



# CATO RIDGE DRY PORT

A WORLD CLASS MULTIMODAL FREIGHT & LOGISTICS HUB IN KWAZULU-NATAL

A HIGH-LEVEL PROJECT OVERVIEW AS ON:

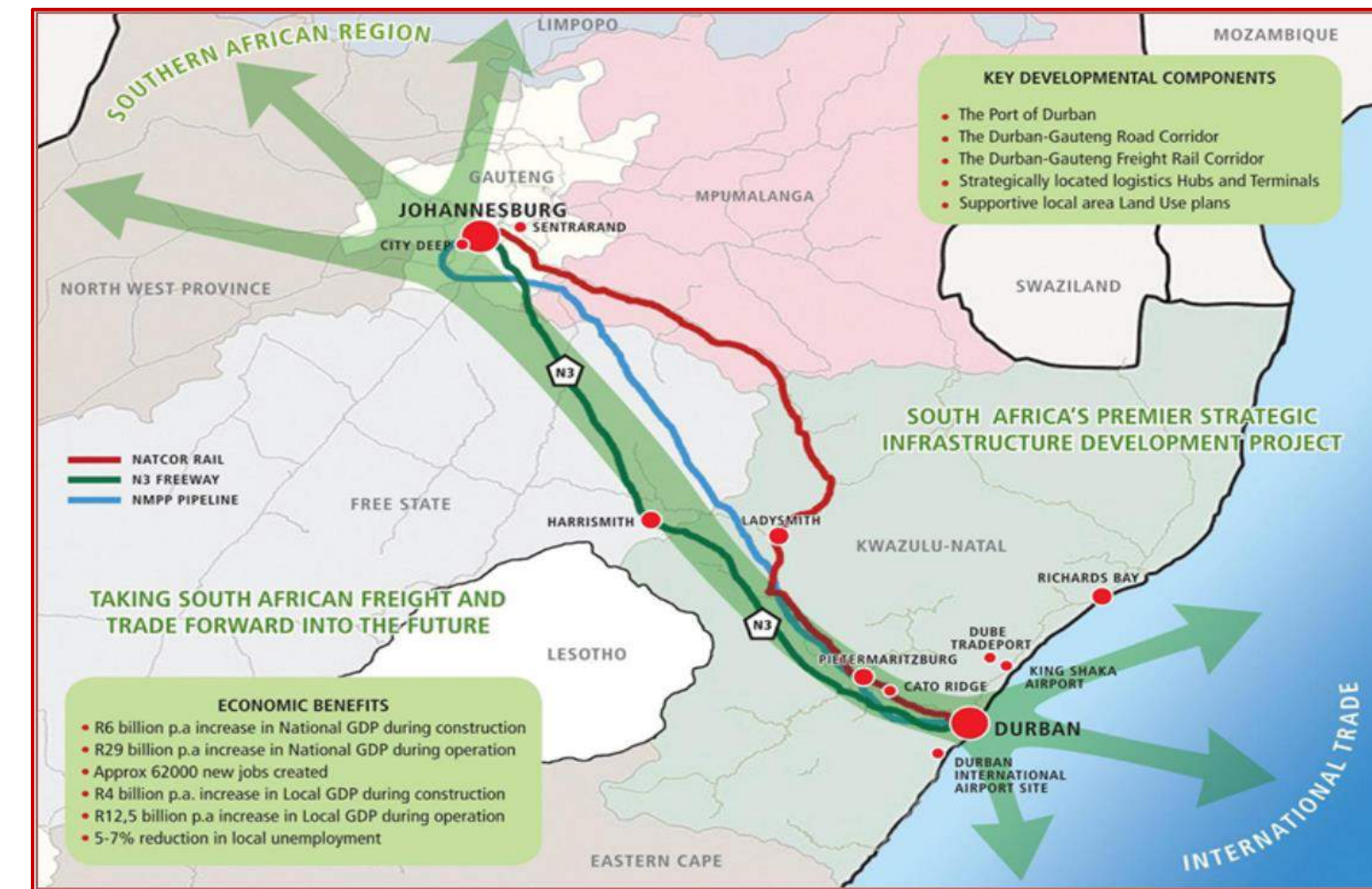
9 DECEMBER 2021



**CATO**  **RIDGE**  
LOGISTICS HUB CONSORTIUM

# WHY

- ❖ **Improving freight movement efficiency on South Africa's main economic corridor between Port of Durban and Johannesburg (SIP2);**
- ❖ **Durban Port decongestion by moving freight handling and stacking to Cato Ridge through a dedicated rail shuttle service;**
- ❖ **Addressing the unsustainable growth in the road to rail ratio by providing more cost-effective rail options;**
- ❖ **Creating a new Freight and Logistics Multi-Modal Hub at Cato Ridge;**
- ❖ **Unlocking Socio-Economic Development opportunities for surrounding Rural Communities;**

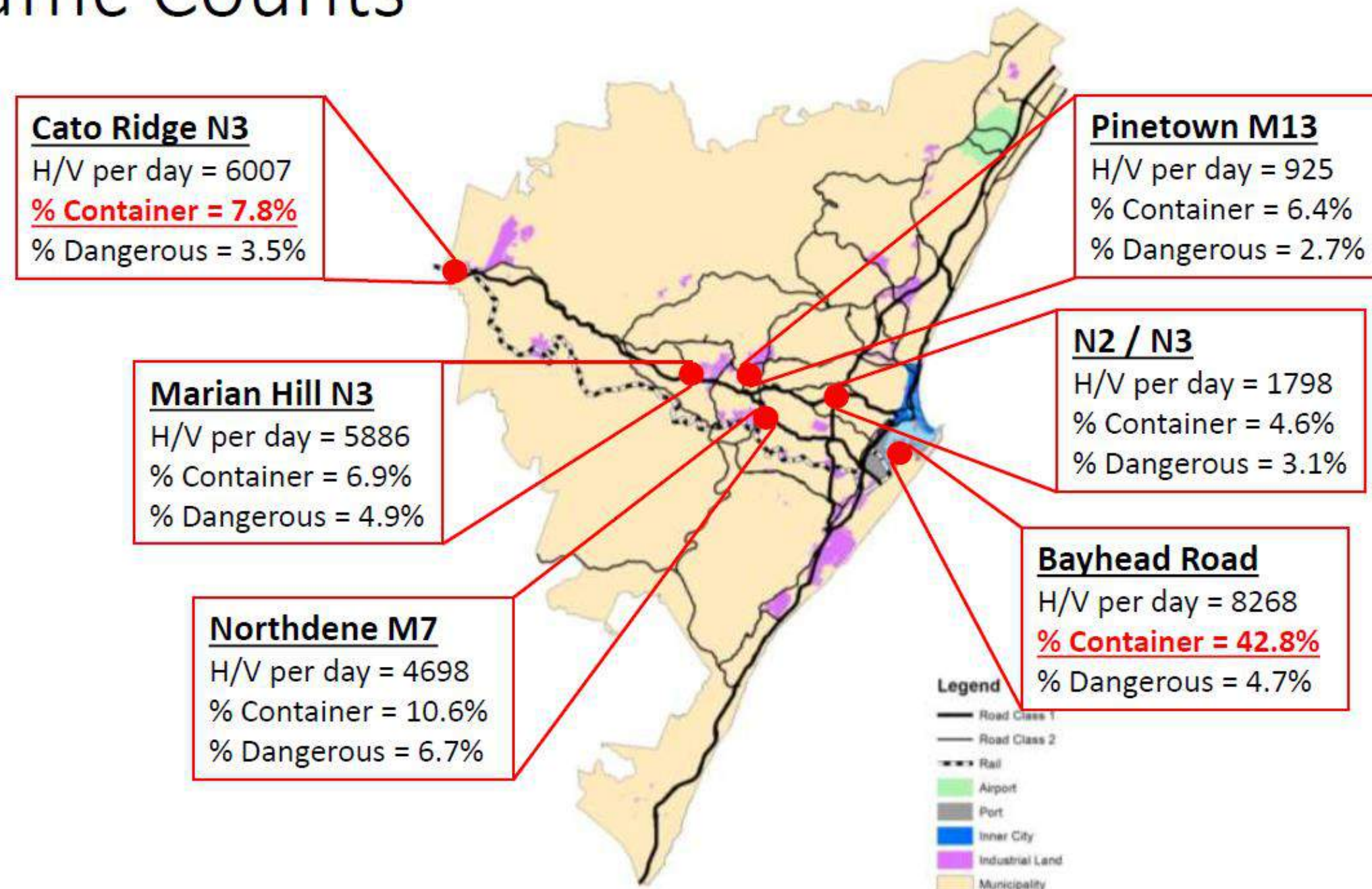


# WHY

## ❖ Unsustainable Road to Rail relationship;

- ❖ 80% of the record export grain harvest was delivered by trucks to the Port in 2021,
- ❖ Rail covers all its costs, whilst heavy road vehicles do not,
- ❖ SANRAL has embarked on a significant N3 upgrade program,
- ❖ Given the projected increase in freight volumes, the current N3 upgrades is likely to be inadequate by 2035. Continues road upgrades are not sustainable and skewed road to rail ration must be corrected sooner rather than later.

## eThekwini Municipal Heavy Vehicle Traffic Counts



Source – eThekwini Transport Authority



# WHY

## ❖ COVID 19;

- ❖ Massive uncertainty,
- ❖ New rules being implemented,
- ❖ Employee absenteeism,
- ❖ Reduced ship calls from March 2020,
- ❖ Lockdowns



## Cargo Operations 1st Half 2020

Measure	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	1H 20
Total number of TEUs moved/month (CTCT):	52654	68942	57085	48839	39749	43526	310795
Number of Ship calls (CTCT):	38	40	27	24	18	14	161



## Cargo Operations 1st Half 2021

Measure	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	1H 21
Total number of TEUs moved/month (CTCT):	49115	61484	58482	62686	64666	56813	353246
Number of Ship calls (CTCT):	23	21	21	33	29	29	156

Source: Transnet

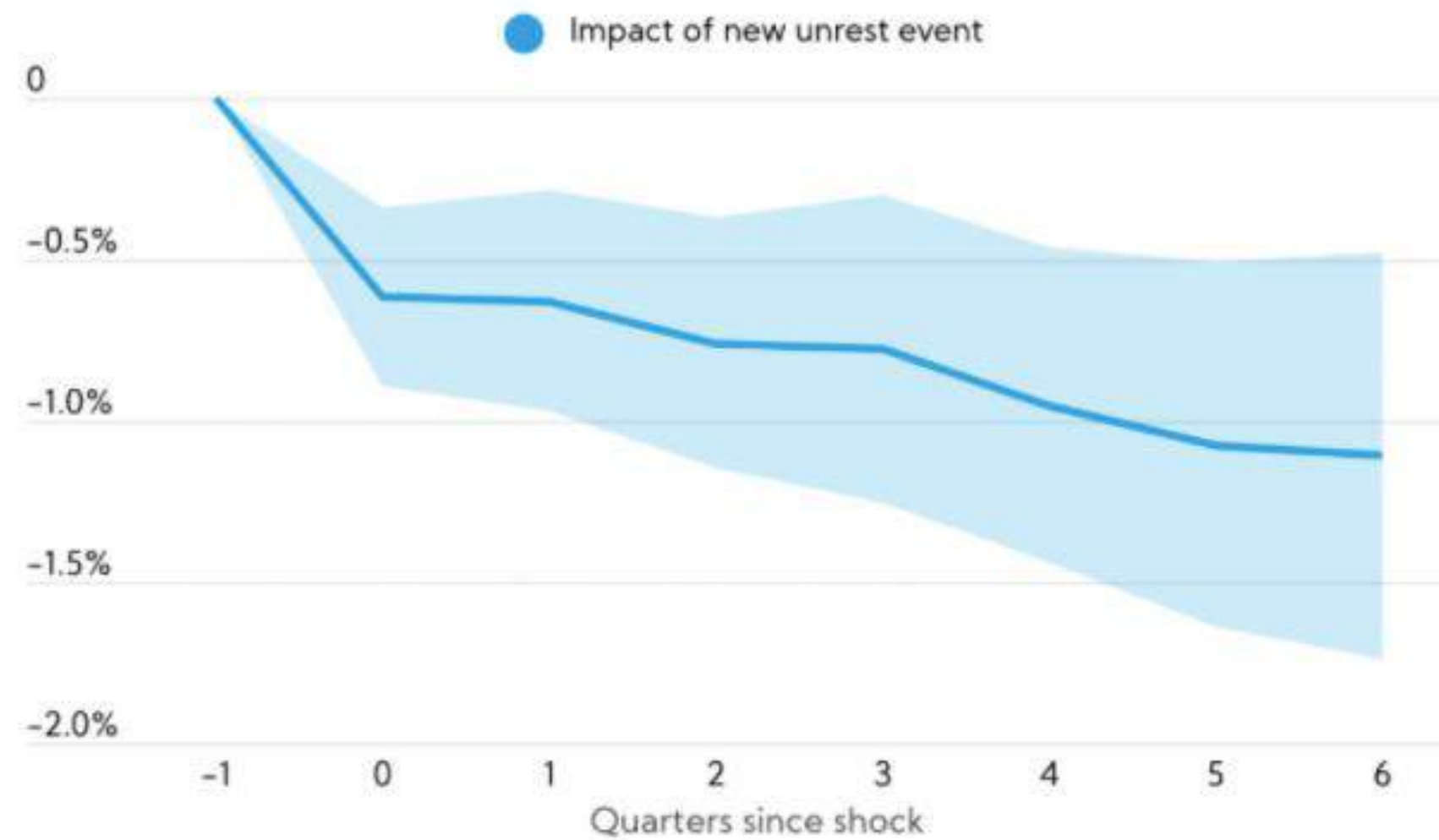
# WHY

## ❖ July 2021 unrest



### Economic damage from social unrest can be long-lasting

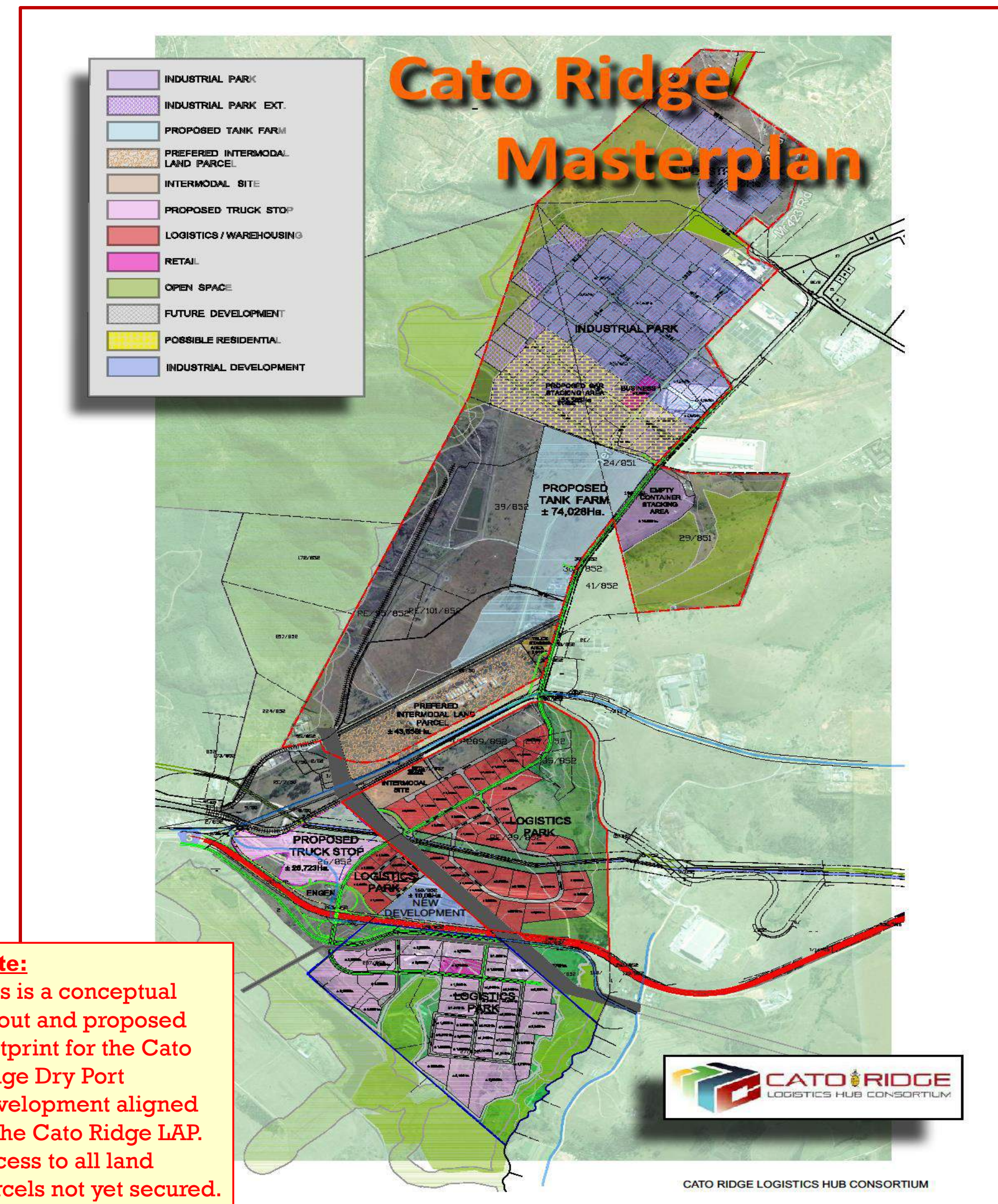
On average, GDP remains about 1 percentage point below its pre-shock level a year and a half after a major protest.  
(change in GDP relative to baseline in pp)



# WHAT

## LONG TERM DELIVERABLES:

- ❖ **Mega Truck Stop and Staging Facility with 700 to 1,000 truck parking bays;**
- ❖ **Intermodal (rail to road) Container and Automotive Terminal with an envisaged maximum container annual throughput capacity of about 750,000 TEUs;**
- ❖ **Logistics and Industrial Park;**
- ❖ **Petroleum Tank Farm for storage of 3,168,000million Liters.**



