

Beyond Basic O&M: Optimizing BESS Availability & Performance with Analytics

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📍 LONDON, UK

We have been leading Battery Analytics since 2014



We started battery storage research in 2014.



Built a 200 KWh LFP BESS.



Inspired to start TWAICE to address BESS challenges & support generation of renewable energy.



TWAICE BESS Pros Industry Survey 2025.



**58% of BESS operators see system
performance & availability
as key challenge.**

TWAICE BESS PROS INDUSTRY SURVEY 2025



**46% overall reported technical
issues at least once a month.**

TWAICE BESS PROS INDUSTRY SURVEY 2025

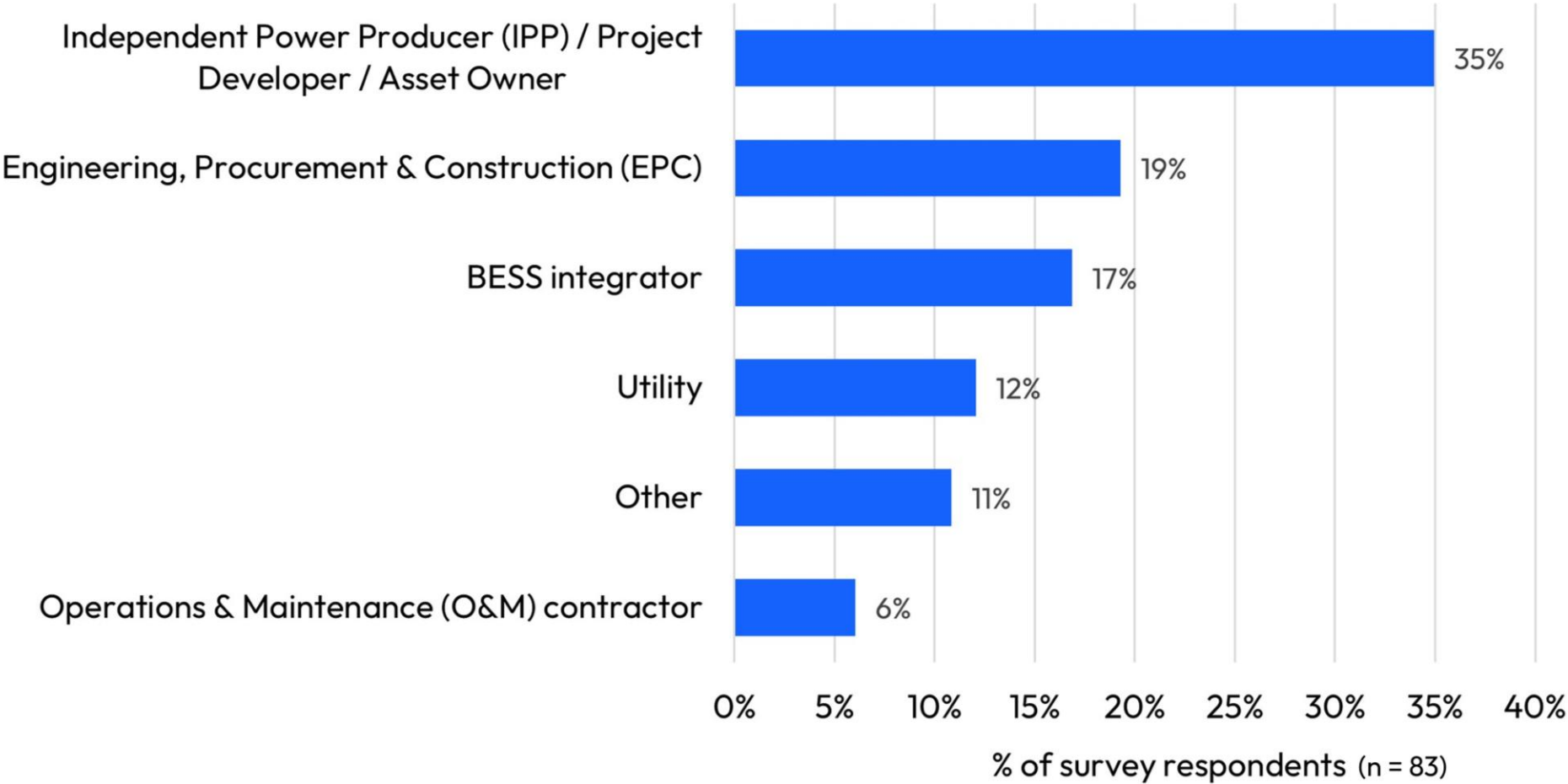


**Only 55% are satisfied with their
BESS software stack.**

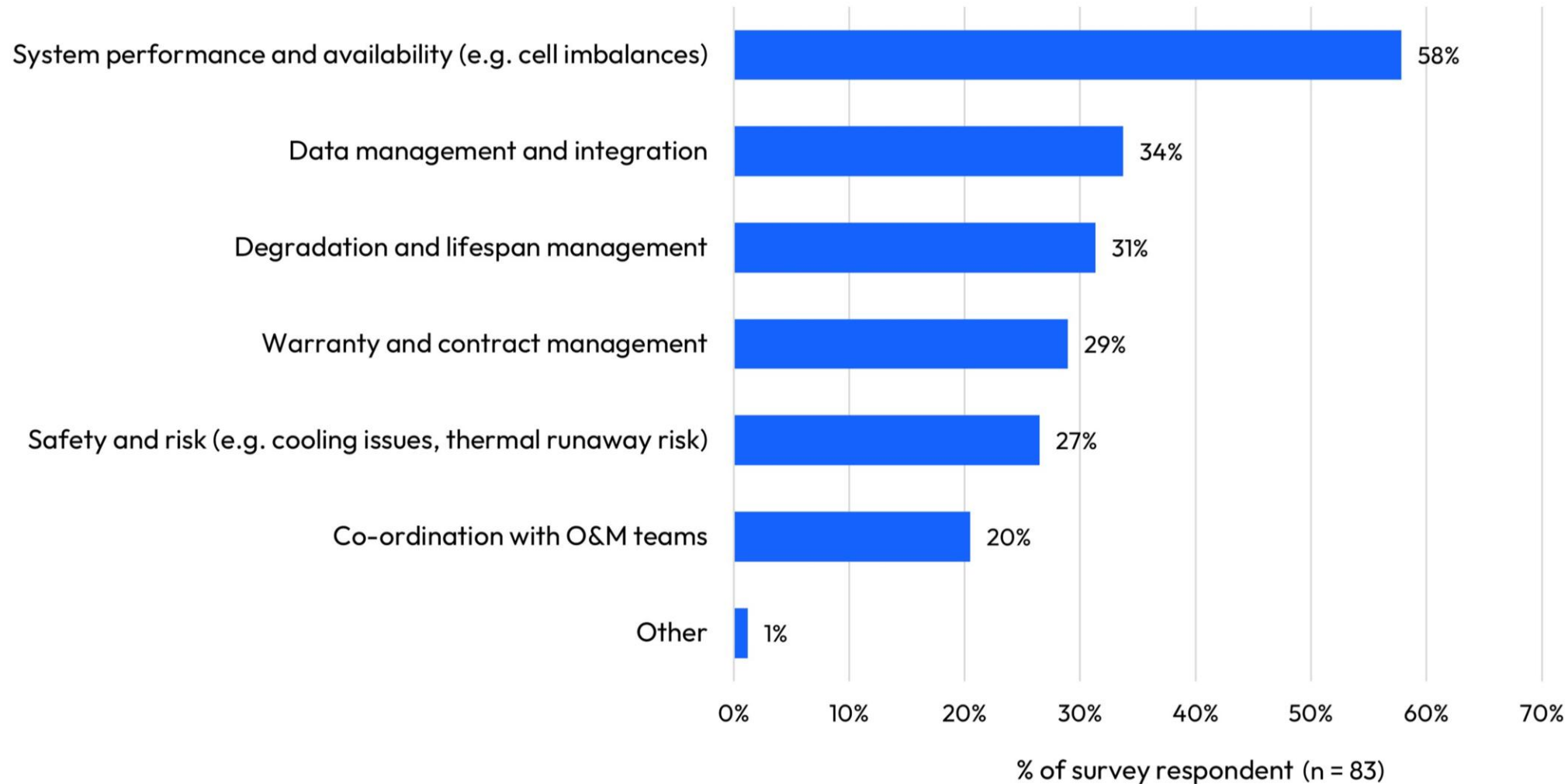
TWAICE BESS PROS INDUSTRY SURVEY 2025



Participating companies in BESS Pro Industry Survey

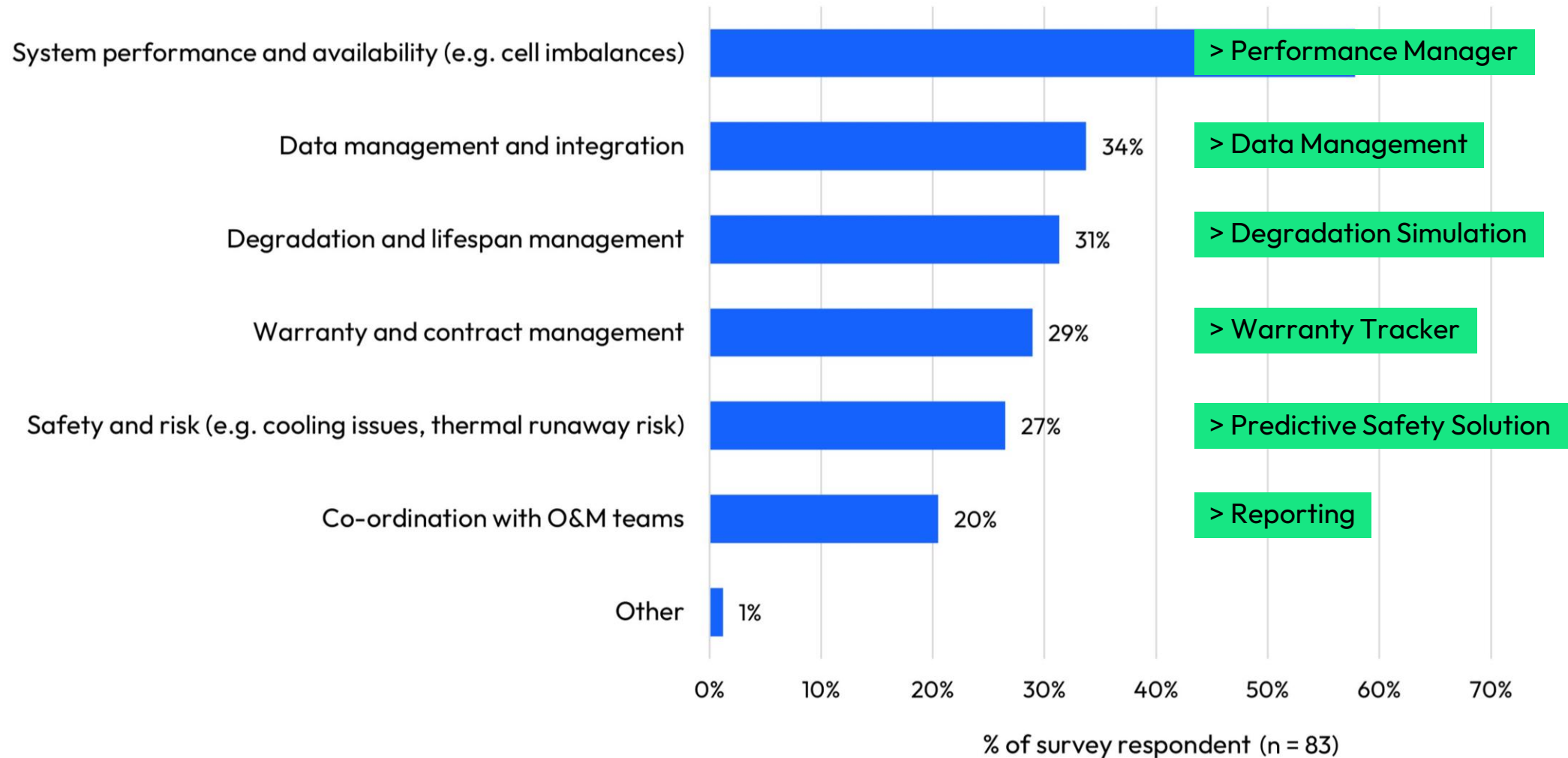


Highlighted the Top Challenges for BESS operations

