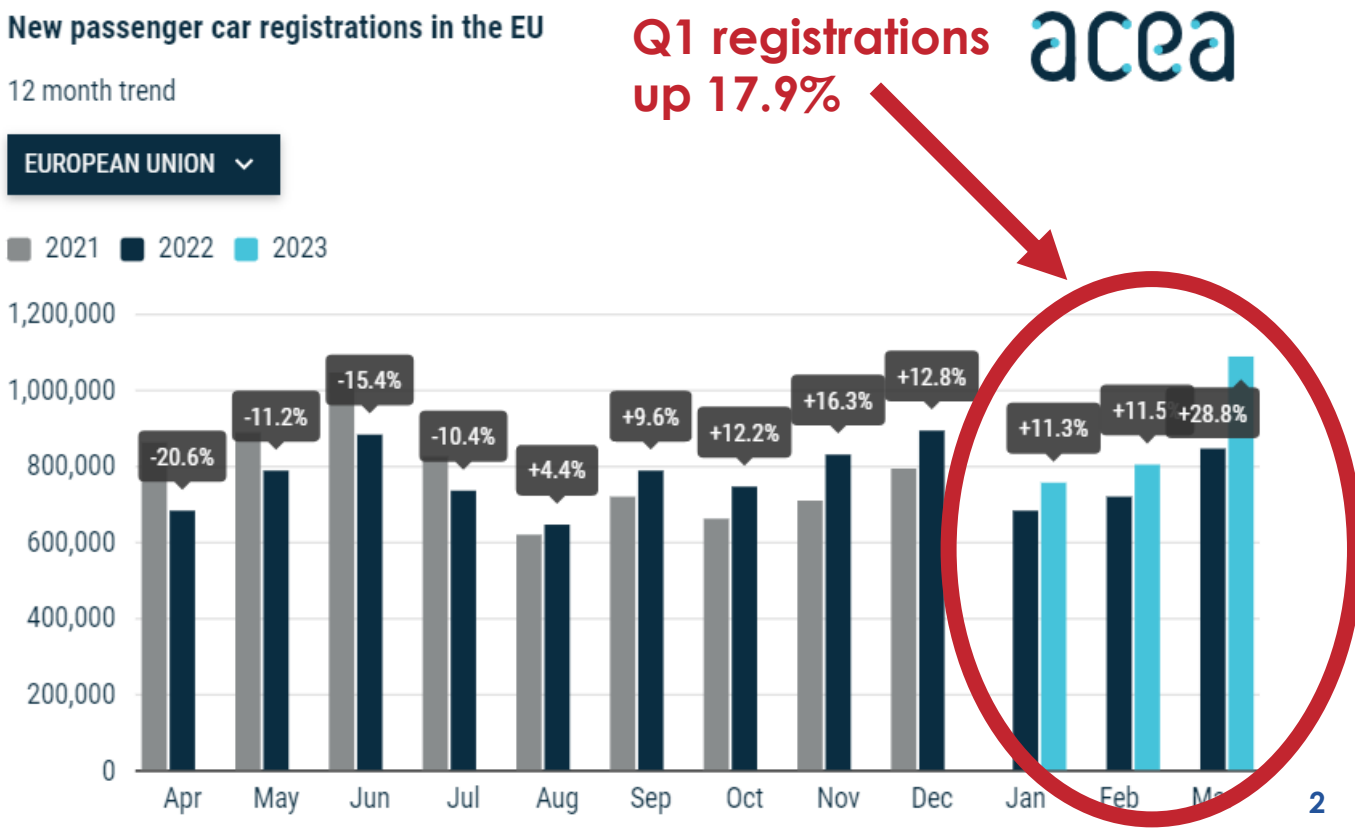
"New Chinese OEMs using containers, coming into different ports without adequate facilities."

"Trucks only allowed into port to bring cars out –to increase 'efficiency'—reduce congestion"

"Production volumes on a peak, compounds over saturated—only allow trucks in when they are also taking cars out"

"More and more containerised volume coming in, across ports in Europe—although ro-ro vessels coming in with available space"

"Only accept cargo that can be moved within 14 days!"



# Inefficiency in Vehicle Logistics in Europe today

"30% loss of FVL capacity due to inefficiency."

"Compounds are all full; car discounts are starting…indicative of high inventory, low sales."

"New entrants taking capacity, then going it alone."

"Stock build-up, drop in demand.
High inflation. Rising interest rates. Ports limiting incoming cars. Terminals are full."

"Sales in Eastern Europe are very, very low. Lowest in 20 years. Trucks coming back empty. Ports are congested. Exports are huge."

"What can be done to move forward?"

"Problem is of the 2nd market system—where capacity is being bought at any price."
"With capacity going to highest bidder, utilisation of overall market will drop lower and lower."

"OEMs paying twice or three times rates for getting cars moved. Overall inefficiency in the market is rising."

"OEM customers say they have no option. Nothing they are doing is illegal. Meanwhile we are getting drivers from general haulage."

"We need a mirror to show what's going on. We need to show how inefficiency is going to cost us all."

"Inefficiency means overall higher carbon emissions. Overall more wastage, empty loads, blank sailings
= LACK OF CAPACITY."

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Increase in car imports to Europe

+

Cars in containers to Multipurpose Ports

Inefficient use of existing assets

Port congestion, compound saturation, truck shortage

Increase of Lack of Capacity

Trucks cannot enter Port to drop off cars unless collecting load

Congested ports

Ships cannot enter Port unless collecting new Load of exports

Ships moving cars from Port 1 to Port 2

Port 2 congested

**Congestion Charging:**
**a fee or tax paid by users to enter a restricted area**

**Therefore: ships that are dropping off cars MUST be picking up cars**

**Therefore: Car Carrier trucks MUST have return loads**

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# Part 1:

## Capacity Crisis in FVL Europe

**What is capacity shortage?**
**Capacity shortage is a shortfall that occurs between the required operating capacity and the actual amount of operating capacity that the system can provide.**


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March 02, 2023 04:56 PM | UPDATED 18 HOURS AGO

Automotive News Europe

# Stellantis, Renault look to own workers to combat truck-driver shortage

Stellantis is paying for training and the fees need to obtain truck-driver licenses and facilitate the voluntary job switch. The automaker also is considering buying its own trucks to deal with the logistics snags, though no final decision has been made, another spokesman said.

**Stellantis** & **Tesla** vow to solve logistics crisis—**themselves**....

# Tesla deliveries miss estimates due to logistical issues, slowing demand

January 3, 2023

REUTERS®

## Tesla notes limits in logistics capacity as delivery grows big


Tesla strangely parks 3,000 Model Ys at BER airpot and it has nothing to do with marketing, but rather with Giga Berlin's capacity. See torquenews.com/video/tesla-pa...

## Bei Abholung am Werk: Tesla schenkt Ihnen ein Jahr Gratis-Fahren

EFAHRER.com

On December 16 German publication **eFahrer** reported that if you pick up your Tesla at the Giga Berlin factory, Tesla will give you a year of free driving. In other words, Tesla will reportedly give you a bonus when you pick up your new Model Y directly at the Giga Berlin factory this Year. The bonus is that Tesla will give a credit of 10k km at Supercharger plus free wallbox.

Christmas Day 2022

# Stellantis Forcing UK Buyers To Pay For Cars Stuck In Ports

December 25, 2022

CARSCOOPS

Speaking with *Car Dealer*, Stellantis UK senior vice president and group managing director, Paul Willcox, admitted the carmaker has caused "frictions" with its dealers and said a shortage of transport trucks meant many vehicles were stuck in ports.

Willcox acknowledged that Stellantis has indeed asked its dealerships to register vehicles stuck in ports and still on cargo ships.

March 2023

9 March 2023 AUTOCAR

# Stellantis sets March deadline to resolve logistics woes

Transport crisis will be fixed "within the first quarter", according to CEO Carlos Tavares


Stellantis is looking to expand its own internal logistics company, I-Fast, which it inherited when the company was formed in a merger between PSA Group and FCA Fiat-Chrysler. "This company has a significant potential to grow," Tavares said on the earnings call. "We are reinforcing our investments in that company to make sure that we put ourselves out of trouble very soon."

FOCUS ON STELLANTIS

November 22, 2022 11:27 AM

# Stellantis Has Glut of Cars Stuck at Plant on Logistics Troubles

Stellantis already has i-FAST


i-FAST Automotive Logistics

# RoRo car carrier market attracting container shipping lines

metro 29/03/2023

# Why are large car carrier orders flooding Chinese shipbuilders?

06/03/2023

Chinese shipbuilders won all 17 new orders for pure car and truck carriers (PCTC) worldwide in January.

