Translifter Cassette system – TTS Liftec Oy, Finland

Cassette, freight consolidation and transhipment; implementation of low emissions technologies, innovative vehicles, vessels and equipment; innovative operational solutions

Translifter cassette system is designed to tackle drawbacks of the roll trailer technology used in RoRo ship loading. The main idea of the cassettes is to make a very simple and maintenance free equipment for RoRo container handling.

Translifter system can be compared to normal pallets and a hand pallet truck. A cassette works as a pallet and translifter car as a hand pallet truck.

- Faster loading/unloading compared to roll trailer system
- 11-14 % more capacity on a RoRo vessel
- Fuel savings 9-13 % (more cargo)
- Lowering cruising speed from 22 knots to 18 knots could save fuel 33 %, meaning also 33 % less emissions.
- Easier cargo stowing
- Empty cassettes need little space because they can be stacked up

Conventional roll trailer technology has a couple of problems. Roll trailers have wheels and they have to be secured from the both sides of a trailer in a ship. Securing needs space. Trailers also have some maneuverability limitations.

Cassettes are specially designed depending on the cargo and handling type. The running costs of a system are virtually non-existent. A cassette system ensures more efficient and faster operation, thus becoming more popular all over the world.

Before the ship’s arrival at the terminal cargo is placed on cassettes, then covered and secured. Once the ship arrives, loading can start immediately. Also the cassette system has much higher loading capacity than any other handling method. Both of these benefits lead to significantly reduced turnaround time in port and the saved time can be utilized for example by using slower speed during voyage which reduces ship’s fuel costs and emissions dramatically.

With other cargo handling methods lots of ship’s capacity is wasted because the cargo units need empty space around for lashing. Cassette system instead is based on block stowing where cassettes are stowed tightly side-by-side. Block stowing can increase the vessels capacity even 20%. The other benefit of block stowing is that block stowed cassettes support to each other and lashing is not needed. This reduces the labour needed for loading and unloading.

Cassette system’s high loading capacity is based on high payload on a cassette, no or reduced lashing on board and safe and careless operation thanks to translifter’s brakes, good stability and manoeuvrability.

For public actors: Competitive logistics and transport system and acceptance and influence
For private actors: Increased quality and image
For both: Limited climate change and reduced emissions
There are two main innovations in the cassette system. A Cassette has no moving parts which means better usage of vessel’s cargo space, low investment costs and low maintenance costs.

An elevating trailer, also known as a translifter, has steerable wheels. It makes them easy and fast to handle.

Third innovation is stackability. It saves space when handling empty cassettes.

Empty cassettes can be stacked on top of each other which saves space both inside a vessel and also in terminal area. Cassettes have no moving or wearing parts such as tyres or bearings so their running and maintenance costs are practically non-existent.

Translifter cassette system is transferable e.g. to industry. Translifter technology was actually first used in machine shops etc. industrial locations where heavy objects had to be moved several times to several locations.

More information:
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Sales at tts-liftec.fi
http://www.translifter.com/ (30.4.2013)

Transport modes
- Inland waterway vessels
- Deep sea vessels

Main actors involved
TTS Liftec, VTT Technical Research Centre of Finland

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