



FLUENCE

A Siemens and AES Company

Fluence Introduction

Roger Lueken
June 2022



SECTION 1

About Us

OUR MISSION

**Transform the
way we power
our world to
create a more
sustainable future.**

PURPOSE-BUILT



PURPOSE-DRIVEN



Fluence is uniquely positioned to support you



Experienced +
Proven Management Team

14 YEARS IN ENERGY STORAGE
6 GENERATIONS OF TECH



Large Installed Base
Creates Ecosystem

~8 GW DIGITAL APPS &
STORAGE DEPLOYED OR
CONTRACTED ⁽²⁾



Category Creator
with Global Track Record

1st EVER LITHIUM-ION
BATTERY SYSTEM ON THE
GRID



Global Supply Chain +
Regional Operating Model

PRESENCE IN 30 MARKETS



Disruptive Digital and Software
Products – Fluence IQ™

OPTIMIZING >18% OF GRID-SCALE
SOLAR AND WIND IN AUSTRALIA ⁽¹⁾



Battery Technology-Agnostic

20 GWh OF BATTERY
SUPPLY, WITH ACCESS TO
NEXT-GEN TECHNOLOGIES ⁽³⁾



(1) % estimated based on Fluence AUM or contracted in the Australian National Electricity Market
(2) As of September 30, 2021
(3) Contracted battery supply through 2024

Fluence is a global leader in energy storage products and services and digital offerings for renewables & storage

FLUENCE ENERGY STORAGE ⁽³⁾ & OS



4,800+
TOTAL MW



150+
PROJECTS



>280 TB
OF GLOBAL FLEET DATA



30+
CONTROLS APPLICATIONS

FLUENCE SERVICES ⁽⁴⁾



25+
OPERATING PROJECTS



3,200+ MW
ASSETS UNDER MANAGEMENT

FLUENCE IQ DIGITAL PLATFORM



>18%
RENEWABLES OPTIMIZED
IN AUSTRALIA



50%
STORAGE REVENUE UPLIFT
THROUGH AUTOMATED
BIDDING ⁽¹⁾



90%
PERCENT OF PERFECT
FORESIGHT ⁽²⁾



- (1) Fluence analysis: performed with one year of prices at HAAS_7_B11 price node and NP-15 AS trading zone in CAISO
- (2) The maximum amount of revenue that an asset can generate with perfect knowledge of future market prices in the next 48 hours; statistic calculated for customers located in Australia's NEM
- (3) Deployed and contracted as of March 31, 2022
- (4) Assets under management or contracted as of March 31, 2022

A trusted partner for leading companies globally

With a broad range of customers across multiple segments

UTILITIES / IPPs



FINANCIALS



SAN MIGUEL CORPORATION



C&I



Breaking new ground and building customer value for 14 years

"I have been in some form of project or contracting role for over 35-years and the B&T-2 BESS project is one of the **most challenging projects in time and technical scope** I have encountered. Not only is this the **first ever industrial-scale battery storage** system in the Republic of Ireland, it's also **breaking new ground** with MW size, technology, and special signal requirements.... However, **with the strong commitment from Fluence and Suir, I never once thought we weren't going to make it.**"

- Jimmy Blackburn, Contracts Manager, Statkraft

2008

1st lithium-ion battery to connect to the electric grid



2009

1st commercial grid-scale battery



2014

1st contracted 100 MW/400 MWh storage peaker



2015

1st grid-scale battery project in Finland



2017

Largest energy storage project in the world, for the 5th time



2018

Bringing market participants across grid value chain together in Aus



2019

Largest portfolio in SE Asia with 500+ MW and 20+ projects



2020

Delivered fastest response time of grid-scale battery



2022

Building the largest privately funded grid-connected battery in Australia



Fluence's megaproject experience

Building the World's Largest Battery-based Energy Storage Projects



The First "Storage Peaker"
Ever Contracted

AES Alamos Project

100 MW / 400 MWh

Southern California, USA



Fluence's First Storage
Peaker Using Gridstack

sPower Luna Project

100 MW / 400 MWh

Southern California, USA



Latin America's Largest
Solar + Storage Project

AES Gener

112 MW / 560 MWh

Antofagasta, Chile



Southeast Asia's Largest
Storage Portfolio

San Miguel Corporation

13 projects: 470 MW / 470 MWh

Philippines

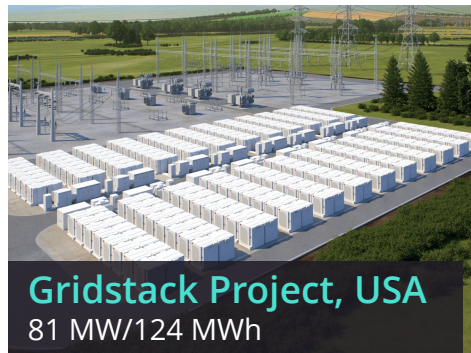
Successful Sixth Generation Installations – 2022 YTD