# WHAT

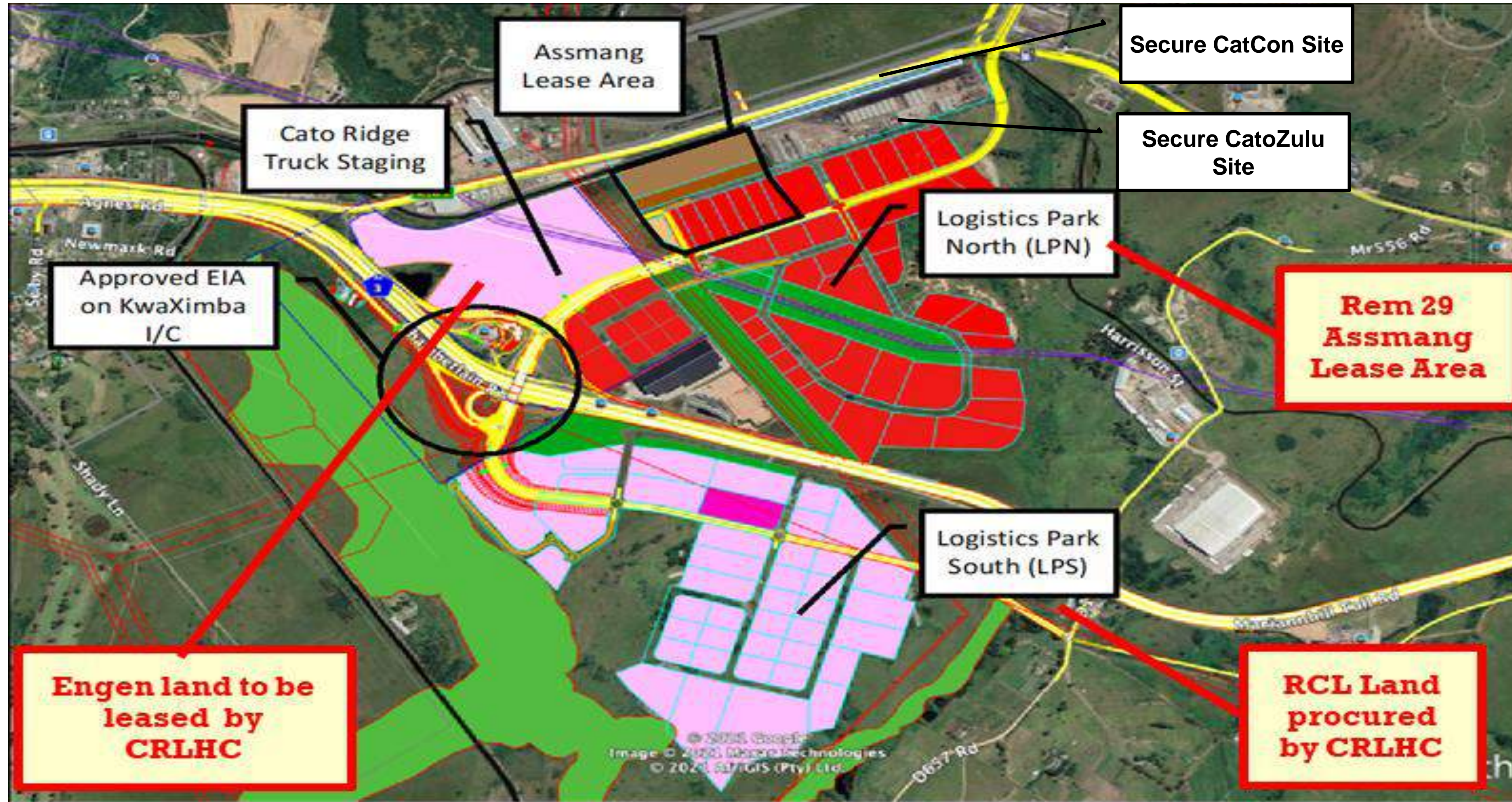
## SHORT TO MEDIUM TERM DELIVERABLES:

- ❖ **Interim Truck Staging Facility** in support of the Port of Durban Decongestion Programme and immediate freight increase projections;
- ❖ **Interim intermodal operations** on the CatoZulu terminal facility;
- ❖ **Securing access to the Transnet CatCon Site** through current RFP process;
- ❖ **Implementing first Community Empowerment Projects** with ADT.



# WHAT AND HOW

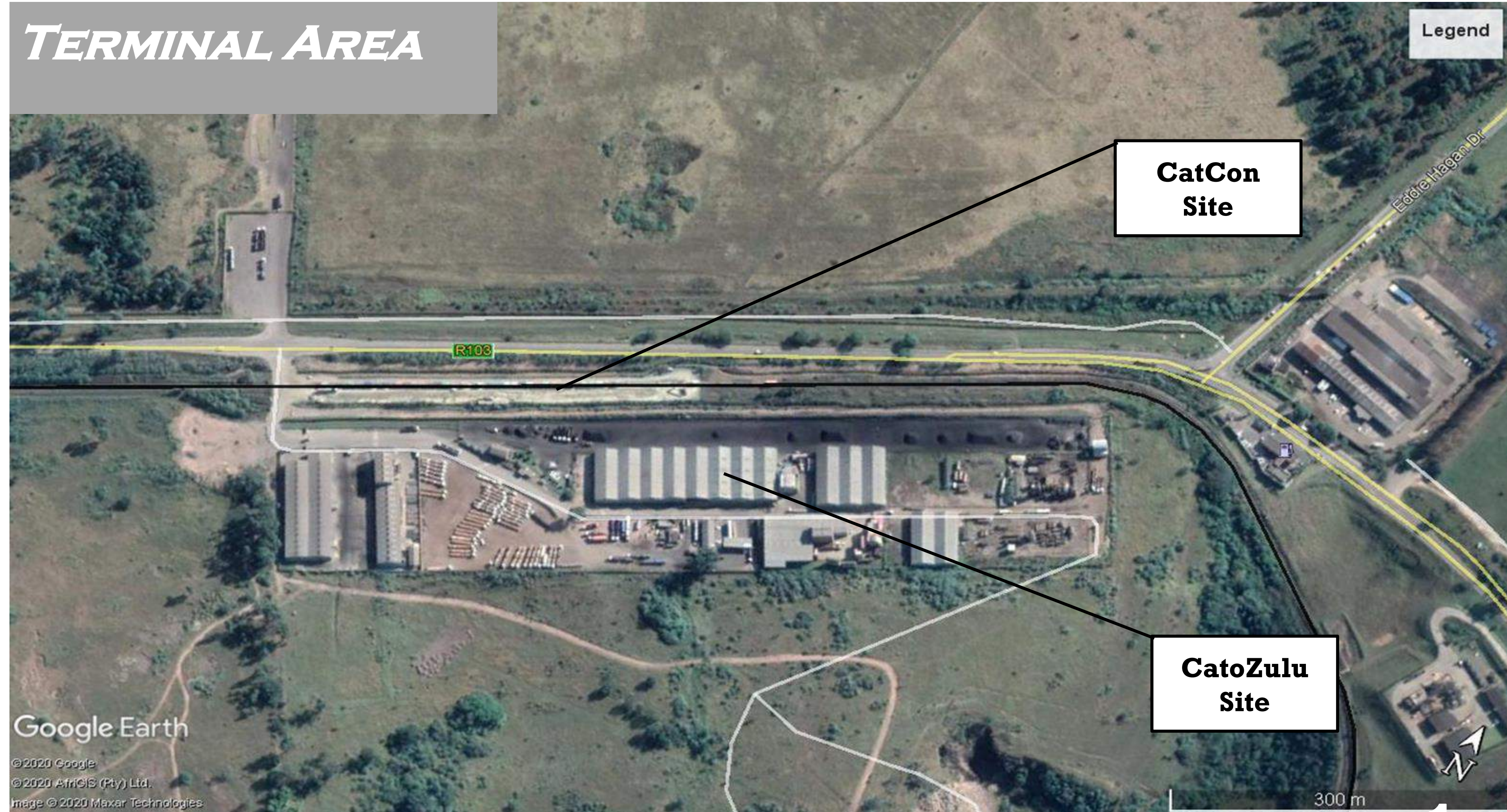
## SHORT TO MEDIUM TERM DELIVERABLES:



# HOW

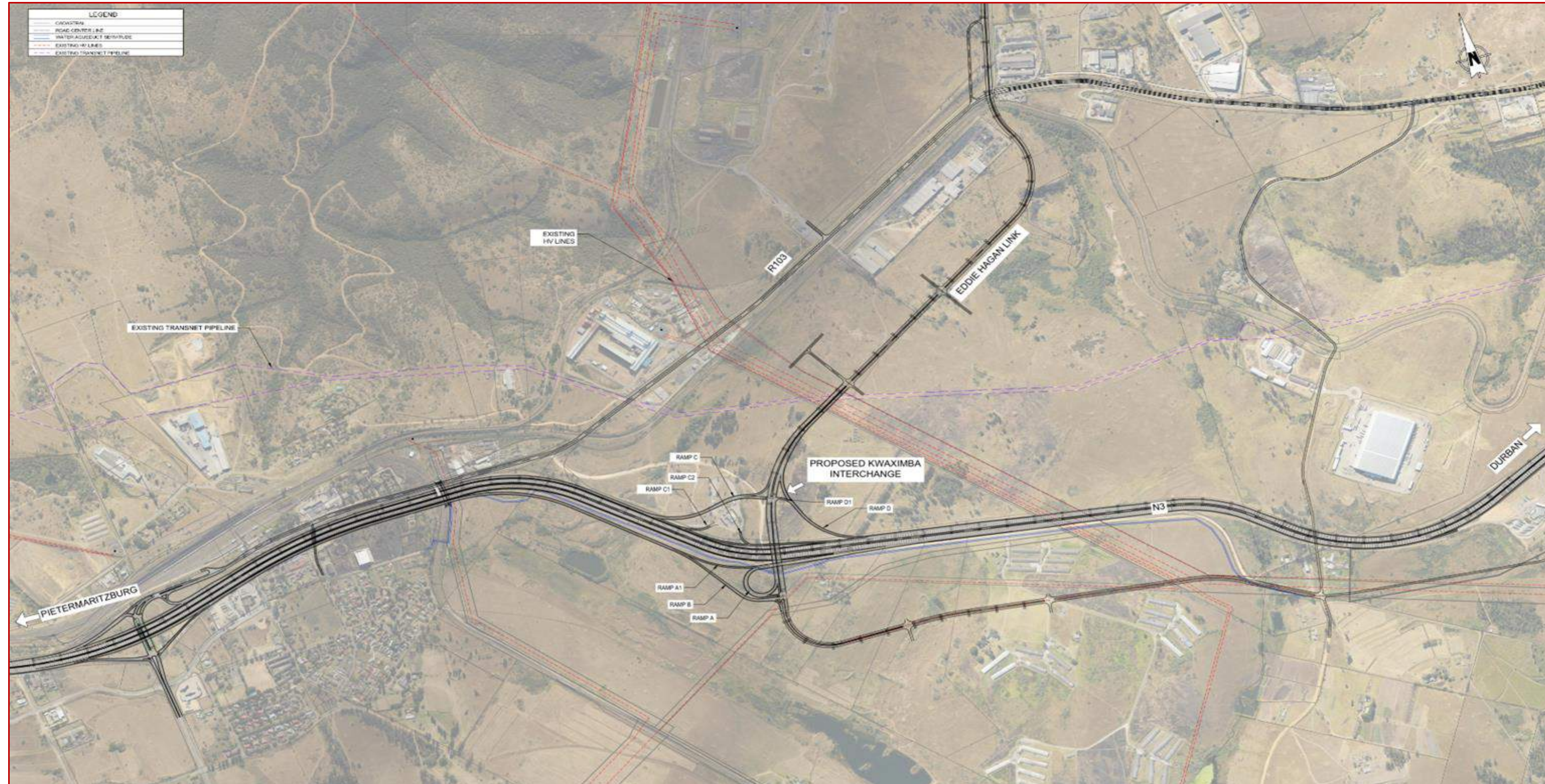
## EXISTING TFR CONTAINER TERMINAL

### TERMINAL AREA



# How

## NEW N3 KWAXIMBA INTERCHANGE



# HOW

## *EXISTING COLLABORATION BETWEEN CRLHC AND TRANSNET*

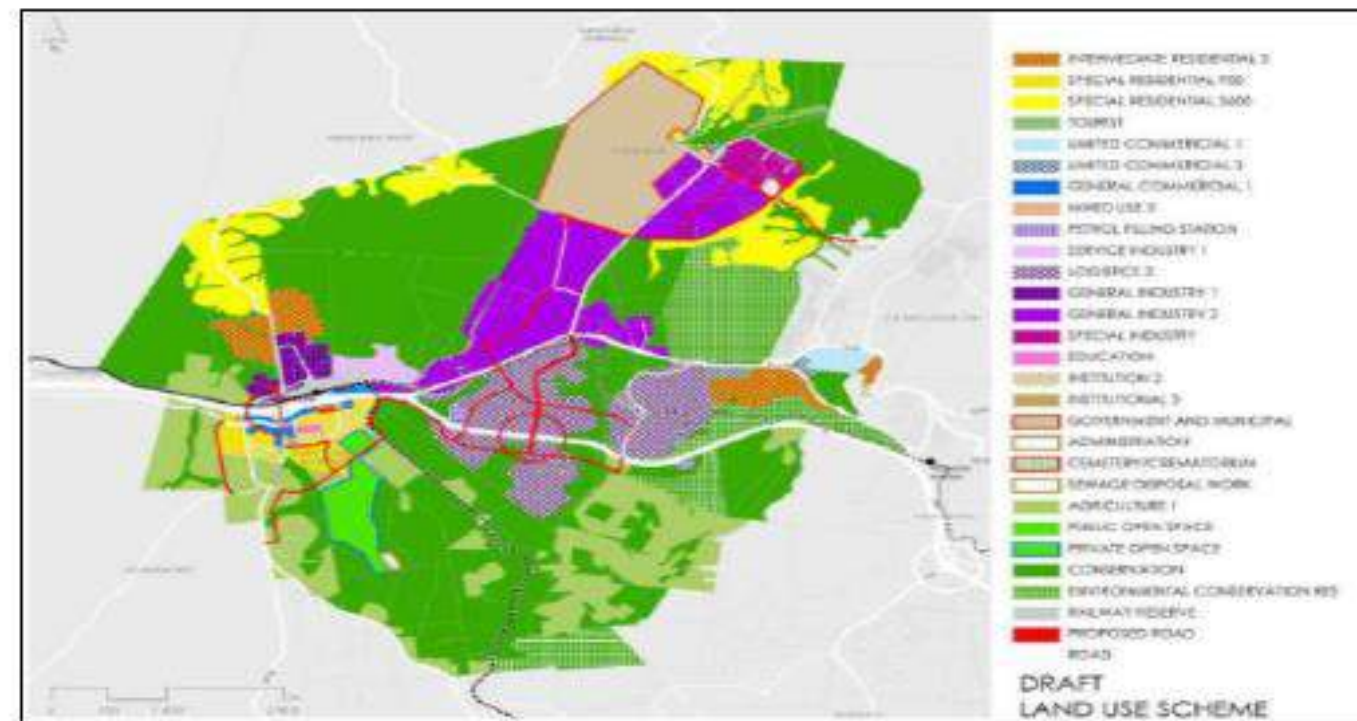
- ❖ CRLHC and TFR signed MOU re development of the Cato Ridge Logistics Hub and establishment of a Steering Committee (2016);
- ❖ CRLHC & Transnet Dry Port Project Charter (2018);
- ❖ TFR Leasing Governance Council approval of Catcon Lease (2019);
- ❖ TFR withdrawal of lease approval for Catcon Site and embarking on RFP (2020);
- ❖ CRLHC responding to TFR RFP for Catcon Site (2021);
- ❖ Commercial (Transport Agreement) yet to be concluded on rail and terminal tariffs and shuttle services;
- ❖ Collaborating on Durban Port Decongestion Programme

# HOW

## EMPHASIS ON TRANSNET RENEWAL PROGRAMME FOR THE PORT OF DURBAN

### A. TRANSNET'S 2020'S RENEWAL PROGRAMME: PoD

#### Cato Ridge Dry Port Project

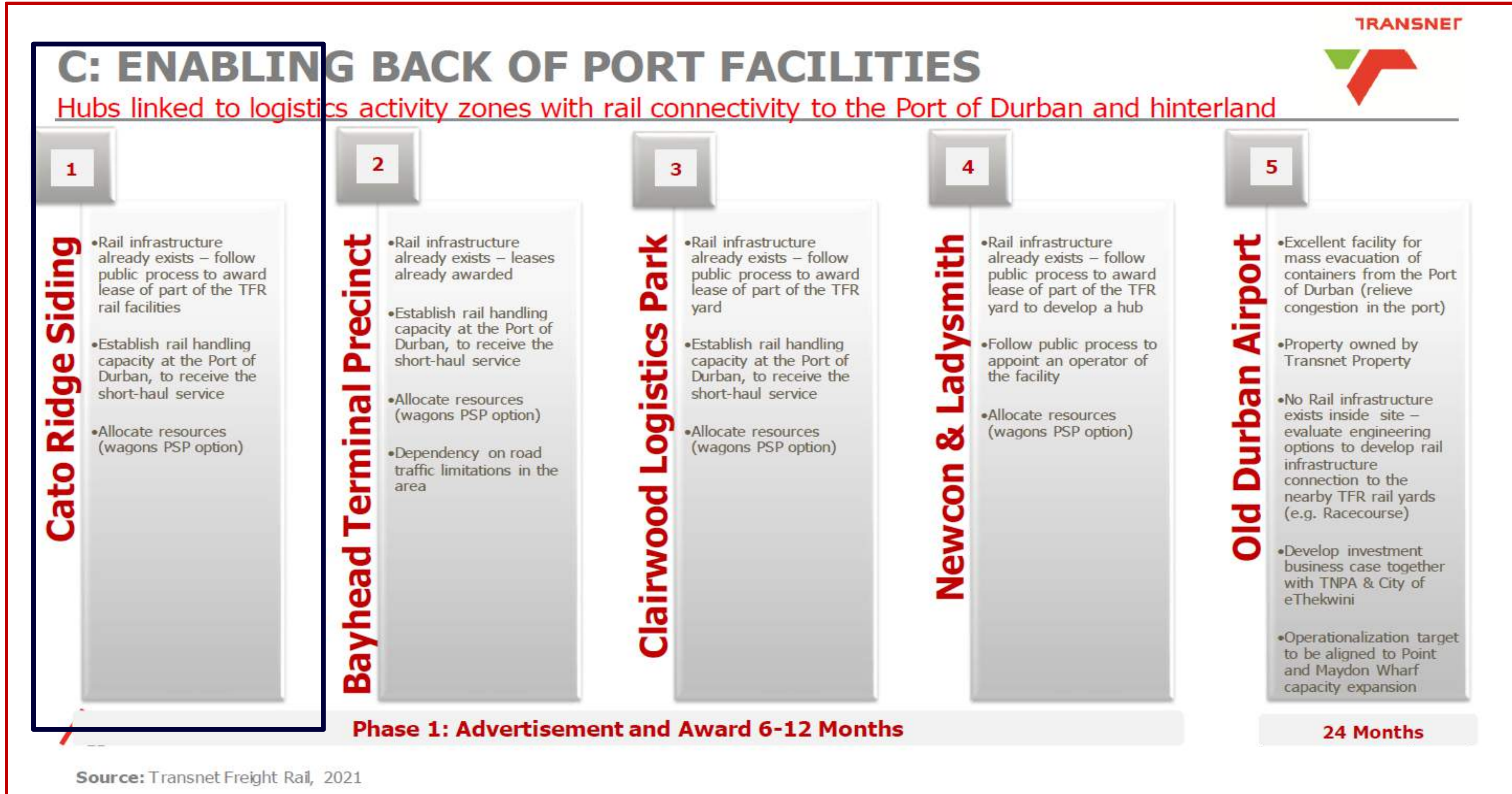


#### Key insights

- Private sector driven initiative
- Establish a back of port intermodal facility, as well as a logistics and Industrial Cluster
- To assist decongesting the Port of Durban and support the migration of freight from road to rail
- Contribute to the socio-economic objectives of Southern Africa through job creation and supplier development

