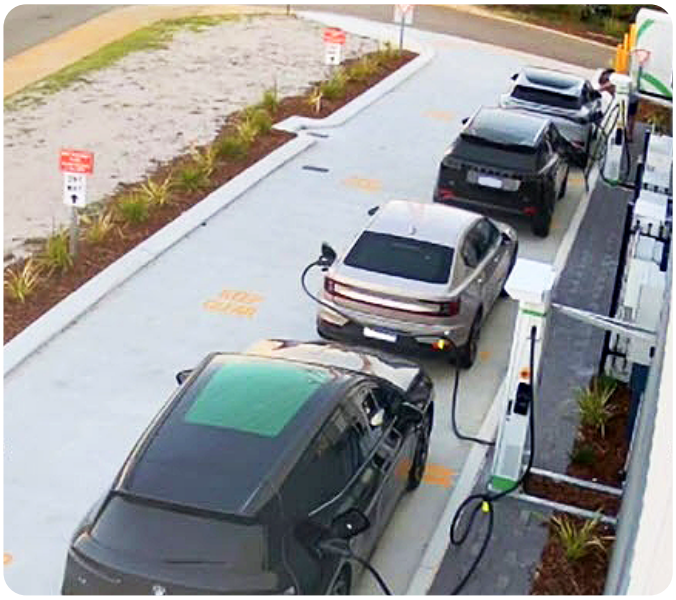
eLumina

CASE STUDY

DS400 Battery-Integrated Fast Charger Initial ROI Analysis



Executive Summary

This case study evaluates the initial commercial performance of a recent DS400 electric vehicle charger installation across measured, projected growth, high-utilisation and theoretical maximum utilisation scenarios.

This DS400 is in an urban area of an Australian capital city and its current configuration enables charging of up to 4 vehicles simultaneously with the ability to increase that to a maximum of 6.

The DS400 installation is already showing a credible pathway to strong commercial returns as utilisation continues to mature beyond the initial operating period.

Commercial Performance Summary

The first month utilisation case provides the baseline, with average throughput of 501 kWh/day, annualised throughput of approximately 183 MWh, simple ROI of approximately 11.3% and simple payback of approximately 8.8 years.

For the projected utilisation scenario, throughput is assumed to ramp from 501 kWh/day to 942 kWh/day over the first 12 months. Analysis of a comparable battery-backed charging installation showed charging session growth of approximately 88% during the first 12 months of operation before utilisation stabilised (See Figure 1). Applying the same adoption profile to the DS400 installation increases annual charging throughput from approximately 183 MWh to 344 MWh.

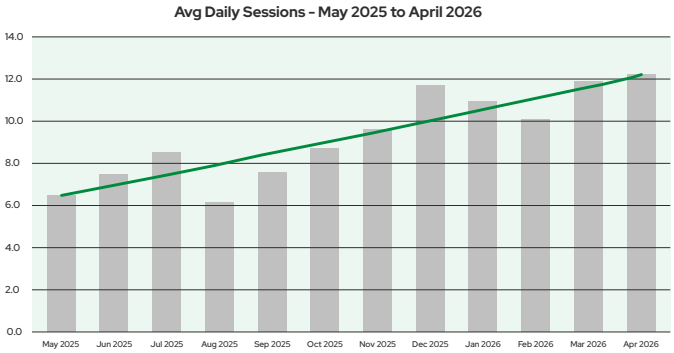


Figure 1: eLumina installation charging sessions

This scenario provides average Year 1 throughput of approximately 722 kWh/day, or 263 MWh annually, before stabilising from Year 2 onwards at approximately 942 kWh/day, or 344 MWh per year.

The practical high-utilisation scenario illustrates further upside at 1,200 kWh/day, delivering simple ROI of approximately 27.1% and simple payback of approximately 3.7 years. It accommodates clustered fleet charging, allows battery recovery periods between charging peaks to maintain SoC above minimum level and is achievable, based on the observed DS400 operating behaviour.

