EASY LOADING

Cross-Border HCT Transport
Same Concept, Different Rules
Ekeri's experience from Finland and Sweden

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Cross-Border HCT Transport

Same Goal, Different Rules
Ekeri's practical experience from Finland and Sweden

- How HCT developed in Finland
- The introduction of 34.5-metre combinations in Sweden
- Differences between the Finnish and Swedish requirements
- The challenge of designing one vehicle combination for both countries

"If an HCT combination is legal and safe in Finland, can the same combination be operated in Sweden without technical modifications?"

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Ekeri in Brief

A Family-Owned Nordic Vehicle Manufacturer

- Founded in Finland in **1945**
- Roots in Pedersöre, on the west coast of Finland
- Operations in Finland, Sweden and Norway
- More than 80% of production exported
- Almost 800 units manufactured in a year
- Group turnover exceeds EUR 100 million
- Specialist in side-opening transport solutions
- Bussbygg As part of Ekeri Group since 2026

Main products:

Semitrailers
Full trailers
Truck bodies
HCT vehicle solutions
Customer-specific transport solutions

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Why HCT Matters to transport companies

More Freight with Fewer Vehicle Movements

HCT increases the amount of freight that can be transported in one vehicle combination.

Potential benefits:

- More cargo space per transport
- Fewer vehicle movements for the same freight volume
- Lower energy consumption per transported unit
- Reduced emissions per transported unit
- Lower transport costs
- Better use of vehicles and drivers

Especially relevant for volume-limited freight

For general cargo and other volume-limited goods, the available cargo-space length is often more important than the maximum gross mass.

"Increase transport capacity without increasing the number of vehicles on the road."

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How HCT Developed in Finland

From Special-Permit Trials to General Use

2013: HCT trials started

- Longer and heavier combinations were tested under special permits.
- Operators, manufacturers and authorities collected operational experience.
- The trials supported the development of technical and safety requirements.

2019: Longer combinations entered general legislation

- Maximum combination length increased to 34.5 metres.
- New types of vehicle combinations became possible.
- Maximum permitted mass depends on the number of axles and other technical conditions.
- The requirements cover manoeuvrability, stability, couplings and safe operation.

Finnish regulatory approach

A combination is assessed through technical performance, including:

- Turning behaviour
- Swept path
- Dynamic stability
- Axle loads
- Coupling performance
- Combination-specific calculations

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Ekeri’s Strategic Choice: A Double

Why Ekeri Chose the A Double Concept

Tractor + semitrailer + dolly + semitrailer or Tractor + semitrailer + drawbar trailer

Main advantages

- High total cargo volume
- Two familiar semitrailer-based cargo units
- Good compatibility with existing terminal operations
- Flexible use of standard cargo-body dimensions
- Possibility to use the rear semitrailer separately
- Suitable architecture for cross-border development

Critical design area:

The first semitrailer is technically decisive because its dimensions, axle configuration, steering and lift-axle functions affect the behaviour of the entire combination.

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Sweden Introduces 34.5-Metre HCT

A Defined System of Permitted Combination Types

Sweden opened parts of its road network to vehicle combinations up to 34.5 metres in December 2023.

Initially permitted
- A-double
- AB-double

Added from 15 April 2025
- B-double
- C-double
- Nordic combination

The five Swedish HCT categories

Combination	Basic configuration
A-double	Tractor + semitrailer + dolly + semitrailer
AB-double	Link truck + dolly + semitrailer
B-double	Tractor + link semitrailer + semitrailer
C-double	Rigid truck + two centre-axle trailers
Nordic combination	Long rigid truck + dolly + semitrailer

All these categories except the C-double are also permitted in Finland when the applicable Finnish requirements are met.

