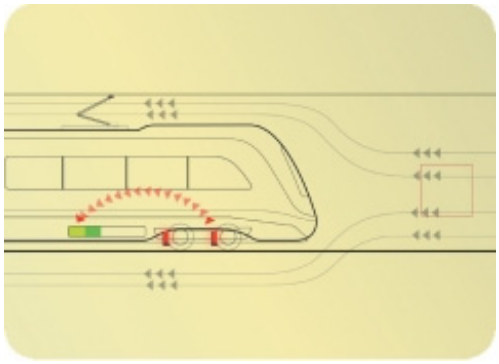
Railway vehicles Green and Wireless

Strukton Rail has developed a concept for retaining and reusing kinetic energy in railway vehicles (trains, trams, metro – heavy rail and light rail). This concept uses a new battery technique. Brake energy is stored in a lithium-ion cell within the vehicle. These batteries are developing rapidly and become less costly, smaller and lighter; their lifespan increases.

Advantages of this battery technique include:

- Ultra-fast loading through traction electronics
- The energy can be retained for longer periods of time

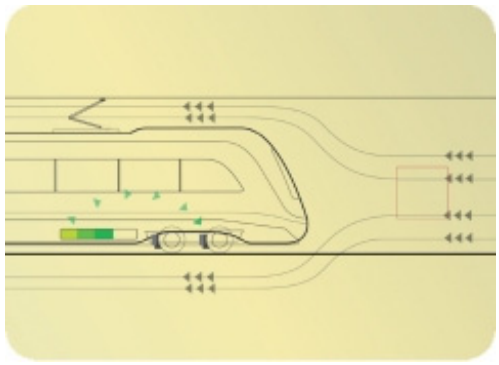


Retaining energy instead of saving energy

Storing brake energy is a sustainable solution for energy saving. Various techniques are already available for storing brake energy *outside of* the vehicle (e.g. feeding back to catenary system, station lighting), but energy gets lost in those cases. No energy is lost when the kinetic energy is stored in the vehicle itself. The new battery concept can lead to an energy reduction of 20 to 30% and a reduction of fine particle and carbon emission.

The stored energy can be used for:

- Accelerating the vehicle (peak shaving)
- Driving particular distances without catenary (up to 8 kilometres)
- The power supply of on-board electricity supply systems



Without catenary

Leaving the catenary system away is not only attractive from a cosmetic point of view (city centres, polder landscapes) but also leads to considerable cost savings. Those cost savings can just be the deciding factor for e.g. provinces to opt for an electrically driven public transport connection instead of e.g. a diesel-driven connection.

Strukton Rail

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