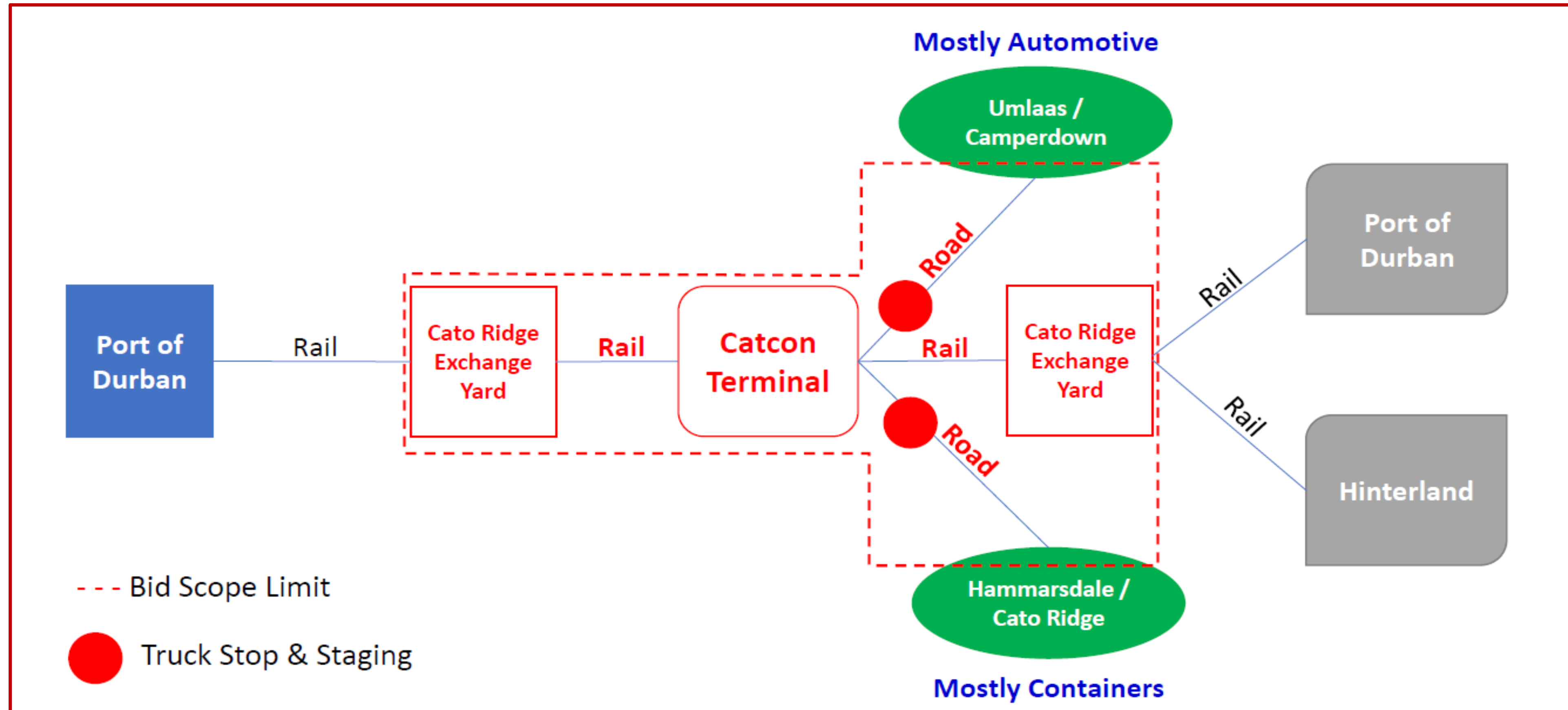
# HOW

## EMPHASIS ON TRANSNET RENEWAL PROGRAMME FOR THE PORT OF DURBAN



# HOW

## IMMEDIATE FOCUS: A SEAMLESS INTERMODAL FACILITY



# HOW

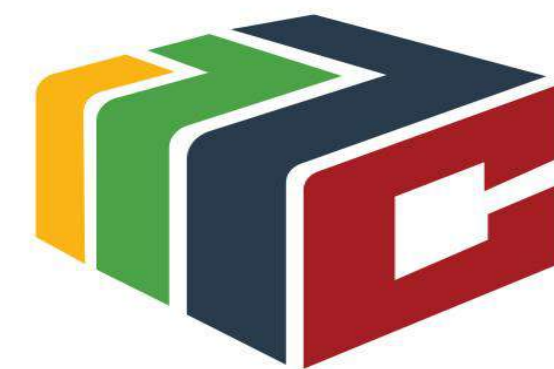
## *COLLABORATION BETWEEN CRLHC AND MAERSK*

- ❖ Partnered in responding to SASOL RFP for a warehousing facility at Cato Ridge.
- ❖ Substantial further synergistic opportunities to explore value chains presented by the Dry Port:
  - Intermodal Operations;
  - Landside Logistics, as well as
  - Commercial and Industrial Real Estate Development.
- ❖ Shared objective of addressing skewed road-rail modal split;
- ❖ Collective ability to provide intermodal logistical services at a scale and scope required to achieve critical mass and unlock economies of scale to:
  - Address SIP2 Corridor and Port of Durban inefficiencies;
  - Provide a solution to managing empty container imbalance;
- ❖ Pursuing International Best Practice in decongesting port cities.



THANK YOU

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**CATO**  **RIDGE**  
LOGISTICS HUB CONSORTIUM

XPO Logistics





Ethio-Djibouti Railway Share Company

# Railway Freight Operation, Brief Perspectives of EDR

Eng. Tilahun Sarka ,  
General Director EDR





ETHIO-DJIBOUTI RAILWAY

# CONTENTS

<b>Part One</b>	<b>• Introduction</b>
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<b>Part Four</b>	<b>• Problems Faced</b>
<b>Part Five</b>	<b>• Suggested Solutions</b>

# Part One

# Introduction

- **Bulk cargo** is a commodity cargo that is transported **unpackaged /non-containerized/** in large quantities.

## Dry Bulk

- Unpacked cargo which can be weighed but not counted

## Break Bulk

- Transported in bags, boxes, crates, drums, or barrels.
- Can be counted

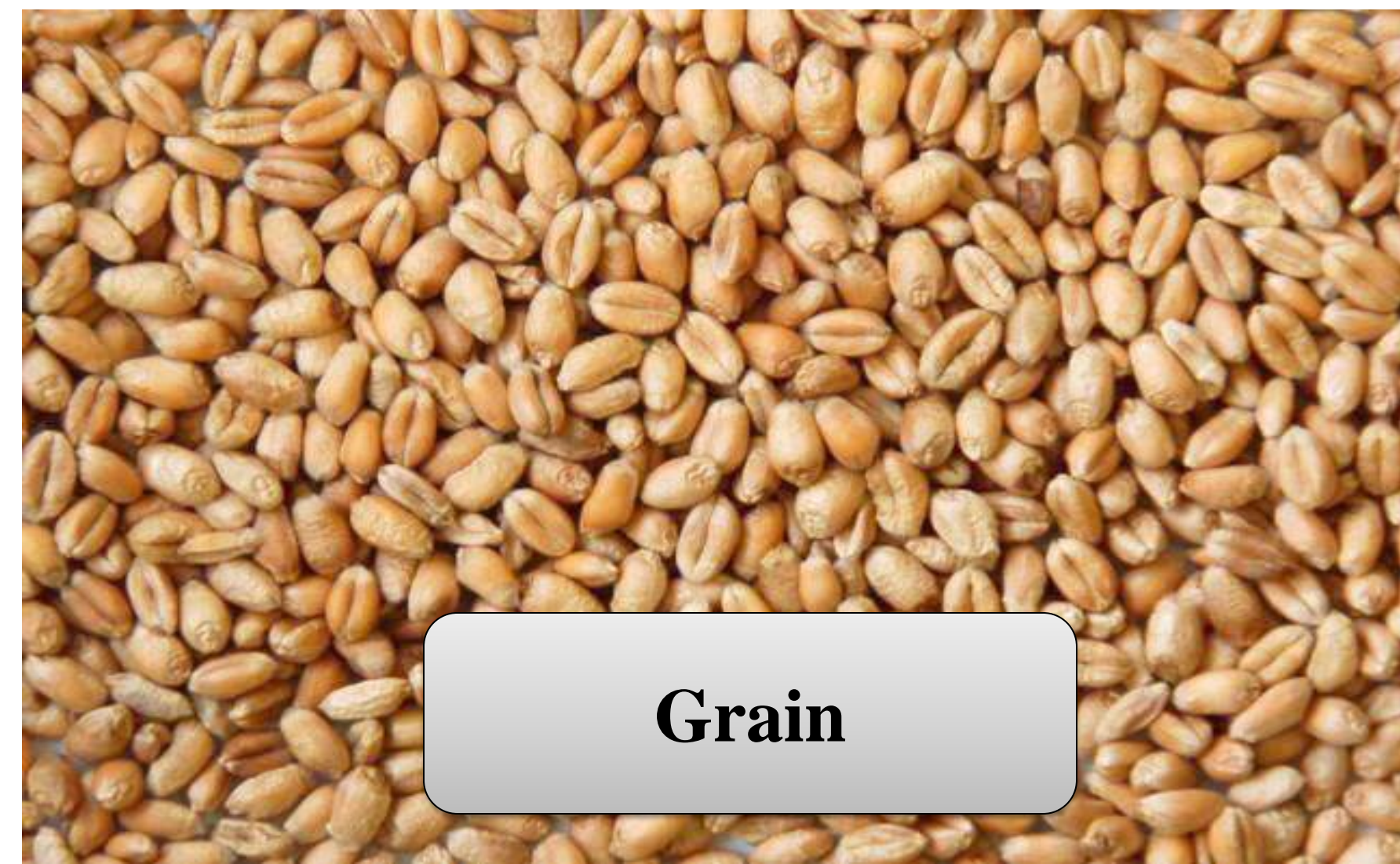
## Liquid Bulk

- A cargo transported in liquid form

# Introduction Contd...



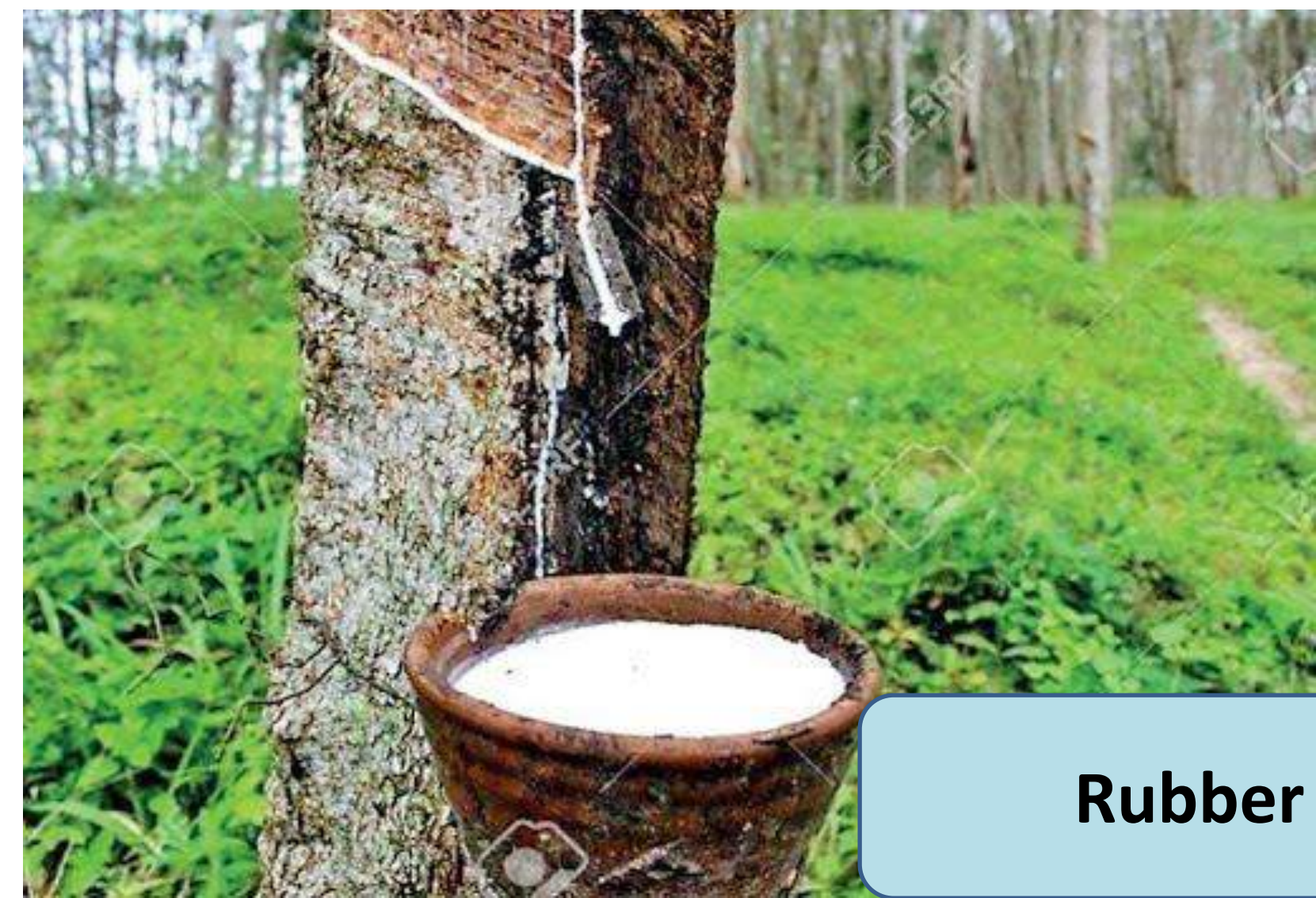
**Example  
of Dry  
Bulk  
Cargos**



# Introduction Contd...



Example  
of Liquid  
Bulk  
Cargos



# Part Two

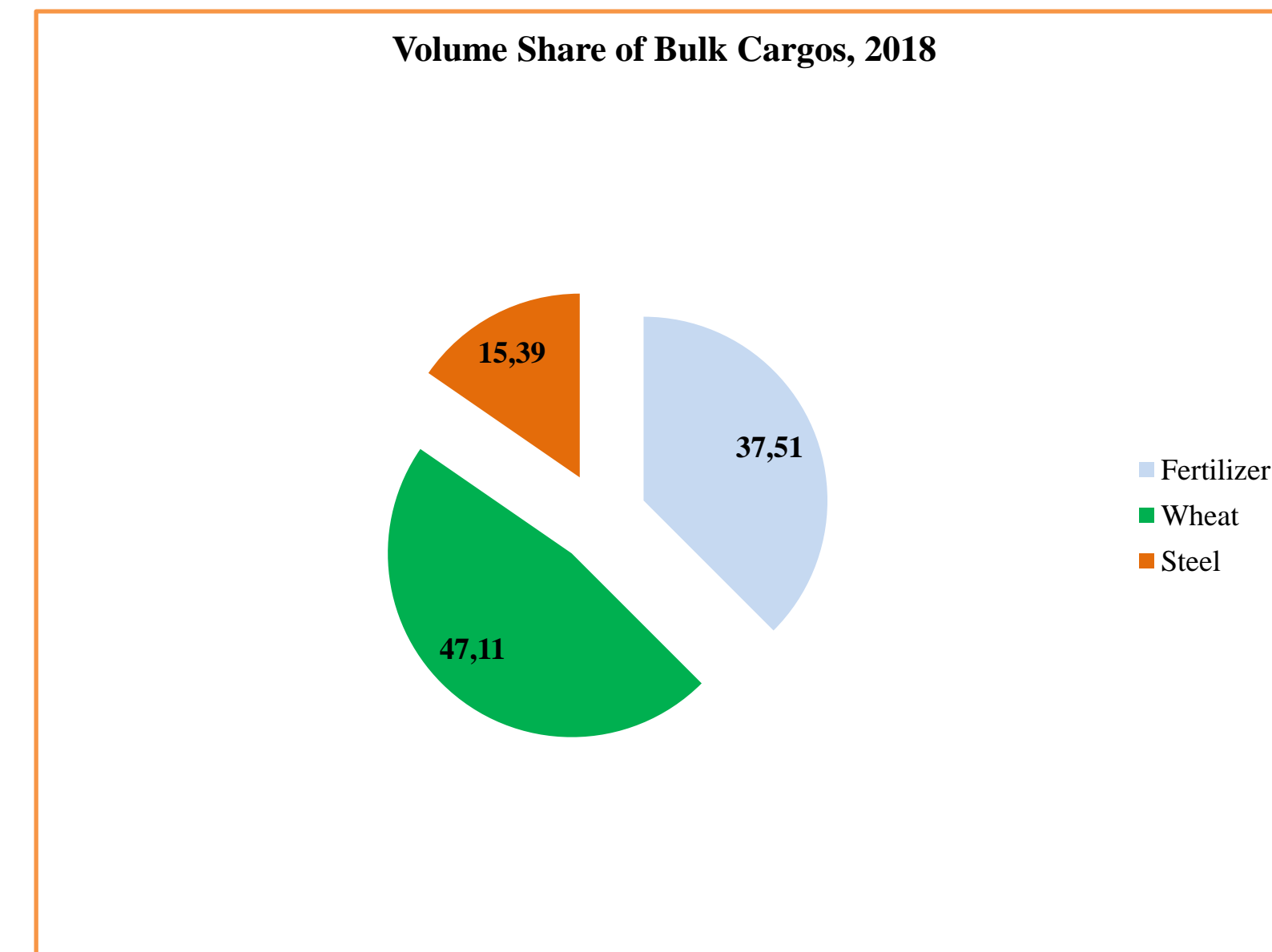
## Bulk Cargo Transportation Performance of EDR

- Transportation of **break bulk grains** by the Ethio-Djibouti railway line started in 2017; in the pre-operation period.
- In 2018 the commercial operation of EDR has begun and the bulk cargo transportation has continued for the last 4 years.



