

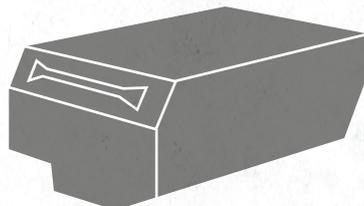
Standardising lithium-ion batteries

UPFRONT COSTS VS. TCO

**Vanguard 48V 1.5kWh¹
swappable commercial battery (Si1.5)**



**Competitor 72V 0.86kWh
swappable commercial battery**

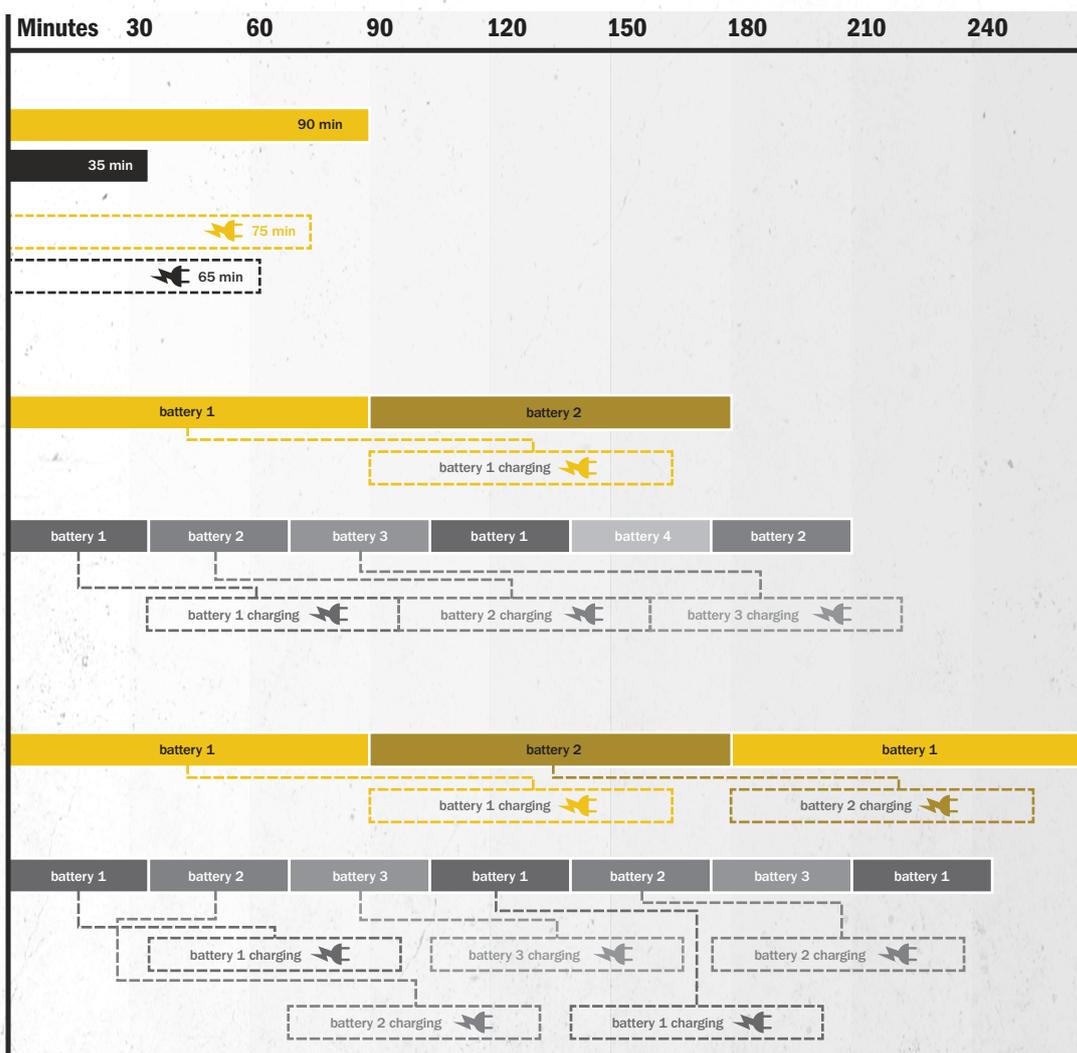


**2-year
warranty**

**Upfront
Costs**

Battery cost = 100%
Charger cost = 100%
= 200%

Battery cost = 60% of Si1.5
Charger cost = 80% of Si1.5
= 140%



Total Costs of Ownership (TCO)

= **300%**

= **320%**

= **300%**

= 340%

¹ Total energy measured using a 0.2C discharge per IEC 61960-3:2017

² Runtime of an example concrete trowel with 60 cm diameter

³ Si1.5 actually does not need a charger at all and could also be charged in the depot after the activities have been completed

⁴ Just one charger needed for Si1.5