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eluminaglobal.com | info@eluminaglobal.com

The theoretical maximum utilisation case reaches 1,995 kWh/day, with simple ROI of approximately 45.1% and simple payback of approximately 2.2 years; this relies on optimal charging session distribution rather than an expected operating case.

Scenario	Throughput (kWh/day)	Annual Throughput (MWh)	Steady-State Simple ROI (%)	Simple Capital Payback (yrs)
Current Utilisation after 1 month	501	183	11.3	8.8
Projected Utilisation	Ramp up from 501 to 942 in Year 1 and 942 from Year 2 onwards	263 MWh in Year 1 (ramped) and 344 MWh from Year 2 onwards	21.3 (from Year 2 onwards)	4.9
Practical High Utilisation	1200	438	27.1	3.7
Theoretical Maximum	1995	728	45.1	2.2

Investment Implications

The projected utilisation increases annual energy delivered to approximately 263 MWh in Year 1 and 344 MWh from Year 2 onwards.

Under the projected utilisation profile, cumulative gross profit recovers the initial DS400 CAPEX after approximately 4.9 years, before allowing for the additional project costs .

On a steady-state basis from Year 2 onwards, the projected utilisation case nearly doubles throughput compared with the first-month measured baseline, lifts simple ROI to approximately 21.3%, and improves simple payback from approximately 8.8 years to approximately 4.9 years.

Conclusion

Utilisation growth is the primary driver of commercial performance. The first-month baseline provides a conservative starting point, while the projected utilisation and practical high-utilisation cases show a credible pathway to strong gross returns, provided site demand continues to build and all assumptions are tested in a complete project finance model.

Key Assumptions and Limitations

These results should be treated as indicative commercial sensitivities rather than a full project finance model. A bankable business case would also need to test network charges, demand charges, maintenance cost, site lease terms, charger availability, payment processing fees, utilisation ramp risk and tax treatment.

- DS400 CAPEX = AUD 774,730
- Charging tariff = AUD 0.80/kWh
- Electricity cost = AUD 0.32/kWh
- Gross margin = AUD 0.48/kWh; Simple ROI is calculated on gross profit and excludes demand charges, maintenance, financing, insurance and taxes.
- Grid connection = 70kW
- Year 1 throughput ramps linearly from 501 to 942 kWh/day (average 722 kWh/day, 263 MWh/year) and Year 2+ is stable at 942 kWh/day (344 MWh/year).
- Projected utilisation growth: 88% over the first 12 months, informed by measured first-year utilisation growth at an established eLumina battery-integrated fast-charging installation.

Is Your Site a Strong Candidate?

A strong fast-charging site combines regular vehicle dwell time, safe access, visible parking bays, reliable communications and space for charging equipment. Battery-integrated charging is particularly relevant where demand for fast charging exists, but the available grid connection is limited or network upgrade costs are difficult to justify. Strong candidate sites typically include fleet depots, sporting and entertainment precincts, regional stopover locations, commercial car parks, retail sites, logistics facilities and sites where EV charging can improve customer amenity, fleet efficiency or new revenue generation.

Our battery-integrated charging solutions deliver high-power charging from limited grid connections, supported by site assessment, system design, commissioning, monitoring and ongoing technical support.

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CASE STUDY

Day-to-Day Charger Operation

A Charge Point Operator can manage customer access, payments, billing, remote monitoring, availability reporting and revenue administration on your behalf. This allows you to offer fast charging as a customer amenity or revenue opportunity without needing to operate the charging network internally.

Maintenance and Support Responsibilities

Maintenance and warranty support can be managed by eLumina or an authorised service partner under an agreed support arrangement. Your role is typically limited to providing safe access, basic site presentation and reporting any visible damage, access issues or operational concerns.

Financing and Grant Support

eLumina can help you assess financing options that reduce upfront capital requirements, including leasing structures. Where relevant funding programs are available, eLumina can also support grant applications with equipment details, technical inputs, project descriptions and commercial information.



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eluminaglobal.com | info@eluminaglobal.com