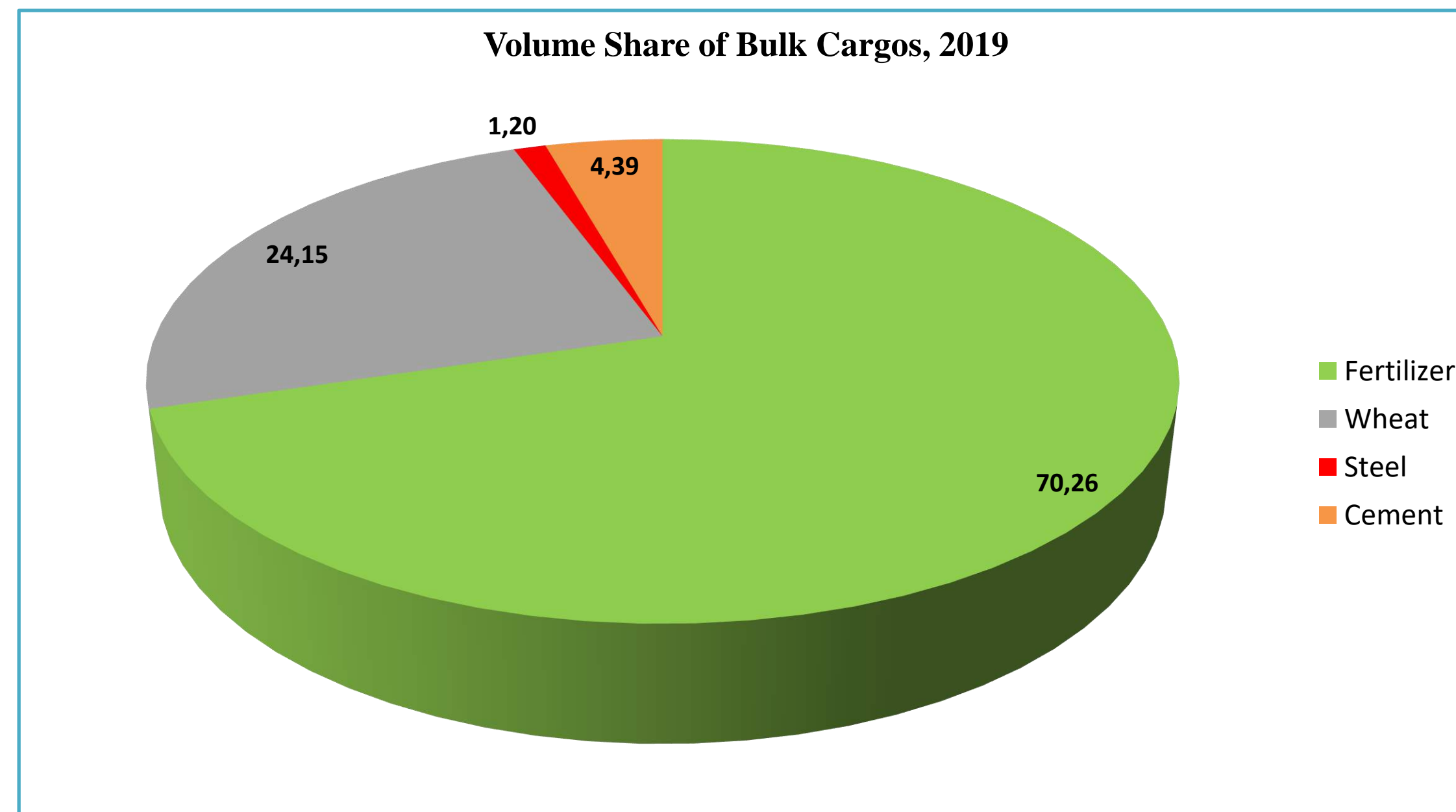
# Bulk Cargo Contd...

- In the year 2018, the first commercial operation year for EDR,
  - A total of **32 freight trains** were operated to transport different bulk cargos
  - The volume of bulk cargos transported in 2018 is **76 thousand tons**.



# Bulk Cargo Contd...

- In the year 2019;
  - The number of **freight trains** operated to transport bulk cargos reached **46**.
  - The volume of bulk cargos transported reached **118 thousand tons**.



# Bulk Cargo Contd...

- In 2020;
  - The number of **freight trains** operated to transport bulk cargos increased to **104**.
  - The volume of bulk cargos transported reached **266.7 thousand** tons.

<b>Train Type</b>	<b>Number Operated /2020/</b>
Fertilizer	31
Wheat	38
Cement	25
Steel	10
<b>Total</b>	<b>104</b>

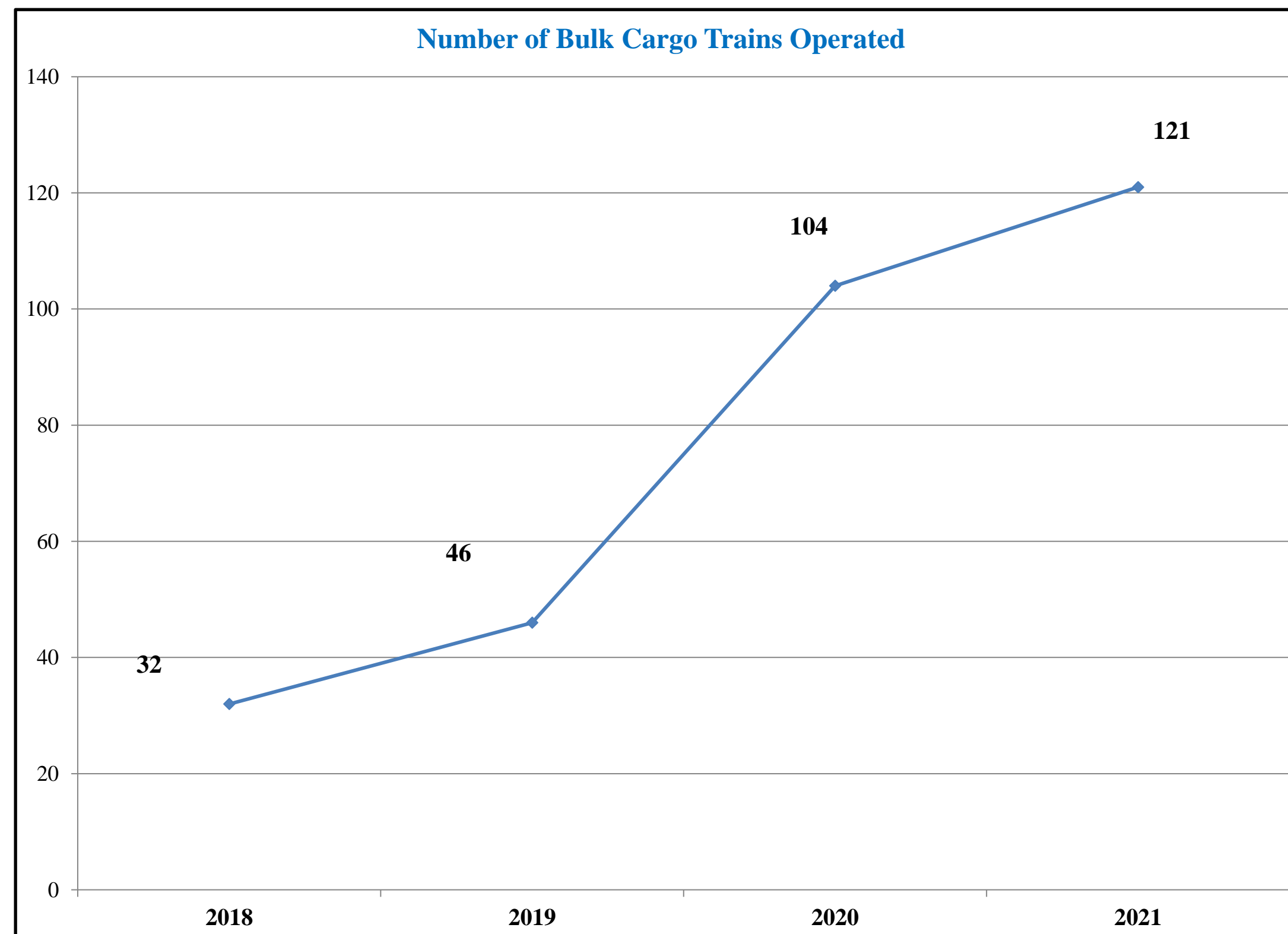
# Bulk Cargo Contd...

- In the first eleven months of 2021;
  - The number of **freight trains** operated to transport bulk cargoes increased to **113**.
  - The volume of bulk cargoes transported reached **292.7 thousand tons**.

Train Type	Number Operated /2020/	Volume Transported /,000 tons/
Fertilizer	96	248.64
Wheat	9	23.31
Steel	4	8.61
Edible Oil	8	20.72
Malt	4	10.36
<b>Total</b>	<b>121</b>	<b>311.64</b>

# Bulk Cargo Contd...

- Trend analysis on the number of bulk cargo trains operated along the line;



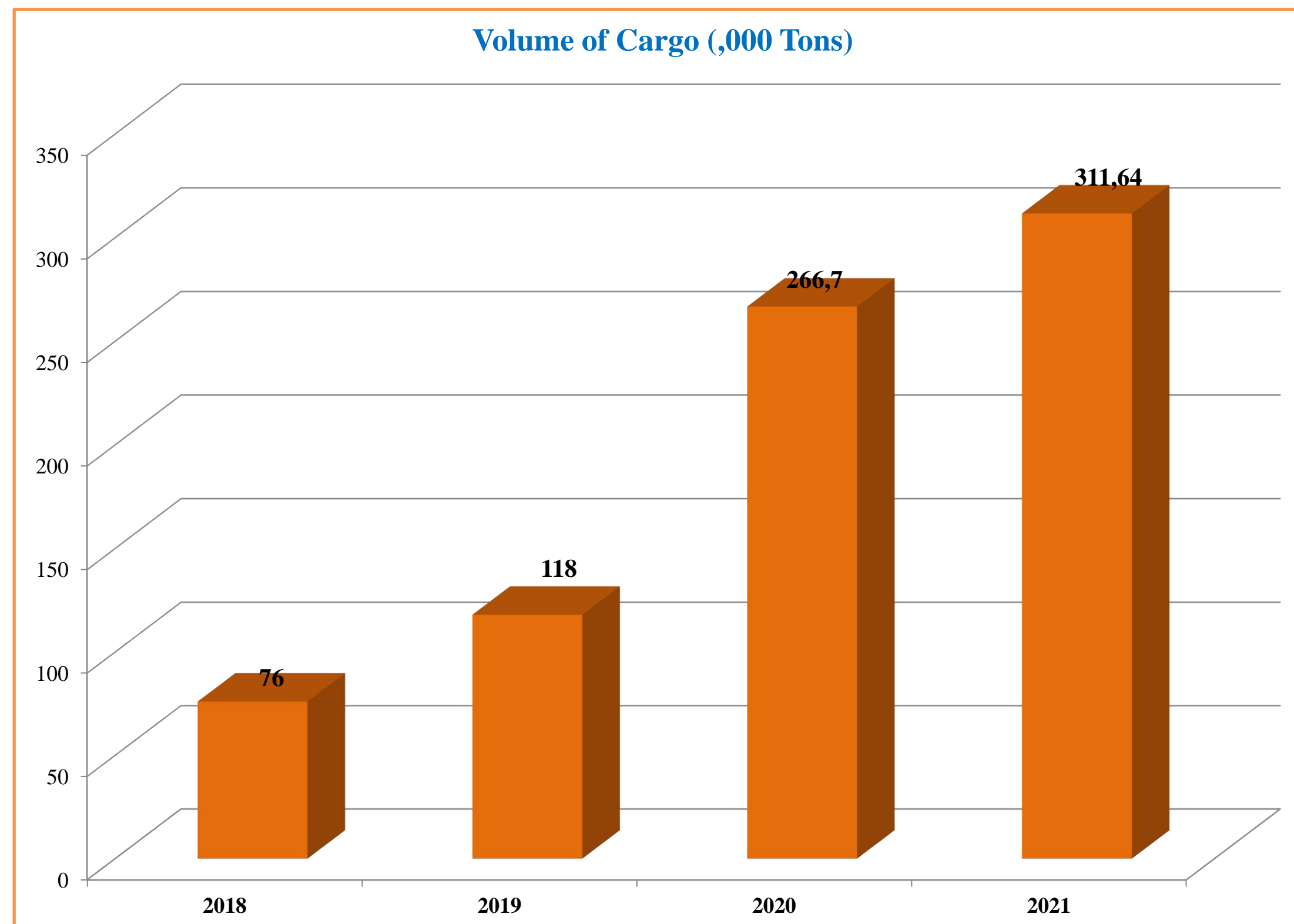
Compared to previous year's;

- In 2019 it shows 44% increment
- In 2020 it shows 126% increment
- In 2021 it shows 16% increment

**Conclusion- the trend is incremental.**

# Bulk Cargo Contd...

- Trend analysis on the volume of bulk cargos transported;



Similar to the number of operated trains, the trend for the volume of bulk cargos transported via rail is **incremental**.

# Bulk Cargo Contd...

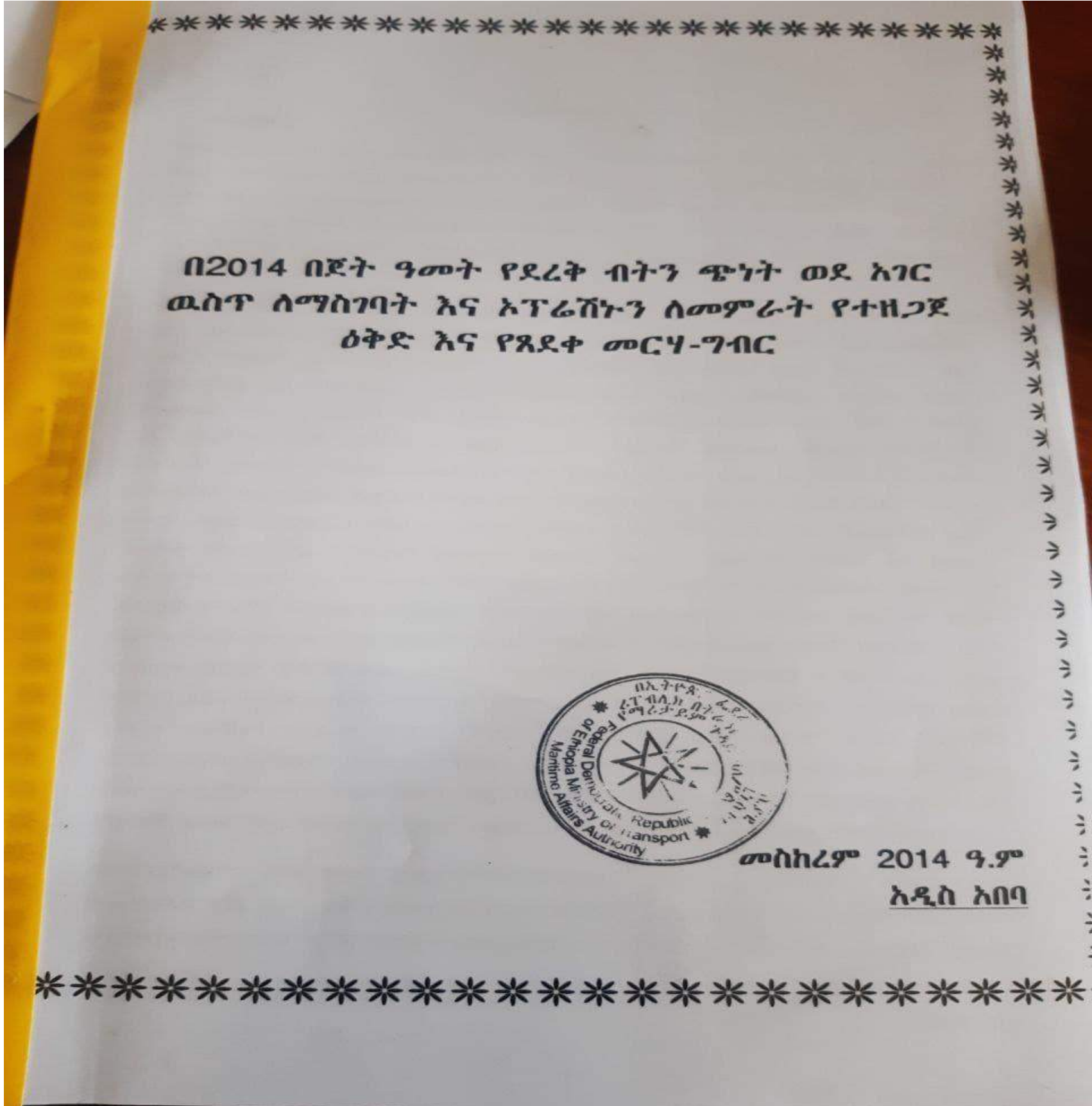
- From the above presentation it can be concluded that;
  - ❑ The number of **dispatched bulk cargo trains** is increasing from time to time,
  - ❑ The type of bulk cargos **/freight-mix/** transported by the railway is increasing; **edible oil and malt** are new cargo mixes introduced in 2021,
  - ❑ The **volume** of bulk cargos transported along the line is showing an increment,

# Part Three

## Ethiopian Dry Bulk Cargo

### Import Schedule 2021/22

- Source document for the data presented in this part is a document prepared by the **Maritime Affairs Authority**, Ethiopia.





# Import Schedule...

- The document is prepared to;
  - Show the **schedule of import** for dry bulk cargos in the year 2021/22.
  - Alert all **stakeholders (including EDR)** to coordinate the import process.
- EDR has shared the document at all functional levels for proper and timely preparation.

## 3.1 Volume of Imported Bulk Cargo In 2020/21

- In the 2020/21 season (the 2013 E.C) Ethiopia imported a total of **3.61 million tons** of dry bulk cargo is imported.
- The major imported items in the season are;
  - ❖ Chemical fertilizer \_\_\_\_\_ Ranked 1<sup>st</sup>
  - ❖ Wheat \_\_\_\_\_ Ranked 2<sup>nd</sup>
  - ❖ Coal \_\_\_\_\_ Ranked 3<sup>rd</sup>
  - ❖ Sugar \_\_\_\_\_ Ranked 4<sup>th</sup>

