

Intermodal and combined transport

Multimodal, intermodal, combined: what is the difference, and which chains link Türkiye with Europe and Asia?

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Online interactive version: <https://ozgurkonakci.com/en/guide/intermodal-transport/>

SHORT ANSWER

Intermodal transport moves goods by more than one mode while they stay in the same loading unit (container, trailer, swap body) and are not themselves handled when the mode changes. Multimodal transport only means that at least two modes are used. Combined transport is intermodal transport in which most of the journey is by rail, inland waterway or sea and the road legs are kept as short as possible.

Four terms, four different questions

When transport chains are described, four terms are often used as if they meant the same thing. In fact each answers a different question:

- **Unimodal:** The goods travel by a single mode from start to finish. A truck from Istanbul to Munich is an example.
- **Multimodal:** At least two different modes are used. This is the definition in the joint Eurostat, ITF and UNECE glossary for transport statistics. Whether the goods are handled does not matter.
- **Intermodal:** The goods travel by more than one mode while staying in the same loading unit (container, trailer, swap body), and **the goods themselves are not handled** when the mode changes. This definition comes from the joint terminology published by UNECE, ECMT and the European Commission in 2001.
- **Combined:** Intermodal transport in which **most of the journey is by rail, inland waterway or sea** and the road legs are as short as possible.

In short, all intermodal transport is multimodal, but not all multimodal transport is intermodal. Combined transport is the kind of intermodal transport that keeps road legs short.

Compare transport chains

Example	Legs	Loading unit	Multimodal	Intermodal	Combined
Türkiye → Germany: Ro-Ro + rail	Road → Ro-Ro ship → Rail → Road	Unaccompanied semi-trailer	Yes	Yes	Yes
China → Türkiye: Middle Corridor	Rail → Ferry (Caspian) → Rail → Road	40' container	Yes	Yes	Yes
Door-to-door FCL container	Road → Sea → Road	20' or 40' container	Yes	Yes	Yes
Air cargo: palletised goods	Road → Air → Road	Pallet → ULD (rebuilt at the airport)	Yes	No	No
Direct road haulage	Road	Curtainsider trailer	No	No	No

Multimodal: at least two modes. Intermodal: the cargo stays in the same unit and is not itself handled when the mode changes. Combined: intermodal transport where most of the journey is by rail, inland waterway or sea and the road legs are as short as possible.

The air cargo example shows an important distinction: the goods reach the airport by truck and leave by air, so the chain is multimodal. But the pallets are rebuilt onto aircraft unit load devices (ULDs) at the airport; because the goods change units and are handled, it is not intermodal.

Intermodal loading units

Intermodal transport depends on loading units that can be transferred whole between vehicles:

- **Container:** Transferred by crane between sea, rail and road, and stackable. See the container types topic for dimensions.
- **Swap body:** Similar to a container but designed for road and rail, and able to stand on its own legs. According to ICAM, standard swap bodies are 2.50 m wide and 2.62 m high, and 7.15 m, 12.50 m or 13.60 m long.
- **Semi-trailer:** Rolls onto a Ro-Ro ship on its own wheels. To go by rail it must be designed to be lifted by crane (crane-able) or use special wagon systems.

Accompanied and unaccompanied transport

- **Unaccompanied:** Only the loading unit goes on the ship or train. The tractor and driver stay behind, and another tractor collects the unit at destination. Drivers and tractors are used more efficiently.
- **Accompanied:** Tractor, trailer and driver travel together. By rail this is called a **rolling road (RoLa)**. It is simple to arrange, but part of the weight carried is the tractor, and the driver travels with the vehicle.

Two corridors from Türkiye

The Türkiye–Trieste Ro-Ro line. As reported by Forbes Türkiye, the sea motorway between Türkiye and the Italian port of Trieste started in 1987. According to Samer, one of the companies operating on the line, about 95% of the trailers travel unaccompanied. Trailers unloaded in Trieste can continue by rail to Austria, Germany, Luxembourg, France and Central Europe; about 11,000 trains a year leave the port. This is the best-known combined transport chain from Türkiye to Europe: a short road leg, long sea and rail legs, and another short road leg.

The Middle Corridor (Trans-Caspian International Transport Route). The route runs from China through Kazakhstan to the Caspian Sea, then through Azerbaijan, Georgia and Türkiye to Europe. Containers move by train in Kazakhstan, by ferry across the Caspian and by train again in the Caucasus. The Baku–Tbilisi–Kars railway opened in 2017 and connected Türkiye to the route by rail.

When does it pay off?

When it works well:

- Over long distances with regular, predictable volumes
- On routes where drivers are scarce or transit permits are limited (unaccompanied transport needs fewer drivers)
- For companies with carbon reduction targets (rail and sea generally use less fuel per tonne-kilometre than road)

What to watch:

- Trains and ships run to a timetable; miss a departure and you wait for the next one.
- Every transfer point (port, terminal) adds time and charges.
- Trailers need suitable equipment to go by rail.
- Over short distances, transfer costs can wipe out the saving over road.

Contract and liability

A multimodal journey can be arranged with a separate contract for each leg or under a single contract of carriage. Under a single contract, the party taking on the transport (often a forwarder or an NVOCC) carries the goods door to door under a **multimodal transport document**; FIATA's FBL is a common example.

When there is a loss, which rules apply matters: CMR by road, CIM by rail and the Hague-Visby Rules by sea set different liability limits. The document's liability terms and the leg on which the damage happened decide the outcome. See the carrier liability and cargo insurance topic for the limits; for valuable cargo, cargo insurance is the safest way to close these gaps.

Test yourself

1. A container goes by truck to the port, by ship to Hamburg and by train to Munich without being opened. Which definitions does it meet? *(Answer: Multimodal, intermodal and, since most of the journey is by sea and rail, combined.)*
 2. Palletised goods go by truck to the airport and are rebuilt onto a ULD for the flight. Why is this not intermodal? *(Answer: The goods change units and are handled.)*
 3. In unaccompanied Ro-Ro transport, where are the tractor and driver? *(Answer: They do not travel; another tractor collects the trailer at destination.)*
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Frequently asked questions

What is the difference between intermodal and multimodal transport?

Multimodal transport uses at least two different modes. Intermodal transport is a special case: the goods stay in the same loading unit (container, trailer, swap body) and are not themselves handled when the mode changes. All intermodal transport is multimodal, but not all multimodal transport is intermodal.

What is combined transport?

Intermodal transport in which most of the journey is by rail, inland waterway or sea, and the first and last legs are completed by road over the shortest practical distance. Türkiye's Combined Transport Regulation uses this definition and requires the non-road leg to exceed 100 km as the crow flies.

What does unaccompanied transport mean?

Only the loading unit (trailer, container, swap body) travels by ship or train; the tractor and driver do not. At destination another tractor collects the unit. About 95% of the trailers on the Türkiye–Trieste Ro-Ro line travel unaccompanied.

What is a swap body?

A container-like loading unit designed for road and rail that can stand on its own legs. According to ICAM, standard swap bodies are 2.50 m wide and 2.62 m high, and 7.15 m, 12.50 m or 13.60 m long.

SOURCES

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