

The Railenergy logo features a stylized yellow and orange swoosh above the word "Railenergy" in a bold, dark red sans-serif font.

Railenergy

Panel 2

Overview about the market segment “Electric Regional Rail Services”

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Overview

- Main characteristics of the Electric Regional Rail Services
- Fixed installation Railenergy solutions
- Rolling stock Railenergy solutions
- Conclusions
- (Recommendations)

Main characteristics

- The electric **regional service type** consumption is about **18%** of the total energy consumption for electric railway traction in Europe;
- The market **segment** of electric service type is **growing**;
- The **regional service type** use both **dc** and **ac** electric traction systems;
- This **service type** is characterized by a large number of **EMU's**, electric multiple units (**about 37 800**).

Main characteristics

The regional service type is characterized by many stations and limited average distance between them



Many Acceleration and braking phases !



High energy saving potential !!!

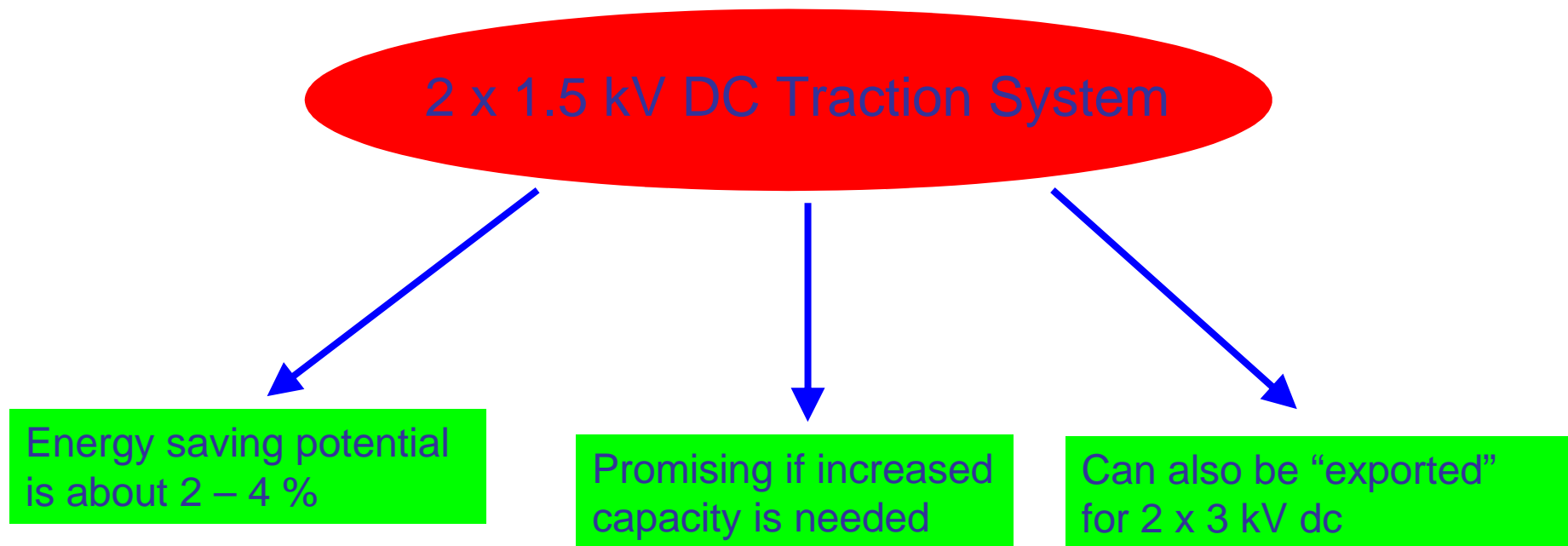
Fixed installation Railenergy solutions

The strategic recommendation of Railenergy are mainly focused on these technologies:

- 2 x 1.5 kV DC Traction System;
- Reduced line impedance;
- Reversible DC Substation.

