

# WAVE

by Ideanomics

**Dialogkonferanse - Transport services Oslo  
east 2023**

Inductive Bus Charging Pilot for Ruter RFI

**December 8, 2021**

NASDAQ: IDEX

# About Ideanomics

Ideanomics' mission is to integrate electric transportation solutions with renewables and energy storage to capitalize on grid services, address resiliency concerns, and provide electric fleets with lower total cost of ownership, operational reliability, and flexible financing solutions. As a vertically integrated \$1B public company (NASDAQ: IDEX), we provide electric transportation solutions and financial services to accelerate adoption of zero-emission vehicles and reduce greenhouse gas emissions (GHG) globally.

## Agenda

- Wireless charging enables 100% electric bus fleet
- Tough duty cycles and HV connections
- RFI Suggestion



## About WAVE

- Founded in 2011 | Salt Lake City, UT
- 56 patents
- Leading number of high-power inductive systems deployed
- 125kW to 250kW in-route and depot with higher in development



## | Solving for range extension and harsh conditions



Hands-free, high-power range extension



Low maintenance and high uptime



Low profile, minimal visual impact



Low labor impact



All-weather resiliency



Safer operation and maintenance





## | Solving for range extension and harsh conditions

- The largest BEB fleet in North America -
- Largest high-power inductive system in the Americas -
- Total service area: over 260km<sup>2</sup>
- Vehicles: 47 wirelessly-equipped BEBs (+28)
- WAVE chargers: 12 @ 250kW (+3)
- Longest route: 466km (249km standard)
- 644 km added during 16 hours of operation

~ 3 Mio km

Total Range Extension  
Delivered

3,249 MWh

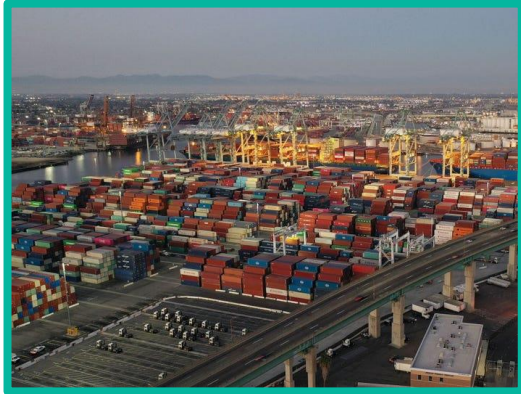
Power Delivered



Lancaster, CA



## | Tough duty cycles and HV connections



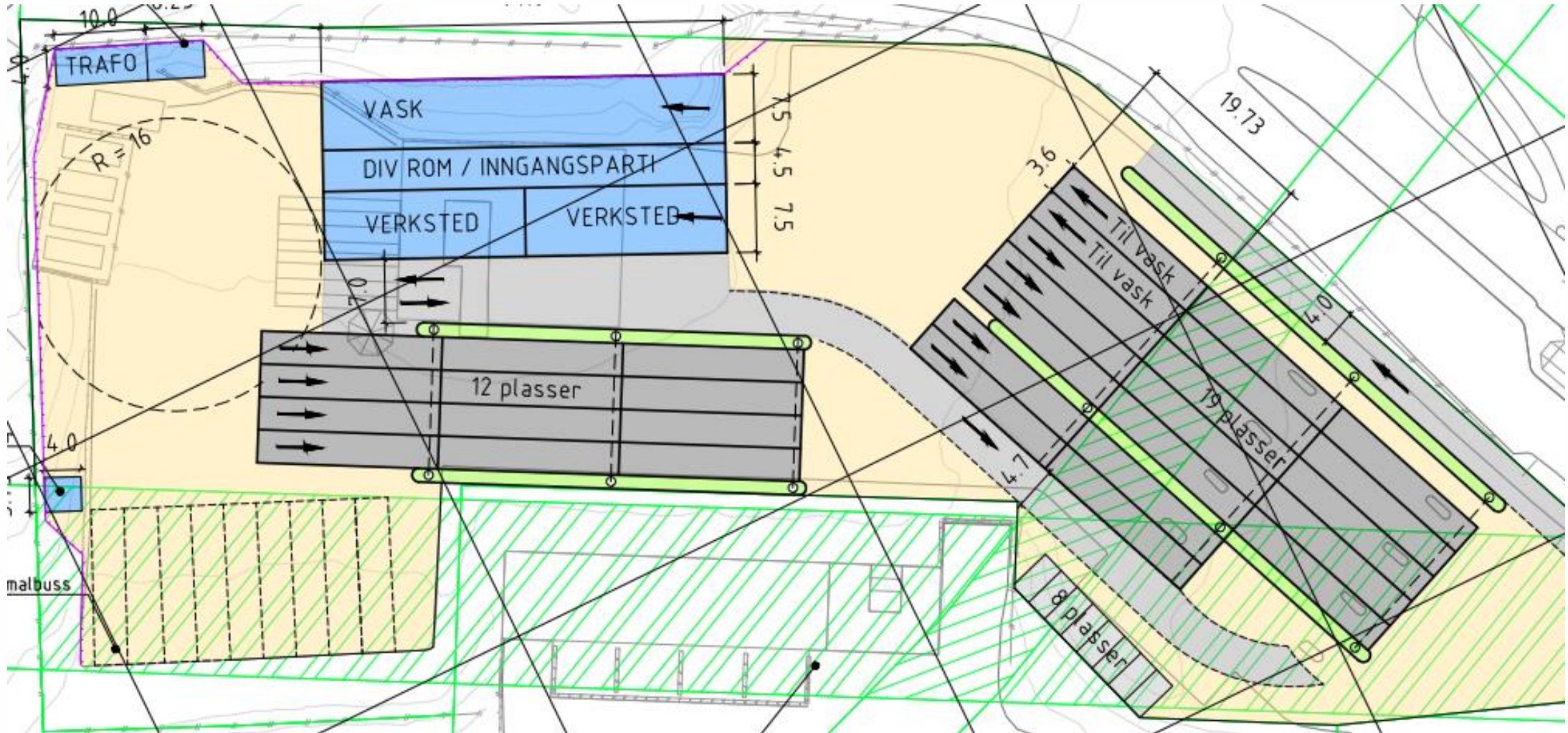
### First inductive systems for shipping ports

