



Modern solutions for smooth trolleybus operation

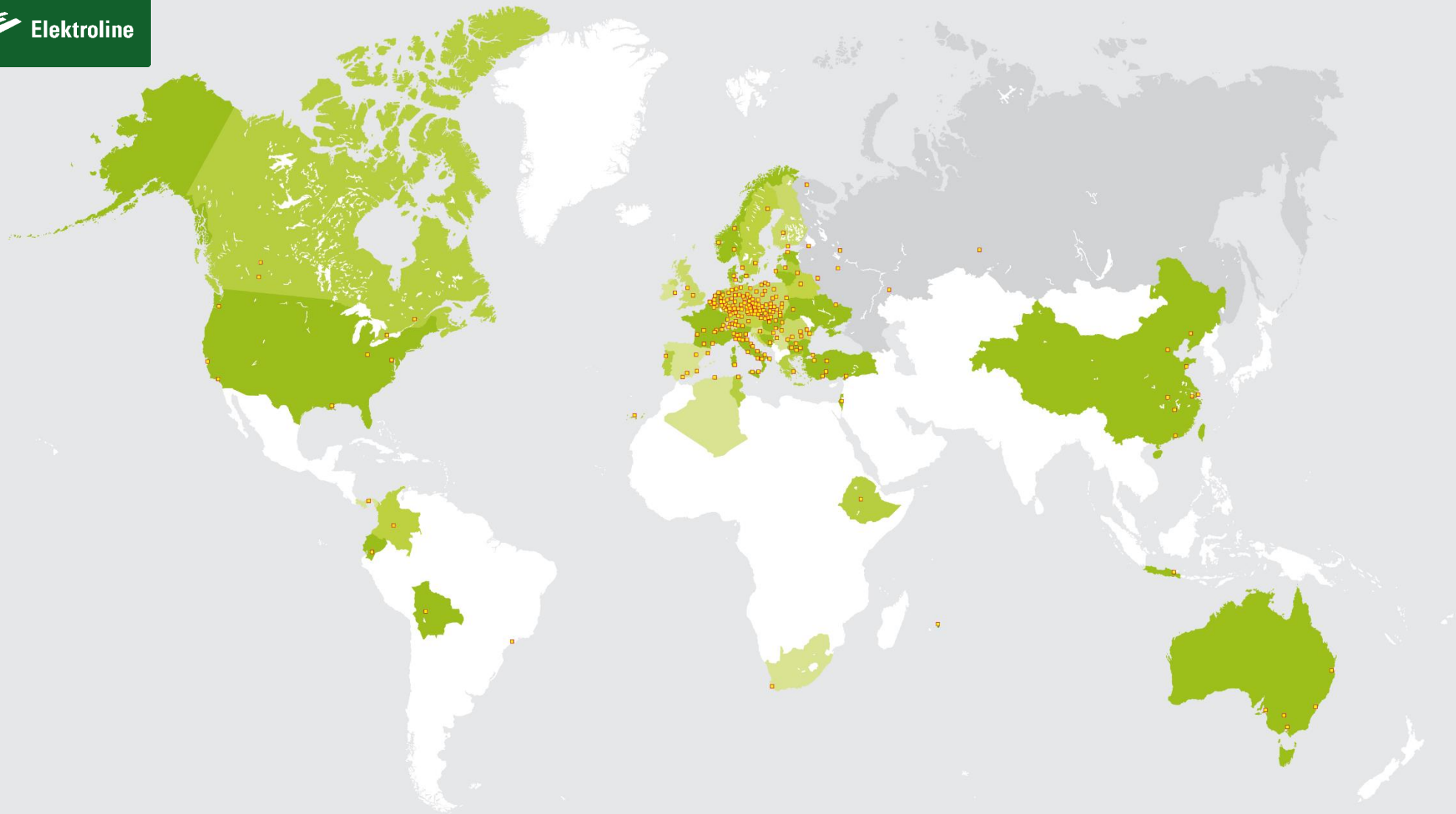
Josef Hajek, Jan Mrazek

- OCS Tram & Tbus
- Signaling Tram & Tbus
- OCS Railway
- 30+ years on market
- 400+ employees
- 317 cities
- 48 countries





