

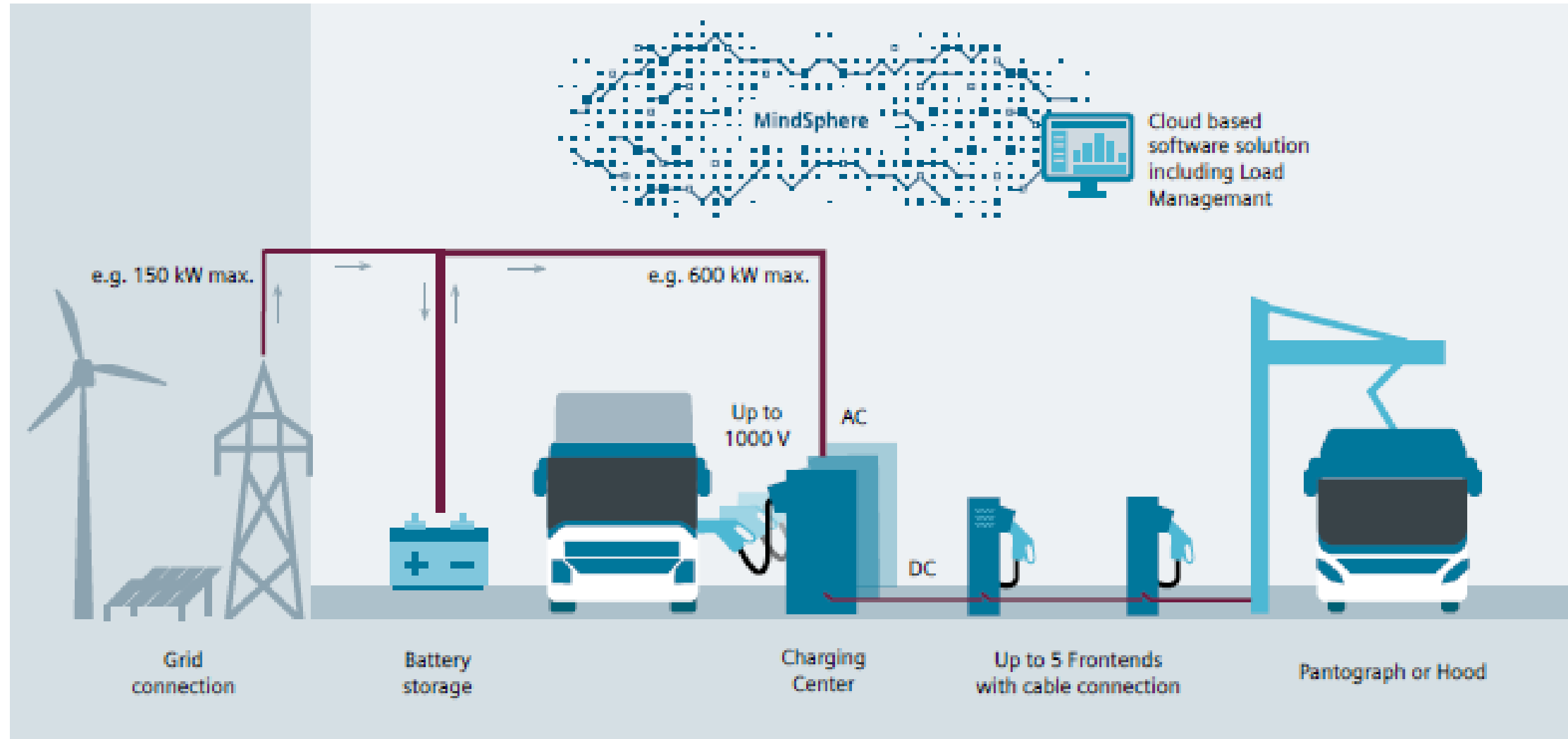
# Siemens eBus Lade-infrastruktur

Informationsmøde for tilbudsgivere vedr. A19x  
15. September 2020





# Ramme aftale med Movia

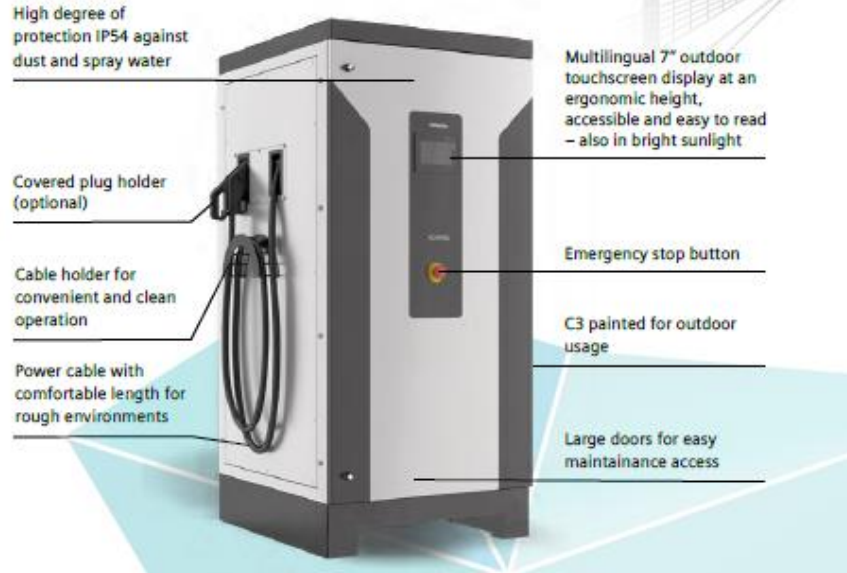


# Siemens portfolio, By-rums opladning

## The SICHARGE UC family

### Charging Center

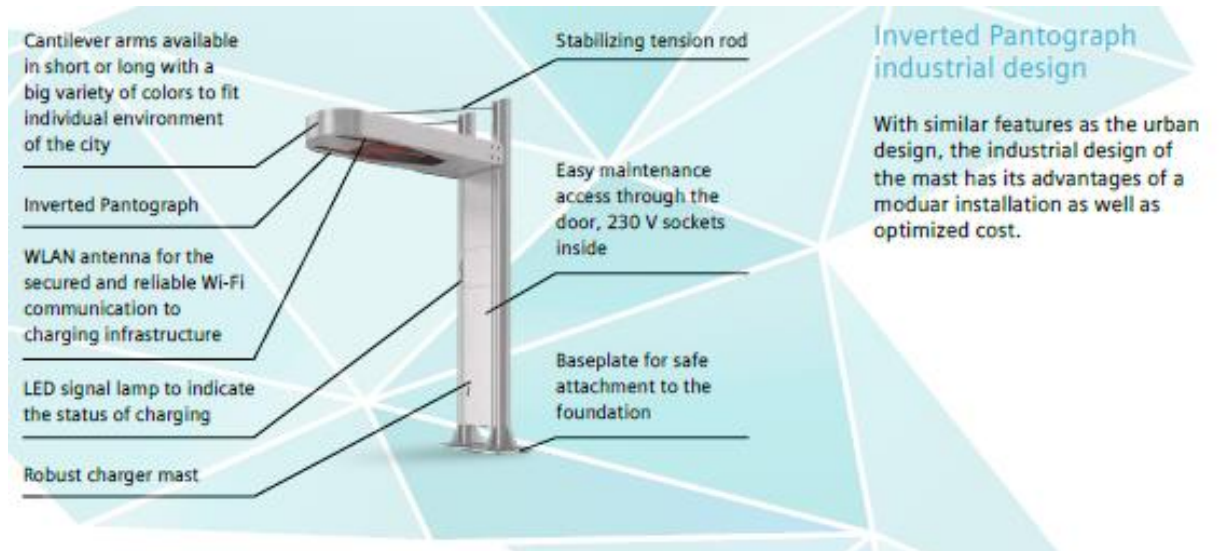
The Charging Center is the core of your system. It contains the charging controller, the DC converters and optionally a direct cable connection to the vehicle. Several other vehicle connections like the cable based Frontend, inverted Pantograph and Hood can be powered by this unit.