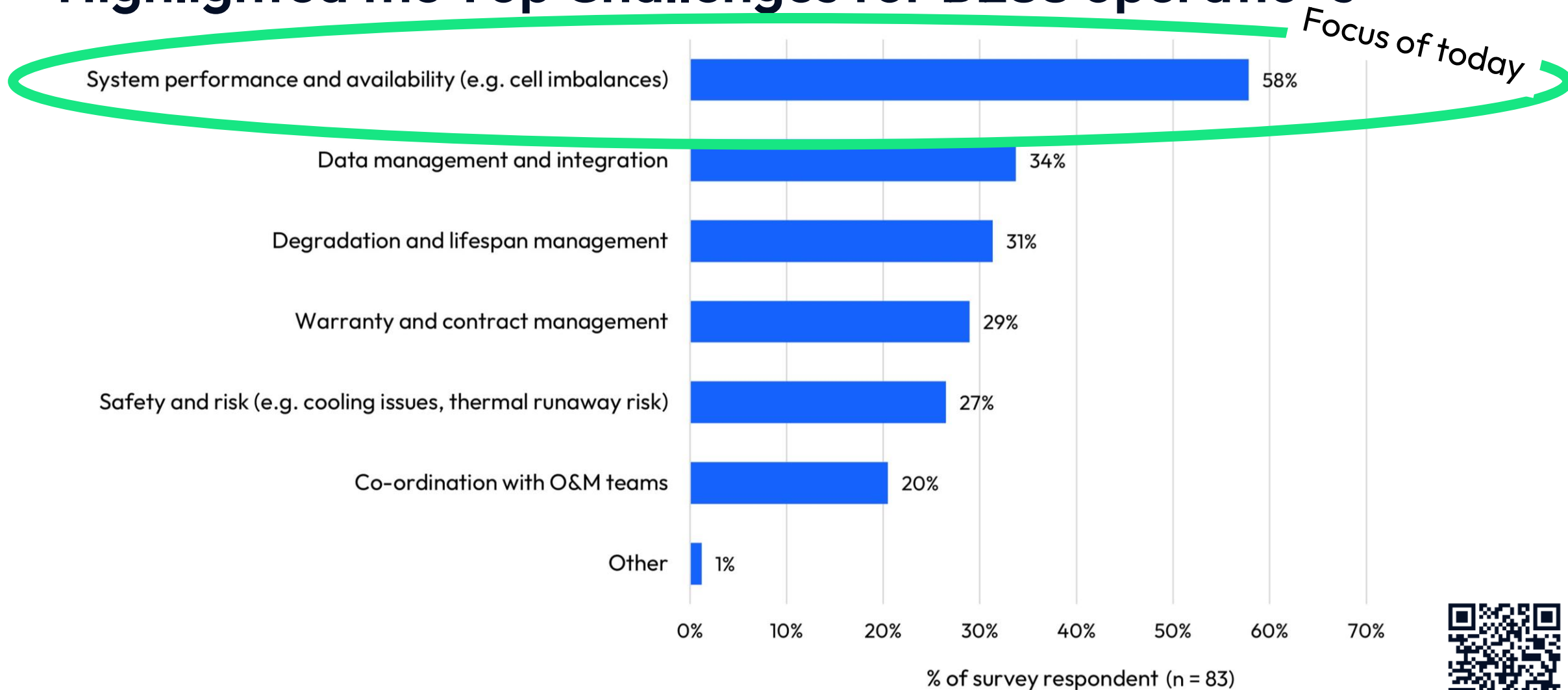


Highlighted the Top Challenges for BESS Owners

TWAICE Solutions



Highlighted the Top Challenges for BESS operations



Performance vs. Availability

Performance optimization addresses the usable energy and revenue generation.

Availability is primarily used in the context of warranties and contractual guarantees.

Real-World Customer Example

1. Nominal capacity: 400 MWh
2. LFP based chemistry
3. Location: USA
4. 150 Containers