Elektroline

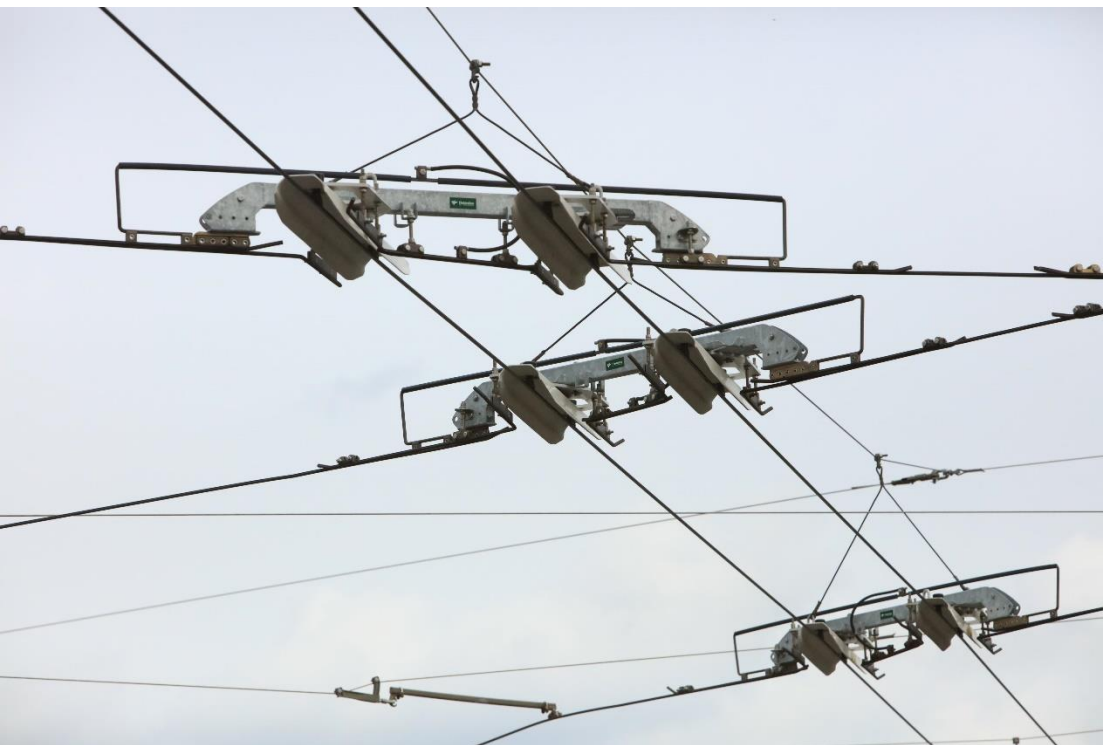




Elektroline



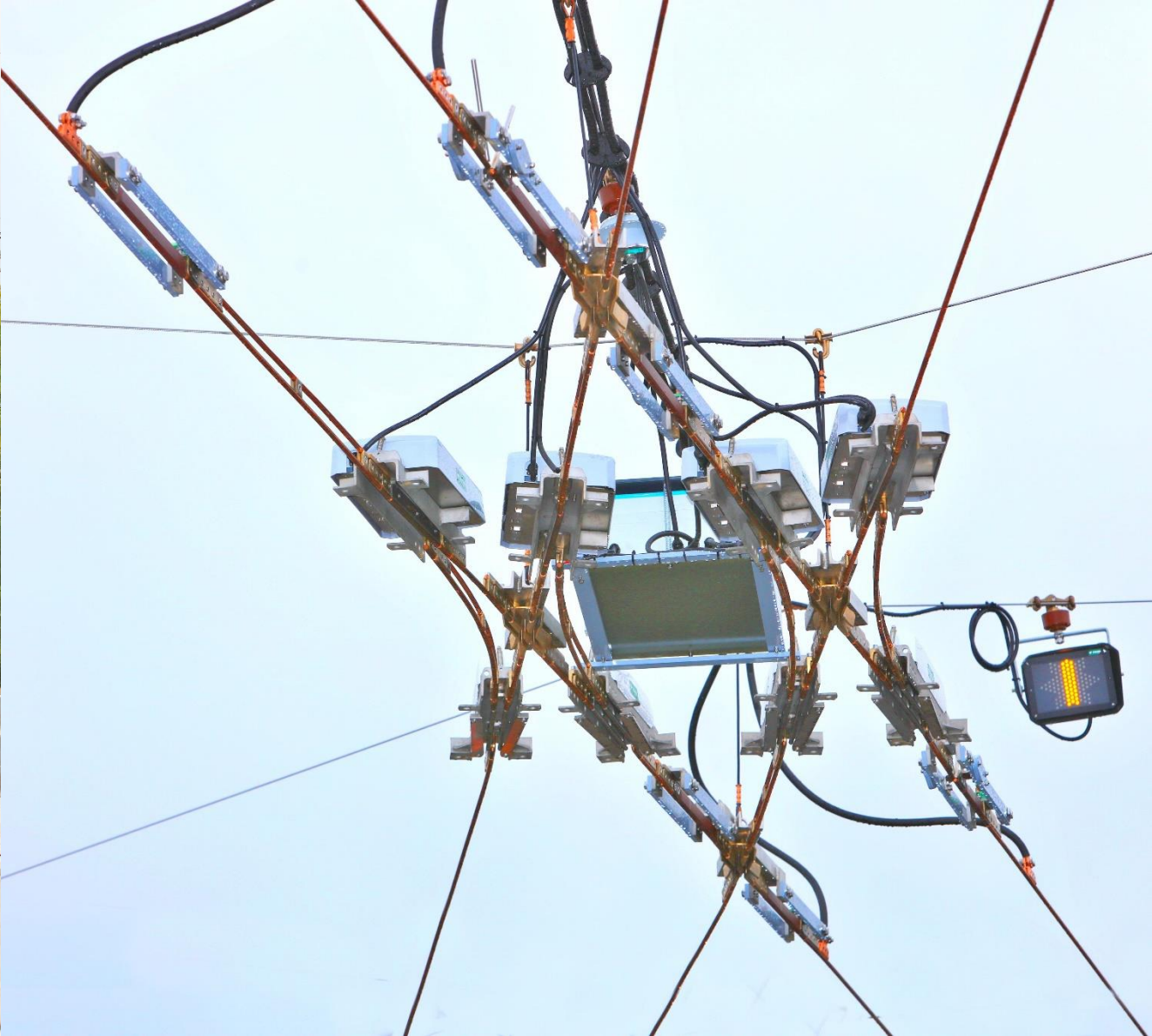






Elektroline