Coso, CA-USA
40 MW/240 MWh

APPLICATION:
Capacity peak power

First U.S. energy storage project sited adjacent to a geothermal plant



Gridstack Project, USA
81 MW/124 MWh

APPLICATION:
Renewable integration

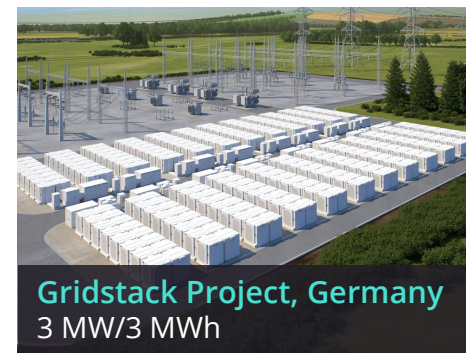
Co-located with a solar PV project



Killala, Ireland
10.8 MW/10.8 MWh

APPLICATION:
Frequency regulation

First sixth generation project in Ireland;
First project with guaranteed 150ms response time in ROI (DS3 compliant)



Gridstack Project, Germany
3 MW/3 MWh

APPLICATION:
Grid services + blackstart



Google, Belgium
2.75 MW/2 MWh

APPLICATION:
Backup power + grid services

Supplies their hyperscale data center facility in St. Ghislain during outages



Kearny, CA-USA
20 MW/80 MWh

APPLICATION:
Frequency regulation

Located in a dense commercial district to support the San Diego region



High Desert, CA-USA
50 MW/200 MWh

APPLICATION:
Capacity peak power

Co-located with a 100 MW PV solar project



Litgrid, Lithuania
1 MW/1 MWh

APPLICATION:
Virtual transmission

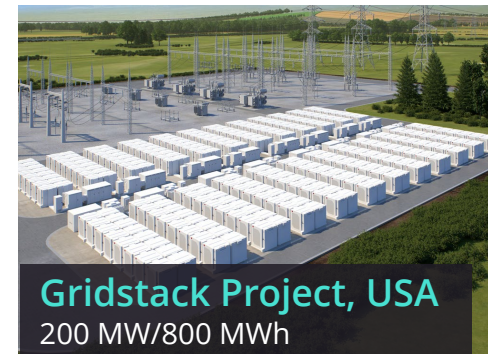
Successful pilot completed, with a 200 MW/200 MWh portfolio awarded and under construction



Aghada, Ireland
10.8 MW/10.8 MWh

APPLICATION:
Frequency regulation

DS3 compliance; replaces fossil fuels in providing grid services



Gridstack Project, USA
200 MW/800 MWh

APPLICATION:
Capacity peak power

First sixth generation project in USA



Fluence IQ optimizes solar, wind, and third-party energy storage



Darlington Point Solar Farm

AUSTRALIA | 333 MW



Third-Party Energy Storage System for
PG&E

CALIFORNIA | 182.5 MW / 730 MWh



Wind Farm

AUSTRALIA | 99 MW





SECTION II

Fluence Products

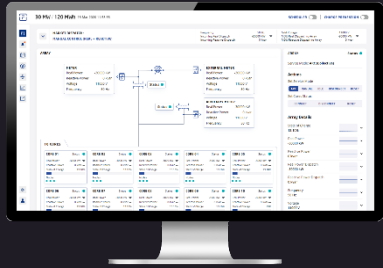


FLUENCE IQ

Fluence 6th generation technology stack

Fluence IQ

Digital applications improve system decision-making, asset performance, and revenue generation with AI-driven insights, price forecasting, and automated bidding.



FLUENCE OS

Fluence OS

Fully integrated operations platform gives operators comprehensive control, optimal asset management, and system visibility across single sites or entire fleets.



FLUENCE CUBE

Fluence Cube

Modular, factory-built, standardized form factor delivers safe, scalable, cost-effective systems configurable with the latest storage components.

Proven energy storage and digital products

Incorporating 14 years of deep expertise in storage system design and delivery

Products

GRIDSTACK



Grid-scale, industrial-strength energy storage

SUNSTACK



PV-optimized, DC-coupled energy storage

EDGESTACK



Connection-ready C&I energy storage

BIDDING APP



Fluence IQ Bidding App for solar, wind, and storage

Services

LEVEL 1

GUIDED SERVICE

Comprehensive training for your team to operate the system and perform preventative and reactive maintenance.

LEVEL 2

SHARED SERVICE

Shared Service adds reactive maintenance and 24/7 monitoring.

