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| HEX2018 |  |

# TRACK

Challenge Guidelines

Future mobility

# PARTNER(s)

VDL Enabling Transport Solutions (VDL ETS)

# Challenge

Mobility and public transport are developing rapidly in new directions with a strong focus on zero-emission. Latest technologies on batteries, chargers, climate systems, connectivity and datamining are main drivers for these developments. Current state of the art battery technology is still the main limiting factor for range of vehicles. Besides drive train also other factors like climate system, ambient temperature effect on the battery, road conditions (friction), auxiliaries (pneumatics, steering, …) etc. are significant energy consumers. This all limits the practical usable application range for public transport busses and makes it difficult to plan the operation of the busses efficiently and flexibility is limited.

Your challenge is to design an algorithm and tool to design the optimal fleet for the city of Eindhoven fleet taking into account energy usage, environmental conditions, all prices, charge time (bus offline), bus types etc….. The tool should be able to present the optimal number of buses, type and number of chargers, location of charging, when the buses should be charged, battery chemistry (MP or HP) and battery size.

# Resources and Extra information

Energy consumption of a public transport bus and environmental parameters. Usage data of the current electric bus fleet of Eindhoven. The most recent technology trends and future projections and your imagination and creativity. White papers and internet references: battery technology, energy prices.

# HOW CAN YOU WIN?

The most c0mplete, tangible and appealing tool assessed on:

- comprehensiveness

- technology trend considerations

- flexibility

- costs

- potential business models

- creativity, presentation, imagination and liveliness