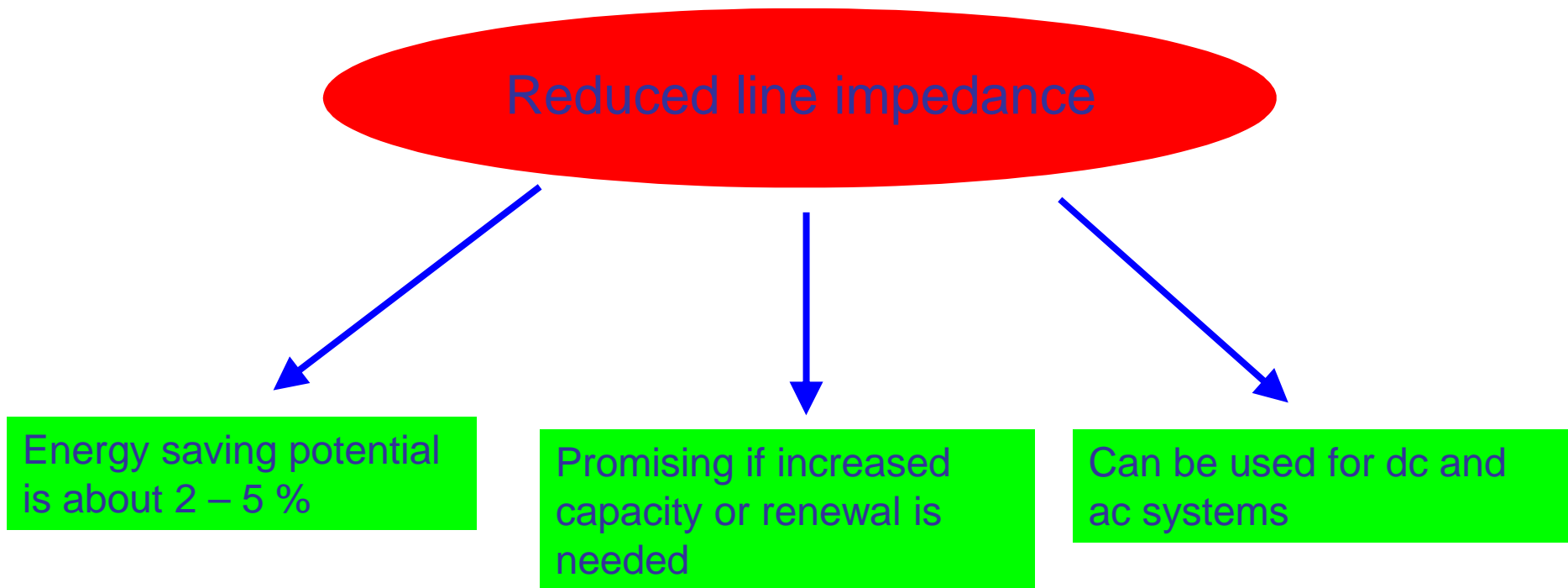
Fixed installation Railenergy solutions

The idea is to use existing/or new feeders and to set them to a voltage different from the catenary by new converters installed in existing substations.

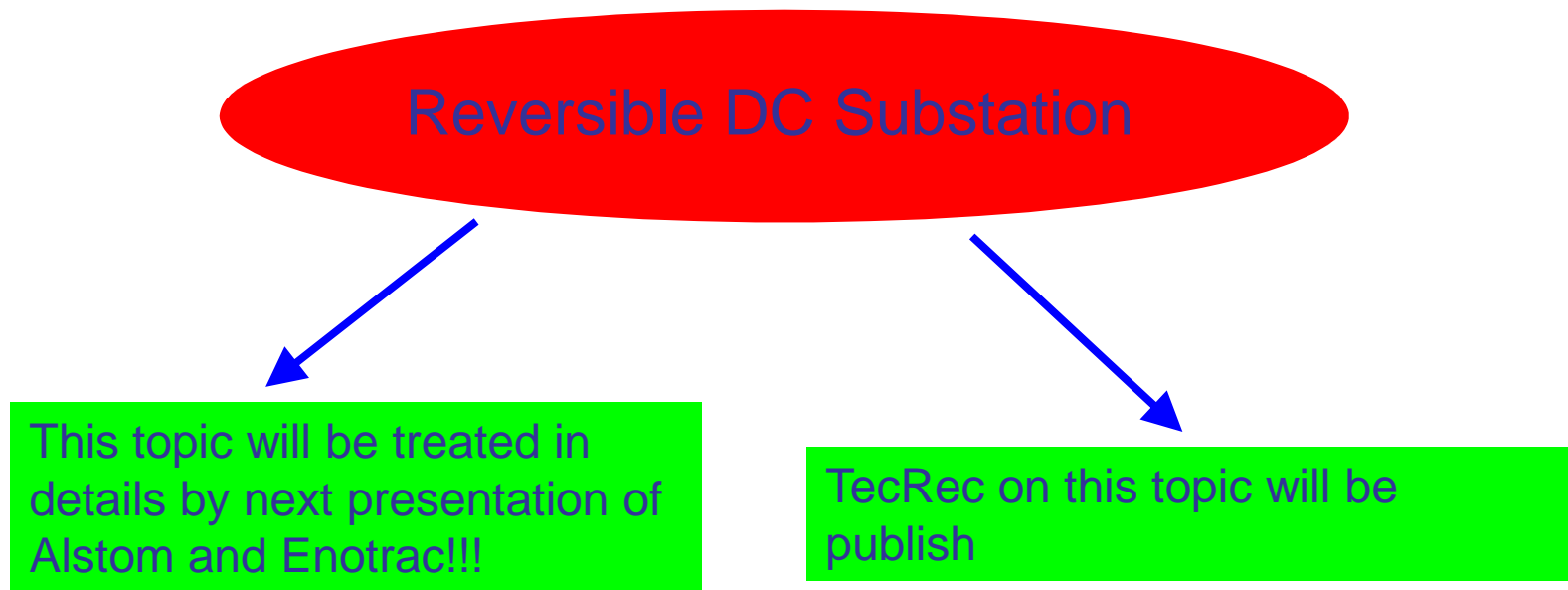


Fixed installation Railenergy solutions

The idea is to decrease the impedance of the catenary in order to reduce losses.



Fixed installation Railenergy solutions



Rolling stock Railenergy solutions

The technical and strategic recommendation of Railenergy are mainly focused on these technologies:

- Medium Voltage loads management
- Active filtering to reduce input passive filter losses
- Control to reduce traction chain losses

These technologies will be treated in details by the presentation of AnsaldoBreda!!!

Some proposal are only SW changes !!

Conclusions

- Some technology evaluated in Railenergy are **promising** for the electric **regional** services;
- Some of them could have **high investment costs** but they should be considered together with **other technical needs** (increasing capacity, renewal, new trains etc);
- The solutions proposed for **DC systems** are in general more **promising** due to **lower energy efficiency** of existing DC systems.

Thank you very much for your attention!

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Recommendations

