



**Empowering Indonesia's
Electric Bus Revolution:
Laksana's Commitment to
Sustainable Transportation**

Metrotrans - Cityline LE



Trans Pakuan Bogor - Nucleus LE



Trans Banyumas - Nucleus LE



Trans Jakarta - Cityline HD



Trans Jakarta - Cityline Articulated



BTS Padang - Nucleus LE



BTS Koetaradja - Nucleus LE



Damri - Discovery



BTS Yogyakarta - Nucleus



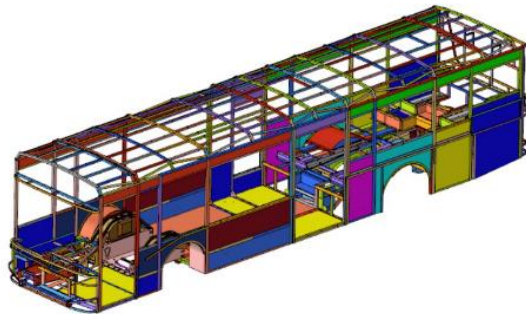
Lightweight and High Durability

- 1.5 tones lighter than galvanized steel bus
- Corrosion proof materials - Stainless steel structure and composite material



Lightweight Optimization Result

Weight per Assembly	Diesel Bus	Electric Bus
Chassis	5410 kg	8480 kg
Body	6290 kg (Cityline)	4480 kg (E-Cityline)
Passengers	4260 kg (70 passengers)	3000 kg (50 passengers)
Total Weight	15960 kg	15960 kg



Frame Optimization using FEA



Interior View



Exterior View

LAKSANA's Solution

*Optimized Bus Weight
and Lifetime*

Laksana launched the First
Stainless Steel Structured
Bus in Indonesia
at Busworld 2019



High Strength Stainless Steel Frame
Lightweight & durable
(corrosion resistance)

300 Kgs lighter
than ALM Frame

In 2020
LAKSANA LAUNCHED
8 Units

*Stainless Steel Structured Low Entry Bus
for SURABAYA*



Ex : Wiring Diagram (EV Bus)