# Volume Contd...

**Chemical Fertilizer**

**1.53 Million  
Tons**



**Wheat**

**1.15 Million  
Tons**



**Coal**

**729.63  
Thousand Tons**



**Sugar**

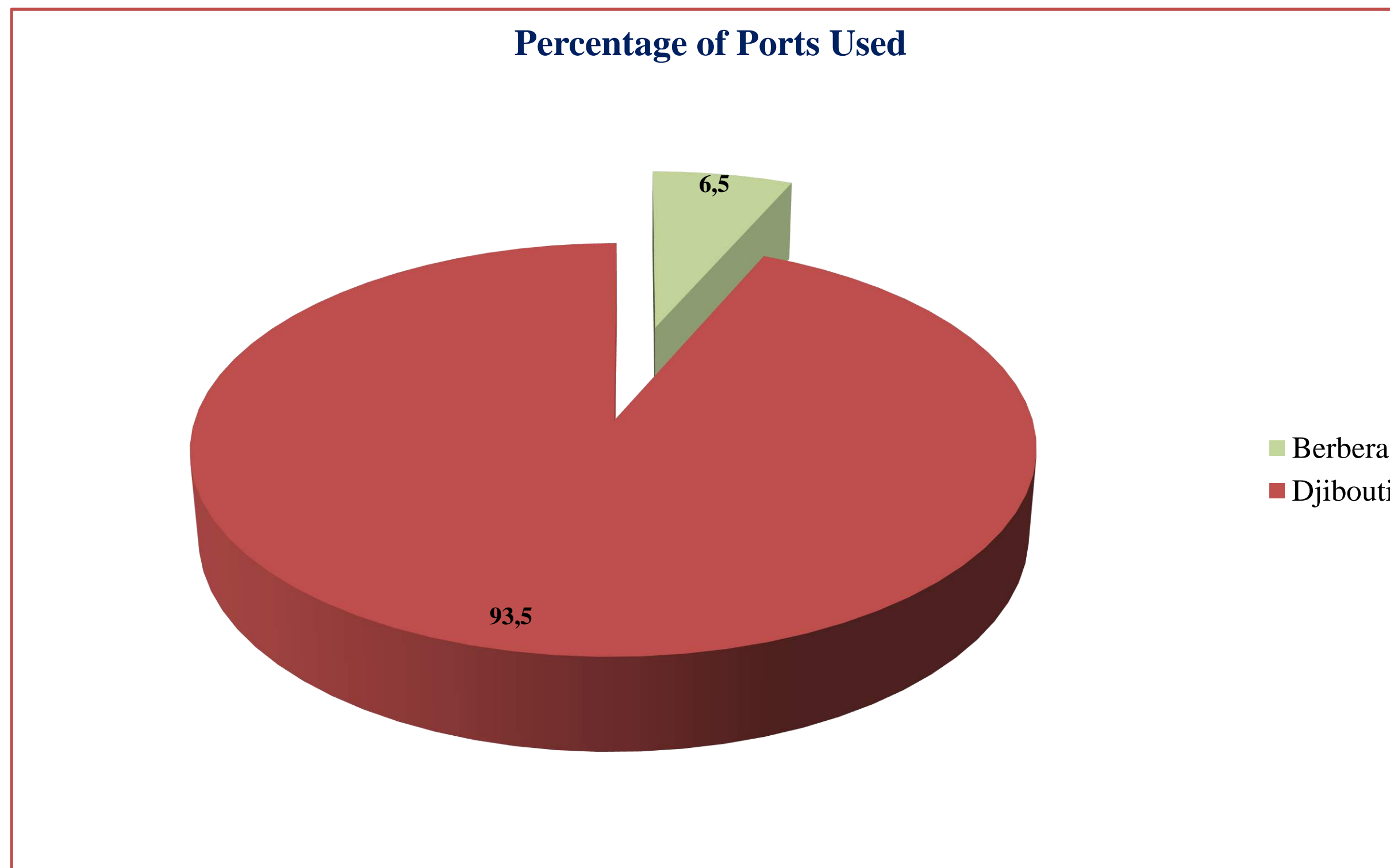
**200 Thousand  
Tons**



**Total Volume imported- 3.61 Million Tons**

# Volume Contd...

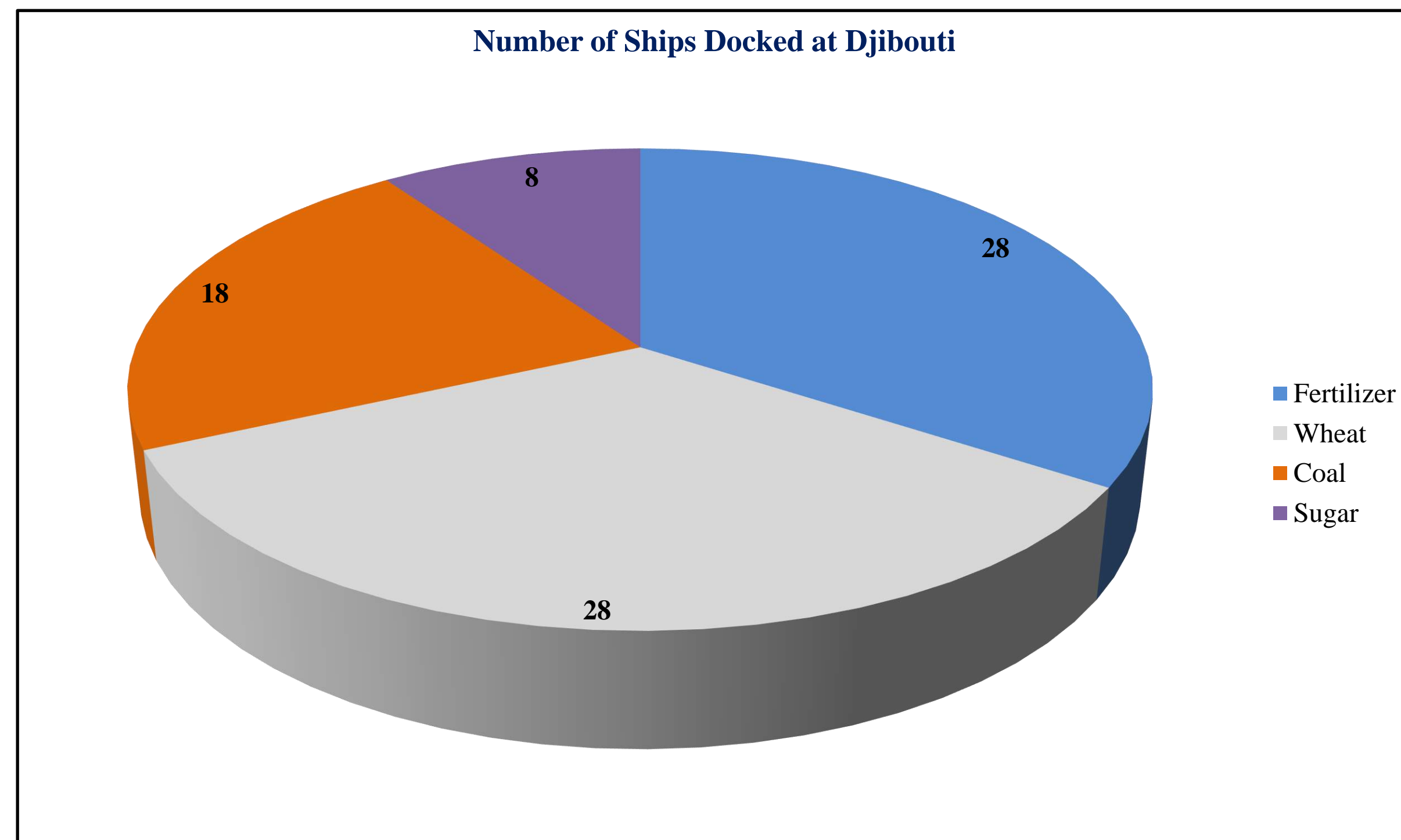
- Ports used in 2020/21 season;



**Djibouti is the major import-export route for Ethiopia**

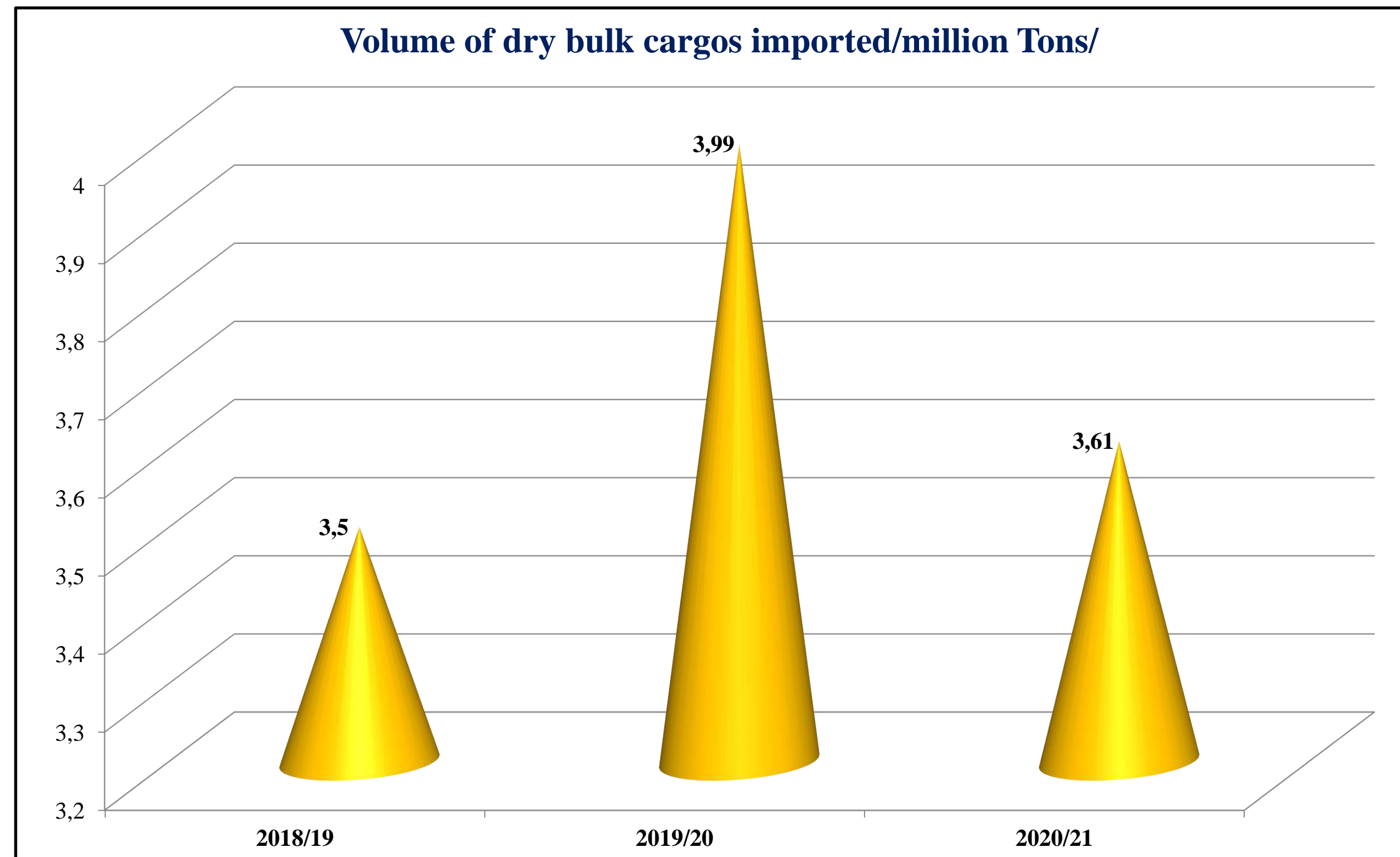
# Volume Contd...

- A total of 82 Ships loaded with dry bulk cargoes are docked at Djibouti port in the 2013 E.C year;



# Volume Contd...

- Comparison on the volume of imported dry bulk cargos;

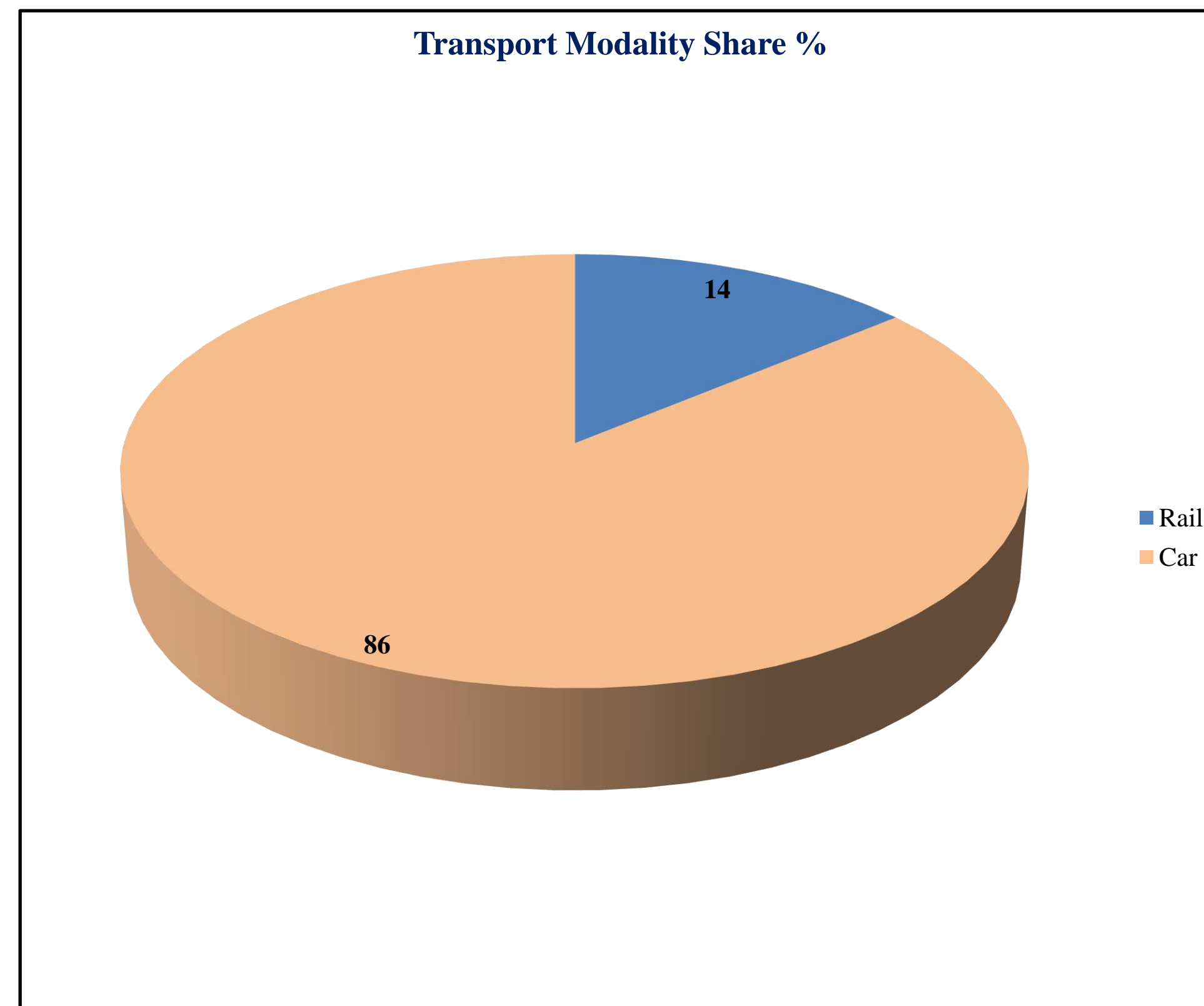


# Volume Contd...

- Problems faced in the import transportation process in 2020/21 season /as defined in the document/;
  - ❖ Problems related to procurement of cargos
  - ❖ Problems related to port service at Djibouti (bagging machine failure, rain, Dockers problem...)
  - ❖ Security problems

# Volume Contd...

- ❖ **Rail efficiency** which was stated as a problem last year is addressed in the document as one of the **strengths** of the process this year.
- ❖ From the total 1.53 Million Tons of chemical fertilizer imported in the 2013 E.C; 218.03 Thousand Tons is transported via Rail and 1.31 Million Tons is transported via cars.





## 3.2 Dry Bulk Cargo Import Schedule for 2021/22

- The total volume of bulk cargo planned to be imported in the 2021/22 season is **6.56 million tons**.
- Related governmental actors /like EABC, ETBC, EPSE.../ and non governmental actors /like WFP, CRS.../ are planned to be involved in the process as cargo owners.

# Schedule Contd...

- Type of cargoes planned to be imported in 2021/22 season;

Rank	Cargo Type	Volume (Million Tons)	% Share from the total
1 <sup>st</sup>	Grains	2.90	44.2
2 <sup>nd</sup>	Fertilizer	2.53	38.5
3 <sup>rd</sup>	Coal	0.63	9.6
4 <sup>th</sup>	Sugar	0.5	7.6
	<b>Total</b>	<b>6.56</b>	<b>100</b>

# Schedule Contd...

- From the total planned volume **467.91 thousand tons** is already imported from July-September/2021.
- The **quarterly import plan** of the remaining dry bulk cargoes is as follows;

Oct-Dec/2021	2.05 Million Tons	31.2%
Jan-Mar/2022	1.83 Million Tons	28%
Apr-June/2022	2.3 Million Tons	35.1%

# Schedule Contd...

- Among the total remaining cargo volume **360 thousand tons** is allocated for **EDR** to transport.
- Hence, to fully execute the bulk cargo quota assigned for EDR in the coming three quarters;
  - ❖ Considering a single train set can carry **2,590 tons** of bulk cargo;
  - ❖ EDR is expected to dispatch a total of **139 bulk cargo train sets**.

# Part Four

## Major Problems Faced in Bulk Cargo Transportation

- Most of the problems EDR faced in last four years of operation are similar and repetitive in their nature.
- The company tried to provide solutions for some of the problems.

# Problems Contd...

## 1. Delay in Loading-Unloading Operation

- The loading and unloading of bulk cargos is being **done manually**.
- Suggested Solution- **Conveyor belt**.
  - Conveyor belt is already purchased and is on preparation to be put into action.
  - The problem is partially solved.



# Problems Contd...

## 2. Problems related to port operation at DMP

- Not providing **sufficient line** for the railway to load.
- Gaps related to providing **sufficient trucks** from the EDR local transporter.
- Bagging **machine** and conveyor belt failure.
- Delay in **sealing** of wagons after loading.

# Problems Contd...

## 3. Inadequate Trucks from Clients

- Failure of clients to provide **sufficient trucks** to pick cargos from the wagons forced the wagons to get stranded at stations being unloaded.
- Suggested Solution- proper consumption of warehouses in time of truck shortage.





# Problems Contd...

## 4. Delay in Document Handling

- Failure to quickly process and send **freight documents** to EDR head office for revenue collection.
- No clear process on how freight documents are handled both in Ethiopia and Djibouti.

**Suggested Solution-** Identification and implementation of efficient and smooth document handling process.

# Problems Contd...

## 5. Inadequate Wagons

- The number of wagons available for bulk cargo transportation isn't sufficient.

**Suggested Solution** from the MC- containerization of bulk cargos and using Flat wagons has been suggested.



# Problems Contd...

## 6. Theft on bulk cargo trains

- **A new problem happening on the line-** local people opening wagons carrying bulk cargos and committed a robbery act.

# Problems Contd...

## 7. Cargo Shortage

- Due to;
  - Loose control at loading point
  - Failure in close control of handing-over at the cargo at unloading point
  - Plenty of tear bags,
- EDR is forced to pay much amount of money as shortage.
- Assessment was made on fertilizer shortage and the following are the findings;

# Part Five: Solutions Taken.

- Assessment was made on fertilizer shortage and the following are the findings;
  - A. The volume of fertilizer transported via rail is showing an increment.
  - B. Utilization of warehouses at the freight yards impacts the train circulation time positively.
  - C. Cargo shortages are observed from departure station.
  - D. Trucks facing their back to the wagons leads to frequent damages in the doors of the wagons.

# Problems Contd...

- E. Failing to operate the weigh-bridges at the leads failure to cross-check the amount of cargo loaded on the trucks.
- F. Poor speed in refilling and sewing the damaged fertilizer bags at the stations leads to the increase in the amount of shortage.
- G. Poor availability of trucks reduced the efficiency of the unloading crews.

# Problems Contd...

- The assessment made the following recommendations;
  - A. The **weigh-bridges** at the freight stations shall be maintained and utilized properly.
  - B. Proper utilization of **warehouses** at the freight yards shall be encouraged.
  - C. Cargo handling situation shall be inspected from the **departure station**.
  - D. Restructuring of the freight yard at Adama to enable trucks **to park parallel** to the wagons shall be done.

# Problems Contd...

- F. The wagons' **door** requires periodic inspection and maintenance.
- G. To reduce the amount of cargo damage; **the bolts** inside the wagons shall be modified and the refilling and sewing capacity of the freight stations shall be improved.
- H. The cargo unloading time without **demurrage** for the client shall be reduced to two days.