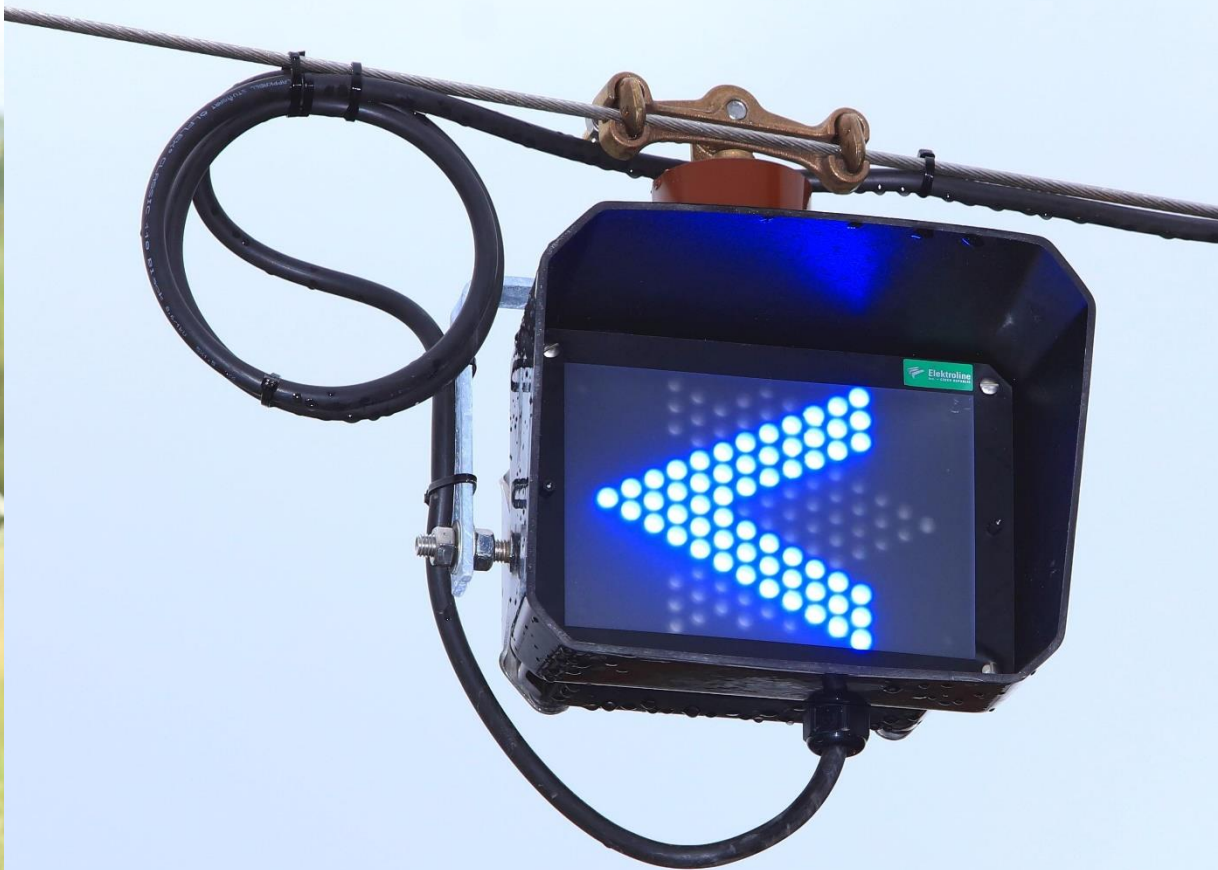


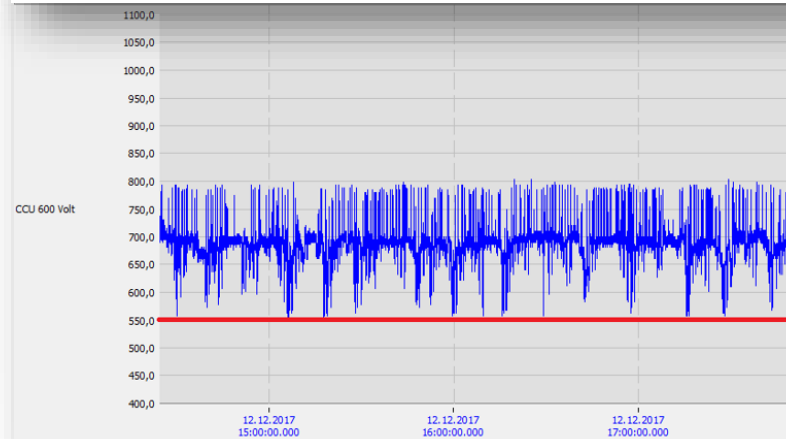
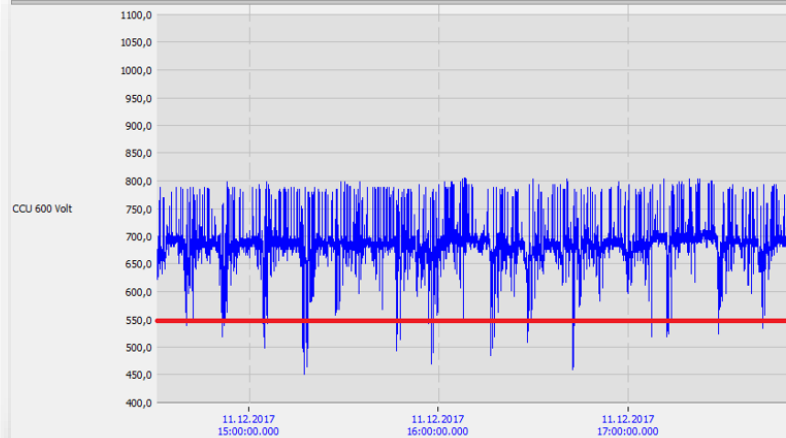