5. 1200 Racks
6. 396720 Cells



**Capacity test revealed 75%
remaining energy and therefore,
augmentation planned.**

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Portfolio Overview

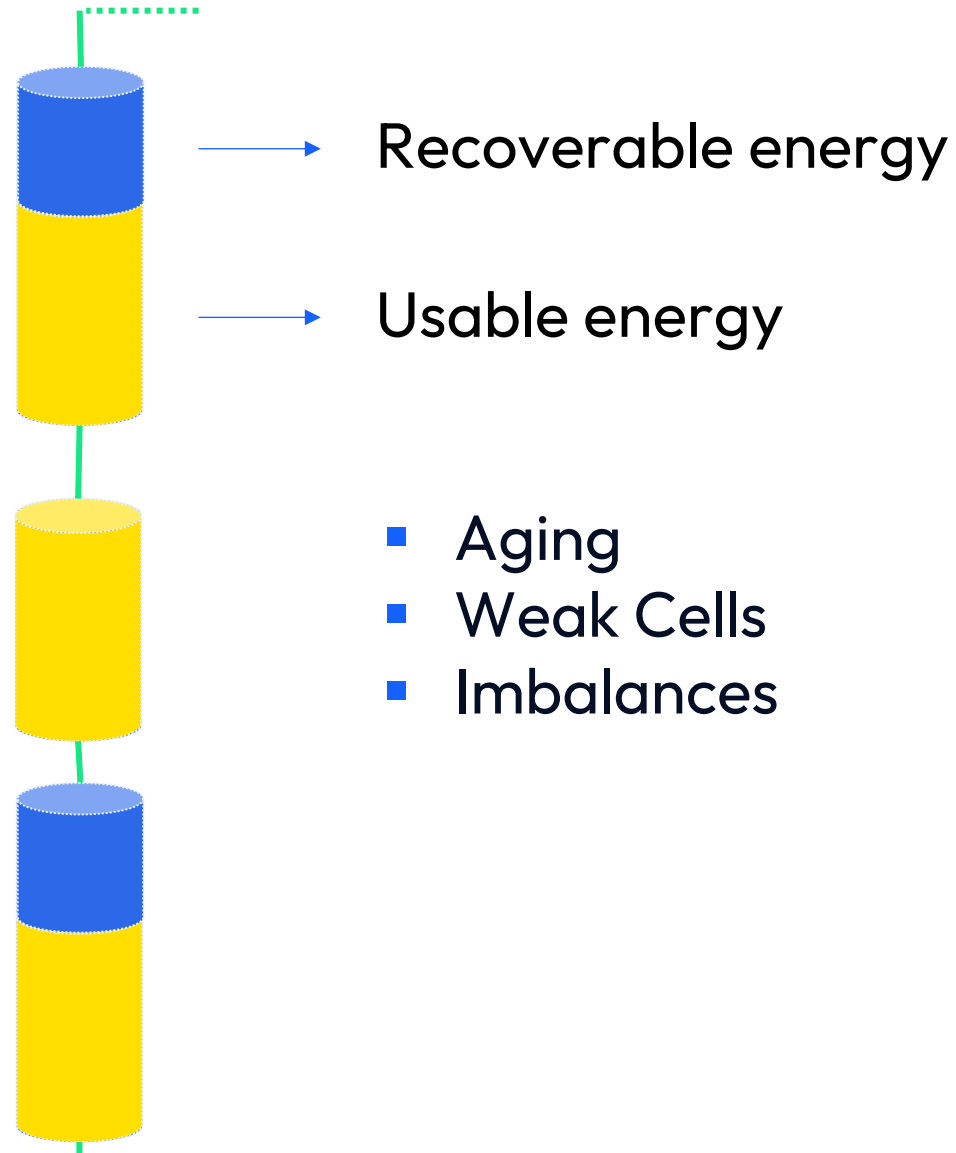
Storage	Daily Loss ⓘ	Performance Status ⓘ	Safety Index ⓘ	State of Health Spread ⓘ
<div>Elm</div> <div>Austin, TX, US</div> <div>470 MWh100 MW</div>	<div>-38.95 MWh</div> <div>-\$7,673</div>	<div></div> <div>33 % of nodes with imbalance issues</div>	<div></div> <div>Action Recommended</div>	<div></div> <div>74.7 %</div>
<div></div> <div></div> <div>300 MWh75 MW</div>	<div>-56.44 MWh</div> <div>-\$11,119</div>	<div></div> <div>16 % of nodes with imbalance issues</div>	<div></div> <div>Stable</div>	<div></div> <div>72.6 %</div>
<div>Oak</div> <div>London, UK</div> <div>24 MWh24 MW</div>	<div>-0.72 MWh</div> <div>-\$142</div>	<div></div> <div>Normal</div>	<div></div> <div>Stable</div>	<div></div> <div>Normal</div>