# High level Policy Measures needed

- **Rail used to be the only freight Carrier during the old good days when Road was non existent.**
- **What made Road preferred was its flexibility and seamlessness in service delivery (Door-to-Door).**
- **But still the 10-15% modal share of Rail versus the 85-90% of that of Road looks not good economic benefit to the Country.**
- **Some policy measures are essential.**

**THANK YOU!!!**  
***Merci Beaucoup!!!***



**ETHIO-DJIBOUTI RAILWAY**

**Webinar Break**

## **Panel 3: Tools & Methodologies**

**Moderator: Philip Van Den Bosch, UIC Senior Freight Advisor**



**Lukasz Wyrowski**  
**UNECE**



**Philip Van den Bosch**  
**UIC**

# AFRICAN RAILWAY THURSDAYS - 7TH WEBINAR "FREIGHT RESILIENCE, RAILWAY LOGISTICS & THE NEW CHALLENGES FOR ITS REPOSITIONING"

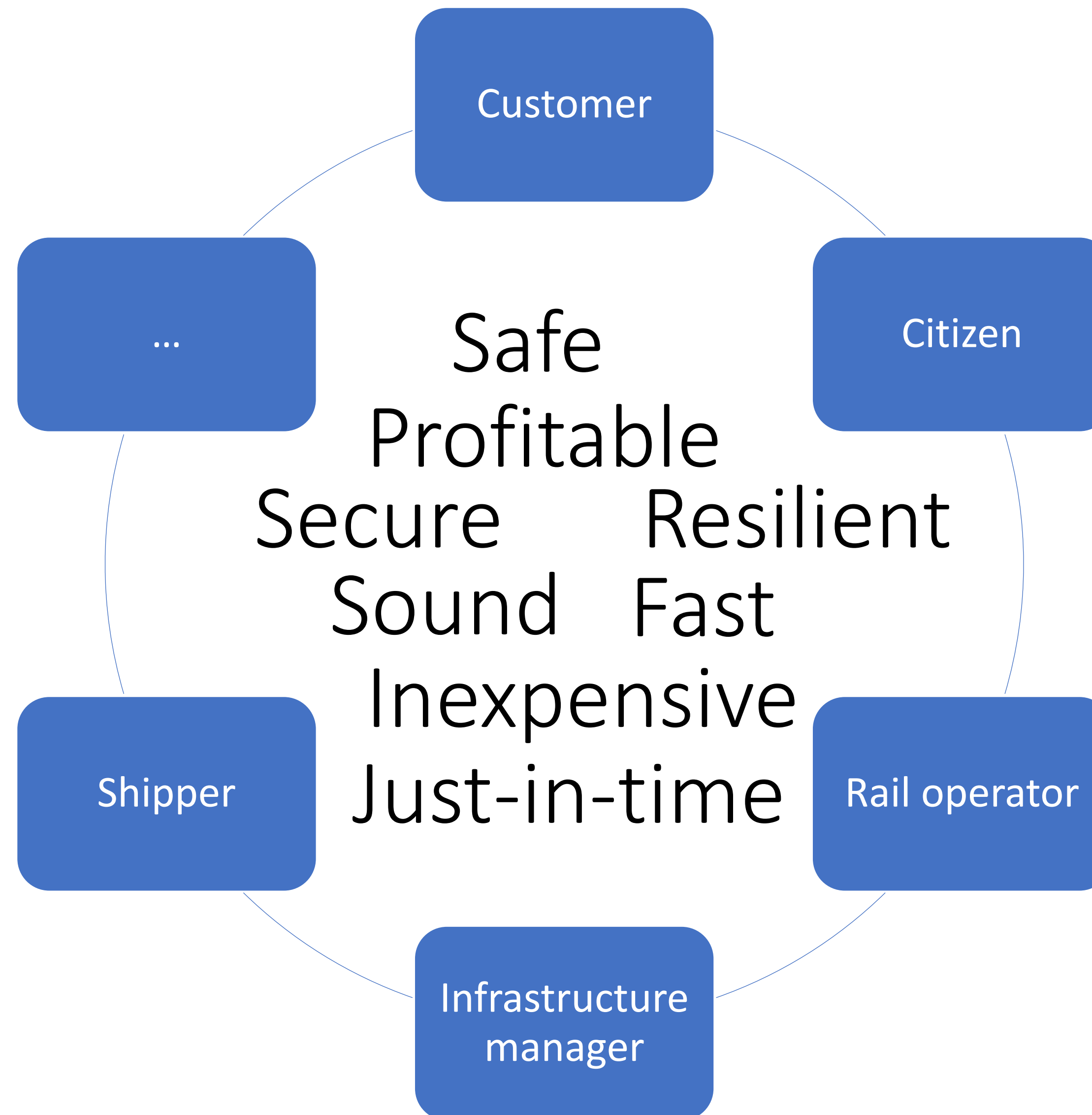
24 FEBRUARY 2022, 11AM - 1:30PM CET

## **Panel 3: Tools & Methodologies**

***Tools to develop freight transport and logistics in a sustainable way***

**Lukasz Wyrowski, UNECE**

Transport and logistics – what do we expect?



What is required and from whom?



Stable conditions and enabling environments

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Necessary infrastructure

---

Meeting high level objectives

---

Strategic geographical location

# Tools

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Clear and transparent rules, regulations and standards

---

Education, vocational training, lifelong learning opportunities

---

Working conditions

Stable  
conditions  
and enabling  
environments

# Tools

Rules,  
regulations,  
standards

---

Carriage of cargo (perishable goods, dangerous goods) and control regulations and procedures

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Admission to traffic rules

---

Insurance

---

Contract of carriage

---

Fitness requirements for workers

---

Safe packing regulations

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.....

Source: United Nations transport and related agreements and conventions, national rules, available good practice

# Tools

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Qualifications

---

Examination and certification

---

Instructor certification

---

Training requirements

---

Training infrastructure/facilities

---

Mechanism to enable training to micro enterprises

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.....

Source: Available good practice

Education,  
vocational  
training,  
lifelong  
learning  
opportunities

# Working conditions

## Tools



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Freedom of associations and right to collective bargaining

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Elimination of forced or obligatory labour

---

Abolition of child labour

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Elimination of discrimination in employment and occupation

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Source: ILO conventions

# Necessary infrastructure

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Road

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**Rail**    **Tools – construction and performance parameters/standards**  
**Source – United Nations conventions, national standards**

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Waterways

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**Intermodal terminals**  
**Tools – performance parameters**  
**Source – United Nations conventions, available good practice**

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**High performance digital infrastructure**  
**Tools – ITS Solutions**  
**Source – Guidelines, available good practice**

# Tools

## High-level objectives

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**Rules/standards/incentives** for environmentally friendly and energy efficient transport

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**Incentives** for innovation, research and development in freight transport and logistics

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**Rules** for protection of human, animal and plant health

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**Policies and programmes** for decent and sustainable work to reduce inequality and promote growth

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**Legislation and programmes** for accelerating gender equality in transport

**Source – UN instruments, guidelines, available good practice**

# Tools

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**Agreements** on International corridors/networks

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**Mechanism** for Corridor/network management

Strategic  
geographic  
location

Source – UN instruments, guidelines, programmes available good practice



# UNECE Handbook for national master plans for freight transport and logistics

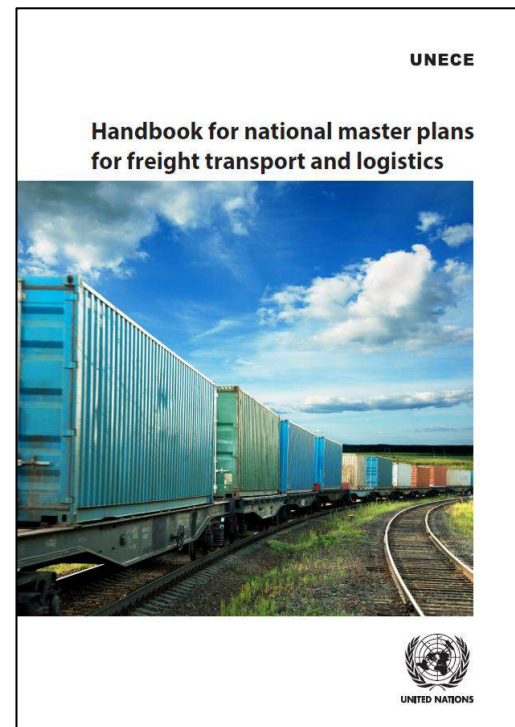
- AIM
  - Showcase importance of freight sector in national economies
- Assist the sector development

UNECE

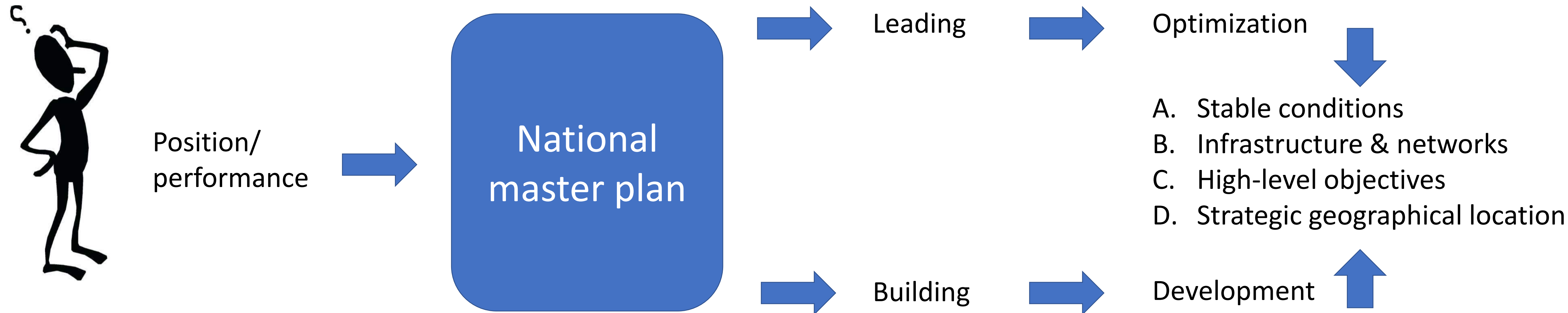
Handbook for national master plans  
for freight transport and logistics



# Assistance to sector development



## Chapter 4 – Guidelines for the development of national master plan



## 4.1 STABLE CONDITIONS

Actions in this area should aim at creation of rules, regulations, standards and practices and their enforcement or implementation to make freight transport operations safe, secure, efficient and fair in terms of level-playing field.

### Countries building their position in the sector

- Accede to and implement United Nations transport conventions and trade facilitation conventions such as those listed in Chapter 2, section 2.1.1. to create stable conditions in the sector for the industry to do business and develop.
- Accede to and implement sanitary and phytosanitary conventions, agreements, regulations and standards such as those listed in Chapter 2, section 2.1.1. to minimize the risk of introduction and spread of human, animal and plant pests and diseases due to trade and transport of food, animals, plants and plant products and inanimate goods.
- Ratify and implement the ILO instruments, including fundamental conventions and sectoral instruments and tools as listed in Chapter 2, section 2.1.3.
- Encourage establishment of freight transport and logistics associations.
- Provide a solid framework that supports the establishment of free and democratic unions and collective bargaining for the sector.
- Work with industry associations and unions to develop vocational training and improved professionalization of the sector.
- Follow international practice and standards to occupational health and safety.

## 4.2 INFRASTRUCTURE AND NETWORKS

Actions in the area should aim at delivery of the necessary infrastructure and its further optimization.

### Countries building their position in the sector

- Accede to and implement United Nations transport infrastructure agreements such as AGR, AGC, AGTC, AGN or the Protocol on Combined Transport on Inland Waterways to AGTC in order to develop and maintain the essential infrastructure.
- Remove missing links.
- Develop infrastructure at major locations for intermodal shift.
- Increase application of ITS for traffic management.

### Countries, leaders in the sector

- Sustain high-level implementation of United Nations transport infrastructure agreements and further develop them to meet the increasing demand for cargo handling.
- Monitor traffic and upgrade infrastructure bottlenecks.
- Optimize infrastructure networks by better utilization of ITS and telematics by the industry.

## 4.3 HIGH-LEVEL OBJECTIVES

### Countries, leaders in the sector

- Optimize shippers' operations (with regard to ramp times).
- Optimize transit traffic.
- Optimize transport operations by better utilization of ITS and telematics and through operational research by the industry.
- Support research and development for pollution free (decreased emissions) freight transport and logistics.
- Further develop ITS for transport operations optimization through supporting relevant research and development.
- Research on policies and technologies to enhance capacity and minimize empty/low load runs.
- Rethink city logistics and support research in this area.
- Internalise external costs for supporting environmental and social optimization, including through intelligent tolling systems.
- Enhance environmental, social and safety standards, and where relevant, introduce them into the international conventions and agreements and/or national regulatory framework.
- Promote and encourage industry associations to identify and standardize practices and tools that support responsible business conduct.
- Develop programmes and sectoral strategies to improve the quality of decent jobs and diversity in the sector – this will translate in a better perception of the industry to attract new recruits and avoid shortages.

Optimization



- A. Stable conditions
- B. Infrastructure & networks
- C. High-level objectives
- D. Strategic geographical location

Development



Leaders:

- A. 7 actions
- B. 10 actions
- C. **15 actions**
- D. 2 actions

National  
master  
plan

Builders:

- A. **10 actions**
- B. 4 actions
- C. 7 actions
- D. 1 action

**C. High-level objectives:**

**Support to application of ITS in transport operations / Optimization to transport operations by better utilization of ITS and telematics and through operational research by the industry**

Example of measures:

- Financial support programmes dedicated to SMEs on ITS can help increase the uptake and application of ITS solutions by SMEs.
- Financial support and training programmes to SMEs on operational research can help increase uptake and application of problem-solving techniques and methods such as advanced analytical techniques and methods.
- Digitalization support programmes for SMEs can help the latter to select appropriate software tools for optimization of their business processes. These programmes can also help the SME's workforce to receive required technical training for the use of the tools.

**B. Infrastructure and networks:**

**Accession and implementation of the United Nations transport infrastructure agreements such as AGR, AGC, AGTC, AGN or the Protocol to on Combined Transport on Inland Waterways to AGTC in order to develop and maintain the essential infrastructure / Removal of missing links;**

Example of measures:

- Creation of a dedicated national fund – e.g. Swiss Rail Infrastructure Fund (RIF) – can help better manage renewal, modernisation and further expansion of infrastructure networks. Such funds should possibly be multi-year ones and supported by performance agreements and targets.

**A. Stable conditions:**

**Accession to and implementation of United Nations transport conventions and trade facilitation conventions / Sustained implementation of United Nations transport conventions and trade facilitation conventions**

Example of measures:

- Adequate transposition of the conventions' provisions into national legislation is the necessary step towards the implementation of the conventions.
- Establishment of heavy goods vehicle centres along main corridors can help prevent fraud by road hauliers in terms of vehicle safety, loading, driver rest time periods. Thanks to such control measures road safety for goods vehicles can be strengthened. Also, the level-playing field for road hauliers is supported.
- Vehicle checks and evaluation of results of the checks – hence strengthened enforcement – can lead to improvements of work conditions in road haulage sector.

## Chapter 5 – Policy measures in support of the national master plans' implementation

- |                                    |    |                                 |
|------------------------------------|----|---------------------------------|
| A. Stable conditions               | => | 35+ examples of policy measures |
| B. Infrastructure & networks       | => | 15 examples                     |
| C. High-level objectives           | => | 20+ examples                    |
| D. Strategic geographical location | => | 4 examples                      |

# Thank you

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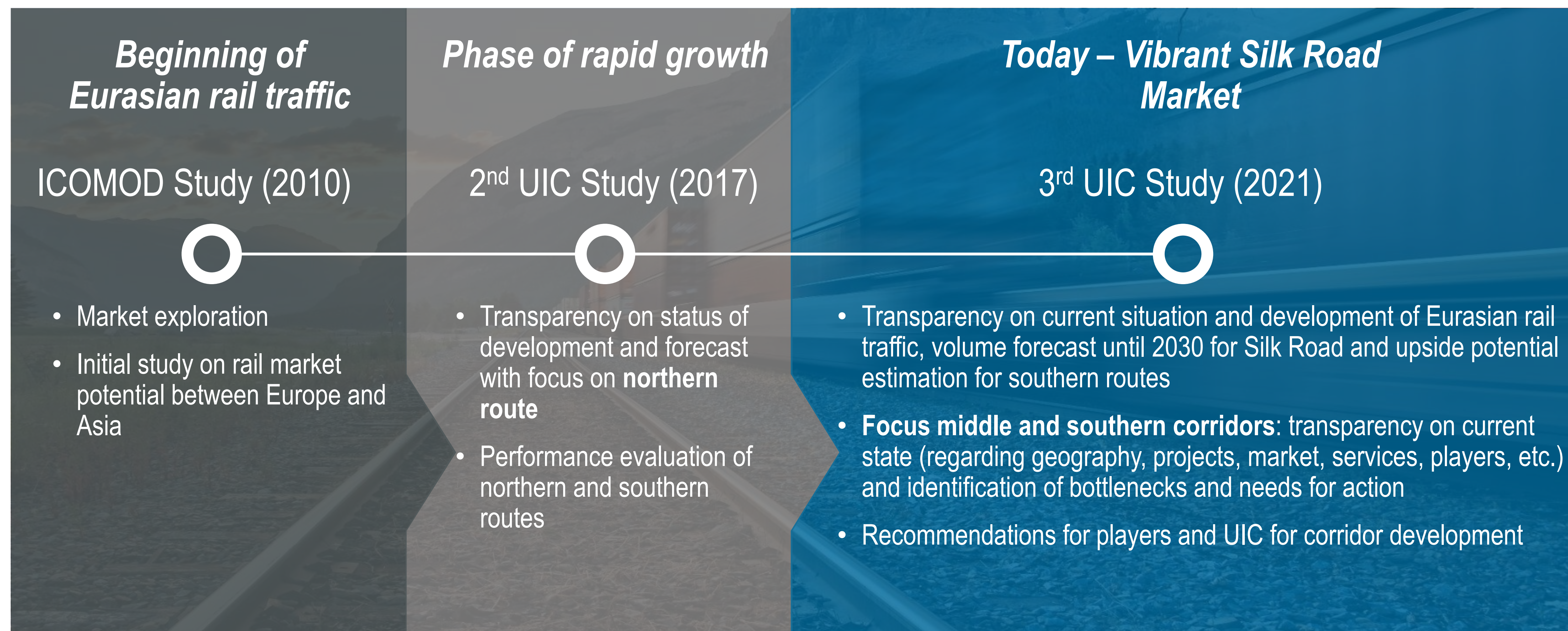
## **Tools & Methodologies**

*Corridors as enable for international logistic development*

Philip Van den bosch – UIC Senior Freight Advisor

UIC has accompanied the development of the Silk Road as a best practice of corridor development since its inception and is committed to deliver transparency and insights