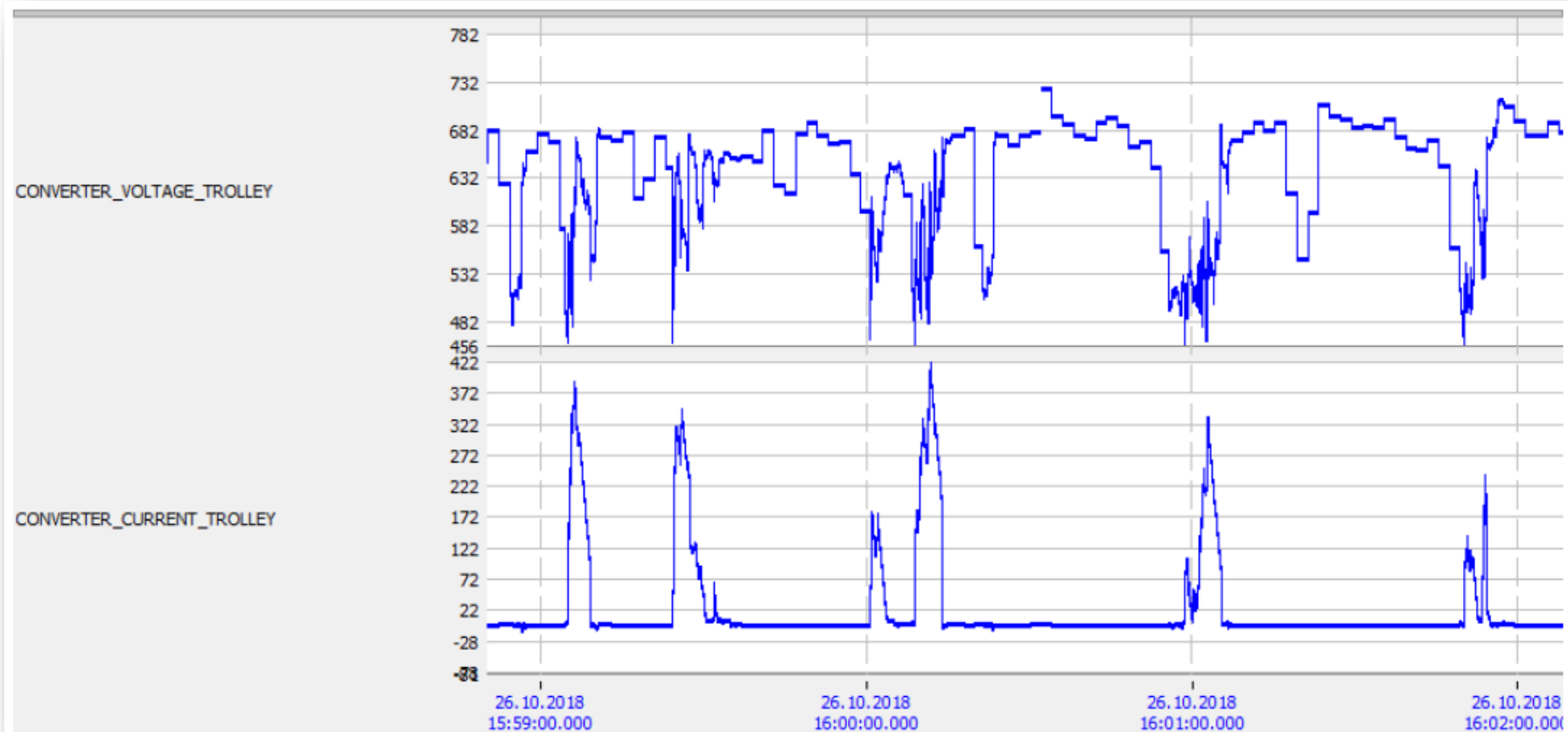


Elektroline





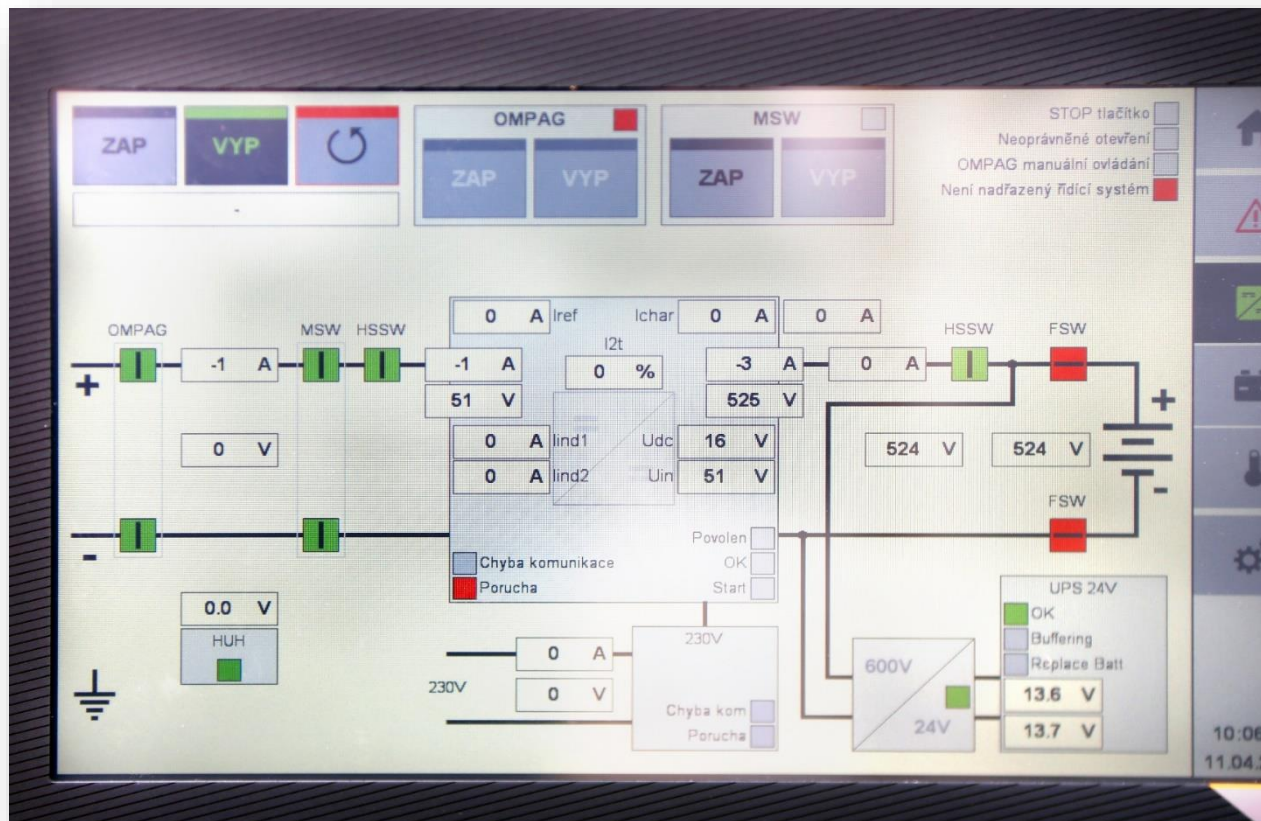


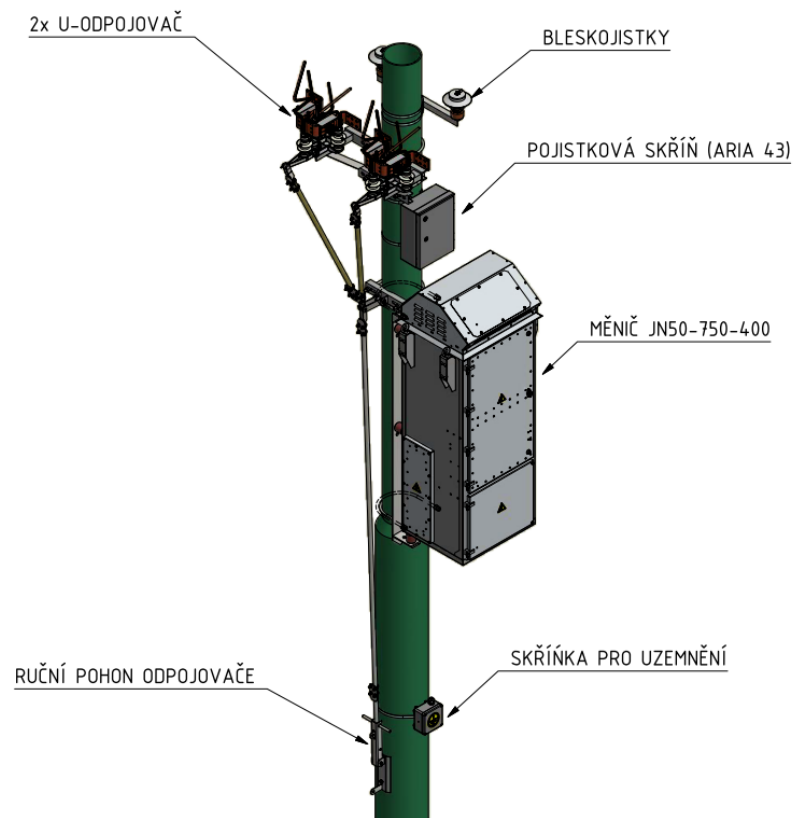
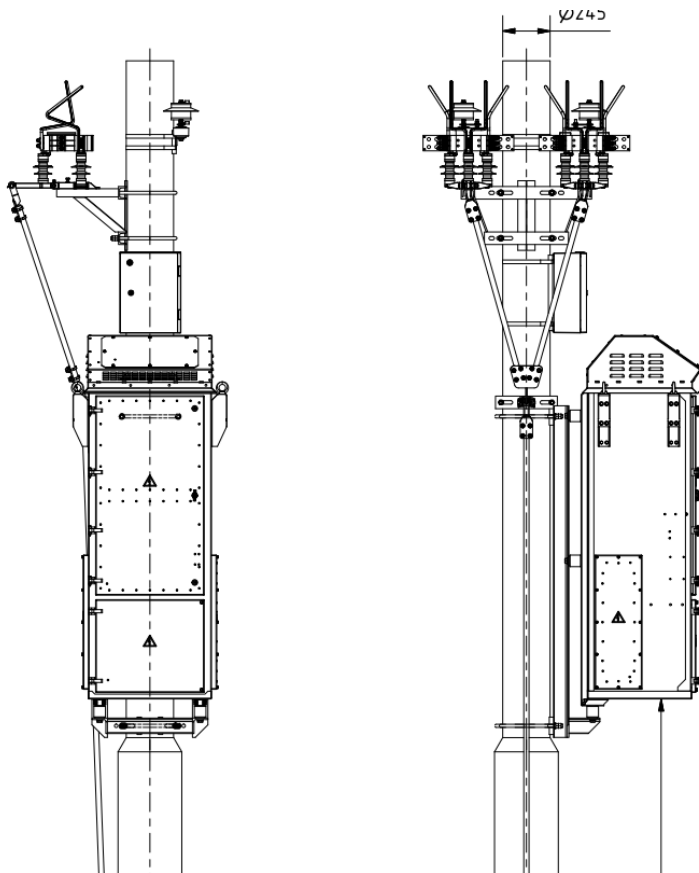


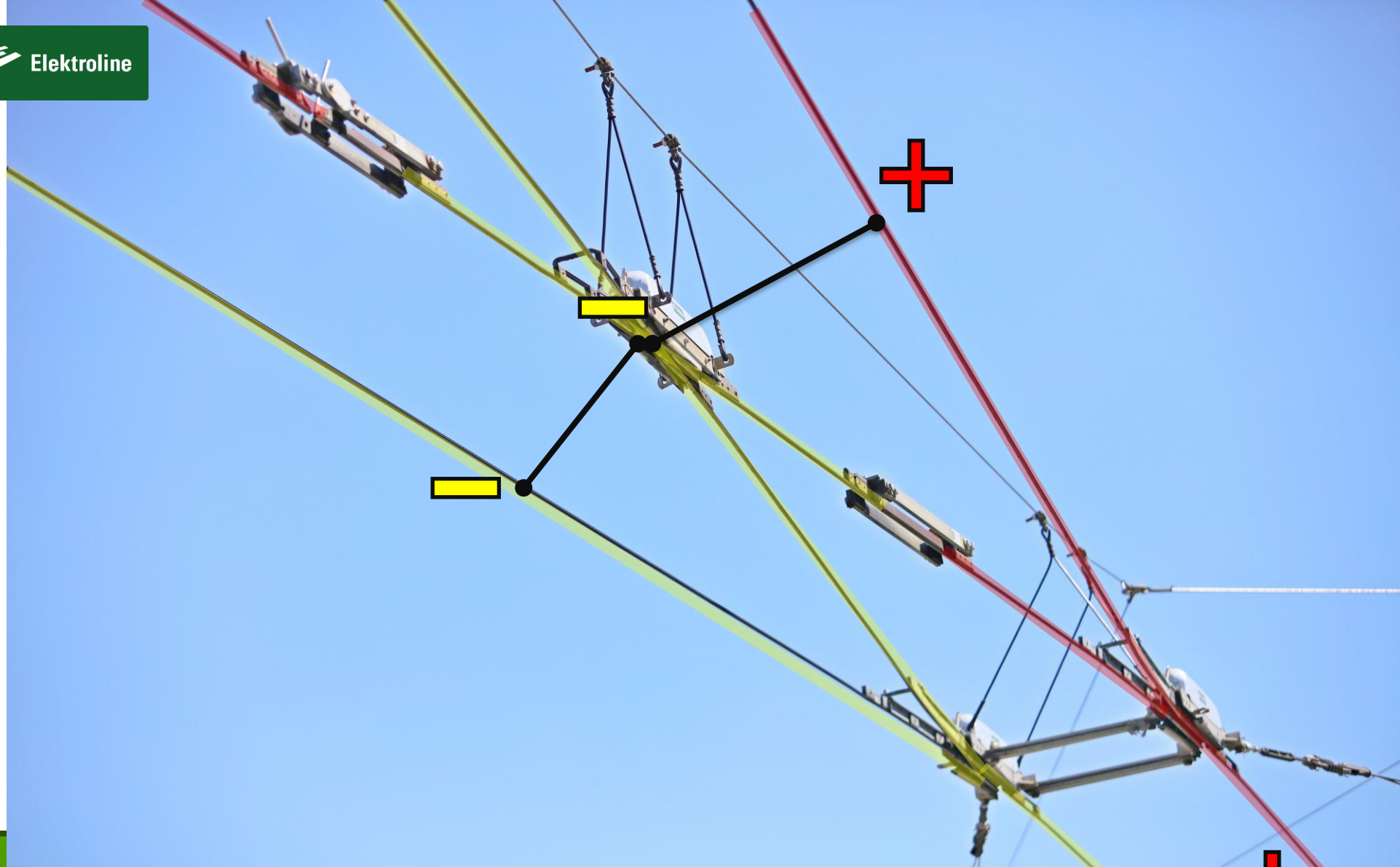
Nominal voltage:	600 V, 750 V
Charging current of batteries:	60 A
Feeding current from BS to OCS:	1000 A
Batteries:	40xPb/200Ah, total 96 kWh
Battery:	balancing
Sensors/supervision for:	Temperature / hydrogen /smoke-fumes
Remote supervision and control:	Support for operational analysis and for maintenance teams
Remote upgrade:	Modifying of configuration etc.
Dimensions (L x W x H):	4.00 x 2.20 x 2.80 m
Weight:	8000 kg
Data transfer into cloud	

