Global Freight Flows, Multimodal Capacity and Gateway Competitiveness in Lombardy

Main findings from the ALSEA-commissioned study on the Milan Logistics Region

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1 The study behind this presentation

ALSEA commissioned an applied, evidence-based study of the Milan Logistics Region

Study commissioned by ALSEA
Developed by FIT Consulting

Functional geography

RLM as a freight system, not as an administrative boundary.

Evidence base

Economic, trade, infrastructure, node and traffic data checked by source, year and perimeter.

Operator intelligence

Voluntary anonymous survey of 62 ALSEA-associated freight forwarders and logistics operators.

Strategic outputs

Capacity diagnosis, air-cargo test case, CREA framework, scenarios and implementation roadmap.

The objective is not to count assets. It is to identify which freight chains can be improved, under which conditions, and with which accountable owners.

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2 From infrastructure to service capacity

Core proposition of the conference paper

For advanced logistics regions with a strong infrastructure base, competitiveness increasingly depends on connecting and orchestrating existing capacity into seamless, reliable and market-ready door-to-door services

Physical assets	→	Purchasable services	→	Measured performance
roads, railways, terminals, warehouses, airports		lanes, frequencies, cut-offs, handling, customs		transit time, reliability, cost, visibility

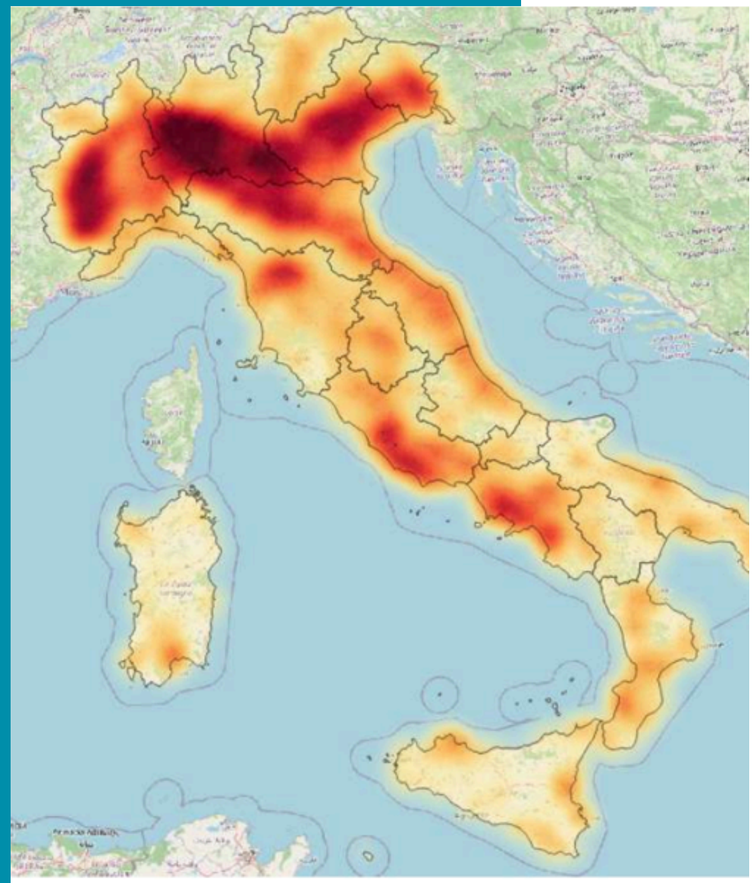
Forwarder lens:
which shipment can be served, on which lane, in which time window, under which commercial and operational conditions?

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3 A strong and diversified freight system

A functional freight system centred on Lombardy



Source image: ALSEA final study, Fig. 1 - productive settlement concentration in Italy.

- The RLM is analysed as a functional freight system formed by production, consumption, logistics facilities, infrastructure and markets.
- Its core is the Milan metropolitan area, linked to Lombardy clusters, Novara, Piacenza, Alpine crossings, Ligurian ports and Lombardy airports.
- The study estimates the RLM economic base at about 24% of Italian GDP.
- Commercial origin, logistics organisation and gateway use may sit in different places.