LEVEL 3

COMPLETE SERVICE

Fluence performs all preventative and reactive maintenance and 24/7 monitoring.

LEVEL 4

ASSET MANAGEMENT

Fluence provides complete asset management including operational, contractual, financial, and risk management.



No cutting corners

The Fluence Cube is your building block for better energy storage. It comes fully equipped with all hardware, controls and safety features integrated from initial design to final delivery.

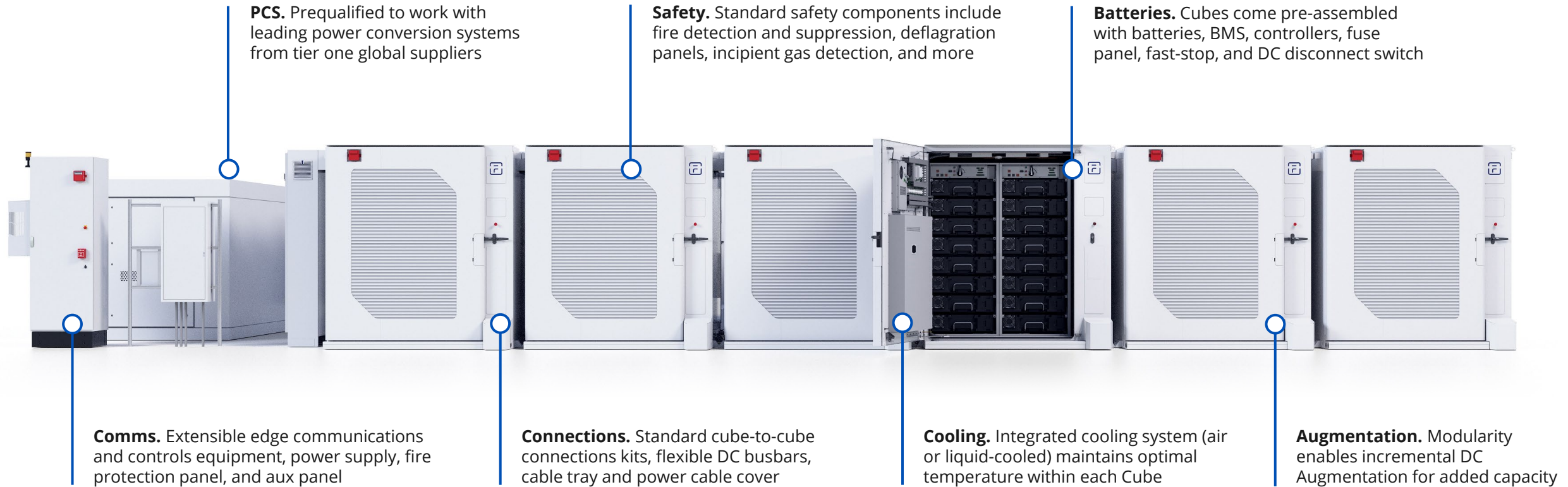


Factory Built With:

- Battery Modules and Racks
- Battery Management System
- Power Supply
- Heating and Cooling
- DC Disconnect
- Fire Suppression
- Cube Controller
- Breakers Panel
- Power Distribution Block
- Deflagration Panels
- Fuse Panel
- Smoke + CO Sensor
- F-Stop
- Gas Spring Damper
- Environmental Sensors

Pre-configured storage products

Delivered as core-only or fully wrapped turnkey systems



GRIDSTACK

A grid-scale, industrial-strength energy storage system designed for the most demanding market applications with industry-leading reliability, scalability, and safety.



EASILY CONFIGURABLE

- Configure key components from pre-qualified Tier 1 suppliers.
- Enhance your system for specific market applications with a range of optimized dispatch algorithms.



HIGHLY SCALABLE

- Scale-out design drives efficiencies in project permitting and delivery to reduce your implementation risk.
- Consistency across cores and project locations simplifies training, operations, and maintenance.



