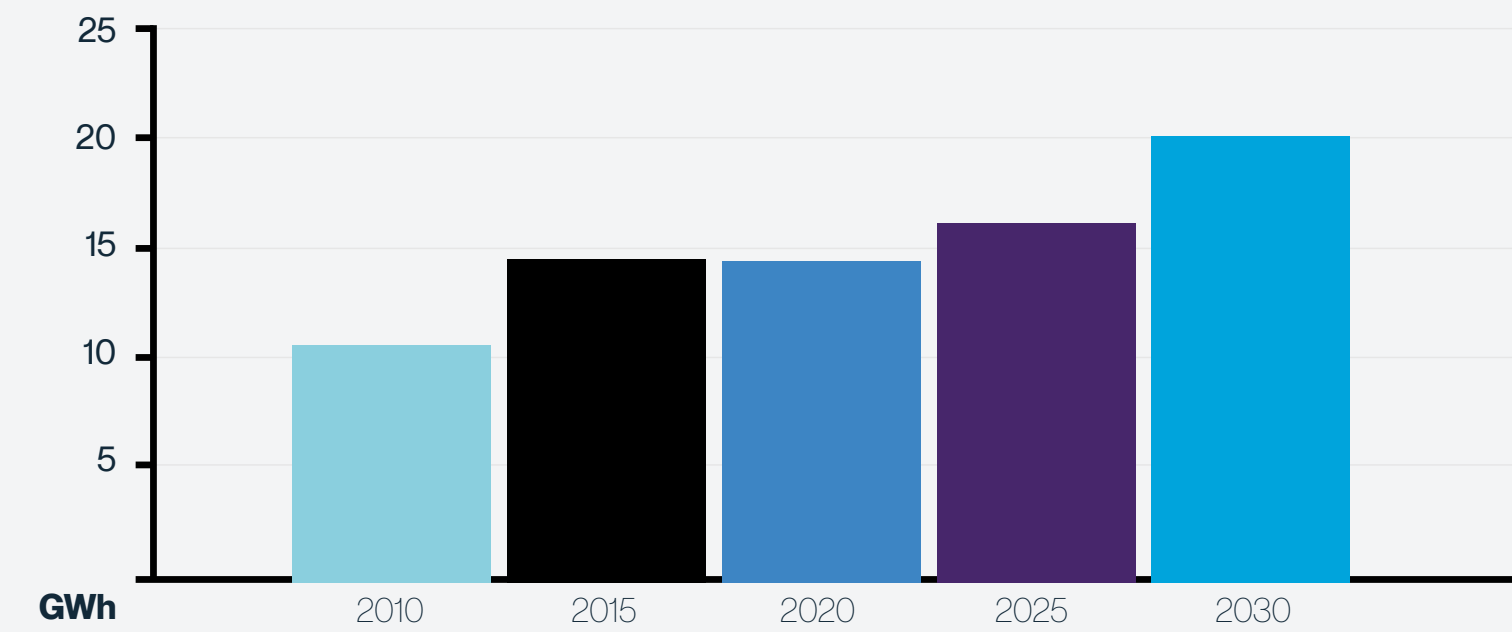


Keeping the World Connected and Online: UPS and Telecoms Applications

Lead batteries remain the dominant technology for UPS and Telecoms, with **continued growth predicted to 2030**