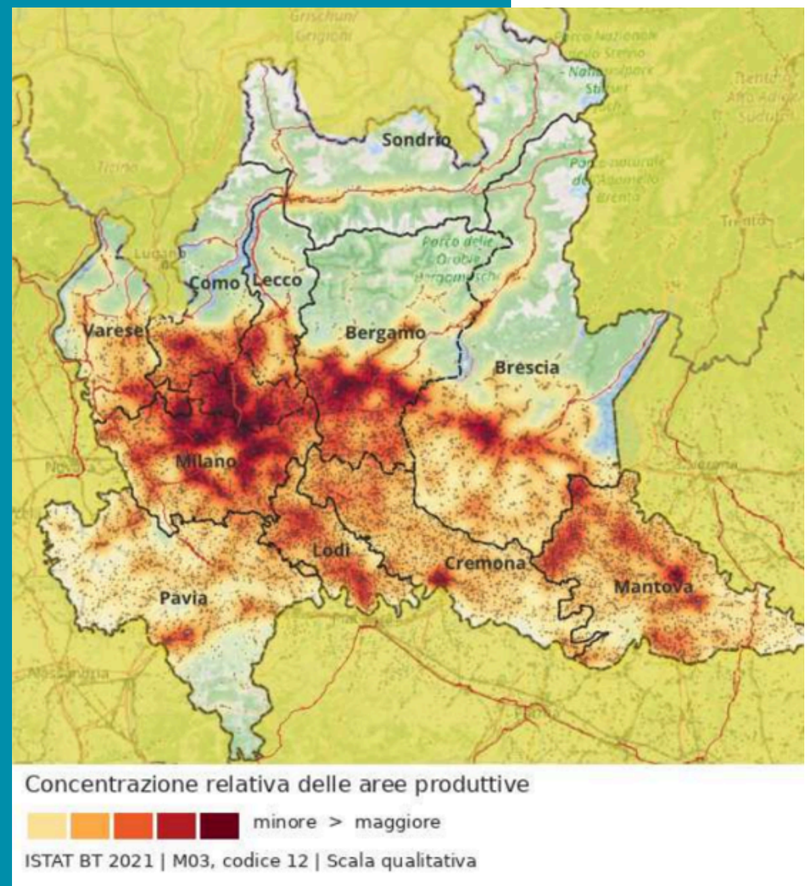
Key reading principle
Do not confuse commercial demand, operator-organised flows and throughput recorded at individual nodes.

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4 Why the Milan Logistics Region matters

Distributed capacity across modes and gateways



Source image: ALSEA final study, Fig. 2 - productive settlement concentration in Lombardy.

13
intermodal terminals

~4m
TEU in Ligurian ports, 2024

~821k t
cargo in Lombardy airports, 2025

1,403
warehouse facilities mapped

These figures describe resources.
The relevant test is whether assets can be combined into reliable door-to-door chains.

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5 Nominal capacity is not service capacity

The analytical distinction that drives the study

Nominal capacity – technical or physical upper limit

Operational capacity – usable under real operating conditions

Service capacity – available on the relationship required by the market

Activatable capacity – realistically convertible into additional supply

Typical error
Treating spare physical capacity as if it were immediately marketable.

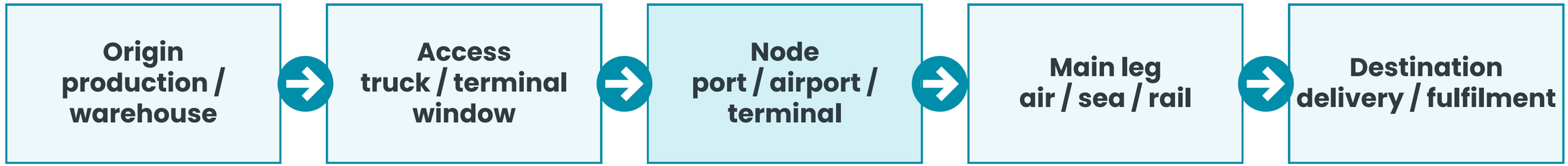
Forwarder view
Capacity exists only when lane, window, frequency, handling, customs and access work together.