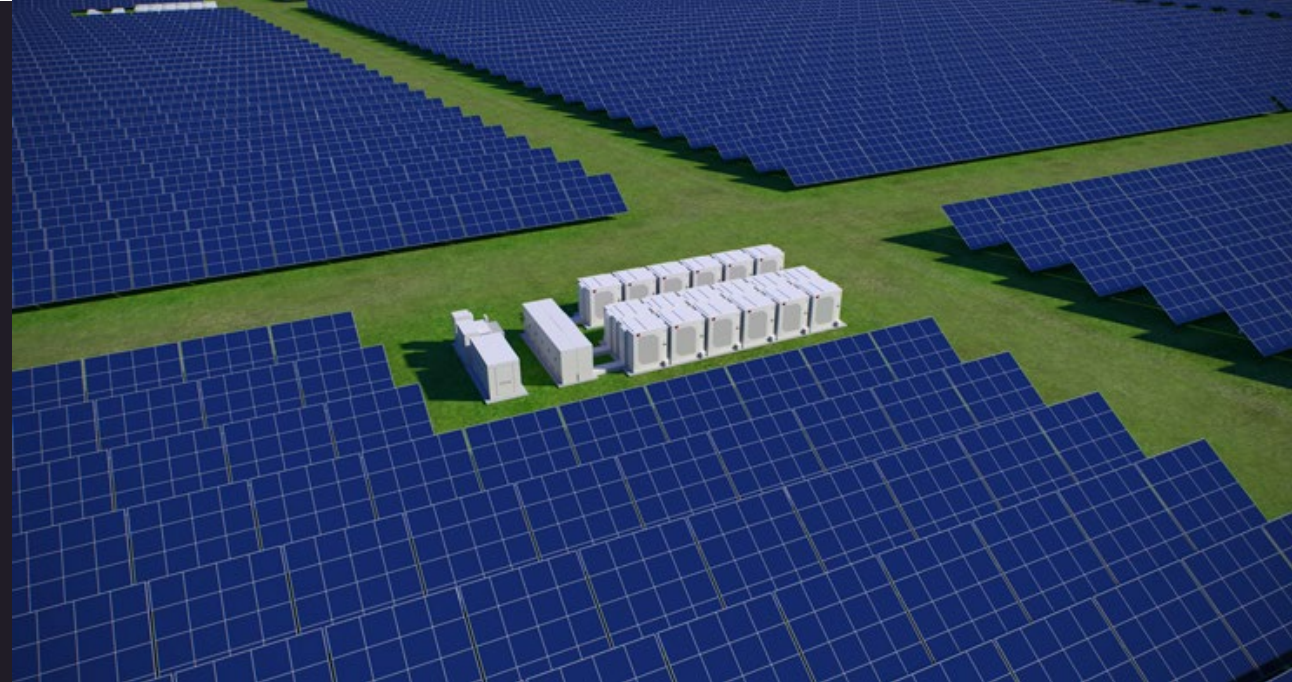
TOTAL SYSTEM SAFETY

- Equipped with comprehensive safety features throughout the integrated technology stack.
- Factory-built design brings consistent quality control to your storage system for the highest level of safety.



SUNSTACK

A PV-optimized, co-located energy storage system designed to improve and expand the capabilities of solar generation and simplify the interconnection process.



PV OPTIMIZED

- Pre-designed to work with leading solar power product manufacturers.
- Distributed layout minimizes cable runs and improves project efficiency.
- Simplifies ITC credit compliance process.



INTEGRATED INTELLIGENCE

- Market dispatch applications support common solar plus storage use cases.
- Prioritize how the system operates alongside solar with PV-specific modes.
- Increase revenue and asset value by stacking additional grid services.



TOTAL SYSTEM SAFETY

- Equipped with comprehensive safety features throughout the integrated technology stack.
- Factory-built design brings consistent quality control to your storage system for the highest level of safety.



EDGESTACK

A connection-ready commercial and industrial energy storage system designed to support 500+ kW applications with rapid deployment and minimum footprint.



CONNECTION READY

- Fully integrated with all batteries, racking, inverters, safety features, cooling, and software controls.
- Quiet, emissions-free, occupies a small footprint and can be sited at nearly any C&I location.



FLEET OPTIMIZED

- Configure to meet your requirements, then deploy across a fleet of facilities or customers.
- Repeatable system drives efficiencies in project design and permitting, while consistency across project locations simplifies Training and O&M.



TOTAL SYSTEM SAFETY

- Equipped with comprehensive safety features throughout the integrated technology stack.
- Factory-built design brings consistent quality control to your storage system for the highest level of safety.



FLUENCE IQ

An AI-enabled digital platform for solar, wind, and energy storage. The Fluence IQ Bidding Application automates wholesale market participation to maximize the value of assets and portfolios.



FORECASTING

- Advanced machine learning analyzes thousands of variables to predict future market prices every five minutes.
- Produce probabilistic price forecasts that minimize error and maximize returns.



OPTIMIZATION

- Automatically generate optimal bids, considering price forecasts, operational constraints, price elasticity, and business objectives.
- Incorporate warranty constraints and operating parameters into asset optimization.