Cosco Shipping's recently established automobile transport unit, Cosco Shipping Car Carrier, placed orders for four 7,000 ceu PCTCs, which join the 21 car carriers that they already have on order, while CMA CGM, is looking to charter four vessels and HMM is reportedly looking for opportunities to benefit from the booming car-carrying trade.

# Vehicle carrier orderbook hits 24% of existing fleet

*Newbuilding orderbook at 130 ships with a combined capacity of over 1m cars*

Lloyd's List

Recent newbuilding contracts by Grimaldi and SAIC Anji Logistics have driven the backlog of pure car and truck carriers to 24% of existing capacity in service

24 Jan 2023

# Electric Car Major BYD Has Reportedly Ordered Its Auto Transport Vessels

January 5, 2023

marine insight

As BYD aggressively pushes itself into overseas markets, BYD has reportedly ordered six massive car carriers, vessels that can transport thousands of vehicles at a time.

# Seven new car carriers to be built for Anji shipping

17 January 2023

Automotive LOGISTICS

# Grimaldi orders five more ammonia-ready car carriers

SWZ|MARITIME

**Grimaldi Group has ordered five new ammonia-ready pure car & truck carrier (PCTC) vessels, with an option for another two units, with subsidiaries of China State Shipbuilding Corporation Limited (CSSC). The shipping company placed a similar order for five such vessels just two months ago.**

Jan 18, 2023

# The week in newbuildings: Large car and truck carrier orderbook hits 109 ships

Recent orders by Chinese operators have pushed the vehicle carrier newbuilding backlog to 21% of the existing fleet in service

19 Dec 2022 Lloyd's List

# Clarksons: 93 pct of car carrier newbuilds LNG capable, 23 pct ammonia/methanol ready

OFFSHORE ENERGY

# New FVL assets ….

## In the pipeline…coming by 2025/26

"Can we work together to maximize and optimize delivery with EXISTING capacity today to avoid situation getting worse? To limit the congestion crisis?"


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ROAD

# New Capacity Timeline

Drivers retire, made redundant, leave industry (war etc) = 10% lack of drivers by 2021

**1,500 car** carriers **exit** European market from 6 major players

Driver apprenticeship & training—to bring more drivers in to FVL

**770 -925** new car carriers delivered

**2,500 +** new car carriers to be delivered. New order delivery date Q4 2024

"30% loss of capacity due to **inefficiency**."

"With capacity going to **highest bidder**, **utilisation of overall market** will **drop lower** and **lower**."

"**Problem is of the 2nd market system—where capacity is being bought at any price.**"

2020 | 2021 | 2022 | 2023 | 2024 | 2025

**17%** of car carriers scrapped

**10%** of car carriers sold to emerging markets in Africa, Middle East

**5-10% sit IDLE due to driver shortage**
Surge in orders & delivery of new & used car carriers.

Orders for car carriers from OEMs (30%), LSPs (70%)
Orders from Europe, UK, Asia ...

**Inefficient** use of capacity?
**Stalled assets?**

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All volumes **are estimates** only

SEA

# New Capacity Timeline

RoRo vessels scrapped Jul 2020: 30+ car carriers laid up in Malaysia + elsewhere

July 2022-BYD orders 6 PCTC (option of 2 more)
Sept 2022-Ray Car Carrier (for Glovis) orders 2 PCTC (S.Korea shipyard)
Apr 2022- Hoegh Autoliners orders 4 PCTC

Mar 2023-CMES orders 2 PCTC (option for 4 more)
Mar 2023-COSCO orders 4 PCTC (21 already on order)
Feb 2023-Chery orders 8 PCTCs
Jan 2023-BYD orders 2 PCTC
Jan 2023-Grimaldi orders 5 PCTCs (option to add 2 more)
Jan 2023—ANJI SAIC orders 7 PCTC

**82%** of PCTC orders in Q1 2023 **Chinese OEMs and shippers.** But what will fill the PCTCs for the **'return loads'?**


2020 | 2021 | 2022 | 2023 | 2024 | 2025

2021- total **38** PCTCs ordered

2022-total **90** PCTCs ordered

2023- so far **28** PCTCs ordered in **Q1** (only Chinese shipyards! )

2025/2026 Delivery of vessels ordered 2022/23

**Over-supply? Inefficient use of capacity? Stalled assets? Empty return loads?**

All numbers are estimates only.

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Capacity is on its way– but inefficiency is hurting all today

# Part 2

## "Efficiency Factor" in FVL

"Inefficiency means DELAYED DELIVERIES, plus overall higher carbon emissions. Overall more wastage, empty loads, blank sailings."


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# Understanding Congestion can improve efficiency?

Port Congestion Effect

Vessel departing with **existing** load

**Port Congestion Easing Policy:** Only allow ships & trucks to **'unload'** if collecting **'new load'.**

Vessel departing with *new* load

**Export cars** ready for shipment

Vessel waiting outside port

Vessel waiting outside port

Vessel waiting outside port

Vessel departing with *new* load

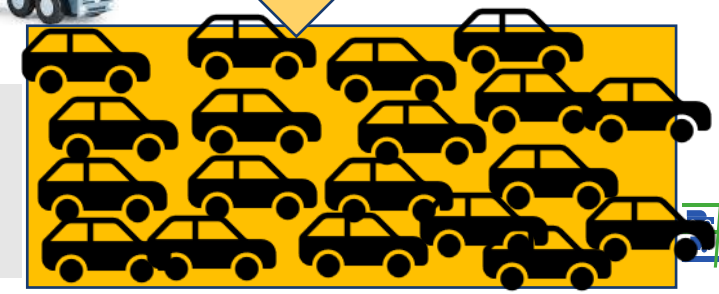
PORT

**Import cars** awaiting collection from port

Trucks waiting to **'DROP OFF'** load

Car Carriers leaving port with ***new*** load

Overflow compound **full**



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# We need to maximize efficiency of existing assets in the market today—not steal capacity

We need to **COMBINE** loads




CUT empty mileage

**Drop off load, collect new load**

We need to WORK **TOGETHER**




Inefficient use of capacity

Drop off, leave **EMPTY**

Changes afoot

→ Ports set up **handover centers** for retail customers


→ LSPs to deliver cars to customer directly

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# OPTIMIZING EFFICIENCY IN FINISHED VEHICLE LOGISTICS

Optimise logistics by eliminating unnecessary costs—often stemming from hidden errors in operation.

Outsource tasks that will save time and money.

**Optimize required routes and schedules.**

When routing is optimized for most efficient performance, cuts wastage, therefore cuts $CO_2$ emissions and thus enhances green logistics.

**Eliminate dead mileage, blank sailings, empty loads, consolidate shipments,** automate processes.

**Role of LSP**

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# Part 3: In conversation

## Talking to the Industry


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# In conversation with Daniel Nash, Head of VC & RORO, Vessels Value

Daniel Nash,
Head of VC & RoRo,
VesselsValue

*The current crisis in finished vehicle logistics stems from a lack of Ro-Ro vessels in Europe today—Why do you feel this has happened? What has changed say since 2019 in the market?*

**Daniel Nash, VesselsValue: "The current capacity crisis was caused by five years of underinvestment in the fleet from 2016, and over-exuberant scrapping by shipowners in year one of Covid-19. Resulting in today's short supplied record high freight rate environment which, unfortunately for OEMs, is not going to change for another 12+ months.**

**Newbuild orders for deepsea RORO vessels virtually stalled from 2016 until 2020, averaging just 4 vessels per year. Then the West was hit by the first major wave of Covid-19 in Q2 20 which paralysed demand. Shipowners sent ships into long term cold lay ups in response, and nominated vintage units for earlier demolitions. Culminating in 31 vessels being scrapped in 2020, removing -129,480 CEU from the global fleet comfortably above the 10-year average. The sector still hasn't recovered.**

**The main game changer in recent years has undoubtedly been EV trade growth from China, which risks turning current fundamentals on their head driven by demand growth rather than short supply. This is because new tonnage and liner services will continue to be added from China increasing global cargo miles, supporting rates and values."**

