Emission Free Heavy Logistics

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Charging Solutions and Infrastructure

Scania
Scania’s science based targets

• Science based target
  - Sustainable production
  - Operation of sold products

• Sustainable transport solutions
  - Eco-system partnerships
  - Infrastructure
  - Policy
  - User acceptance
  - Business models
Trends and business logic

- Over time, (almost) all heavy transportation will be electric
- The eco-system is complex and there is a need for system demonstrators, involving all stakeholders
- The technical development is fast and there is no single solution
- Ensuring a long term sustainable business logic, with good potential for all, is driving the change
- The shift is mainly managed by political decisions
- When green electricity is powering transportation it will have a wide and deep impact on industry and society
Today – available Battery Electric vehicles (BEV)

- Range 250-300km, fast battery development
- Deployment of BEV / distribution trucks via;
  - Static depot charging for regional use
  - Public chargers for larger regions and inter-regional use
  - Charge when you stop – don not stop to charge
- Coming (with + and -)
- ERS – heavily loaded shuttle paths, many trucks
  - Tested and works
  - Dynamic charging – good for the grid
  - No stop/charging time
- H2/FC
  - Range extender, heavy transport, sparse traffic
  - H2 good energy carrier for many applications
Experiences from ERS

• Sweden (E16), 2016-06 to 2020-01
• 2 km, 3 hybrid trucks, - 2 700 visitors
• Germany, 5 km bidirectional (+7km 2022) south of Frankfurt
• In operation from 2019-05, 5 hybrids (7 more ordered) commercial use
• 2020-11-30, >20.000km under wire
• BEV, HEV and FC truck compatible
• Connect and disconnect at 90km/h and above
• 150kW, 300kW or 450kW possible to transfer
• Will be 1.200 V
• OEM, <€10k / pantograph

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Some thoughts...

- The competitive advantage will be based on combinations of solutions, tailored to deliver **both** good financial and environmental results.
- Those who deploy and use will be profitable, those who do not will not.
- BEV can be used now, development of batteries (capacity and weight) is fast.
- The political objectives are positive **effects from** climate smart profitable heavy transportation, not the transportation itself.
- Need for system demonstrators, involve all stakeholder.
- Trust and security; green electricity – in the right places with enough capacity, Austria has a competitive advantage.
- BEV solutions and charging infrastructure is available and will have good impact – use it.
- Where ERS is motivated - use it.
- **Prepare for success**; How will Austria gain benefits from emission free heavy logistics?
Vielen dank
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