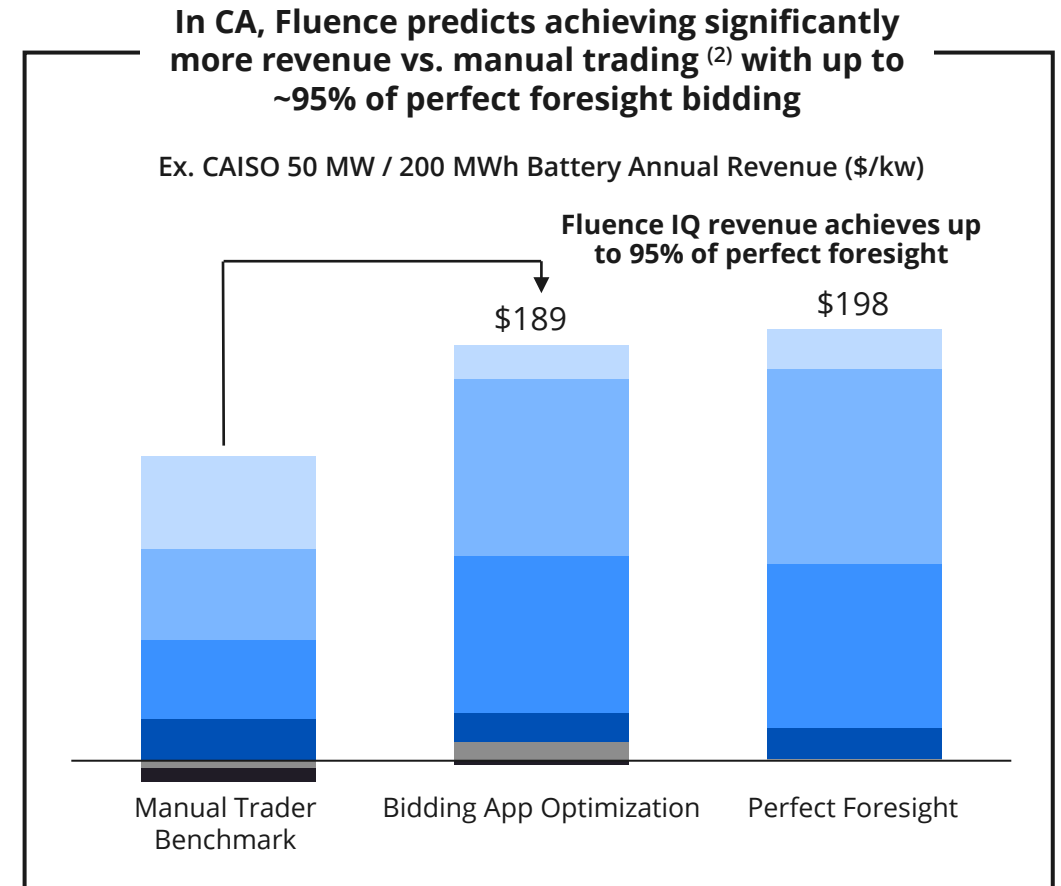
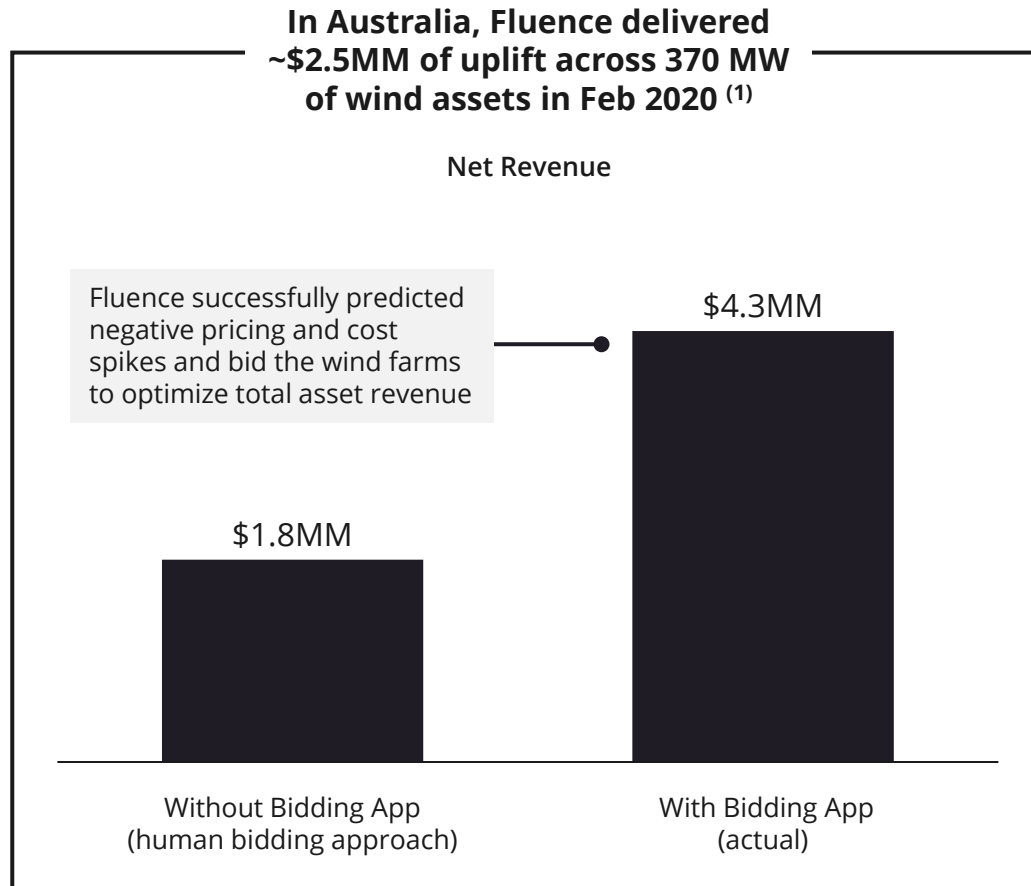
BIDDING