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Same Same, but Different

The Same Objective, but Different Compliance Logic

Finland	Sweden
Greater emphasis on technical performance	Greater emphasis on defined combination categories
Combination-specific calculations	Prescribed dimensional limits
Turning and swept-path assessment	Defined axle and coupling-point positions
Dynamic stability requirements	Combination-specific structural requirements
More flexibility in vehicle geometry if performance requirements are fulfilled	Vehicle geometry must fit a permitted combination type
Broad road use subject to general road and bridge restrictions	Use limited to a designated HCT road network

What this means for a vehicle manufacturer?

A combination designed only around Finnish requirements may not fulfil the detailed Swedish dimensional rules.

A combination designed only around Swedish dimensions must still fulfil Finnish requirements for stability, turning behaviour, axle loads and coupling performance.

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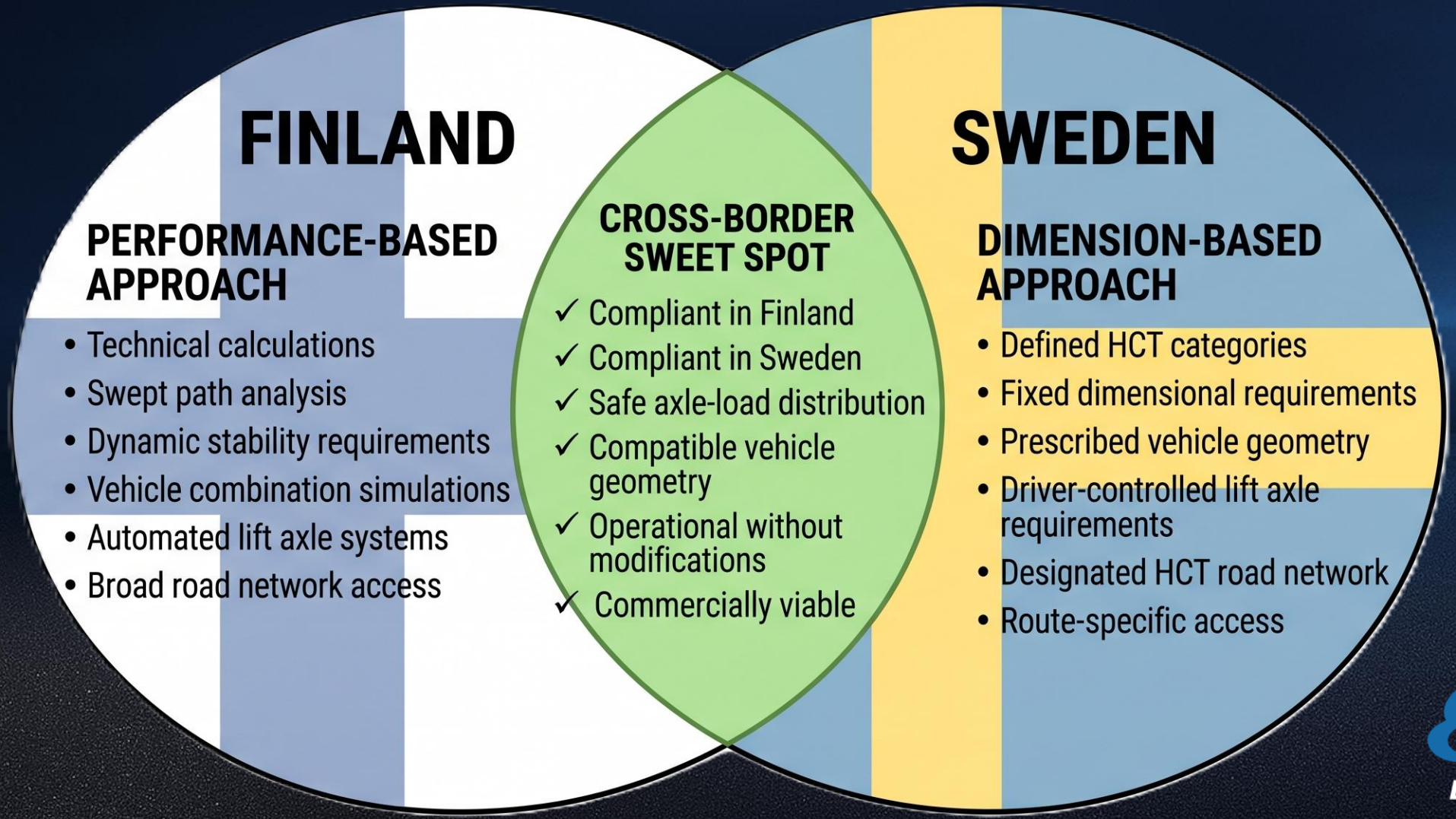
The Cross-Border Sweet Spot