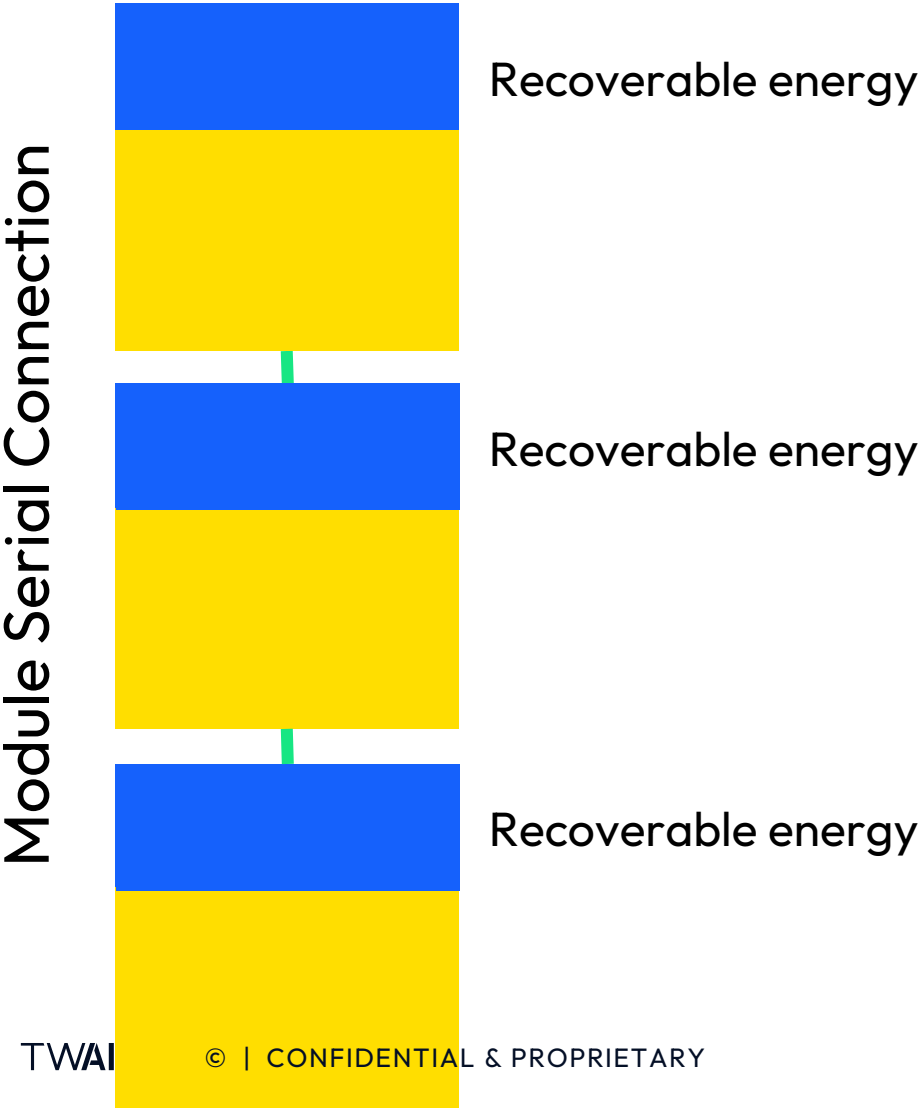
**Major and multiplying imbalances
caused energy loss, not
degradation.**