- Incorporate your organization's risk tolerance levels with our bidding strategy expertise to prepare ISO-compliant bids for submission.
- Algorithms operate in full compliance with all market rules and requirements.

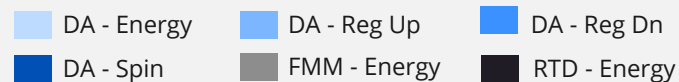


Delivering customer value across assets

The Bidding App increases customer revenue across markets relative to manual strategies

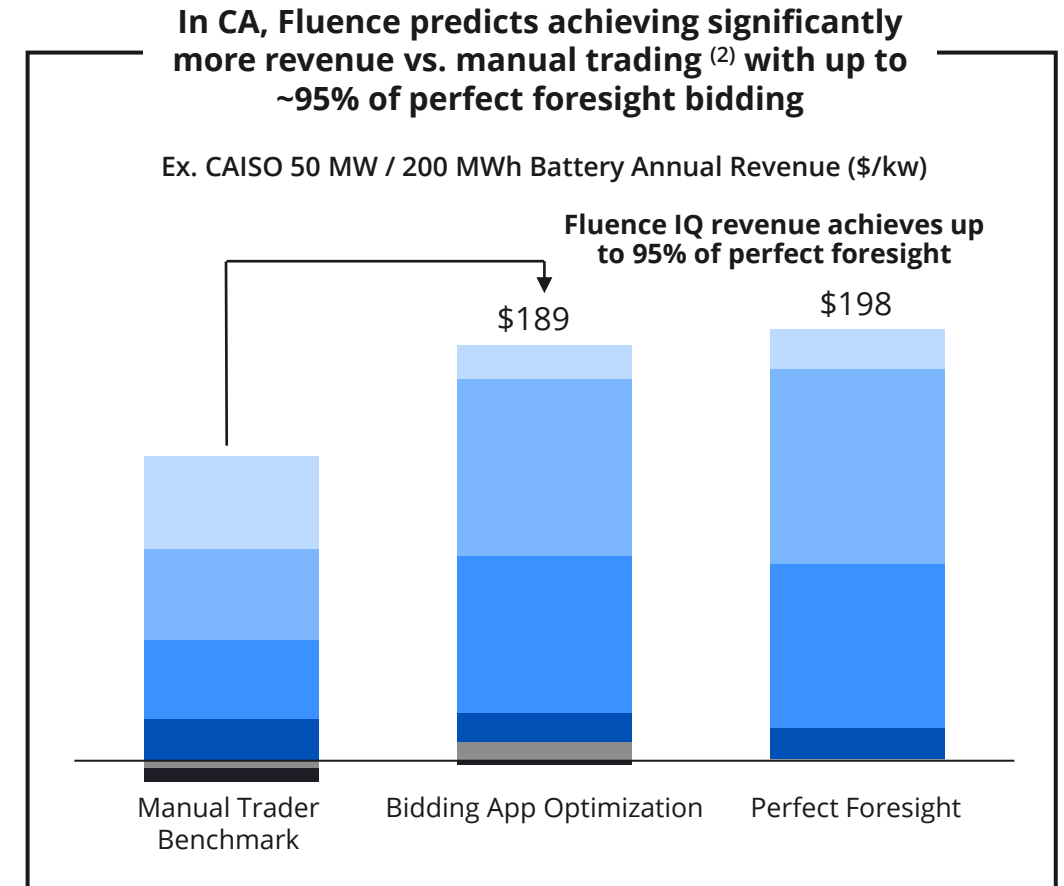
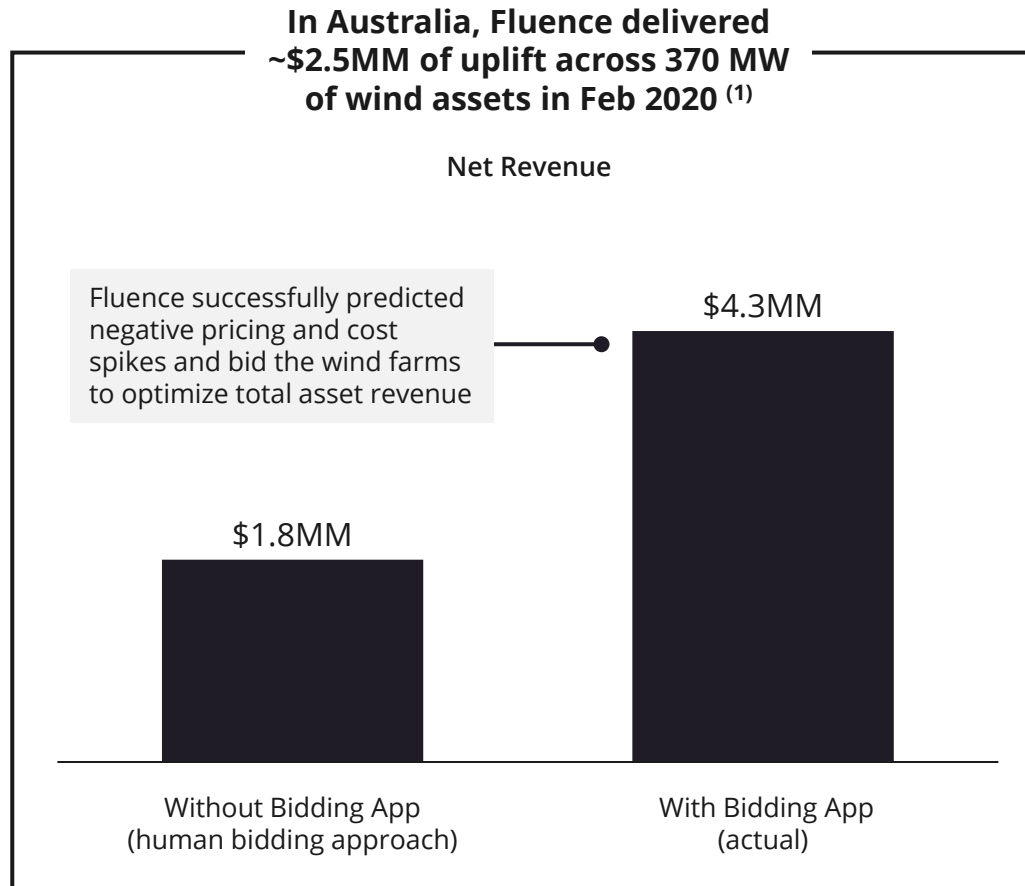