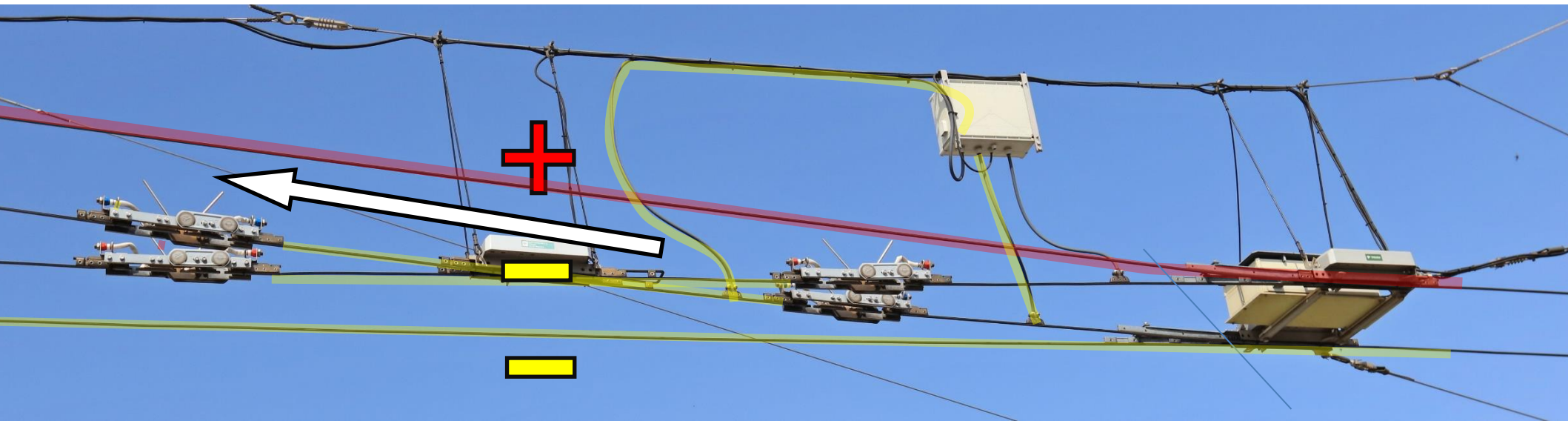


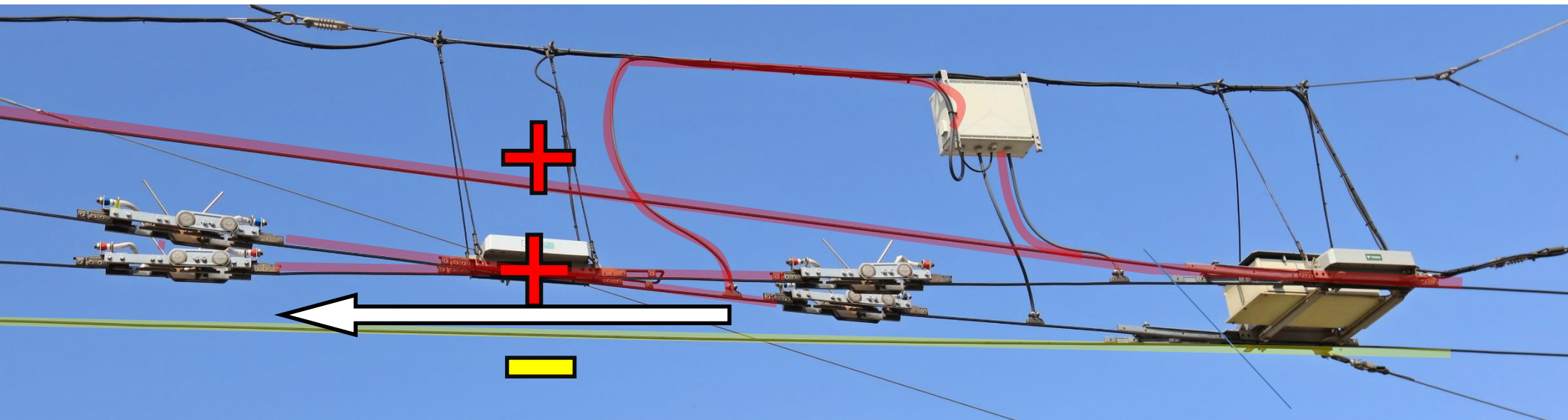


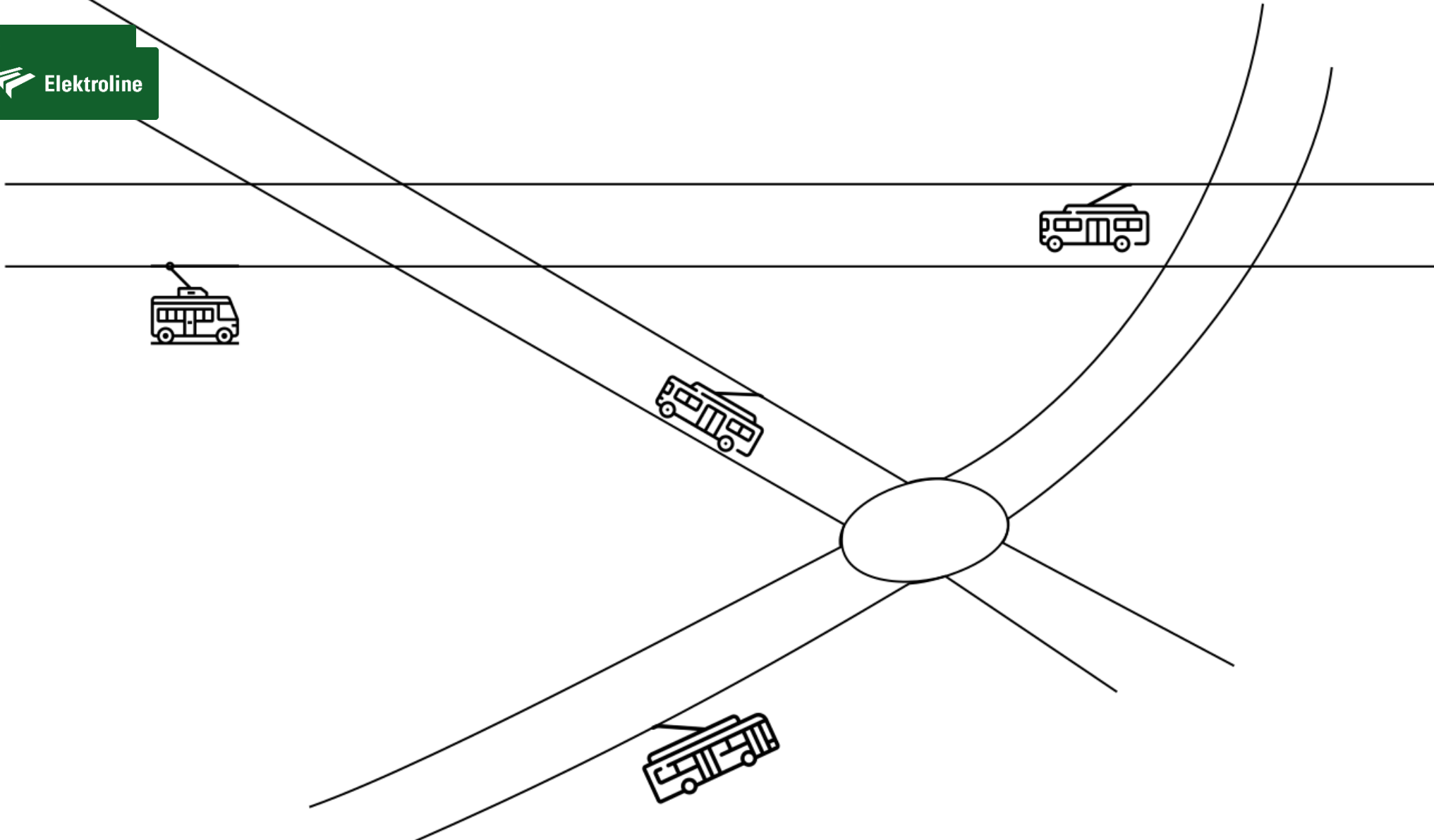