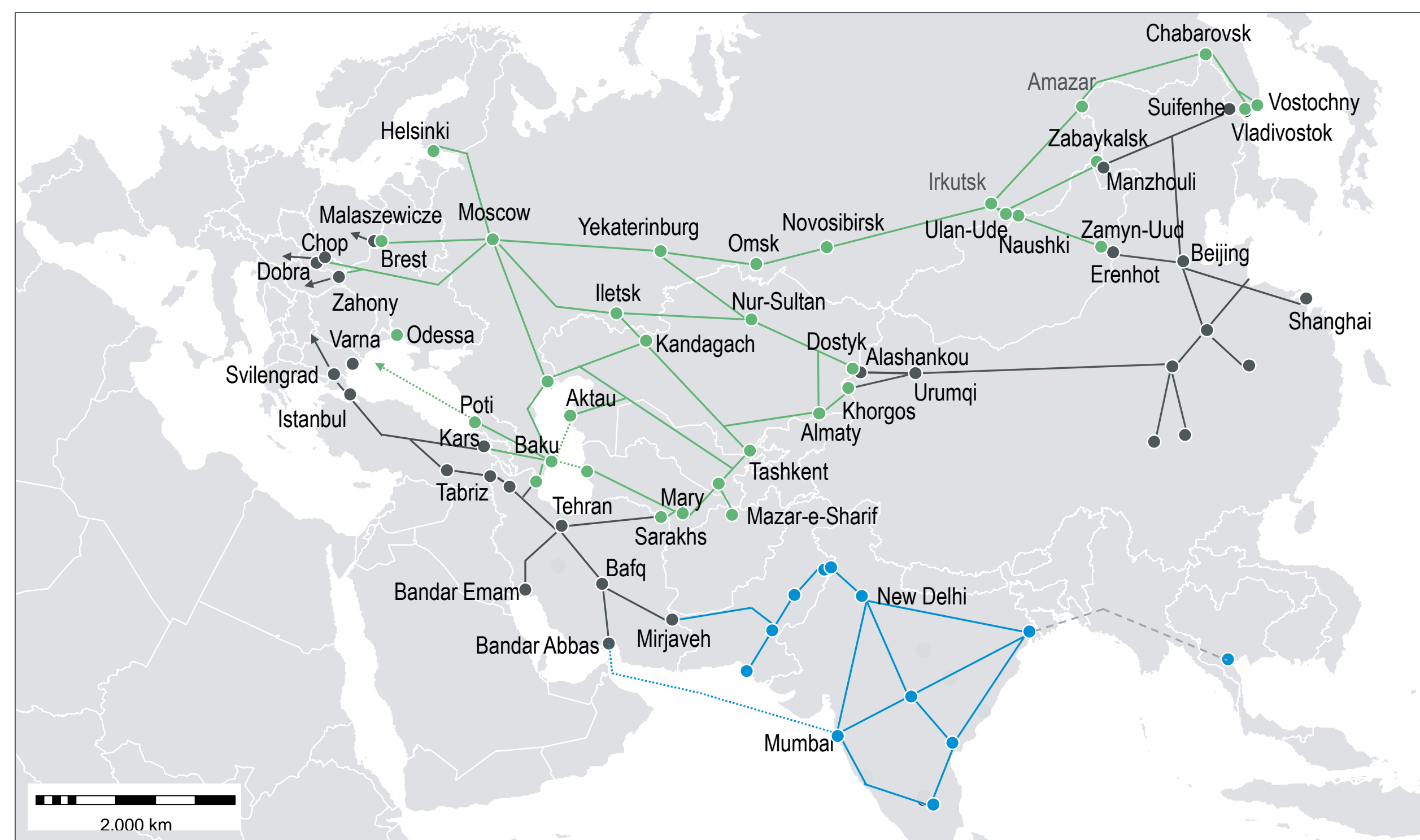
Our journey until now, objectives of this study





# The Silk Road consists of three corridors – The northern corridor is the most developed

## Silk Road corridor overview<sup>1)</sup>



Track gauge

— 1,520 mm    — 1,435 mm    — 1,676 mm

1) Conical projection to minimize visual distortion of distances; numbering based on route usage for Eurasian rail cargo transport

### 1 Northern corridor

The northern corridor links Europe and the Pacific, via Germany, Poland, Belarus, Russia, Kazakhstan, Mongolia, China, and South Korea using the Trans-Siberian Railway, followed by a ferry to Japan starting in Vladivostok

### 2 Middle corridor

The middle corridor goes from South-Europe to central China via the Trans-Caspian routes connecting Turkey (or bypassing Turkey via Black Sea), Georgia, Azerbaijan, Kazakhstan, and China

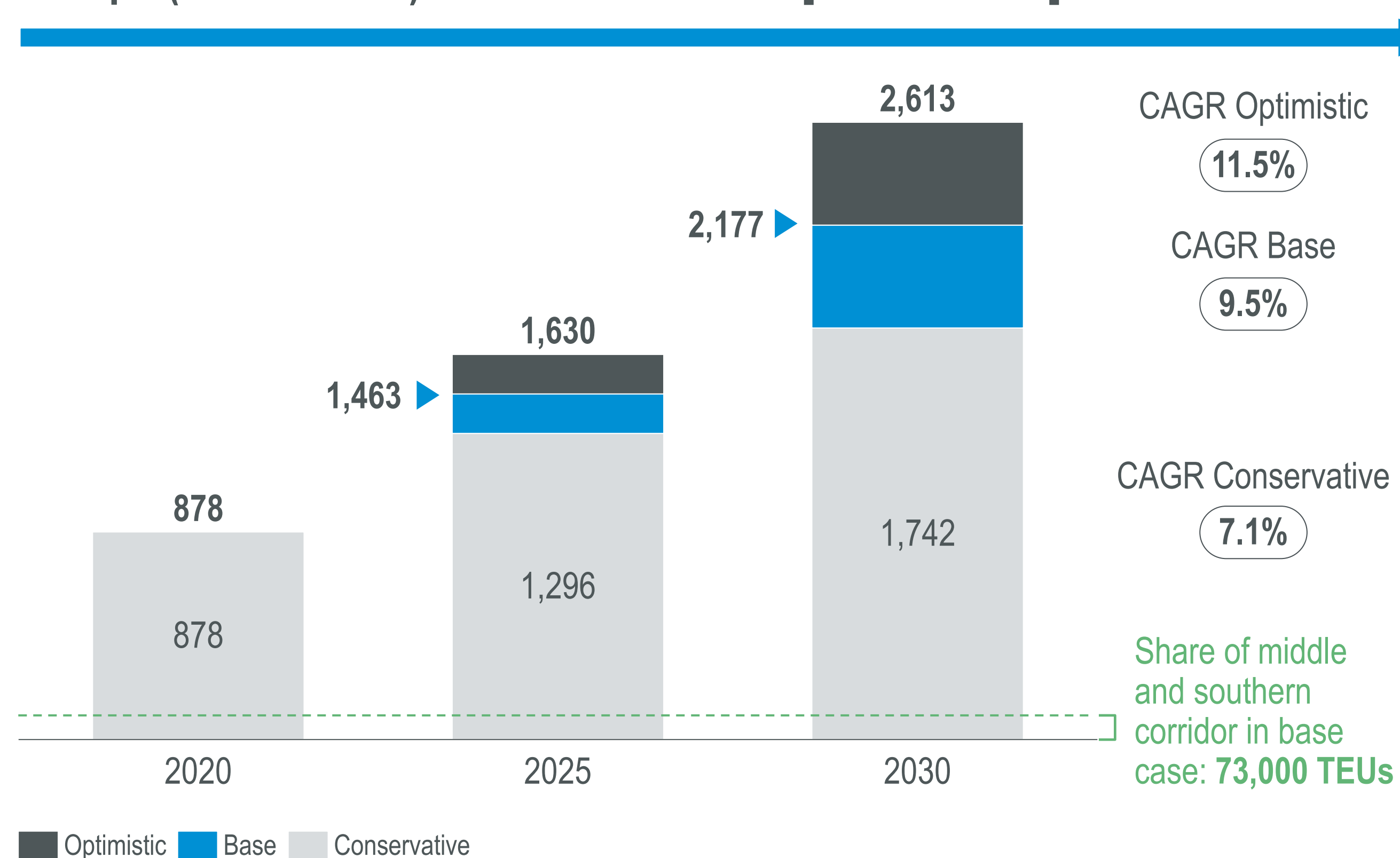
### 3 Southern corridor

Being characterized as the least developed, the southern corridor spans from South-Europe to China, connecting Turkey, Iran, Turkmenistan, Uzbekistan, Kazakhstan – with potential to link to South Asia

# The Eurasian Silk Road rail traffic is expected to continue to grow strongly, reaching 1.7-2.6 million TEUs by 2030

## Rail transport volume forecast between Europe and Asia

Europe (excl. Russia) to Asia rail traffic <sup>1)</sup> [in '000 TEUs]



### Key take-aways and assumptions

#### Strong growth for Silk Road rail traffic

Although slower than previous years, the Eurasian Silk Road rail traffic is expected to continue growing strongly in the higher single digits, reaching approx. 2.2 m TEUs until 2030

#### Rail expected to be a stable alternative

Currently, rail has only a ~2% share of containerized traffic, experts expect the share to increase gradually over the years but will stabilize at ~4-6%, as there will always be goods that need the low cost of sea and the high speed of air. If the rail performance can be further improved without cost increase, an upside of up to 10% share is possible

#### Better filled containers as result of less imbalance

It is expected that the trade imbalance will improve as more freight will consider rail as a viable option. This leads to less empty and better filled containers

#### Southern route will grow, but remains minor

The southern and middle corridors can obtain more share based on trade flows within their natural catchment areas if they can become more competitive in performance – Even so they are likely to remain minor

1) Defined as EU28 (all European Union countries + UK) to Asia 5 (Kazakhstan, Mongolia, China, Japan, South Korea)

# Involved countries invest in and promote Eurasian rail transport – Policies and subsidies support overall project development

## Overview of recent developments

### 1 Policies



- Development of rail cargo volume supported by new policies (strategic partnerships for common tariffs within corridors, introduction of mechanisms to facilitate customs, lifting of sanctions) in recent years
- Negative impact and higher trade costs from new sanctions, new competitive free trade agreements (e.g. RECP), and inefficient trade procedures
- Increasing efforts by countries to harmonize processes and procedures and to simplify the financing of infrastructure projects
- Further efforts needed to support the Silk Road rail cargo development

### 2 Subsidies



- Chinese subsidies expected to decline in the long-term, forcing rail freight price to adjust and market to mature
- Rate and time of subsidy decline unknown as implementation and compliance on regional level differ
- Decline possible, but sharp drop or cancellation unlikely in near future as trains still not operating profitably
- Currently, subsidies between 2500-4500 USD/FEU
- Russian subsidies for transit container trains in form of reduction of track access charges (870 EUR/FEU for west- and 580 EUR/FEU for eastbound connections), eligible only for transit traffic handled via Russian companies

### 3 Projects



- Infrastructure and rail connection projects between Asia and Europe since 2013 mostly northern corridor focused
- Increasing interest in middle corridor as alternative route to China through the development of the Baku-Tbilisi-Kars railway in 2017 as well as projects in Kazakhstan, Turkmenistan and Uzbekistan
- Regular rail freight service from Turkey to China since December 2020
- Southern corridor via Turkey, Iran, Pakistan, and China currently not in place – Some projects under construction/planned
- Overall minor role for middle and southern corridors at the moment

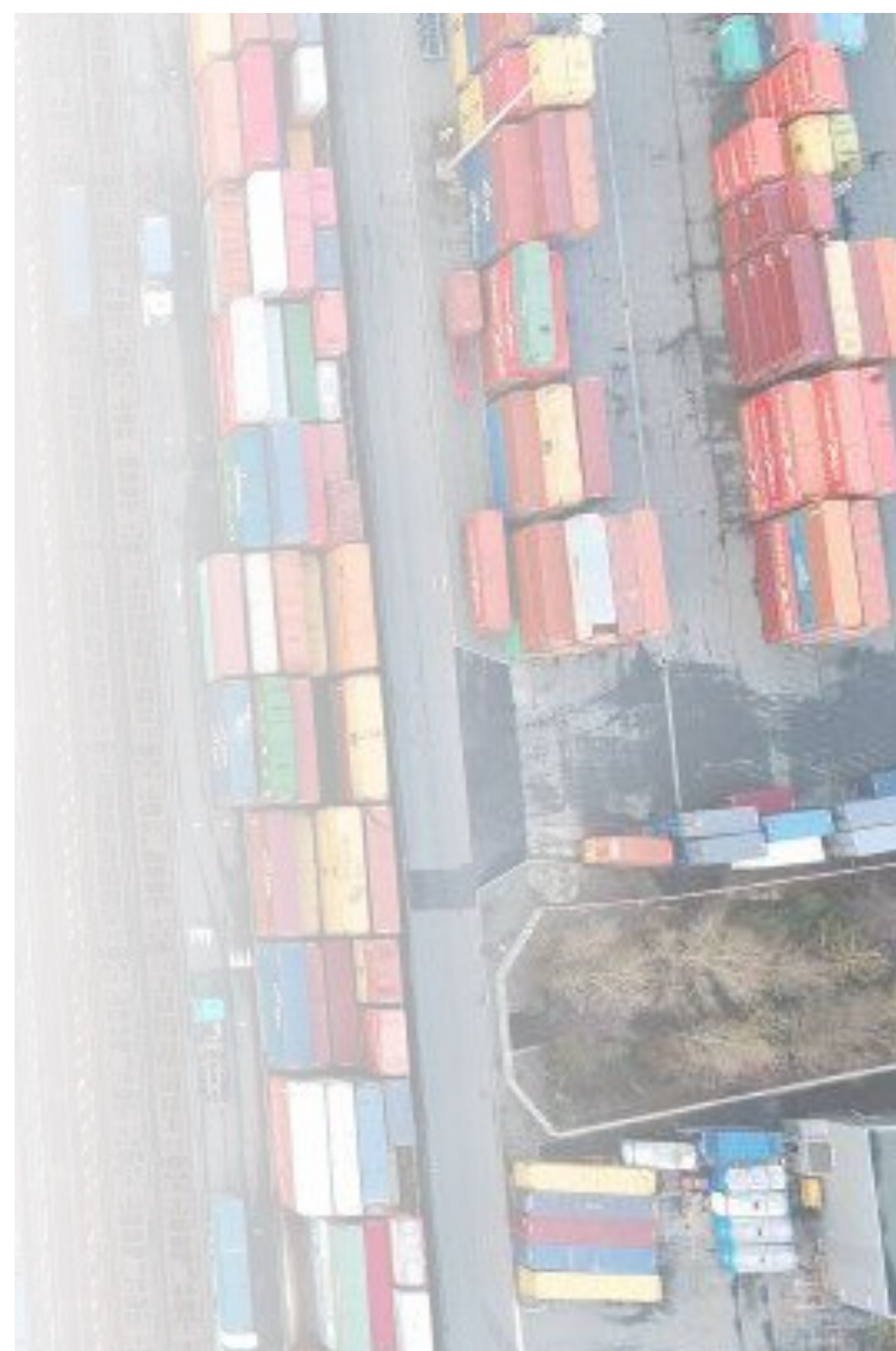
### 4 TEN-T connection



- Progress made for connection with European RFCs – In particular alternatives to Mala-Brest entrance expanded
- The construction of the Fényeslitke terminal at the Hungarian border as most noteworthy development
- Integration of Belt and Road Initiative and TEN-T complicated – BRI not well defined and not adequately planned within TEN-T projects and strategy
- Inflexibility when reacting to volume increase due to long duration of projects
- Further concerns from European side regarding Chinese rail dominance, unfair practices, etc.

As examples of corridors to develop, the middle and southern Silk Road corridors are still in nascent stages in terms of market and service – Projects are going on

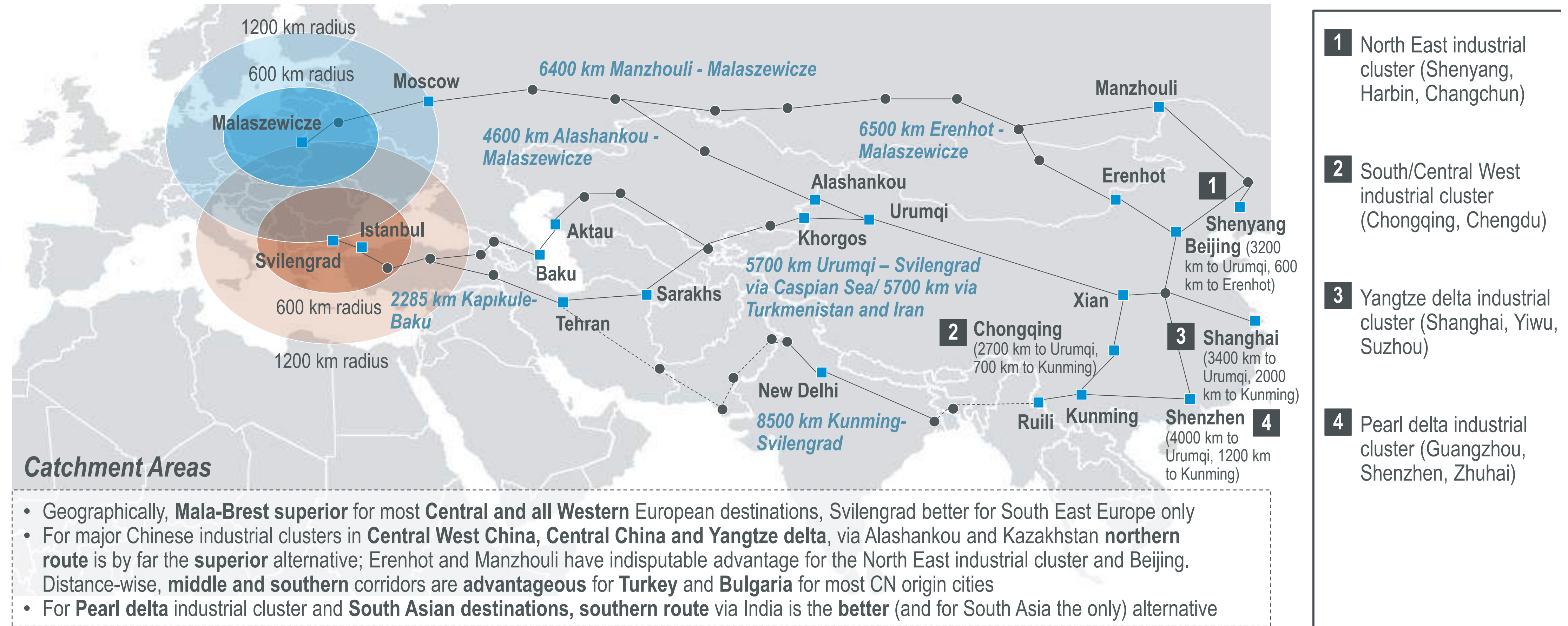
Current situation on middle and southern corridors



- 1 Natural catchment areas with limited demand potential
- 2 Scarcity of active players on corridor
- 3 Limited scheduled train service
- 4 Limited and non-scheduled ferry services
- 5 Many ongoing projects and initiatives

Geographically, the southern and middle corridors are only advantageous for a few niche destinations