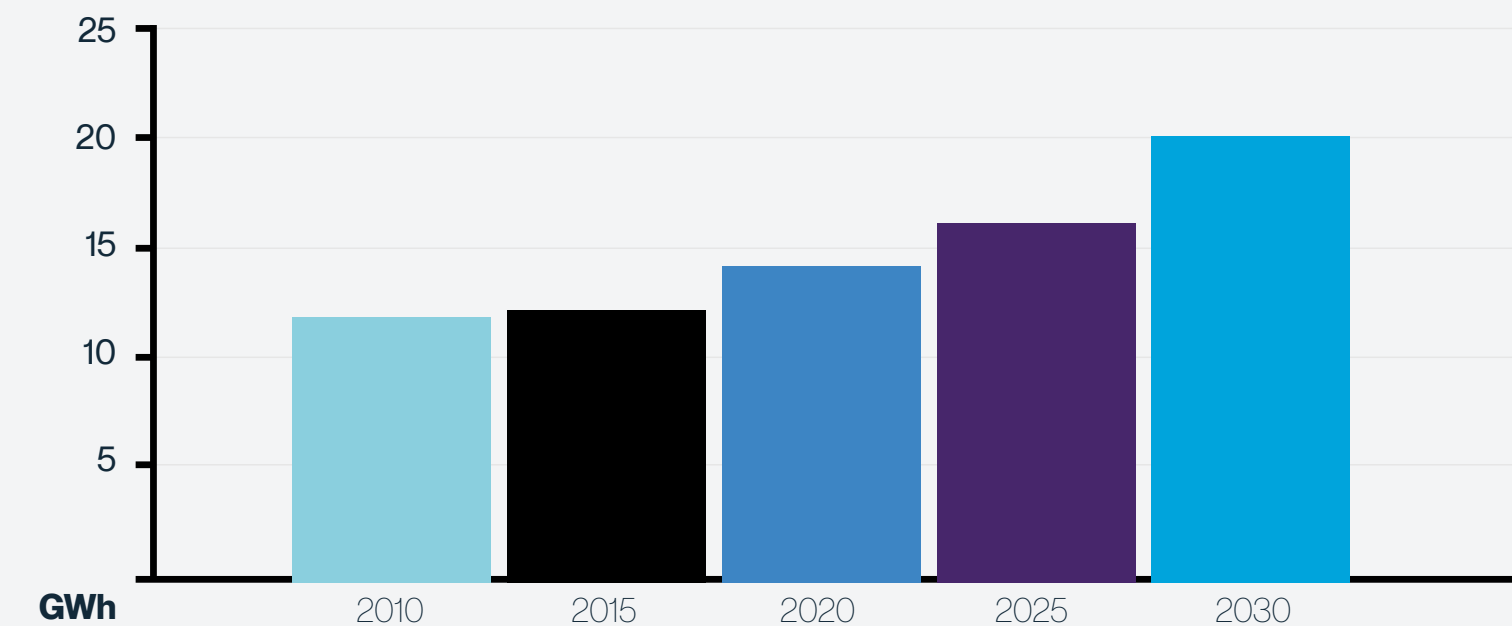
CBI market report 2021, Avicenne

Telecom Market



CBI market report 2021, Avicenne

UPS Battery Demand

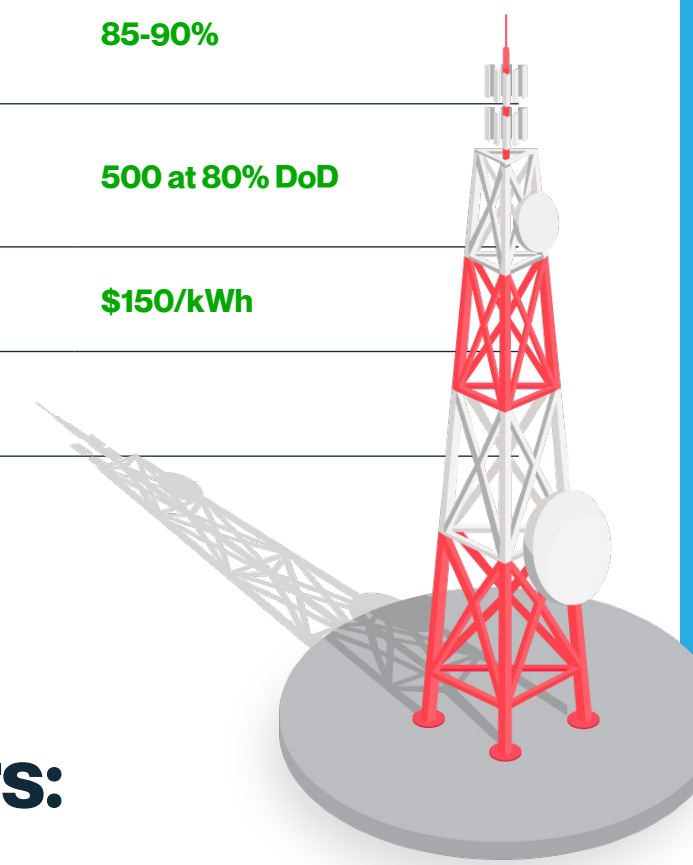


KPIs for lead batteries in telecoms applications

Indicator	Current	2028
Calendar Life on float	15 y at 20°C	7-10 y at 40°C 20 y at 20°C
Cycle life (Testing should follow IEC 60896-21/22)	300 at 80% DoD	500 at 80% DoD
Cost	\$175/kWh	\$150/kWh
Maintain Safety and Recyclability, Maintain Shelf life		

KPIs for lead batteries in UPS applications

Indicator	Current	2028
Calendar Life on float	15 y at 20°C	7-10 y at 40°C 20 y at 20°C
Peukert Capacity (15-minute vs. 10-hour capacity)	65-80%	85-90%
Cycle life (Testing should follow IEC 60896-21/22)	300 at 80% DoD	500 at 80% DoD
Cost	\$175/kWh	\$150/kWh
Maintain Safety and Recyclability, Maintain Shelf life		



⊕ **Increase**

Cycle life
Calendar life



⊖ **Decrease**

Total cost of ownership (TCO)

Achieving the KPIs will ensure lead batteries:

- Deliver the technical requirements needed by end-users
- Secure future market opportunities
- Continue being the dominant technology for UPS and Telecoms applications

UPS and Telecoms sectors:

- ⊕ **More than 5.5 GWh of growth** is forecast in each sector between 2015 and 2030
- ⊕ Significant opportunities exist for lead batteries if they **continue to improve performance**

Contact us:

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