- (1) Fluence internal analysis
(2) Fluence analysis: performed with one year of prices at HAAS_7_B11 price node and NP-15 AS trading zone

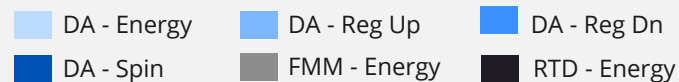


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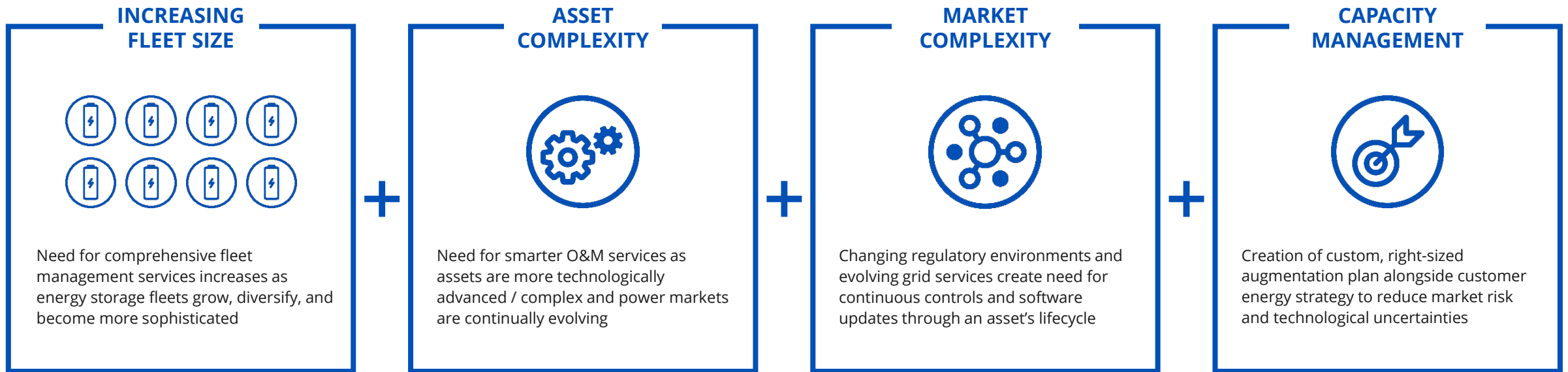