### Catchment area for Silk Road rail routes

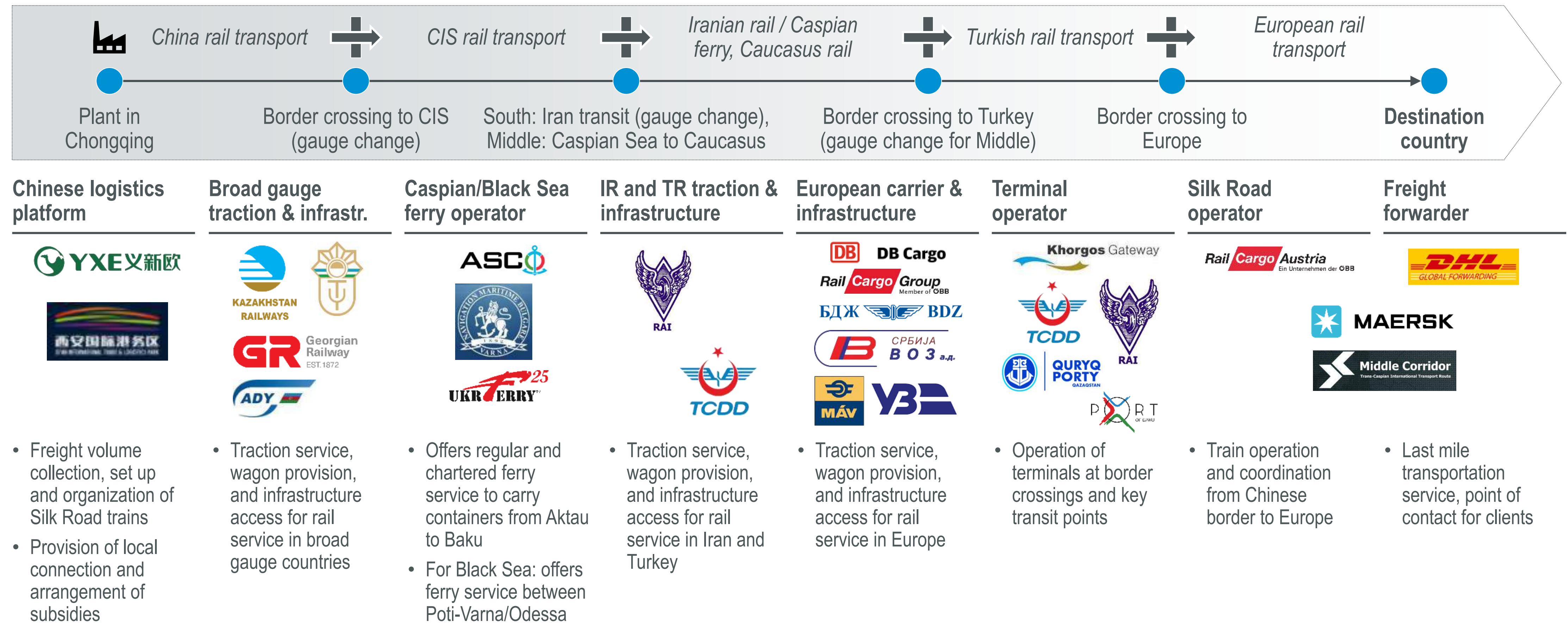


■ Major cities and border points    ● Important transit points    — Rail routing (dashed for uncertainty)

- 1 North East industrial cluster (Shenyang, Harbin, Changchun)
- 2 South/Central West industrial cluster (Chongqing, Chengdu)
- 3 Yangtze delta industrial cluster (Shanghai, Yiwu, Suzhou)
- 4 Pearl delta industrial cluster (Guangzhou, Shenzhen, Zhuhai)

The middle corridor still lacks powerful integrators – There is no player offering marketable service on the southern corridor

Players along the value chain



There are few scheduled services on the middle corridor – Only occasional pilots were run on the southern corridor

### Pilot trains and services on the middle/southern corridor

<b>Trains</b>	<b>Days</b>	<b>Frequency</b>	<b>Start</b>	<b>Type</b>	<b>Comments</b>
<b>Istanbul/Turkey-Azerbaijan-Kazakhstan (Khorgos)-China/Xian</b>	15	2x per week (planned)	2020	Pilot (to become scheduled)	Piloted on 4th Dec. 2020, carrying 42 containers with refrigerators, passing Marmaray tunnel and Baku-Tbilisi-Kars railway
<b>Xian/China-Kazakhstan (Khorgos)-Georgia-Turkey/Izmit</b>	18	1x per week	2020	Scheduled	Started by Maersk as part of its intercontinental rail network starting from May 2020, every Tuesday of the week
<b>Jinhua/China-Kazakhstan-Azerbaijan/Baku-Turkey/Southern Europe</b>	15-18	-	2020	Pilot	Piloted on 10th Sep. 2020, containing electrical and metal tools, consumer products, travels via Khorgos, Aktau, and then to Baku
<b>Lianyungang/China-Kazakhstan-Azerbaijan-Georgia-Turkey/Istanbul</b>	18-19	3x per month	2018	Scheduled	Piloted on 28th Nov. 2018, carrying 21 containers of machinery, electronics, consumer goods. Now 3x per month on 8th, 18th, 28th
<b>Hohhot/China-Kazakhstan-Turkmenistan-Iran/Bam</b>	15	-	2018	Pilot	Piloted on 4th Sep. 2018, carrying 41 containers with goods (machinery, automotive parts), planned to be 2x monthly
<b>Chengdu/China-Kazakhstan-Azerbaijan-Georgia-Turkey/Istanbul</b>	15-16	N/A	2016	Scheduled	Piloted on 6th Sep. 2016, carrying 41 containers with goods from Shanghai and Shenzhen
<b>Shihezi/China-Kazakhstan-Azerbaijan/Kishly</b>	6	N/A	2015	Scheduled	Piloted on 28th Jul. 2015, carrying 82 containers of caustic soda, passing Dostyk and Aktau port

# Only ASC is operating ferry service across the Caspian Sea – Black Sea services are operated by Navibulgar and UkrFerry

## Ferry services on the intermodal sections of southern and middle corridors

Sea routes	Ferry operator	Services	Equipment	Comments
<p><i>Caspian Sea</i></p>		<ul style="list-style-type: none"> <li>ASC - Alat (near Baku) – Kurik (near Aktau, no scheduled service)</li> <li>ASC - Alat – Turkmenbashi (no scheduled service)</li> </ul>	<ul style="list-style-type: none"> <li>13 ferries, average age 25 years old, of types: Daghistan (28 wagons), Academician Zarifa Aliyeva (52 wagons), Barda (54 wagons)</li> <li>3 Ro-Ro vessels, average age 36 years old</li> </ul>	<ul style="list-style-type: none"> <li>ASC is the only company with own ferry vessel fleet at Caspian Sea, price at 1200 USD/FEU</li> <li>Used to have very unstable service due to bad weather – Larger fleet improved situation</li> </ul>
<p><i>Black Sea</i></p>	 	<ul style="list-style-type: none"> <li>Navibulgar – Chornomorsk (near Odessa) – Poti 48 hours</li> <li>Navibulgar – Varna – Poti 54 hours</li> <li>UkrFerry – Chornomorsk – Batumi/Poti 59 hours</li> </ul>	<ul style="list-style-type: none"> <li>Navibulgar 2 ferries, each with carrying capacity of 108 wagons</li> <li>UkrFerry 3 Ro-Ro vessels, average age 34 years old, each capable of carrying 50 rail cars</li> </ul>	<ul style="list-style-type: none"> <li>The rates by UkrFerry are perceived as high with 2000-2400 USD per wagon + special tariffs up to 1700 USD and the ferries are outdated and slow</li> <li>Rates by Navibulgar for trucks depend on types of goods, ranging from 700 to 4700 USD</li> </ul>
<p><i>Indian Ocean</i></p>		<ul style="list-style-type: none"> <li>Evergreen Marine Corp – Port Kelang – Singapore – Nhava Sheva – Dubai – Jebel Ali – Bandar Abbas – Mundra – Nhava Sheva – Port Kelang (weekly)</li> </ul>	<ul style="list-style-type: none"> <li>Four 1,100 TEU vessels on 28 days round trip service</li> </ul>	<ul style="list-style-type: none"> <li>There are currently two direct lines connecting Mumbai, Mundra, Chabahar, and Bandar Abbas</li> <li>Unclear whether the EMC service is counted towards the two existing lines</li> </ul>



## While some infrastructure projects focus on Trans-Caspian route, Iran and Turkey are also heavily investing in railway infrastructure

### Selected infrastructure projects on southern routes

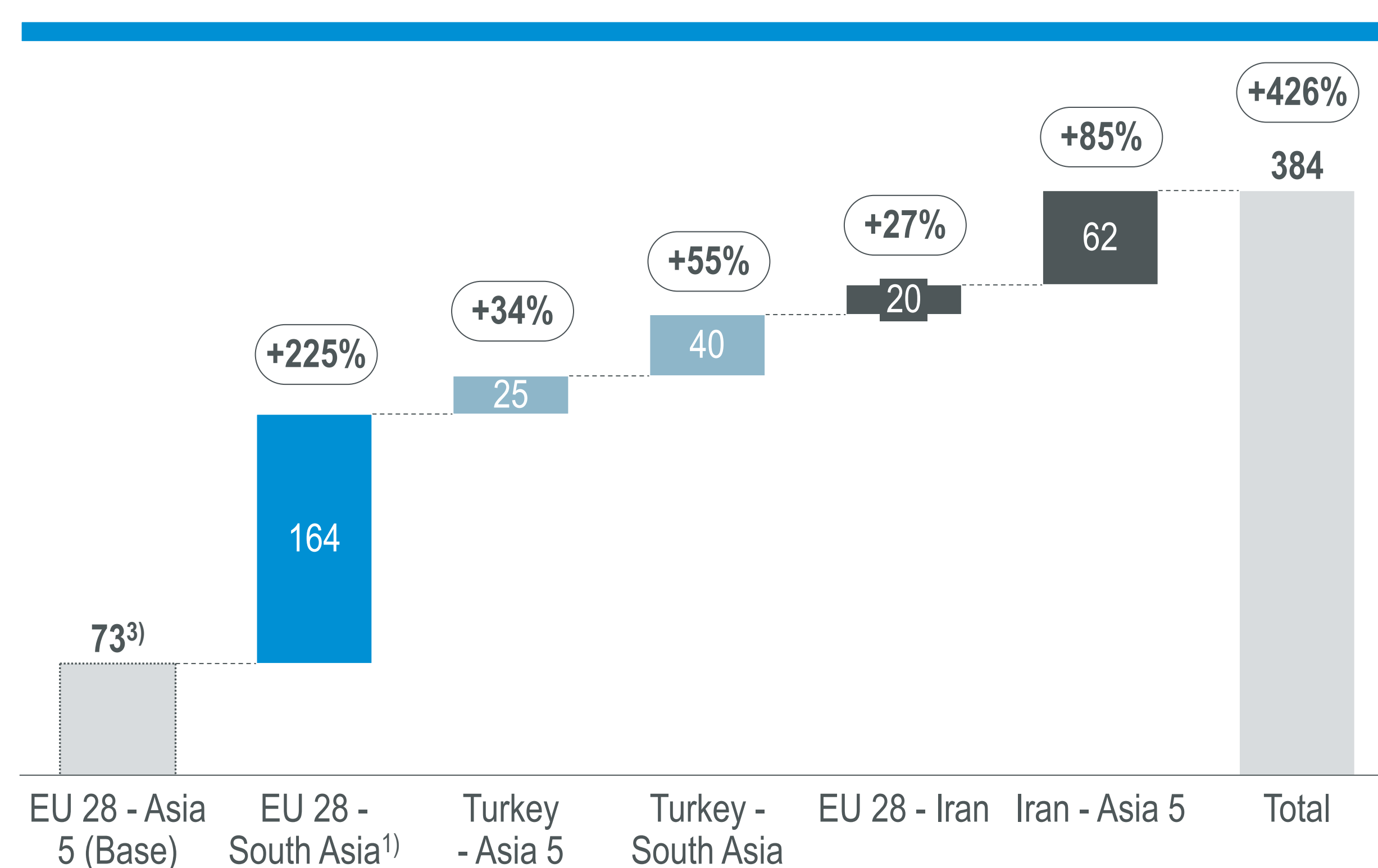
Turkey		Iran		Georgia		Azerbaijan		Turkmenistan	
<ul style="list-style-type: none"> <li>• <b>Domestic:</b> Doubling of the Plovdiv-Istanbul line including upgrades to the Svilengrad-Kapikule border crossing in Bulgaria planned</li> <li>• High speed railway development program linking, e.g. Istanbul-Edirne, Ankara-Izmir</li> <li>• <b>BRI:</b> Construction of rail logistics centers in Kars and Izmir/Kemalpaşa</li> <li>• Turkey and Iran plan to attract foreign investment for Kars-Tabriz railway link after feasibility study ended in March 2020</li> </ul>	<ul style="list-style-type: none"> <li>• Electrification upgrade of the Tehran-Mashhad line with a length of 926 km – Currently under construction</li> <li>• <b>BRI:</b> Launch of the 225 km long Khaf-Khorosan Razavi-Herat border to connect Iran with Afghanistan for a total investment of USD 665 m</li> <li>• <b>North-South Transport Corridor:</b> In December 2019, Iran and Azerbaijan started construction of the 130 km long Rasht-Astara railway that will link Iran with the 2018 established Astara terminal</li> <li>• <b>North-South Transport Corridor:</b> Railway to connect Chabahar is being constructed (finished in three years)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Connectivity to the Black Sea:</b> <ul style="list-style-type: none"> <li>– For EUR ~100 m, a new deep-water terminal will be built in the port of Poti, which will enable it to receive additional 2.5 m tons of cargo per year</li> <li>– <b>Eastern Partnership joint policy initiative:</b> EU provides EUR 233 m for Anaklia port development under the EaP<sup>1)</sup></li> <li>– <b>CAREC:</b> Construction of new railroad link to connect Anaklia to the railroad network of Georgia</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>International North-South Transport Corridor:</b> Modernization prepared of the 167 km Sumgait-Yalama Railway section as a response to the reconstruction of the Baku-Sumgait section to enable time and cost savings for cargo operations</li> <li>• <b>CAREC:</b> Modernization of Baku-Yalama and Alat-Astara railways to increase speed from 40 km/h to 120 km/h currently under construction</li> </ul>	<ul style="list-style-type: none"> <li>• <b>CAREC:</b> Modernization of railways between Turkmenabat, Mary, Ashgabat and Turkmenbashi</li> <li>• <b>China, Turkmenistan, Uzbekistan corridor initiative</b> - Launch of the Bereket-Etrek-Turkmenistan-Iran border railway after government of Turkmenistan received funding from IsDB<sup>2)</sup></li> <li>• The port of Turkmenbashi has received substantial investment and project contracts are signed. It is expected to gain importance in the future</li> </ul>					

1) EU-Eastern Partnership; Islamic Development Bank

# Traffic from traditional Eurasian flows has limited potential for middle and southern corridors – But total potential of 400k TEUs

## Middle and southern corridors volumes and upsides

Volumes middle & southern corridors and upsides<sup>2)</sup> ['000 TEUs]



### Key take-aways and assumptions

#### Middle/Southern corridor will not become significant with "traditional" Eurasian flows alone

"Traditional" flows between Europe and the Asia 5 countries will not create enough flow to form a booming market. This is mainly due to the natural catchment area of the southern and the middle corridors and the heavily used, high performing alternative in the north

#### Major potential comes from upsides with countries that have no other alternative

For countries like Turkey, Iran, and the countries in South Asia, the southern and the middle corridors are not only the natural, but the only rail route. Those volumes will not be split with the northern route and can thus be considerable

#### All upsides come with heavy pre-conditions that need to be met

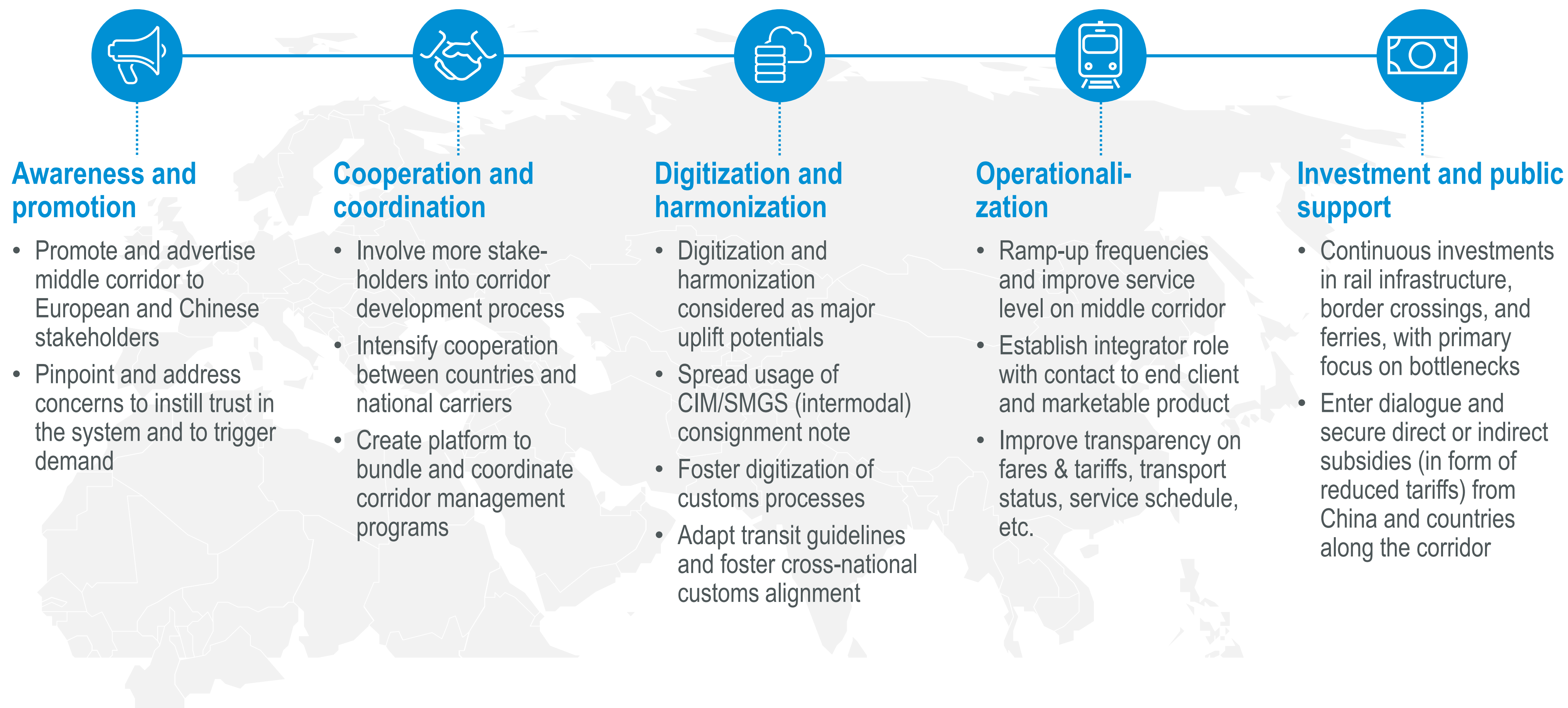
South Asia, esp. India, has huge potential volume-wise. However, it can only be realized if political rivalries with Pakistan can be resolved or circumvented and if the rail connection towards Myanmar is established. Similarly, Iran's potential is heavily depending on the status of the country's sanctions

1) Defined as Pakistan, India, Nepal, Bangladesh, Myanmar, Thailand. Of the potential with EU, majority >50% is attributable to India

2) All numbers for the year 2030, upsides only refer to flows with enough distance between them, but not adjacent flows 3) The 73,000 TEUs are included in the base case calculation on prev. slide, the upsides are excluded

# The development corridors needs joint efforts from all players

## Fields of action for players on middle and southern Silk Road corridors



# UIC continues to help raising awareness and strives to enable an economical operation

UIC action modules part of the Freight Department multiregional work plan



## Raise awareness for southern routes

Organize corridor conferences to promote corridors and foster collaboration of all involved stakeholders



## Strengthen operationalization

Offer assistance to strengthen performance and initiate talks on establishment of integrator



## Establish cost competitiveness

Launch dialogue with the regions on subsidies and connect MDBs and carriers to provide loans for fixed schedule services



## Promote harmonization and digitization

Harmonize technical standards and processes along transport route, promote digitization of documents and processes



**UIC Actions**

# Joint efforts are now needed to make the development of corridors a success

## Conclusion





INTERNATIONAL UNION  
OF RAILWAYS

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**Thank you for your kind attention.**



# Conclusions

**Said Chandid, UIC Africa Regional Office**

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**Thank you for your attention.**