Decarbonization of the city bus system in Klagenfurt

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Klagenfurt is located in the southern part of Austria approx. 100,000 inhabitants, 850/km² most employees in the service sector
Customers trips are strongly oriented to the city center and the main railway station. There are no strong suburban developments in Klagenfurt.
Existing bus system-vessels are propelled by combustion engines connection with regional bus system is unsatisfying: amount of cars in the town is high and traffic is not very sustainable!

motorized individual transport should be very reduced!

**Modal Split Goal 2035**

**Current Modal Split (2014)**
- Public Transport: 10%
- Pedestrian: 6%
- Bicycle: 24%
- Car Driver: 48%
- Car Passenger: 12%

**Goal 2035**
- Ecomobility: 30%
- Motorized individual transport: 70%
proposed public transport network consists of 3-5 main axes (cross-city routes), operation of innovative electric buses with in motion charging (IMC), interval: 10 min. linked with regional railway/bus service additional supplying routes (visualized as thinner lines)
Comparison of Additional Costs

Costs depending on E-bus types, network characteristics and cost prognosis scenarios (as of 2035)

Bars represent percentage of additional full costs including vehicles and infrastructure, for 12 m buses, compared to conventional Diesel buses

IMC: dynamic charging under overhead wires; SC: snap charging; DC: depot charging

Source: KCW (Berlin), calculations based on own market intelligence and literature data; June 2018
Based on a case study for the city of Klagenfurt, full costs (operating service – vehicles, infrastructure, remise, battery packs, power supply and management services,...) over the timepanel of 40 years of different Trolley-Bus-Systems are compared.

- TS...conventional trolleybus system
- IMC...dynamic charging under overhead wires
- DC...depot charging (overnight)
- SCE...snap charging endpoint of line
- SC...snap charging
Thank You For Your Attention!