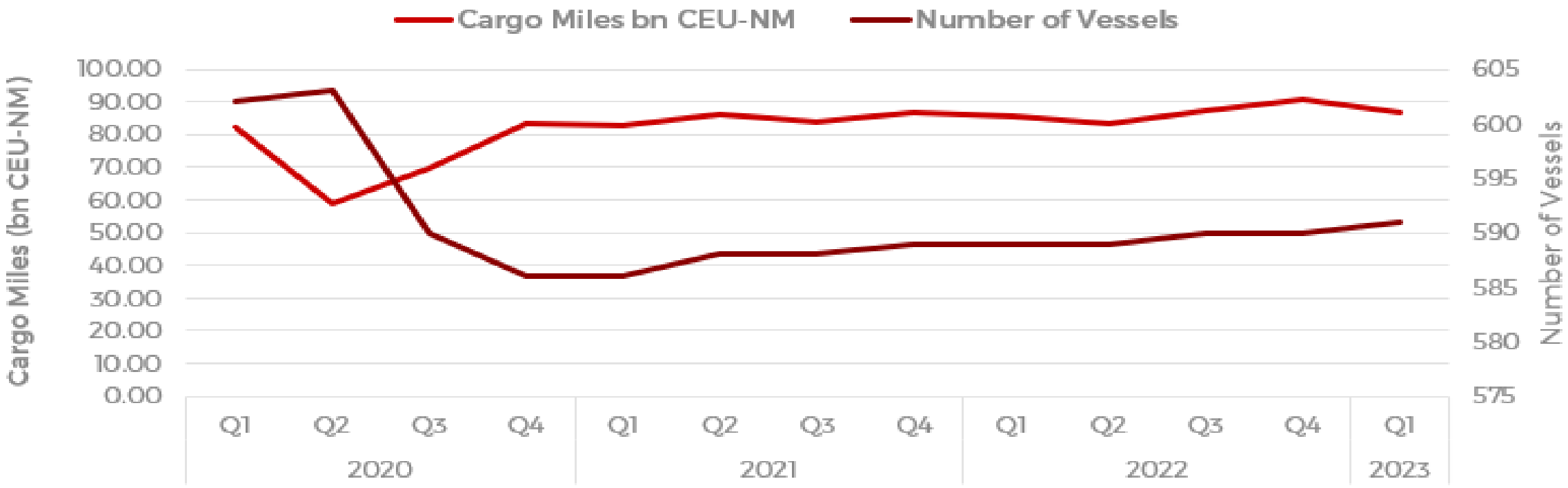
# In conversation with Daniel Nash, Head of VC & RoRo, VesselsValue….cont'd

- *There has been a recent surge in announcements of new players –that's new OEMs entering Europe's market—commissioning their own Ro-Ro vessels with expected delivery in 2025-26. Is this normal for automakers to begin ordering vessels?*
- **Daniel Nash, VesselsValue: "It certainly suggests new business models are emerging in the sector. Practically speaking, we don't see any significant change in the symbiotic relationship between OEMs and Operators who both need each other, supported by Tonnage Providers on the side lines. However, the influence of Government may become more prominent, noting COSCO is a Chinese state conglomerate."**
- *How do you see the Ro-Ro market developing in the next 5 years? Will there be enough capacity? Over capacity? Stalled assets?*
- **Daniel Nash: "Looking past 2023, we expect supply growth to catch up to demand growth from the second half of 2024, based on increased vessel deliveries and low scrapping rates rebalancing the net fleet position in 2025.**
- **Looking further, CII (Carbon Intensity Indicator) is likely to come into play more from the second half of this decade, slowing global fleet speeds, and therefore restricting actual capacity supplied from reduced ship liner frequency at ports. However, it is still too early to quantify the level of this impact.**
- **On the demand side, global Light Vehicle sales forecasting remains strong despite firming macroeconomic headwinds. LMC are projecting c.9% growth in global LV sales from 2026 through to 2029 inclusive. Suggesting forward demand growth can absorb the additional capacity priced-in, based on a stable world economy. However, demand is notoriously hard to predict."**

# In conversation with Daniel Nash, Head of VC & RoRo, Vessels Value

- *With regards to new trends, do you see the increase in use of containers to move finished vehicles as a permanent fixture in the industry or is this a short term trend that will phase out once capacity returns?*
- **Daniel Nash, VesselsValue: "We lean towards the latter. China is targeting c.1 million Light Vehicle exports in Containers by the end of 2023 including Intra Asia, equating to c.26% of their total finished LV exports in 2022. This is an extraordinary number representing a significant shift in favour of Containerisation, noting >90% of finished LVs are typically shipped on deepsea RORO liner services. In the short term, Chinese OEMs have almost given up on securing additional RORO capacity until new ships have been delivered for their business.**
- **This trend is unlikely to be a permanent fixture in our opinion, because rate corrections are expected for deepsea ROROs within the next 2 years based on more evenly balanced supply-demand fundamentals. Likewise, an eventual firming in Container rates from China will negate current freight savings enjoyed by OEMs today versus RORO. Nevertheless, it's a fascinating dynamic to watch, tracked monthly by VV, and makes sense for EV newcomers entering the trade."**

# Global Vehicle Carrier Supply & Demand
## 4,000+ CEU




Source: VesselsValue April 2023

VesselsValue

# In Conversation with ROLFO

ROLFO

CAR CARRIER

CAR CARRIERS

www.rolfo.com

# In Conversation with Diana Chikmareva, Area Manager, Rolfo S.p.A

Diana Chikmareva, Area Manager, Rolfo S.p.A

- Question: What is the current scenario in terms of demand for Rolfo Car Carriers?

**Diana Chikmareva, Rolfo: "We are living in a period of incredibly high demand level and this year will be very positive from our point of view, in terms of quantities produced for the European market."**

- Question: Is there any delay in production of car carriers at Rolfo?

**Diana Chikmareva: "As all manufacturers we are facing some difficulties with supply chain, it's also not easy to find specialized workers for production line, but we are doing our best to ensure deliveries in promised period to our clients."**

- Question: What is the reason for the lack of capacity in the market?

**Diana Chikmareva: "For sure there are different reasons. We've noticed that during Covid period a lot of used car carriers were sold off to outside Europe—to Asia and Africa, and the level of fleet renewal was low."**

- Question: Rolfo has a lot of new orders for car carriers—where are the customers based?

**Diana Chikmareva: "We are very active on different markets, like UK and Asian countries, but of course this year we are very focused on Europe."**

# In Conversation with
# Diana Chikmareva, Rolfo S.p.A…cont'd

- Question: Rolfo has electric car carrier options—do you see strong demand for these?

**Diana Chikmareva: "Clients start to show interest in electric car carriers, but the high price as well as the problem of recharging and weight which limits loading possibilities is an issue for them. And for electric vehicle transportation, ROLFO has already designed most of the equipment to welcome them: special care has been dedicated to flat surfaces, loading angles, reinforced platforms and decks"**

- Question: Rolfo also has a used car carrier business--has demand for these increased as well?

**Diana Chikmareva: "Yes, and actually the demand on used car carriers was the first positive sign of strong market activity, we've sold the main part of our used carrier stock already in November 2022."**

- One last question: If OEMs invest in their own car carriers why is there still a capacity bottleneck in road transport for finished vehicles in Europe?

**Diana Chikmareva: "If OEMs invest in their own car carrier fleets this can only help to cover part of their needs but will not completely solve the general lack of capacity."**

# In Conversation with BCA

BCA Automotive Logistics





BCA Logistics

# In conversation with
# Mark Hindley, Director Sales & Marketing, BCA

Mark Hindley,
Sales & Marketing
Director, BCA

- Question: With current lack of capacity on ro-ro ships, the use of containerized transport for finished vehicles is rising—is this a problem?
  **Mark Hindley, BCA: "The ports used by container vessels are not set up for automotive logistics. Containers have to be moved off port to a warehouse where the container can be unpacked and the vehicles made available for collection / delivery to either dealer or a storage compound. Typically the warehouses don't have much storage space so once unpacked the vehicles need to be moved quickly."**
- Question: What is the issue with the increase of containers arriving with cars at UK ports?
  **Mark Hindley, BCA: "As above, the process around containers puts more inefficiency into the automotive logistics. Containers only hold 2 or 3 vehicles and there are extra movements to get general haulage to move the container off port to warehouse."**
- Do you think the use of containers to bring in new cars will be a long term trend? Or simply a method to alleviate the current lack of space on ro-ro vessels?
  **Mark Hindley, BCA: "I think its short term for any large volumes which will return to RoRo once capacity is back."**

# In conversation with Mark Hindley, Director Sc & Marketing, BCA …cont'd

- Question: For trucks & car carriers coming to ports to collect vehicles in containers, is there a problem or is this a teething situation for a new system?
  **Mark Hindley, BCA: "As above, the container ports eg. Felixstowe, are not set up for automotive, so containers need to be moved to off site warehouses."**
- Question: Are OEMs concerned about the return leg of the logistics carrier journey? Do OEMs measure the $CO_2$ emissions for just the part of the logistics journey where their car is transported? Ie they are not currently concerned about the overall efficiency of the market?
  **Mark Hindley, BCA: "I think this hasn't been considered and is completely over looked."**
- Question: What do you use to measure efficiency for a FVL journey/delivery?
  **Mark Hindley, BCA: "Load factor and drops per load."**
- Question: Are you planning /or have you already increased capacity? If so by how much and when will the vehicles be delivered?
  **Mark Hindley: "We are recruiting actively from outside the industry. Have set up a Training Centre to take new recruits from a car licence to being qualified for driving a transporter in 3-4 months."**
- Anything else?!
  **Mark Hindley: "Some new OEMs aren't using a Dealer Distribution model. So more vehicles are being delivered direct to customer. This means either a single vehicle driven delivery or a small truck delivery. Either way the skill / type of driver required also has to be customer facing to carry out a Handover."**

# In conversation with KAR-TAINER

As we at Kar-Tainer have proven time and again, it is possible to move large quanta of finished vehicles in containers. Using professional equipment makes it possible to load up to four vehicles per 40-foot high-cube container, equipment can be folded and returned to origin in financially sustainable manners, damage rates (with Kar-Tainer equipment) are demonstrated to be less than 0.025%, and up to 6 containers can be loaded in only 15 minutes.