Indoor pantograph

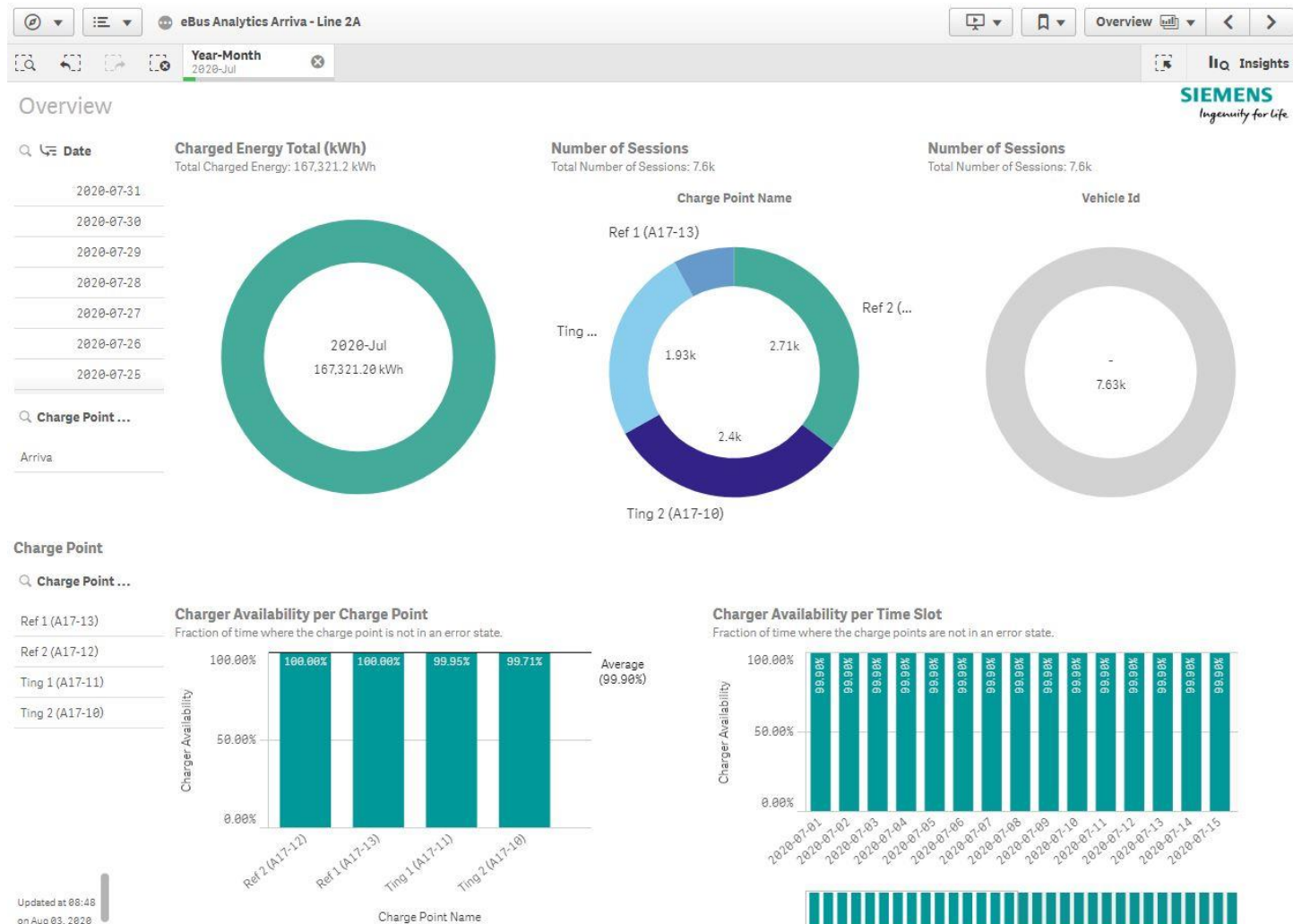


Fast charging stations outside



# Oppetider - Linje 2A

- Udstyr med høj oppetid



# Byrums opladning vs. Depot ladning

- **Byrums opladning**
  - Stort antal driftbusser
  - Lange ruter
  - Døgndrift
  - Lokation for endestation
  - Bl.a A-linier, R-Linier
- **Depot ladning**
  - Lavt antal driftbusser
  - Kort ruter
  - Depot I nær område
  - Lokal busser, skolebusser

**SIEMENS**  
*Ingenuity for life*





# Siemens, Depot opladning



## Air Cooled Dispenser up to 200A

## Liquid cooled Dispenser Up to 400A



Blandt andre:



**Frontend**

The cable connected Frontend of the UC family is installed close to the vehicles connection with a small footprint and elegant design.

For investment and space optimization, several Frontends can be powered in sequence by a single Charging Center.

- Inclined rain protection hood directs water to the rear
- High degree of protection IP54 against dust and spray water
- Cable optionally cooled for up to 400 A continuous, 500 A max.
- Multilingual 7" outdoor touchscreen display at an ergonomic height, accessible and easy to read – also in bright sunlight
- Cable holder for convenient and clean operation
- Power cable for application in rough environments with comfortable length
- Air ventilation slots for the liquid cooled cable
- Covered plug holder (optional)



# Byrum eller depot – Samme system



## Monitoring & Reporting *“See your charging”*

- Rå Rapporter (med CSV-eksport)
- Dashboard (status oversigt, kort)
- Rapportering (transaktionsreg., fejlregistreringer)
- Notifikationer (fejl, lader status....) via email