- Top loaders, container handlers, Class-8 yard trucks
- 125kW, 250kW, 380kW
- 500kW DOE extreme fast charger
- 1MW in development with U.S. Department of Energy
- Direct MV above 4kV connection available
- Energy storage inclusion available





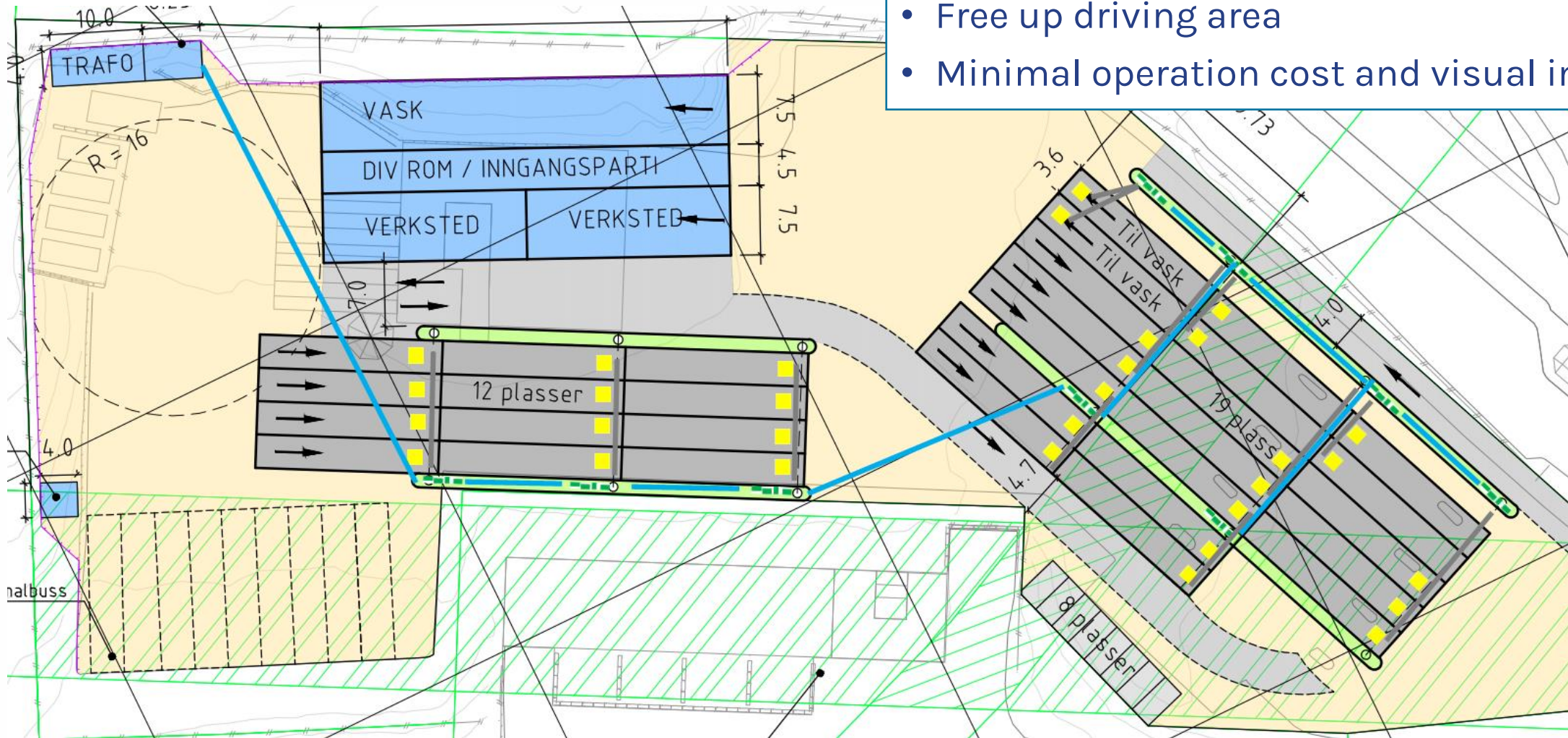
# Ruter# | RFI Suggestion Klemetsrud





# Ruter# | RFI Suggestion Klemetsrud

- Space saving
- Free up driving area