# In discussion with Richard Cox, CEO, Kar-Tainer

Richard Cox,
CEO, Kar-Tainer

Question: With the current lack of capacity of Ro-Ro vessels, have you at Kar-Tainer seen a surge in requests?

**Richard Cox, Kar-Tainer: "*Yes, we have had more inquiry over the last 6 months than we have ever had in the past. As our business model is based on OEM high volume contractual moves, we have found that we are getting these types of inquiries not just from the OEMs themselves but shipping lines and 3PLs, who are wanting to fill the void left by Ro-Ro capacity issues.*"**

Question: Have the containers been adapted to fit more cars in them?

**Richard Cox, Kar-Tainer: "*We supply the systems that go inside the container, not the containers themselves, and our systems do allow for the loading of 2,3 or 4 vehicles per container, depending on vehicle size. Our systems are unique in that all the process loading is done outside the container, so loaded cassettes can be pre-staged, (they are loaded into the container by forklift), which allows our target audience to be the volume moves by OEMs, who are desperate for regular vessel space right now. (Photo of pre-staged Mercedes cars awaiting loading into container, attached)*"**

Question: What about electric vehicles, does this pose a problem at all?

**Richard Cox, Kar-Tainer: "*Due to the overspecification of our equipment the extra weight associated with EVs is not an issue. We have even devised a system for the shipment of EVs without battery and still get 2,3 or 4 per container.*"**

Photo of pre-staged Mercedes cars awaiting loading into container

# In discussion with Richard Cox, CEO, Kar-Tainer …cont'd

Question: How have ports adapted to cars arriving in containers? Is this a problem do you think and what do you feel could be a solution to any bottlenecks?

**Richard Cox, Kar-Tainer: *"Coinciding with the lack of capacity in the Ro-Ro industry is the complete opposite in the container industry resulting in a drastic reduction in container freight prices, as well as an over-abundance of container space. This type of scenario is made for our solution, as we can ship volume, and we can and do, directly interface with the OEMs to help get their vehicles to market. Port congestion has, as a result drastically reduced therefore the logistics chain has been able to operate much more effectively, with the result of reduced bottlenecks within the delivery cycles."***

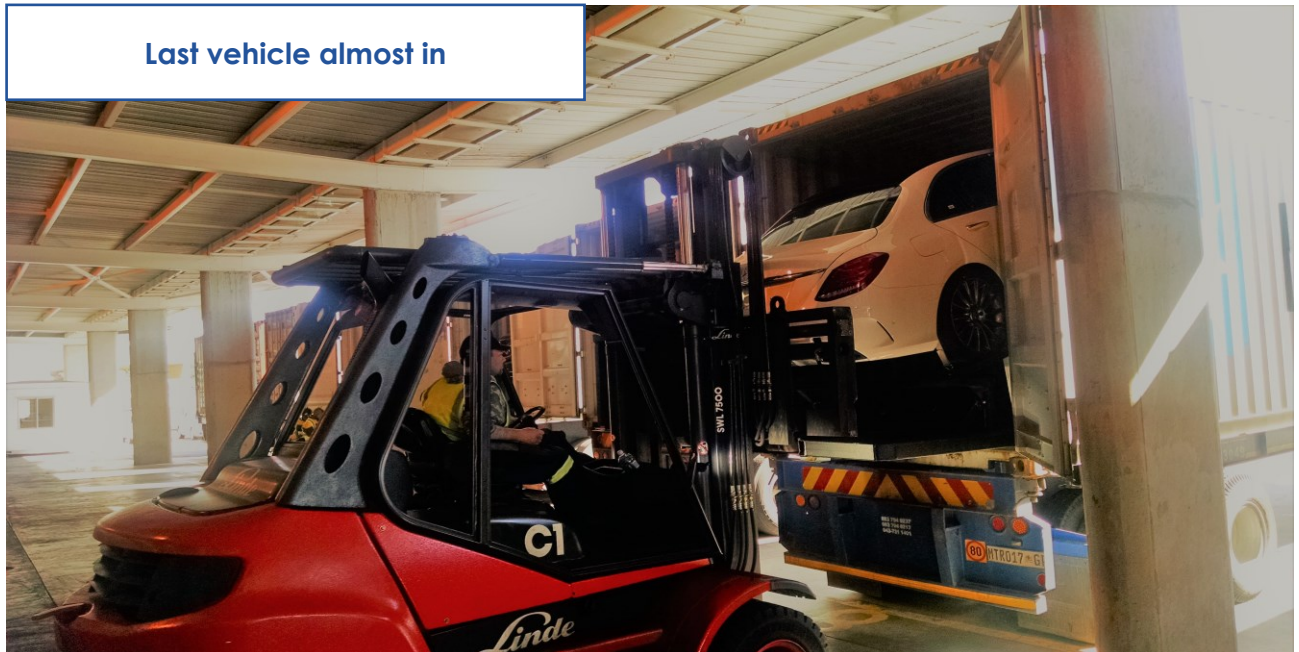
Question: The increase in use of containers to ship new finished vehicles is likely to be a short term trend till capacity returns to the market with more Ro-Ro vessels—do you agree?

**Richard Cox, Kar-Tainer: *"This is a glorious opportunity to show the OEMs that the increased quality and the regularity of getting their vehicles to desired markets, something a container provides at all times, makes the container option more desirable than Ro-Ro, so I see this education having a desirable and more permanent effect. Part of the process is going to be to get the OEMs to change the way they do business, which is the harder part of the equation, but once done, the advantages will far outweigh the disadvantages. I am not sure this Ro-Ro under-capacity is going to be that short term, as to increase the assets to the extent it will make a difference will take time and a lot of expense in what people still feel is an uncertain market."***

MG cars being loaded in Shanghai, for export to South Africa

Forklift pushing loaded car into container


Last vehicle almost in



# In discussion with Richard Cox, CEO, Kar-Tainer …cont'd

Question: Which are your strongest routes for moving new finished vehicles?

**Richard Cox, Kar-Tainer: "*Traditionally South Africa to Europe has been a very strong route for us due to the imbalance of containers in South Africa. We have had multiple high volume contracts with such OEMs as Daimler, 2 contracts over 5 years each shipping 114,000 and 85,000 vehicles, 3 contracts with VW shipping in excess of 120,000 vehicles, 1 contract with BMW shipping 35,000, all due to the fact they import a lot of parts from Europe and this creates favourable economics for return shipments. Currently we are getting inquiry in traditionally very strong Ro-Ro lanes, like Europe-US, China-Europe, Mexico-US to name a few and also looking to increase our presence in the Far East. "***

Question: In the current timeframe have you seen a surge in demand for certain routes? China to Europe maybe?

**Richard Cox, Kar-Tainer: "*We have had a presence in China for some time so we have been active there in the past, but right now there is a surge in demand for exporters, although a lot of this volume is going to Russia as cheaply as possible, which does not make it ideal for our mode of transportation, as returning equipment, our business model, is not high on their agenda. China- Europe and vice versa, though, is a high demand routing."***

Question: Anything else?

**Richard Cox, Kar-Tainer: "*This is certainly a period of opportunity for ourselves and for such shipping lines, not Ro-Ro orientated, like Maersk and MSC, to get into the new finished vehicle logistics market, something they have not done in the past."***

# In Conversation with Touax

170 Years
Touax®
Around the globe for a more sustainable world



# In conversation with Louis Pastre´, Chief Commercial & Marketing Officer, Touax

Louis Pastre´, Chief Commercial & Marketing Officer, Touax

- Please could you explain why there is a Capacity Crisis in the FVL rail sector in Europe:

**Louis Pastre´,Chief Commercial & Marketing Officer, Touax: "The capacity issue was already there before covid time.**

- **Most of the existing European fleet is made of wagons with older design (which is still compatible with smaller finished vehicles)**
- **The market is looking for double deck wagons with flexible and high loading height (modern design), matching better the mix of FV, especially larger SUVs**
- **Some countries reduced rail transportation over the last 10 years as road was very flexible and competitive**
- **During covid time and automotive general crisis, some major wagon owners decided to scrap the old wagons as they were obsolete and/or sitting idle**
- **Nowadays, the carmakers are looking for more green transportation solutions, and have to (increase) modal shift**
- **With the rebound in volumes, we are cumulating various factors :**
  - **Less truck drivers available than ever for the automotive segment (also in general as many were coming from Ukraine)**
  - **Less chassis available as lower production capacity, now long waiting time to get new ones**
  - **All existing wagons with modern design in use for a year now**
  - **Old wagons are not able to manage all the FV mix on the wagons."**

# In conversation with Louis Pastre, Chief Commercial & Marketing Officer, Touax …cont'd

- For Touax what is the current demand situation for wagons for finished vehicle transportation?