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6 Where is the real bottleneck?

The binding constraint is chain-specific



Main families of constraints

- accessibility and congestion
- network reach and frequencies
- handling resources and peak management
- customs and documentation
- digital interoperability
- specialisation requirements
- territorial or governance constraints

Operational implication

The correct intervention targets the binding constraint on a specific chain, not infrastructure in the abstract.

Policy implication

If the issue is frequency, demand aggregation may matter more than new infrastructure. If the issue is data, process redesign may add usable capacity.

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7 What freight forwarders tell us

The ALSEA survey tests the diagnosis against routing behaviour

The survey is used as an observed base of freight-forwarding and logistics behaviour.
It is not used to extrapolate total market volumes. N = 62 voluntary anonymous questionnaires.

Observed profile

- strongly international
- multimodal by function
- multi-sectoral
- focused on routing choices and node use

Frequently served sectors

Machinery / spare parts
Pharma / healthcare
Automotive
Fashion / luxury / textiles
Metals

Why it matters

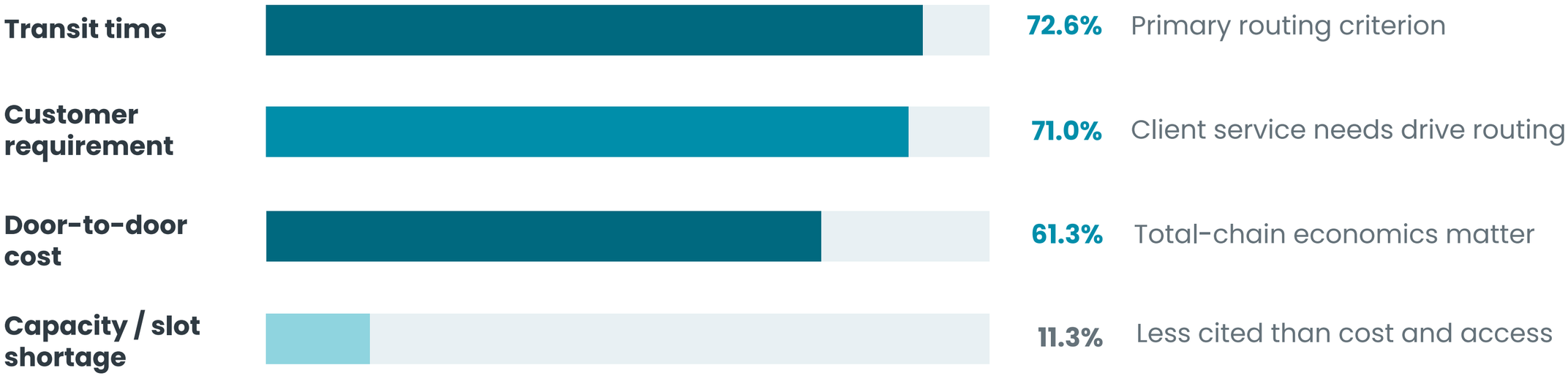
Forwarders see the real interaction between customer requirements, cut-offs, frequency, customs, access and reliability.

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8 Routing decisions are driven by performance

What matters most in the observed base



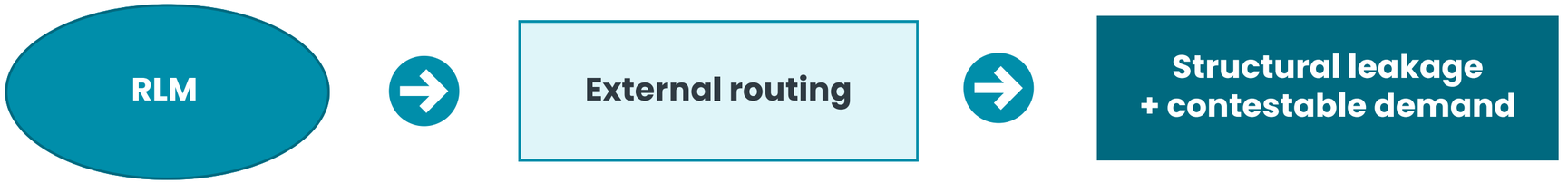
In the observed base, high transport costs and congestion / access time are reported more often than shortage of physical capacity or slots.