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Recoverable and usable energy - simplified



Recoverable and usable energy - simplified



Triggered several module changes and software update for string control.

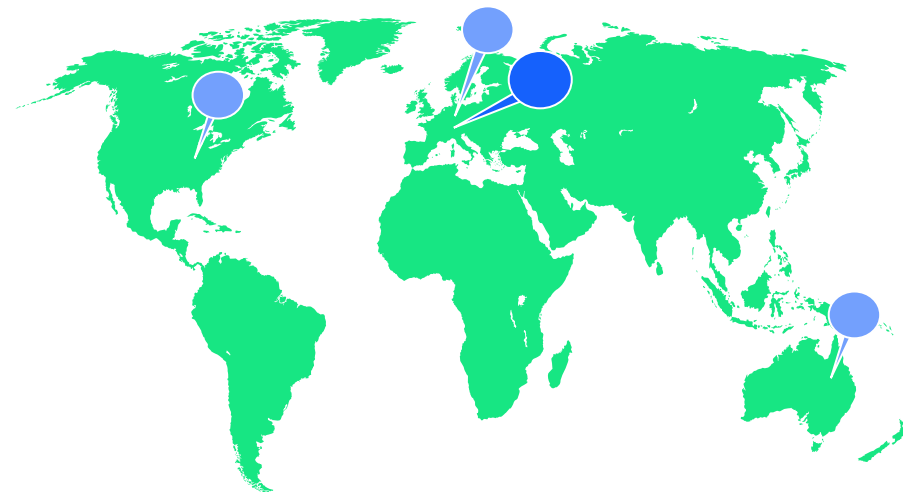
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**Augmentation not needed resulted
in \$8mn CAPEX savings.**

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Global Footprint in Europe, Americas and Australia.

- 3 Offices in Munich (HQ), Chicago (US), and Berlin (GER)
- 1 Onsite battery research center
- 30+ Patents
- \$90m Funding for development
- >7GWh BESS capacity analyzed



Selected Customers:





WE ARE GOING BEYOND.

- 1. Performance & Availability
for e.g. Inverter, HVAC**
- 2. Empowering Smarter Trading**
- 3. Cell selection & validation**

WE ARE GOING BEYOND.

Visit our booth #16 (first floor at exhibition area)

De-Risk BESS Projects & Maximize Revenue

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Survey