**Louis Pastre´,Chief Commercial & Marketing Officer, Touax:**

- **Demand is regular and is stronger for the last 6 months**
- **All our wagons (existing and new) are rented out, and any delivery is based on a potential redelivery**
- **Touax will invest in new wagons, however there is a very long waiting time, with contracted orders from our lessees."**

- Have you seen a surge in demand for wagons in 2022 and 2023? What about second hand wagons—can these still be used?

**Louis Pastre´,Chief Commercial & Marketing Officer, Touax:**

- **Demand was there in 2022, and 2023 is even stronger**
- **The second hand wagons, as long as they have a full flexible deck, are well appreciated by the market.**
- **Other second hand wagons, with fixed upper deck, were less demanded in 2021 and 2022. In 2023, they gained interest by default due to shortage in wagons**

# In conversation with Louis Pastre, Chief Commercial & Marketing Officer, Touax …cont'd

Are wagons for transportation of finished vehicles very specialized?

- **Louis Pastre´,Chief Commercial & Marketing Officer, Touax**
  - **Yes. It's an expensive asset to buy and maintain**
  - **Maintenance is quite specific and can't be done anywhere, especially for general revisions**
  - **Availability of the rented fleet is usually demanding.**

- What about containers? Can these be used to move finished vehicles if there are not enough specialized wagons in the market?
- **Louis Pastre´,Chief Commercial & Marketing Officer, Touax**
  - **Touax is not offering this service (the loading structure in the container) but it does exist on the market. However Touax is a well-known lessor in containers, ranked 7 worldwide and nb 1 in European ranking.**
  - **It might be used as an alternative but the loading and unloading is very different and might not meet the expectations from the market for standard inland transportation**
  - **When you load/unload the FV from the train, operations have to be very fast (while staying safe for operators and the vehicles): the use of car carrying wagons like Laaers type seems to remain the best solution.**
  - **The use of container solutions is mostly dedicated to export and import, especially from China, supported by much cheaper fright rates by container to the ports. The loading/unloading is usually happening at the port.**

# In conversation with Louis Pastre, Chief Commercial & Marketing Officer, Touax …cont'd

- What suggestions would you have to improve efficiency in the sector?
- **Louis Pastre´,Chief Commercial & Marketing Officer, Touax**:
  - **First making rail easier in general for this industry as well (also having good routes performance)**
  - **Second putting in place a better balanced contract between carmakers and their logistics partners (see various communication from ECG on the topic): more fixed costs secured to plan long term and secured supply chain (stop low cost approach)**
  - **Third : continue to invest in new connected wagons to replace step by step the ageing European automotive wagons fleet**
  - **In general, allowing fair access and competition to the market, support rail when energy costs are rising (not done in many countries), continue to invest in infrastructure and IT.**
- Anything else?
- **Louis Pastre´,Chief Commercial & Marketing Officer, Touax:**
  - **Inflation costs impact: new wagons are much more expensive than 2 years ago**
  - **Production capacity from manufacturers is today limited: Waiting time is difficult to accept to support the demand**
  - **Next deliveries are mid 2026 as some orders have been already placed**
  - **Doubling production capacity would certainly help**

# In Conversation with Axess Logistics

AXESS LOGISTICS

## Axess Logistics

Passion for Cars and Car Transportations


# LSPs push to Optimize Efficiency, Reduce Emissions
# In conversation with Tobias Carlén, CTO, Axess Logistics

Tobias Carlén,
CTO,
Axess Logistics

- Logistics service providers in FVL work to optimize efficiency by maximizing loads—could you give an example of this please?
- **Tobias Carlén, CTO, Axess Logistics: "Fulfilling orders efficiently is key for profitability in FVL. It is a multidimensional problem and the key challenge for our planners in their daily work.**
- **Load factor is one of the most important metrics is overall efficiency and it's impact on profitability is huge. FVL is a high volume/low margin business and small differences in average load factor has major impact on profitability.**
  - **Eg: average 8 cars per truck: -5% margin, average 9 cars per truck +10% margin, average 10 cars per truck 25% margin, and effect on bottom line can be even greater since there is a overhead to carry; eg small variations in load factor can be the difference between bankruptcy and high profitability.**
- **It is however that load factor is just a metric and overall efficiency is the goal; there are many factors to consider, for example:**
  - **Loading time vs trip time: On longer journeys average load factor in both directions is very important; it is worth spending a lot of time planning the loads and every stop in both directions and complex and time consuming loading, unloading and securing the load is less of a problem. On short shuttle transports the reverse is true: Loading and unloading procedures can easily take more time than driving and the central metric is shuttled cars per hour, not average load factor for the loads. In this situation, it's more efficient to fill the transporter as quickly as possible, securing as quickly as possible and the unloading fast.**
  - **Balances: It is the average load factor that is critical; full in one direction and empty back is not better than 50% full in both directions. This means that order balance in absolutely critical for profitability. In our Danish operations, selling transports east-west in as good balance as possible to west-east is the key profitability driver: Good balance and we make a profit, poor balance and we lose money. There are bridges in the middle of Denmark that charges a lot of money for passing trucks, in both directions."**

# Maximizing efficiency & reducing emissions in FVL
# In conversation with Tobias Carlén, CTO, Axess Logistics

- As an LSP which of the scenarios would you choose and why?
  - 1. Pick up load of finished vehicles from 'A' and deliver to location 'B', bring empty truck back to 'A' to wait for next load.
  - 2. Pick up load of finished vehicles from 'A' and deliver to location 'B' and continue to nearby location 'C' to collect vehicles for delivery to location 'A2', then drive empty from A2 back to A.
  - 3. i. Pick up finished vehicles A deliver to B, back to A empty

    ii. Move different truck to C to collect finished vehicles, then deliver these to destination A1, empty truck back to base

    iii. Combine journeys i. & ii. So A to B to C to A2 to A.

- **Tobias Carlén: "The above questions are not possible to answer correctly in general terms. The answer is whichever combination provides the highest total efficiency, lowest cost and best on-time service given the orders available on this day.**
- **Minimizing total time and driven distance for fulfilling the orders within SLA lead-time and maximum average load factor across all trips is what the planners are shooting for.**
- **Empty runs are avoided whenever possible, but especially on longer trips. Eg a 5 minute empty trip is not a big problem, but running empty for two or three days on the return trip from northern Sweden is a big problem. This means that planners usually start planning for distribution runs to the north by planning the return trip first; finding orders for the trip north is generally easier, so trips are planned by creating a reasonable north-south trip; planning stops with pickups and drop-offs in a smart sequency to allow good total efficiency; then just adding a full load going far north to complete the roundtrip."**

# Maximizing efficiency & reducing emissions in FVL
## In conversation with Tobias Carlén, CTO, Axess Logistics …cont'd

- "In practise, this means that SLA's are intentionally and selectively ignored; if there is for example a requirement for 95% on-time delivery, deliveries will be very close to 100% on-time, but remote, hard to service orders will intentionally not be delivered on-time; orders will be grouped so that load factors can be kept reasonably high. NOT doing this would quickly turn northbound operations into a money-losing pit, which can still sometimes happen.
- In general, small detours are often made in order to improve load factors trucks will attempt to serve several dealers located in proximity at the same time. Waiting is generally only smart when downtime can be used for legally mandated downtime for the driver.
- Maximising earnings vs cost is the planners goal and the optimimization bucket is generally the tour for the truck, eg Thursday afternoon to Thursday afternoon or similar: Each truck has a base location and it's the planners responsibility to have the truck back at base when the tour ends. Some trucks change drivers and then just continue for the next tour, while others stop for a few days at the base and the restart with the same driver."