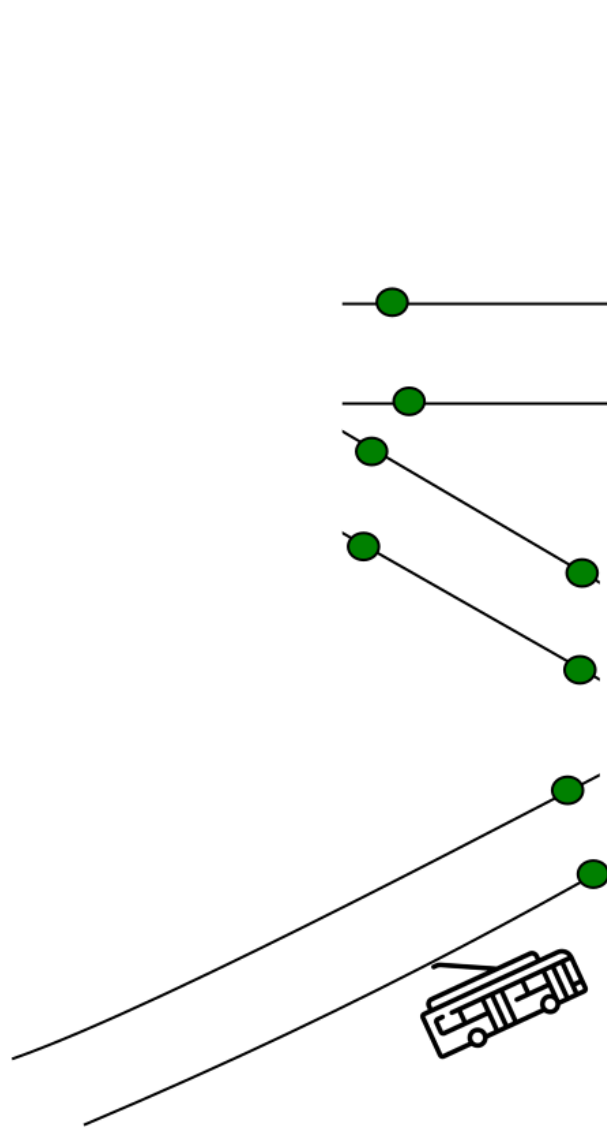
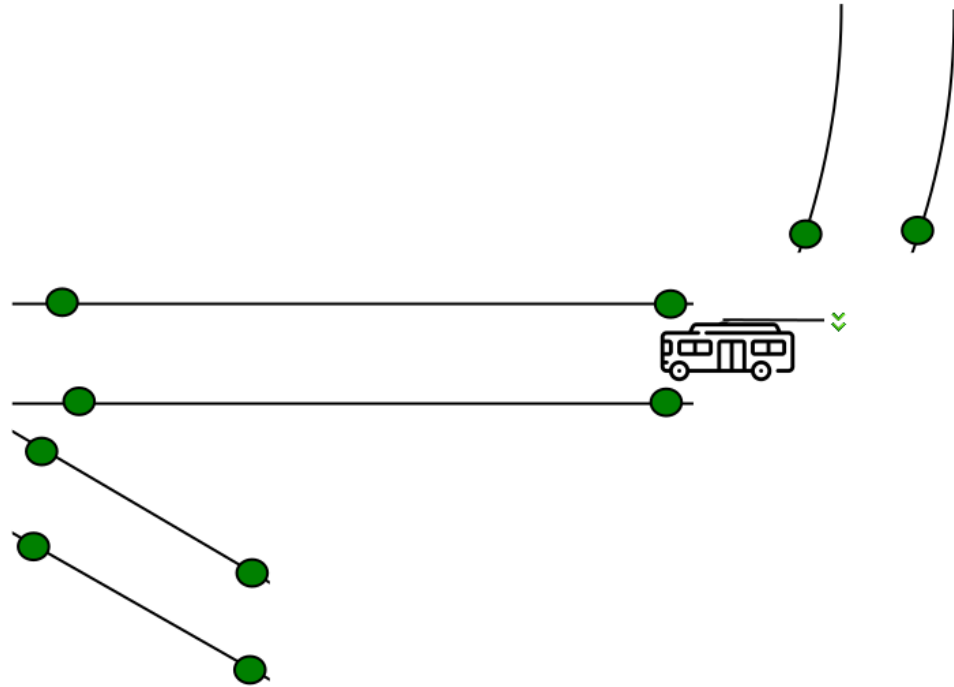
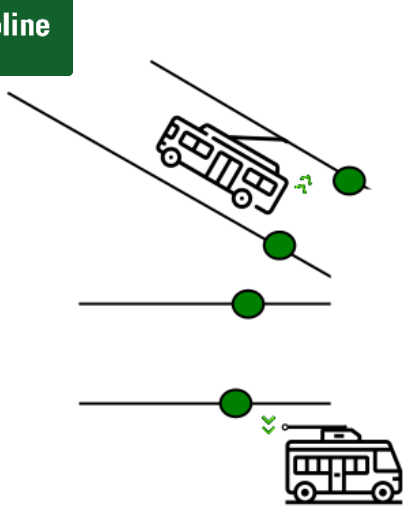