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9 Leakage is a service issue

External routing is a rational service choice, not automatically lost cargo



38.7% of respondents declare significant flows through ports, airports, terminals or other nodes outside the RLM.

- Drivers: network / direct connections, transit time and customer requirements.
- Some flows are structural; others are contestable if the RLM offers a credible service alternative.
- For forwarders, proximity is secondary to total chain performance.

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10 Air cargo as the clearest test of the model

Differentiated airport roles within one logistics region



Malpensa	Brescia Montichiari	Bergamo
mature international gateway	complementary cargo platform	selective specialist node
~763k t cargo, 2025	**~31k t cargo, 2025**	**~25k t cargo, 2025**

Circle size is approximately proportional to 2025 cargo volumes.

- The airports are not interchangeable assets.
- Value is created when capabilities match demand by route, carrier, time window and traffic segment.
- Road feeder services, customs, handling and digital data are part of airport capacity.

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11 CREA: when can residual capacity become a service?

Effectively Activatable Residual Capacity

C2 Operational
handling, staff, equipment, airside resources

C3 Customs
procedures and controls compatible with timetable

C1 Physical
infrastructure and capacity in the required window

CREA

C4 Digital
complete and interoperable operational data

C7 Authorisation
environmental and authorisation conditions

C6 Territorial
reliable first / last mile and cut-off compatibility

C5 Commercial
routes, frequencies and consolidatable demand

CREA is not a traffic forecast. It is a diagnostic test for a defined node, demand segment, lane and time horizon.

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Capacity can move: market and regulation matter

Two live tests of the service-capacity approach

Amazon Air relocation

Market reallocation
Spare capacity becomes economically relevant when a specific network requirement, demand base and operating model align.

Measurement focus

- Measure reallocation versus genuine system growth.
- Track tonnes, movements, road feeder flows, handling, service quality and customer concentration.

E-commerce and customs changes

Regulatory / data shift
Customs rules can reshape routing, consolidation, gateway choice, fulfilment models and data requirements.

Forwarder value

- Value may move towards data quality, customs representation, consolidation, inventory, fulfilment and returns.
- Digital interoperability becomes a capacity asset.

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Three scenarios for an integrated logistics platform

Increasing organisational maturity and data coordination

Scenario 1
Optimisation of existing assets

access, booking, handling, customs, frequencies, data continuity

Scenario 2
Interoperable airport system

comparable capacity, cut-offs, routes, service sheets, road-air use cases

Scenario 3
Distributed multimodal logistics network

warehouses, ports, terminals, customs, airports and forwarders connected by operational events

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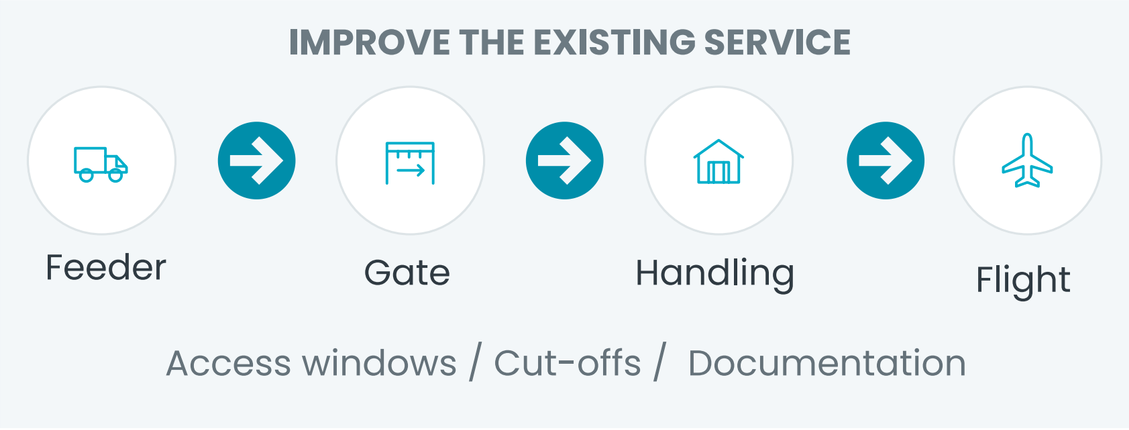
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14 Scenario 1: optimise existing assets

Improve existing services before adding new complexity

Scenario 1
Optimisation of existing assets

access, booking, handling, customs, frequencies, data continuity



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Better access, handling and cut-offs

FORWARDER VALUE

More predictable existing services

ENABLER

Local operational agreements

Start with one bottleneck and one accountable owner.