# Maximizing efficiency & reducing emissions in FVL
## In conversation with Tobias Carlén, CTO, Axess Logistics

- Working to reduce our collective carbon footprint requires honesty and integrity from all players—if KPIs are only for delivery from production to retail outlet, who is responsible for the empty mileage, the blank sailings, the reduced capacity utilization and therefore the increase of carbon emissions?
- **Tobias Carlén, Axess Logistics: "It is our view that all emissions need to be assigned to customers; we don't drive around for our own sake. All trips, full, half full or empty needs to be fairly split among the customers serviced by the roundtrips. Many customers still refuse this way of seeing it and would like to pretend that only full loads going one way is their responsibility, regardless if their SLA's force us to run poor loads and empty trips or not."**
- Due to lack of efficiency in FVL some 'electric' cars could indeed have far higher carbon footprint for their delivery in current market conditions due to inefficiency in the delivery of their vehicles?
- **Tobias Carlén, Axess Logistics: "Electric cars are heavy and OEM's like Tesla have very tight SLA's, sometimes requiring planned staging of cars close by in order to deliver cars in very small timeslots. They pay for the privilege, but there is no question at all that emissions for the FVL phase is significantly higher for customers like this. I don't think anybody is pretending that FVL emissions for electric cars is not higher than for ICE cars, the question is HOW MUCH higher they are. Electric cars present a much greater logistical challenge overall than ICE vehicles. We have had whole ships full of electric cars with dead batteries arriving, requiring a lot of special procedures to revive and unload. Even routine maintenance charging of thousands of cars stored in compounds requires investment, planning and tracking. The extra weight means a different set of parameters for new transporters, extra wheels, etc. Storing thousands of electric cars safely with respect to managing fires etc is another factor. Eg. The challenge is different and significant."**

# Part 4: Tools to Measure

## Emissions & Efficiency in FVL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# Uniform measuring system for FVL emissions In discussion with ECG's Andreea Serbu.

Andreea Serbu, Senior Manager External Affairs, ECG

- How important is it to have a 'uniform' measuring system for FVL emissions?

**Andreea Serbu, ECG: "Standardising emissions reporting in vehicle logistics is fundamental to be able to compare apples to apples and not oranges to apples. This is what we are trying to achieve with the project started in February this year by ECG, VDA and European OEMs on standardising calculation and reporting of automotive supply chain emissions.**

**Having a common standard allows companies to calculate and report on emissions from their logistics operations in a harmonised way. This will have several benefits. Logistics service providers will be able to reduce their administrative burden by having one standard methodology which they can use for different OEM customers. The OEMs will also benefit as they will be able to compare logistics providers operating the same mode of transport and ultimately to make decisions to reduce their carbon footprint.**

**We are currently in phase one of the project aimed at creating the standard methodology."**

# In conversation with Andreea Serbu, ECG ..cont'd

- Please could you highlight how you propose measuring transporter vehicle capacity in the FVL sector—whether truck, rail or ship?

  **Andreea Serbu: "Vehicles have non-standardised loads like pallets or containers. If we take a car carrier truck as an example, the number of vehicles that can be put on a truck varies a lot based on the vehicle's size and weight. In the EU, logistics service providers also have to comply with different Member States' legislation on weights and dimensions. Today vehicles are becoming heavier thereby increasing the overall weight of the truck. This affects load capacity too. It is not easy to say what the average capacity of a truck is as it depends on the vehicles transported. Given these characteristics, FVL emissions are not only strictly correlated with weight and therefore capacity is not either. For emissions, we need to find a standard way to classify vehicles' standard loads as much as possible in order to be able to calculate and report on emissions based on what happens in reality without pretending that only weight matters."**

- How can our FVL industry tackle inefficiency? As inefficiency increases, capacity utilization levels fall, and number of journeys to deliver increases, therefore the industry's overall carbon footprint rises—is this correct?

  **Andreea Serbu: "Inefficient utilisation of assets in our industry can only be tackled through cooperation and transparency between and among the different LSPs and their OEM customers. Assets in FVL are highly specialised: a car transporter can only be used for transporting vehicles. Therefore, the role of the LSP is crucial to make the most efficient use as possible of own assets in a low profit margin sector. Efficiency means also ultimately, but not lastly, reduced carbon footprint. The EU has very specific emissions reductions targets for the coming years. Only through collaboration and standardisation will players in FVL be able to meet these targets. "**

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# In conversation with Andreea Serbu, ECG ..cont'd

- Please could you briefly explain how you propose calculating emissions for the FVL sector:
  - Is this done per journey i.e. from A to B
  - Is this done on the total carrier return journey i.e. from A to B back to A?

**Andreea Serbu: "The project started with the VDA and European OEMs on emissions standardisation is currently investigating looking at different existing methodologies and how these are applicable for automotive supply chain calculations and reporting. The project aims to define overall sector specific principles which can be applied by all companies operating in the different modes of transport in this sector.**

**In FVL, carriers aim at reducing overall kilometres and increase efficiency as much as possible. Empty mileage however can happen. This is one of the topics which will be addressed in our project by aligning with what is already clarified in the just published ISO 14083: "The quantification of GHG emissions of a transport chain shall include (…) all loaded and empty trips made by each vehicle, hence including energy consumed during diversionary and/or out-of-route distance; (…)"."**

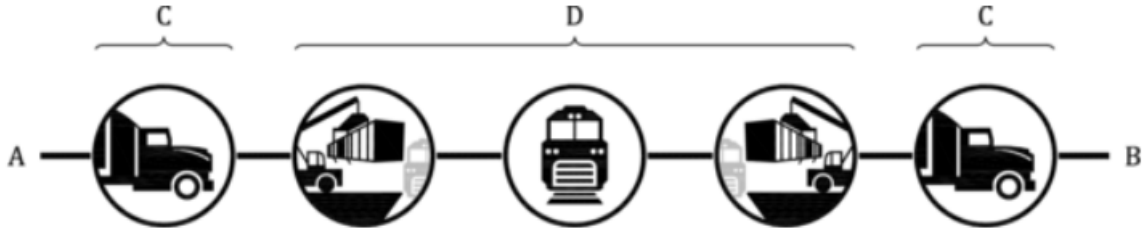
# ISO 14083

## New ISO standard to quantify transport-related carbon emissions


The international standard for assigning CO2 emissions to transport activities in the supply chain is ready. Logistics companies and their service providers can use ISO standard 14083 to unambiguously calculate, allocate and share details of their carbon footprint with supply chain partners.

**"Before long, logistics companies' customers are likely to start asking for a declaration of $CO_2$ emissions."**

Figure 1 — Illustrative example of a multi-element freight transport chain




**ISO 14083:2023(en)** Greenhouse gases — Quantification and reporting of greenhouse gas emissions arising from transport chain operations

## Mission possible

https://www.iso.org/obp/ui/#iso:std:iso:14083:ed-1:v1:en

For Sophie Punte, Founder of Smart Freight Centre, developing an ISO standard is an essential step to building the credibility of the GLEC methodology and promote its global acceptance and consistent application by government, investors and multinationals. "The GLEC Framework – and soon the ISO 14083 standard – allow for consistent calculation and reporting of global logistics emissions. If coupled with blockchain technology, the sector could deliver a transparency revolution," she says.

# A tool ready to be adapted?

**Global Carriers & LSPs Evaluation Tool** created as a joint Odette/AIAG project—with the aim to measure capability & performance of LSPs. This was built for inbound logistics, but could be adapted for **outbound**.

| | | | |
|---|---|---|---|
| | **4.4.2** | | **Transportation capacity should be continuously reviewed and optimized.** |
| | **Why?** | | Permanent management of **transportation utilization** will lead to cost-reduction opportunities as well as environmental savings. |
| | **Criteria:** | | |
| **1)** | **F1** | | **The organization regularly explores opportunities to reload inbound conveyances with outbound product. Empty transportation capacities (both inbound and outbound) are captured daily. Quarterly (or more frequent) reviews are established to ensure transportation optimization.** |
| | | | |
| **2)** | **F1** | | FIFO practices are used to minimize potential detention and demurrage related charges on inbound and outbound conveyances. |

***F1 = weighting factors***

# Harmonization & Consolidation, Cooperation & Optimization

## 2 Stage FVL Efficiency Model

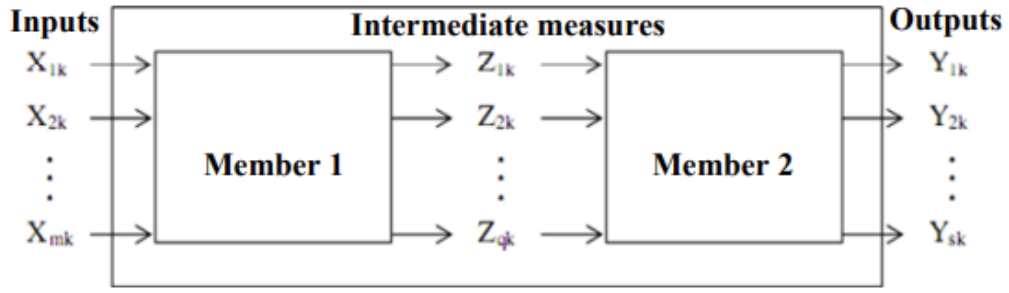



*Figure 2* – Two-stage supply chain

Overall aim to combine **2 Stage FVL Efficiency** with a **Co-operative Game Theory Model**.