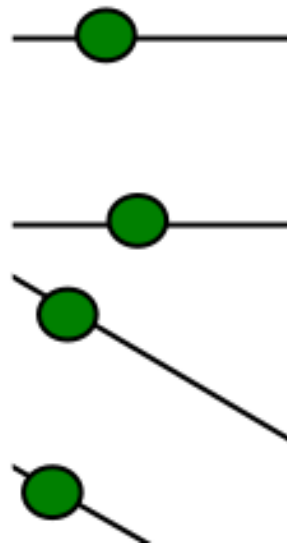
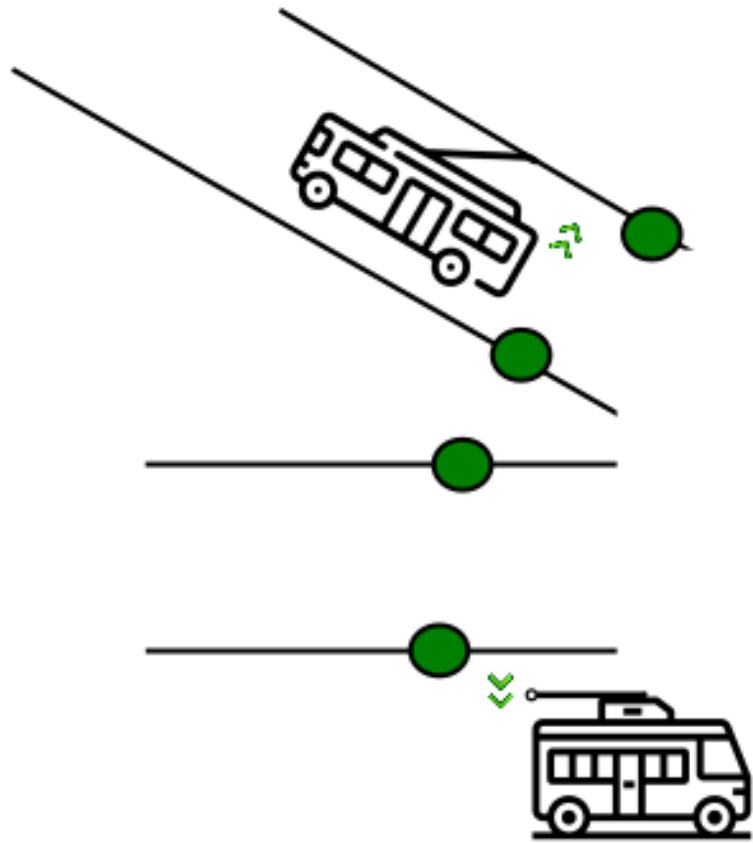












Pantograph Assistant

- Assistant for drivers to push down or pull up the pantographs
- Based on VETRA technology (2.4GHz)
- Installed and tested
 - Prague (trolleybuses)
 - Konya (trams)

Pantograph Assistant

- Wayside Equipment
 - Radio Beacons
 - Power
- Vehicle Equipment
 - Transceiver
 - Communication Unit

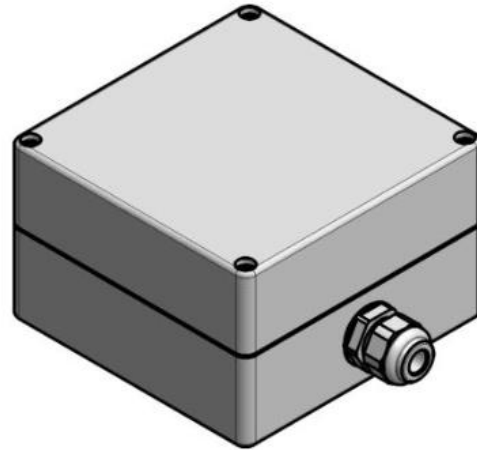
eBRT - Wayside



 Elektroline



eBRT - Vehicle



T H A N K
Y O U