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Scenario 2: make airport alternatives comparable

An interoperable airport system must be readable and bookable by the market

Scenario 2
Interoperable airport system

comparable capacity, cut-offs, routes, service sheets, road-air use cases



FOCUS

Comparable capacity, cut-offs and services

FORWARDER VALUE

Bookable alternatives across nodes

ENABLER

Sohared events and coordinated feeders

Complementarity becomes useful when it can be compared and booked.

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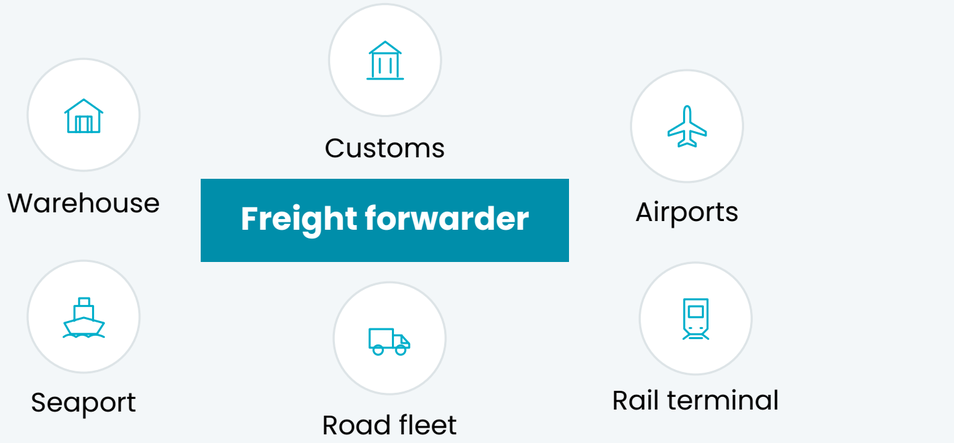
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16 Scenario 3: connect the multimodal logistics network

Distributed information, coordinated decisions and human accountability

Scenario 3
Distributed multimodal logistics network

warehouses, ports, terminals, customs, airports and forwarders connected by operational events



FOCUS

The end-to-end logistics chain

FORWARDER VALUE

Adaptive routing and continuity

ENABLER

Data rules and named decision owners

Distributed information. Coordinated decisions. Human accountability.

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17 From scenarios to implementation

Governance, observatory and staged delivery

Functional governance

- **Node / service**
- **Inter-node**
- **Territorial network**

Cargo Observatory

- monitor demand and routing
- monitor supply, access and operating performance
- evaluate pilots ex-ante and ex-post
- shift metrics from node to chain performance

Implementation roadmap

0-12m
Baseline + quick wins

→

12-24m
Interoperability pilots

→

24-48m
Territorial integration

→

>48m
Scale-up

Advance only when logistics value is demonstrated: demand, owner, baseline, cost, target and decision gate.

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18 What ALSEA puts on the table

A forwarder-centred agenda for a more integrated logistics region

ALSEA's role in this phase is strategic: commissioning the study, bringing the freight-forwarder lens, and turning dispersed evidence into a concrete agenda for the Milan Logistics Region.

1 Market lens

Read capacity through customer requirements, routing behaviour, cut-offs, reliability and total chain cost.

2 Service comparability

Make nodes, airport alternatives and multimodal options comparable, measurable and usable by operators.

3 Evidence before scale-up

Move from pilots to investment only when demand, owner, baseline, target and decision gate are explicit.

The study makes ALSEA visible as the institutional and associative catalyst that brings the market perspective into territorial logistics policy.

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Thank you!

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