## Game Theory FVL Efficiency Model

- Non-Cooperative Model
  - Leader and follower
    - Leader maximised efficiency regardless of follower level
- **Cooperative Model**
  - **Both (or Multiple) players agree to a common set of goals, aim for joint efficiency.**
  - **Forces all players to maximise efficiency and agree a common set of weights on intermediate measures.**

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# Input & Output Variables

## Input Variables

- Number of employees involved in distribution X
- Number of vehicles involved in distribution X
- Time Taken to distribute X

## Output Variables

- Distribution of X meets Target Time
- Distribution Errors in delivery of X
- **Level of wastage—blank sailings, empty return loads.**

**Using the Co-operative Model—distribution of X would involve all parties involved.**
**Example: OEM + LSPs (include intermodal players)**
**This should be compared to a Non-Cooperative Model—where OEM and LSP are NOT working together**
**For Overall Market Efficiency (OMF) a summation of overall efficiency of both models must be analysed.**
**To meet EU Climate Targets—the common set of goals must be adhered to.**

# In conversation with Dr.Prof Alan McKinnon, Kuehne Logistics Uni

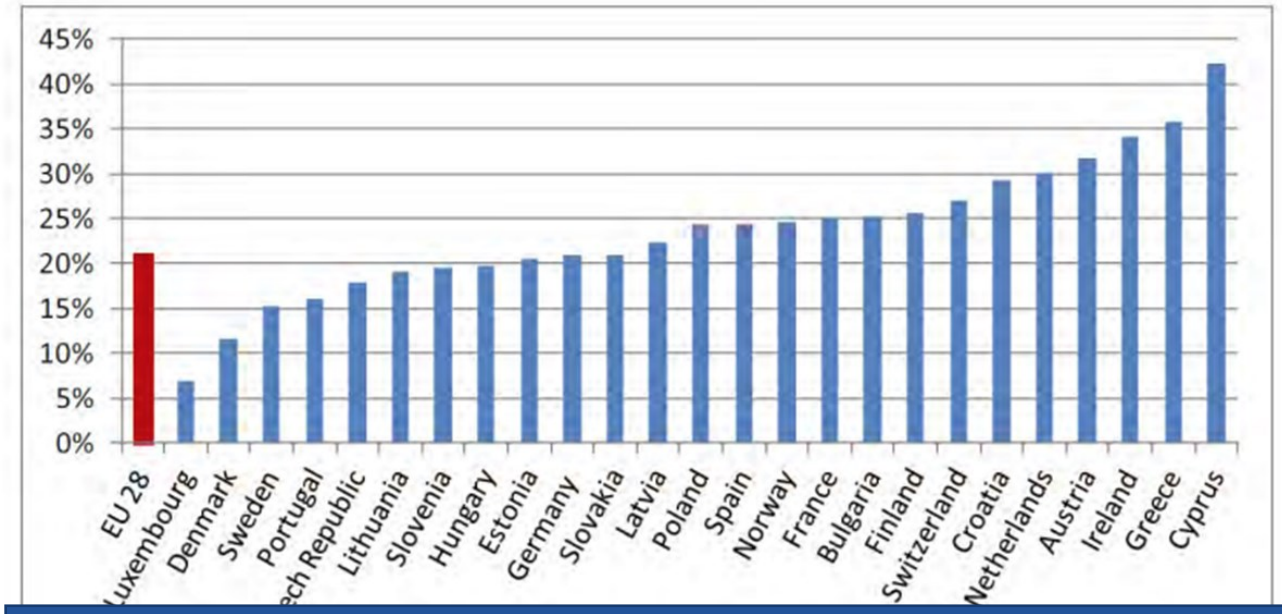
Alan McKinnon,
Professor of Logistics,
Kuehne Logistics University,
Hamburg

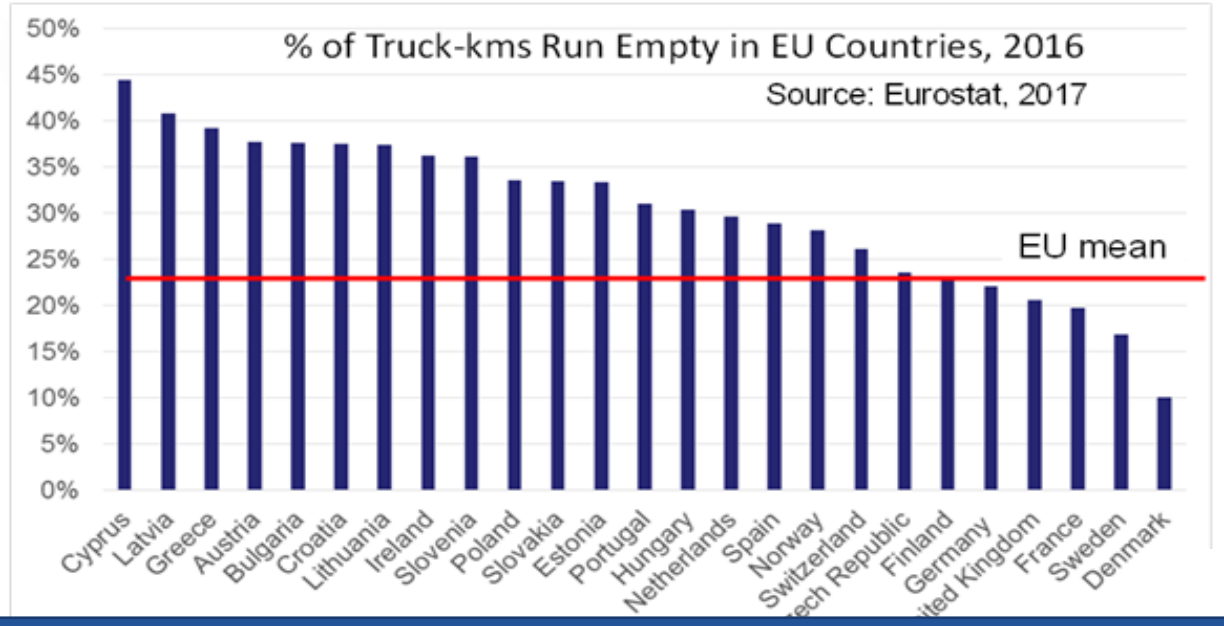
**Empty running** can be considered clear evidence of the under-utilisation of transport capacity, leaving carriers exposed to the criticism that they are not using their assets efficiently.

**Operational efficiency** is also compromised when vehicles are only partially-loaded. Measuring the degree of under-loading, however, is fraught with difficulty. This is mainly because the maximum available carrying capacity on a vehicle has to be defined in different ways for different categories of freight.

https://www.itf-oecd.org/sites/default/files/docs/logistics-strategy-performance-management.pdf

Figure 2.7. **Proportion of truck-kms run empty in EU member states, 2012**



With special permission from
Prof. Dr. Alan McKinnon

- **The concept of empty running varies by freight transport mode.**
- **For example:**
  - **Rail: a trainload of empty wagons being re-turned as a complete set or a mixed load of empty and loaded wagons on the same train.**
  - **Maritime: it can be an empty ~~bulk tanker~~ [ship or Ro-Ro vessel] on its way to collect a new load, empty slots on a container ship or[on a] roll-on roll-off ~~ferry~~ vessel or the repositioning of empty containers either by sea or across port hinterlands.**
  - **One study has also analysed the annual global cost and carbon footprint of repositioning empty shipping containers at $15-20 billion and 19 million tonnes of $CO_2$ (Boston Consulting Group, 2015).**
  - **Road: For example, without the drop in empty running by lorries in the UK from 33 per cent in 1980 to 27 per cent in 2004, road haulage costs in 2004 would have been £1.2 billion higher and $CO_2$ emissions 1 million tonnes greater. Unfortunately, since 2004 empty running in the UK has rebounded to 30% (Department for Transport, 2020a)…**
  - **Many governments, particularly in Europe, track empty running as a performance metric in their annual surveys of road freight operations, generally expressing it as the percentage of truck kilometres run empty.**

