

From Concept to Pit- Real World Deployment of EV MPUs in Australia

What is MPU?

- Mobile Process Unit (MPU)
- Used for explosive delivery
- Critical to blasting operation



Why Electric MPU?



- Equipment manufacturers are developing zero-emissions mining equipment to support the carbon-neutral transition.
- Explosives delivery vehicles are specialised and a key part of the mining fleet. They require explosives technology to enable the conversion to electric power.
- It is Dyno Nobel's role to fill this gap in the currently available zero-emissions technology.

Concept Stage

- Can an EV truck deliver enough power?
- Is it safe?
- Can an EV truck survive in mining conditions?
- Charging capability

Early Challenges

- Selecting the right EV truck platform
- Heavy-duty EV adoption (>7.5t) remains limited due to battery weight, range, and cost

Strategic Direction

- Reduce development risk
- Focus on OEM EV truck platform
- Leverage proven systems

Partner Selection

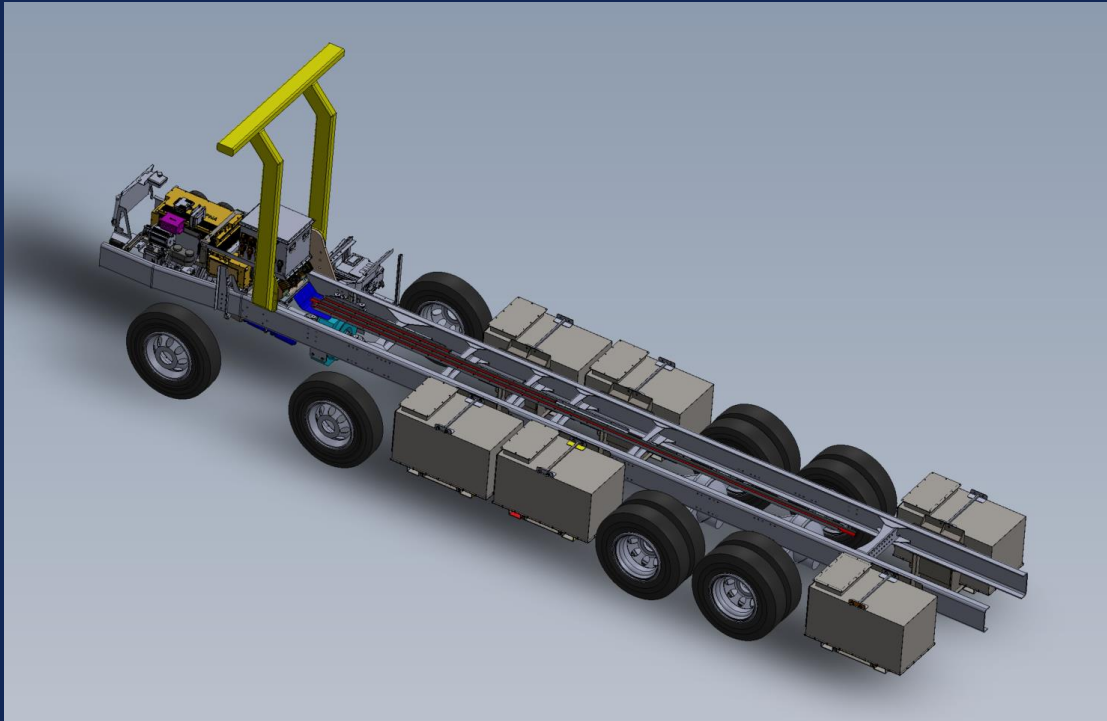


Containerised Fast EV Charging Station



Portable Recovery Solution

Building OEM EV Truck Platform



- Removed ICE components (engine, fuel tank, AdBlue system, etc.)
- Integration of electric drivetrain
- Installation of 6 Li-ion battery packs (390 kWh total capacity)
- Implementation of battery cooling system
- Completed wiring system conversion for power train



Ready to Pit

- Delta E process unit commissioning completed
- Charging infrastructure tested and validated
- ADR certification and testing underway
- Full system integration and operational readiness confirmed
- Operator training completed



Looking Ahead

- Optimisation
 - Further field trials in varied locations/topography
 - Ongoing development of energy management and drivetrain
- Expansion
 - Other MPU types
- Partnerships
 - New vehicle types other than Volvo FMX to best suit additional global locations



Innovation in Action

- Enabling the transition to zero-emission blasting operations
- A practical step forward for the Australian mining industry
- Bridging the gap between concept and real-world deployment

Dyno Nobel DNA

- Innovation driven by real operational challenges
- Combining engineering and explosive handling expertise
- Delivering solutions from concept to pit

Questions

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