Battery & Motor Coolant System



Coolant Pipe



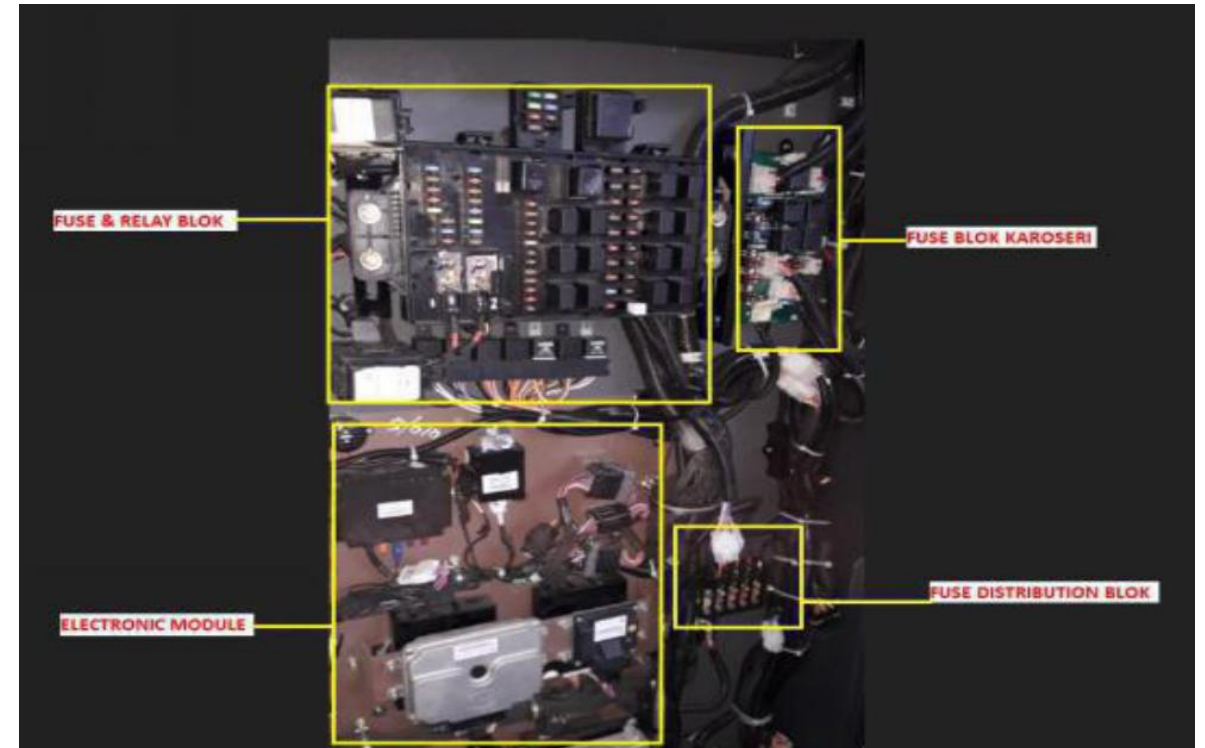
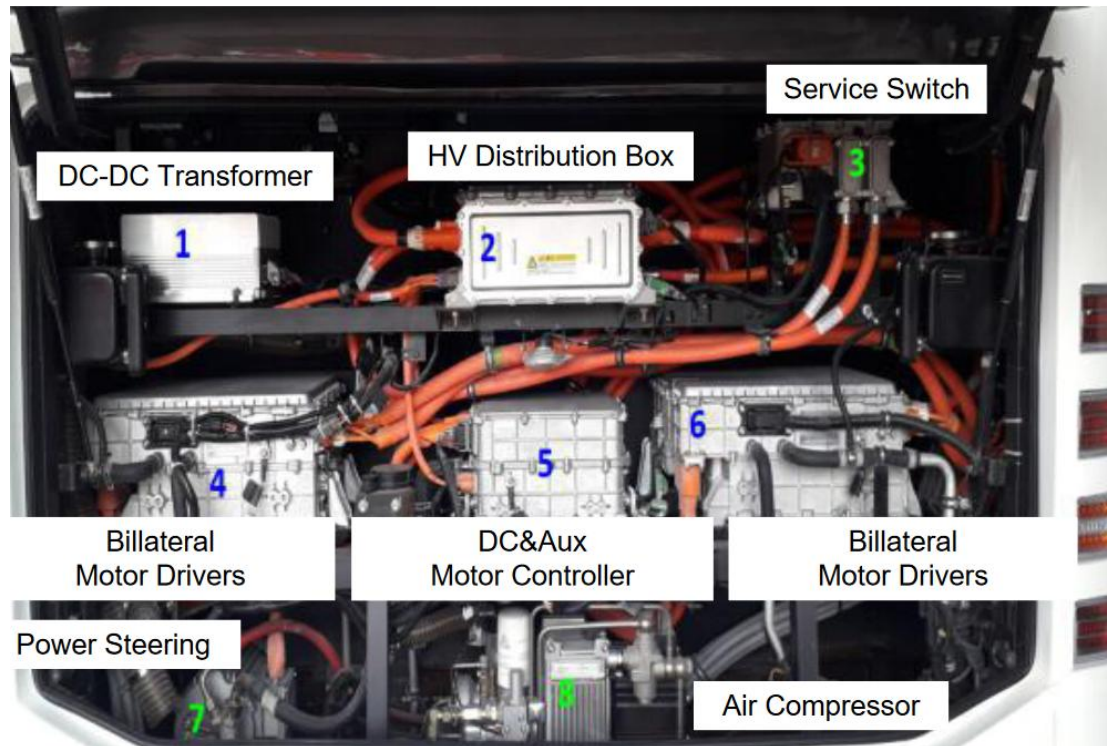
Coolant Pump and Refil
Bekerja pada temperature 25-30 °C