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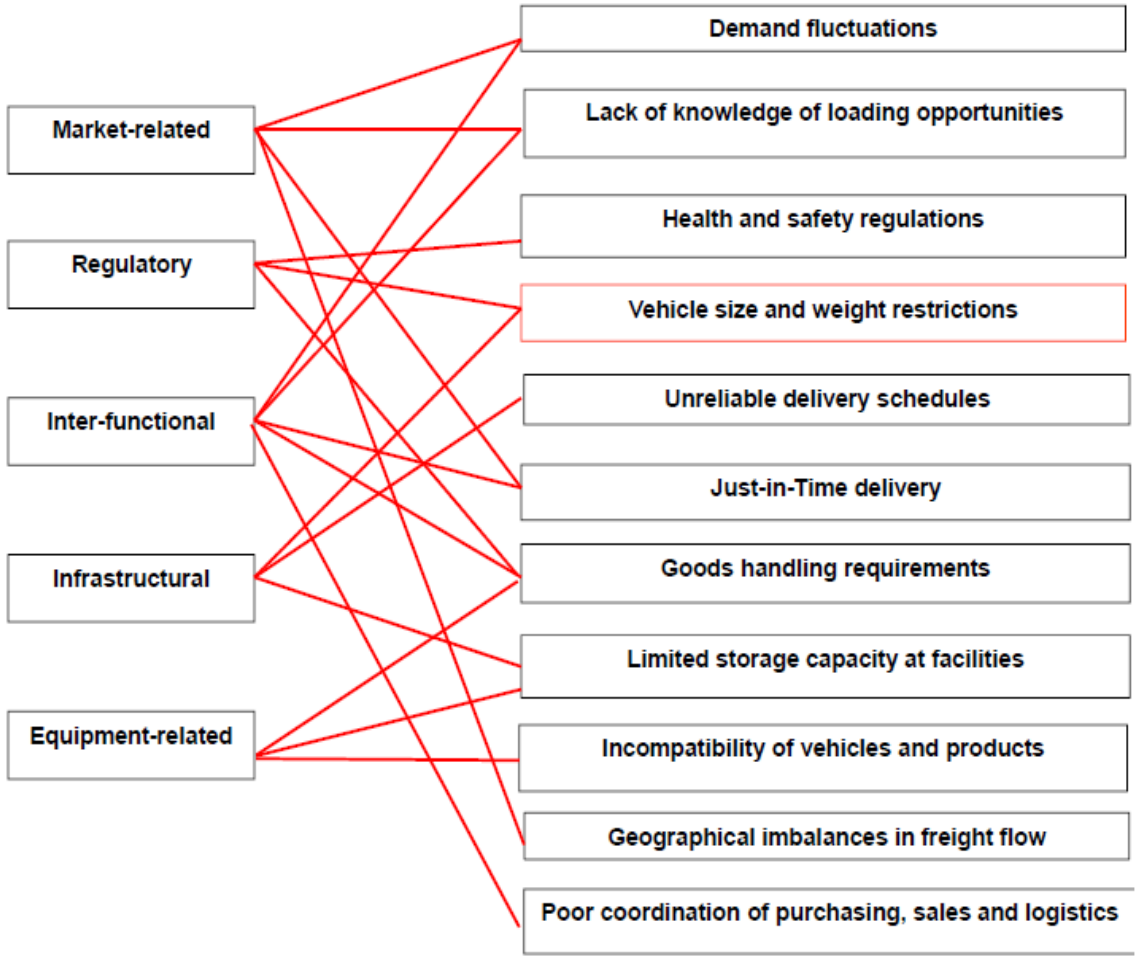
- **Factors Constraining Capacity Utilisation:** eleven constraints can be classified into five general categories: regulatory, market-related, inter-functional, infrastructural and equipment-related (Figure 2).

Figure 2: Five-fold Classification of the Constraints on Vehicle Utilisation




***Lack of information about backloading and load consolidation opportunities*: many of these opportunities are missed because carriers are simply unaware of them. In the past companies relied on informal methods of finding backloads, most commonly 'word-of-mouth', or local brokerages-the internet has transformed the search for available loads.**

***Geographical imbalances in the pattern of freight flow:* It is very difficult to maintain high levels of vehicle utilisation when much more freight flows in one direction than the other.**

**A practice known as '<u>triangulation</u>' has traditionally been used by carriers, across all modes, to maximise average loading where freight flows are unbalanced on particular corridors.**




# "Use capacity. Then go it alone."

| Pay for capacity at any cost, use it only for one way delivery. No return load. | Invest in own car carrier fleet, ro-ro vessels. Use only for one way delivery. No return load = blank sailing. |
|---|---|


**"Overall inefficiency in the market today resulting in knee-jerk reactions—OEMs buying car carrier trucks, ro-ro ships."**
**"Today's reactions to under-capacity = tomorrow's over-capacity = stranded assets."**
**"And overall higher $CO_2$ emissions. But who is counting? Who is monitoring $CO_2$ emissions in FVL? Are OEMs monitoring how $CO_2$ emissions per delivery increase as inefficiency rises?"**

**Ben Scott, Carbon Tracker: "Due to the recent lack of efficiency in the LSP market and reducing emissions from the vehicle use-phase, downstream transportation and distribution emissions could soon make up a larger proportion of overall Scope 3 emissions. In addition, the inefficiency and oversupply in the market (tomorrow) may lead to stranded assets."**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# New CSR Directive (CSRD) reporting hits OEMs

2023- Mandatory **Scope 3** disclosure in Sustainable Finance Disclosure Regulation and **Corporate Sustainability Reporting Directive**

## Carmakers' global emissions 50% higher than reported

Car manufacturers are misleading investors by significantly underestimating the total distance travelled and fuel consumption of cars, as mandatory Scope 3 emissions reporting represent a 'ticking carbon bomb' for asset managers

TRANSPORT & ENVIRONMENT

## Oil companies in disguise: Carmakers are a 'ticking carbon bomb' for investors

TRANSPORT & ENVIRONMENT

Carmakers are significantly underreporting lifetime (Scope 3) emissions

On 5 January 2023 the Corporate Sustainability Reporting Directive (CSRD)

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022L2464

**From January 1st, 2024, large companies in Europe must report transport emissions, including companies that outsource transport. Companies must report on CO2, CH4, and N2O emissions, from Scope 1 to Scope 3 emissions, upstream and downstream. The same rule applies to smaller companies from January 1st, 2025.**

## New rules on corporate sustainability reporting: The Corporate Sustainability Reporting Directive

European Commission

The first companies will have to apply the new rules for the first time in financial year 2024, for reports published in 2025.

# What do the new Corporate Sustainability Reporting Directive (CSRD) & the Corporate Sustainability Due Diligence (CSDD) mean for Automotive?

- The EU has accelerated the pace of the transition to a greener economy in recent years, introducing several new policies that apply across all 27 of its member states.
- One notable development is the **Corporate Sustainability Reporting Directive (CSRD),** which will come into force in 2024. It affects all large companies, regardless of capital market orientation, and thus virtually the entire automotive industry, whether manufacturers or suppliers. The CSRD obliges companies to provide significantly more detailed and comprehensive non-financial ESG data (qualitative and quantitative/KPIs) as part of their management report, in an auditable form.
- **Corporate Sustainability Due Diligence (CSDD),** which—once effective—will require certain companies to identify and take action on human rights and environmental issues in their complete value chain. It covers direct and indirect suppliers as well as own business activities and is applicable to products and services. In this it's going beyond some national regulation, such as Germany's Supply Chain Act, for example. It also states that businesses must have a plan to meet the global warming target set as part of the Paris Agreement and sets out specific duties for company directors, adding personal responsibility into the equation.

**Basically, it's goodbye to greenwashing and hello to transparency…**

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KEARNEY

# In discussion with Carbon Tracker

Ben Scott,
Senior Analyst,
Carbon Tracker

Question: Could you summarise how OEMs could see an increase in their carbon emissions should they **minimize efficiency** in the Finished Vehicle Logistics market?

**Ben Scott, Carbon Tracker: "As Automotive OEMs shift towards electrification, Scope 3 emissions from the use-phase i.e. well-to-wheel emissions, are reducing. While there is still a long way to go to fully electrify the vehicle parc, the sale and use of zero tailpipe emissions, as well as the rise of renewables to charge electric vehicles is enabling Automotive OEMs to reduce Scope 3 emissions and help meet climate goals.**

**Scope 3, category 9 (Downstream Transportation and Distribution) emissions currently only makes up a small proportion of overall emissions. Due to the recent lack of efficiency in the LSP market and reducing emissions from the vehicle use-phase, downstream transportation and distribution emissions could soon make up a larger proportion of overall Scope 3 emissions. In addition, the inefficiency and oversupply in the market may lead to stranded assets."**

Question: What proportion does FVL make up in the current total emissions for an OEM?

**Ben Scott, Carbon Tracker: "Considering the full lifecycle of a vehicle, currently Scope 3 emissions make up the majority of total emissions. The use-phase (category 11, well-to-wheel) makes up about 80% of Scope 3 emissions. At present, upstream and downstream transportation and distribution (categories 4 and 9) contribute about 2% of Scope 3 emissions."**

# Thank you