SECTION III

Fluence Services

Meeting the evolving needs of our customers

As fleet sizes increase and technology becomes more complex, energy storage service needs will continue to change



What Fluence services bring to your energy storage assets



GUARANTEES

Safeguard asset revenue potential over project life with degradation, capacity, and availability guarantees



PARTS & WARRANTIES

Secure the system with back-to-back OEM equipment warranties and extensive Fluence claims support



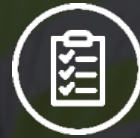
MAINTENANCE

Maintain equipment and optimal operating condition with preventative and reactive maintenance



REPORTING

Understand asset state of health, performance, and risk with monthly system analysis and KPI reporting



TRAINING

Receive comprehensive training delivered by experienced service reps - included with all storage systems



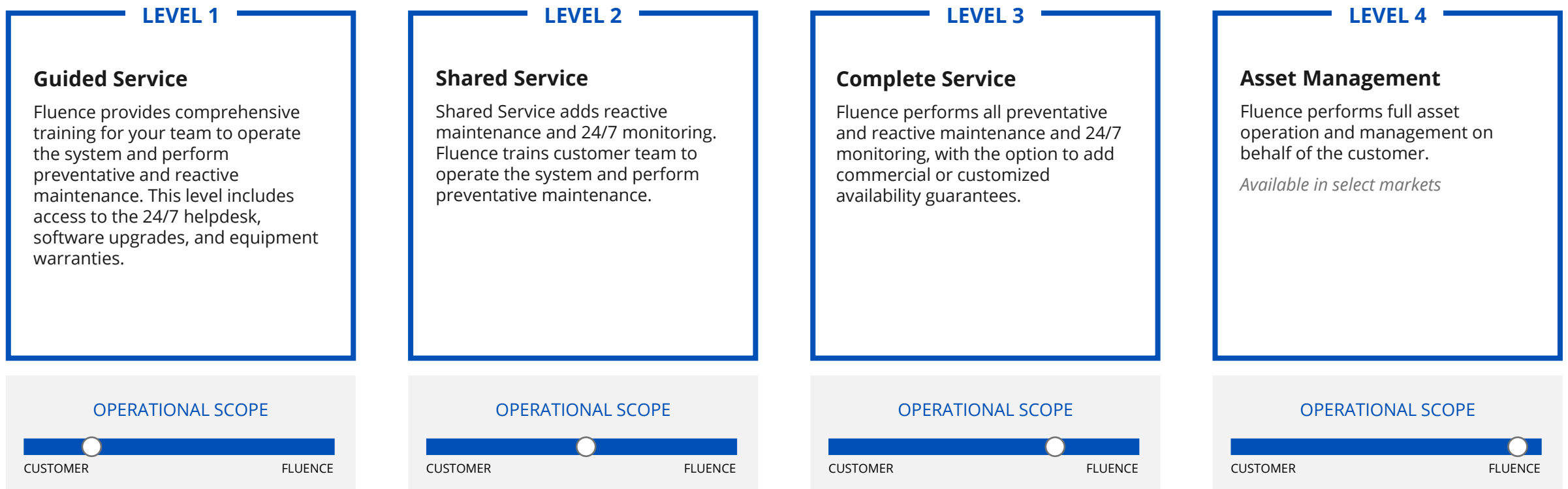
ASSET MANAGEMENT

Extensive asset management services including operational, contractual, financial, and risk management



Customizable packages offer different levels of service options

Designed around varying levels of customer capabilities, risk tolerance, and business environment



Customers leveraging Fluence services

Delivering peace of mind for energy storage systems across the globe



UK Power Reserve

UNITED KINGDOM | 60 MW / 60 MWh

COMMISSIONED: 2019

15-YEAR SERVICE AGREEMENT



SDG&E

CALIFORNIA | 37.5 MW / 150 MWh

COMMISSIONED: 2017

15-YEAR SERVICE AGREEMENT



Ballarat

AUSTRALIA | 30 MW / 30 MWh

COMMISSIONED: 2018

15-YEAR SERVICE AGREEMENT



Thank You