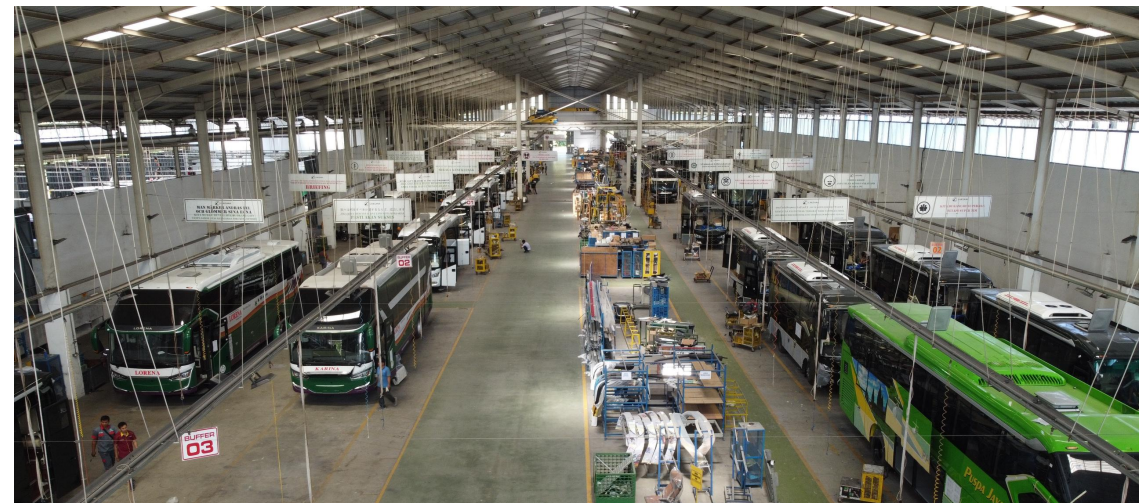
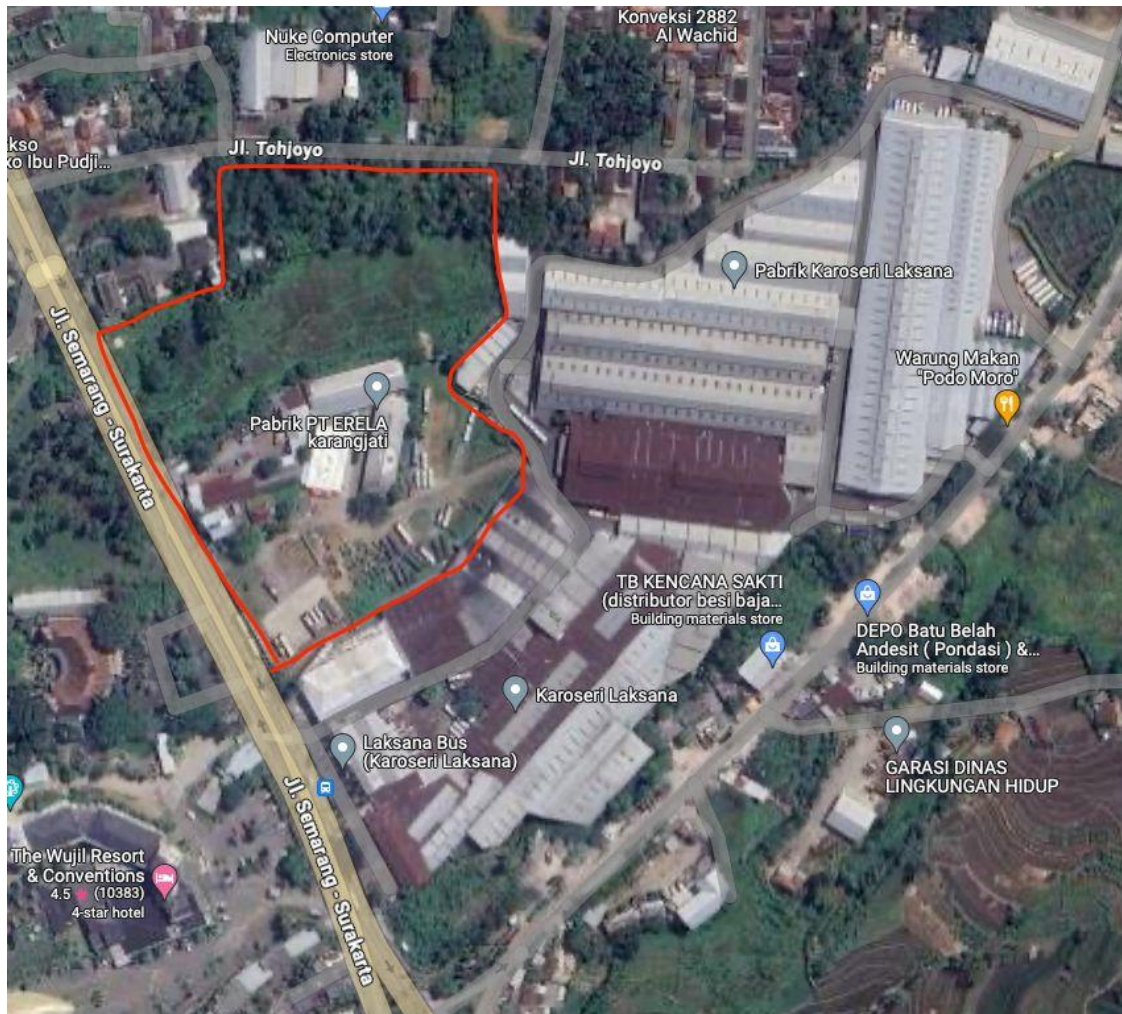
Motor Coolant



Ex : Wiring Diagram (EV Bus)



New Production (EV Bus) Line Facility





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