- Minimal operation cost and visual impact

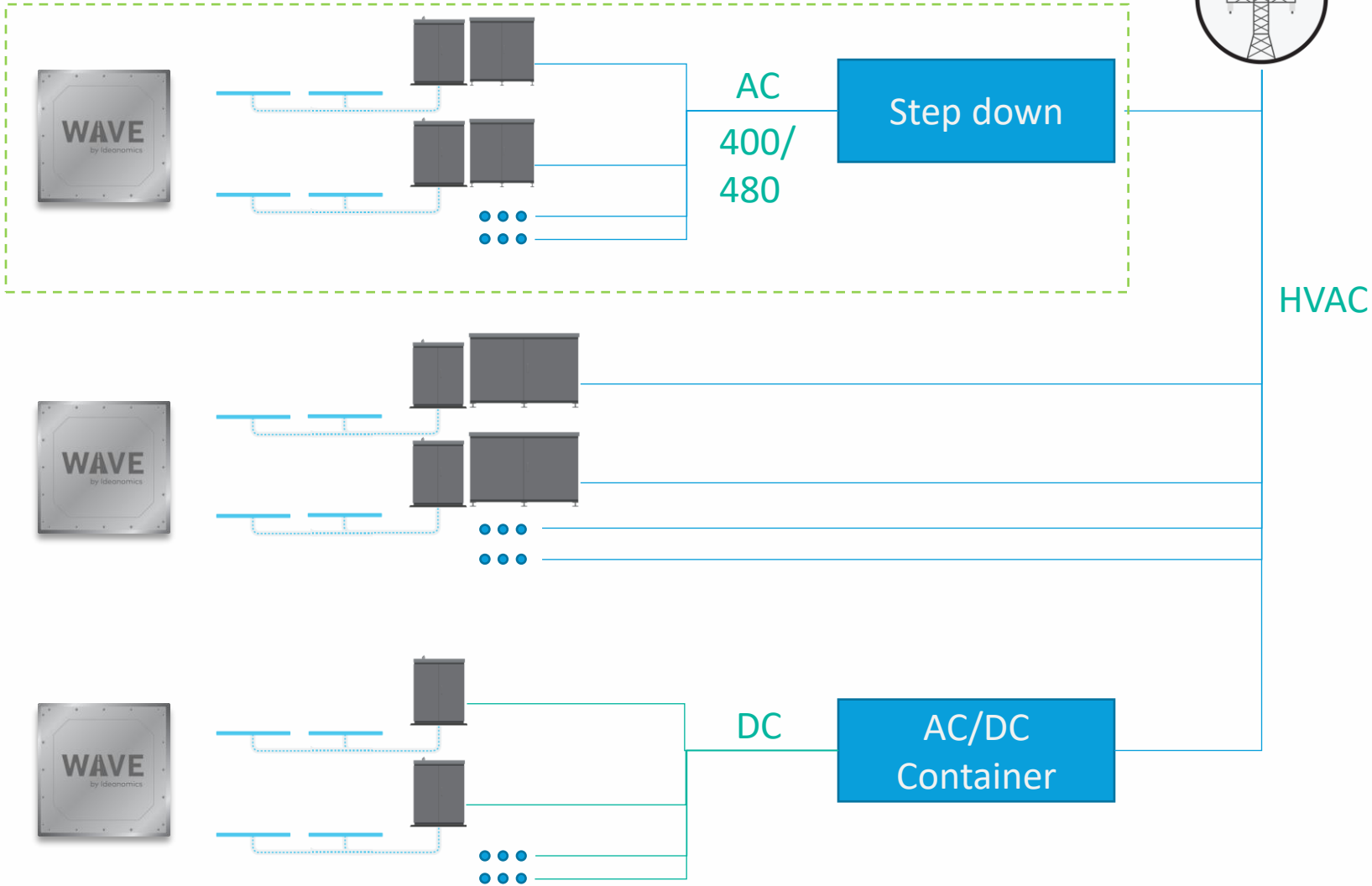




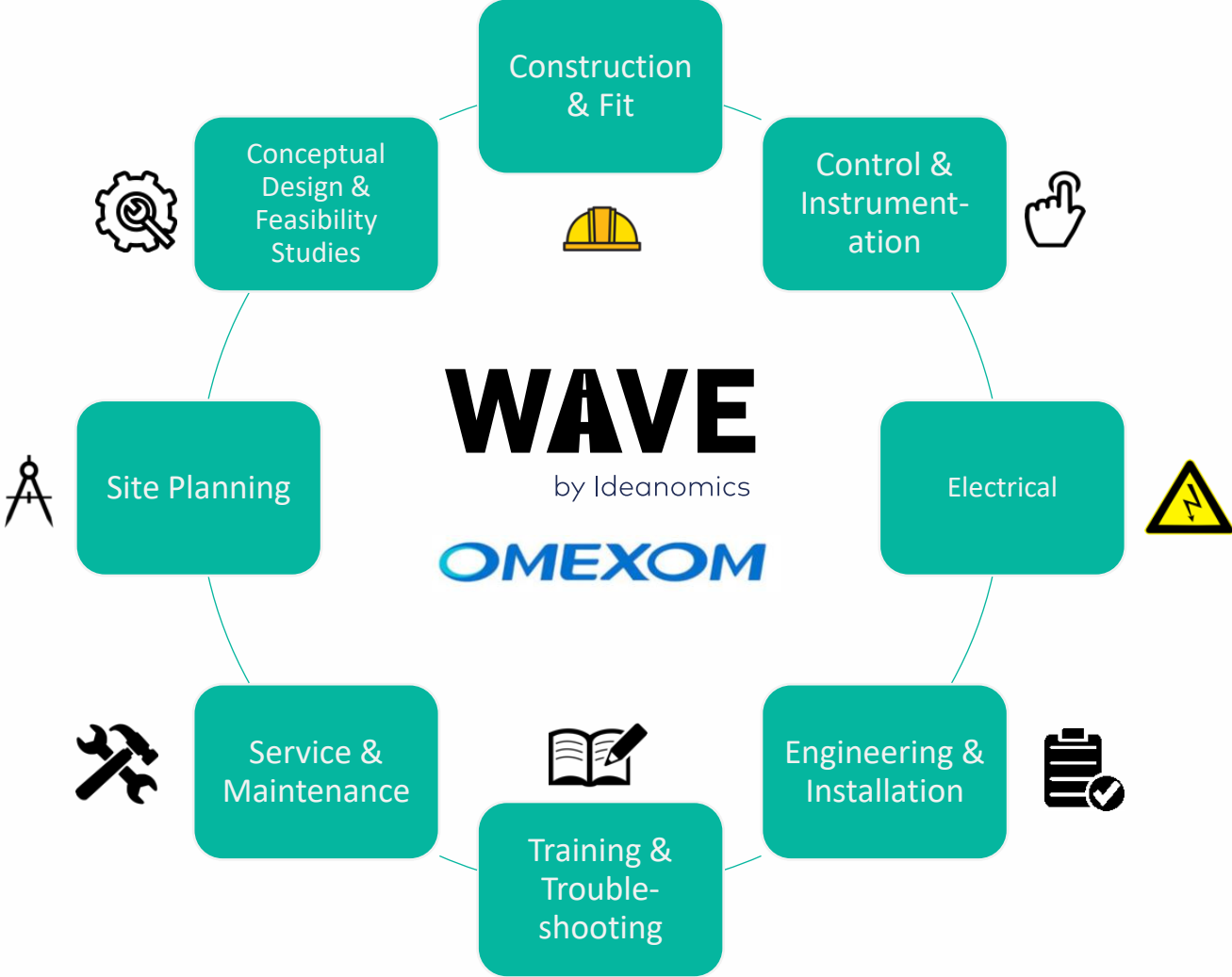
# Various option for grid layout

## Depot options

- AC Grid LV
- AC Grid HV
- DC Grid Matrix



# Service offerings for Oslo





# Benefits of new model and wireless Innovation and optimal system



**Flexibility - No Lock In**  
With the electrical service upgrade, any charging solution could be used



**Potential EaaS/CaaS**  
long-term financing for installation, operation, and maintenance



**Durability**  
Low maintenance with highest technology uptime



**Full system can be optimized**  
Local energy storage and higher-level energy management could be included



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**Q&A**

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