The objective is not to modify the vehicle at the border. The objective is to design one combination that fulfils both national systems from the beginning.



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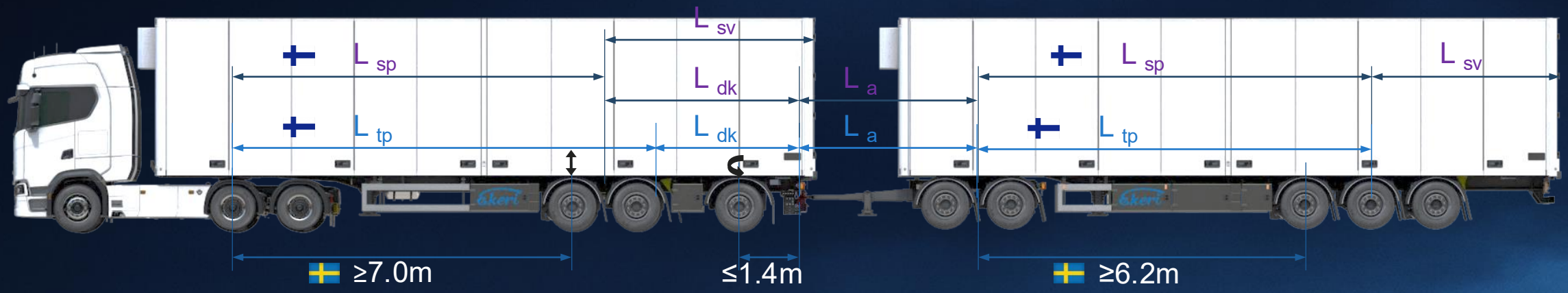
The Cross-Border Sweet Spot



HCT 13.6 trailer + dolly + trailer with wheelbase 7700-8150

HCT 13.6 trailer + drawbar trailer with axle spacing 7700 - 8150

HCT 13.6 trailer + dolly + HCT 13.6 trailer

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The Lift-Axle Challenge

One Technical Function, Two Different Approaches

The first semitrailer in an A-double combination needs a liftable axle to fulfil manoeuvrability and dimensional requirements.

Swedish requirement

- The relevant lift axle must be controllable from the driver's cab.
- The axle position affects the effective geometry of the first semitrailer.
- The lift function may be needed to achieve the required low-speed manoeuvrability.

Typical Finnish solution

- Automatic lift-axle control
- Operation based on axle load
- Operation linked to vehicle speed
- Axle automatically lowered when required by the operating conditions

The safety conflict:

Lifting an axle transfers load to the remaining axles. If the axle is lifted in the wrong loading condition:

- The remaining axles may become overloaded.
- Tyre and suspension loads increase.
- Road loads may exceed the permitted limits.
- A function intended to improve manoeuvrability may create another safety risk.

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Real Cross-Border Barriers

The challenge is not finding efficient vehicle concepts.The challenge is making efficient vehicle concepts legal across borders.

Vehicle design
- Different axle-lift requirements
- Different combination definitions
- Different dimensional constraints

Operation
- Different road-network access rules
- Different markings and documentation

Investment decisions
- Vehicles optimized for one market may lose value in another market
- Development costs increase

Innovation
- Additional engineering effort
- Delayed deployment of new transport concepts

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One Nordic market. One Nordic rulebook.

Thank you! Tack! Kiitos!

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