## Smart Charging

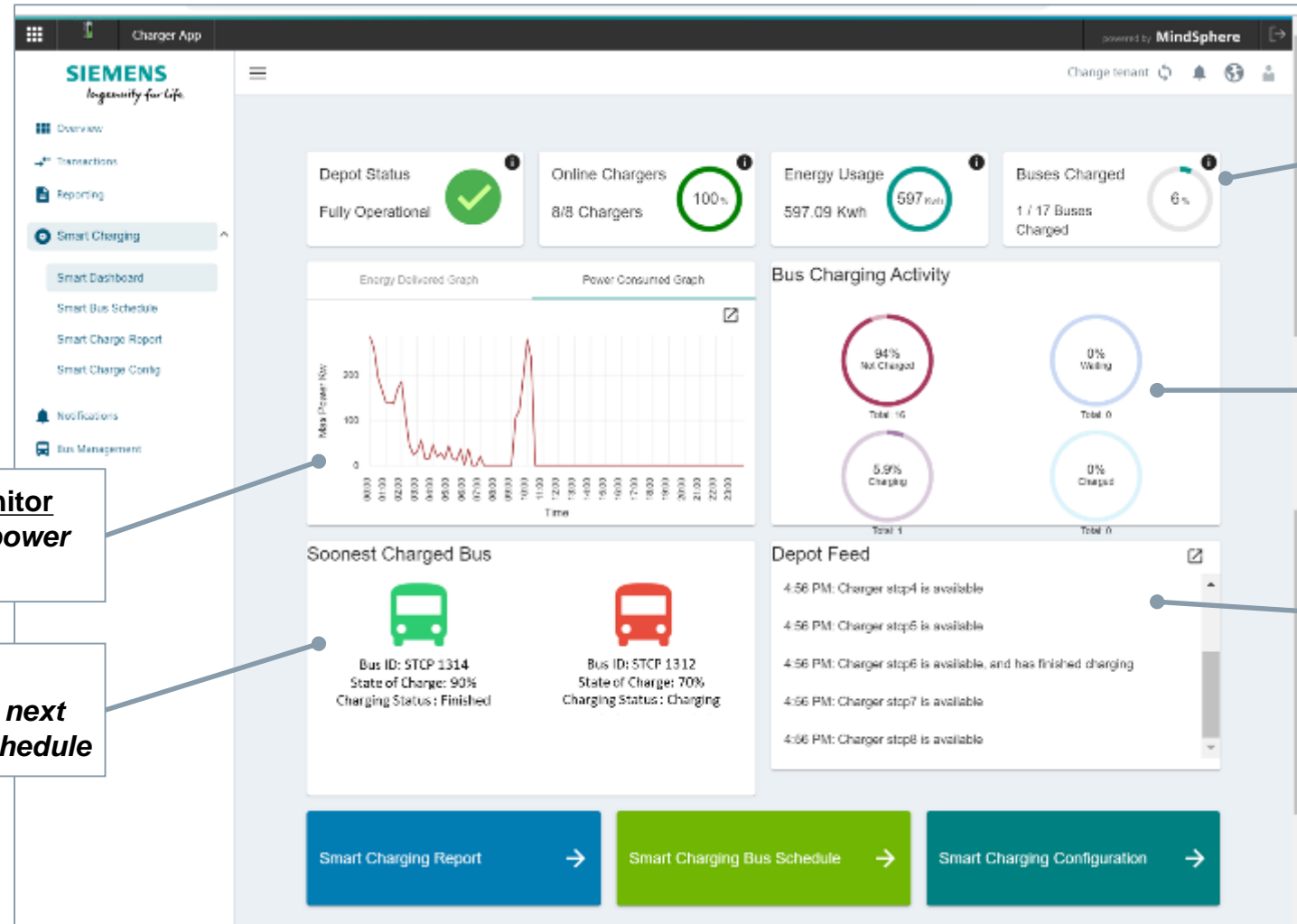
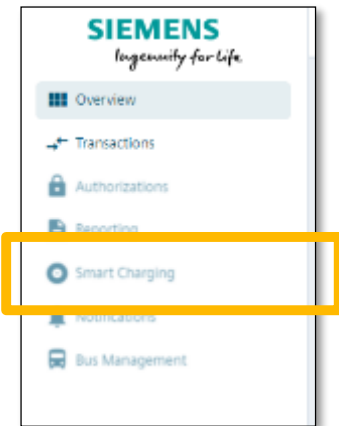
*“Control your charging”*

- Gruppe ladning & tildelt max power
- Sæt prioritet (FIFO, FILO, Mixed)
- Charge Sim Tool (hjælper dig med at oplade smartere!)
- Advanced Ops Research optimizer (rutine + "fixed" energi marked conditioner)



# Sample View : Smart Charging – Dashboard

## Overview of smart charging operations



**Smart Charging Snapshot**  
*Depot status, chargers online, energy delivered, buses charged*

**Current Charging Activity**  
*Buses charging, Buses finished, buses finishing, chargers available,*

**Depot "News Feed"**  
*Depot events, charger change of status, bus ready....,*

**Energy/Power Monitor**  
*Planned vs actual power and energy*

**Bus Monitor**  
*Realtime status for next buses in charging schedule*



# Erfaringer og feedback fra Linje 2A

- Erfaringer:
  - Tæt samarbejde mellem operatør og Siemens
  - Udførlig test med busser betaler sig
  - God Træning / Instruktion til chauffører
- Feedback:
  - Nemt at anvende ladere
  - Fantastisk at køre busserne
  - Hurtig opladning
  - Super tilkørselsforhold, Refshalevej
  - Lidt rigeligt med bump



# Spørgsmål



Siemens A/S, Future Grid

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