

Investor Presentation

February 2023



Market Overview

- The world is **shifting to low-cost renewables** in response to the ongoing energy crisis and the transition to net zero
- Energy storage **growth drivers**:
 - Energy generation is **shifting to renewables** to achieve emissions reduction and energy sovereignty
 - While renewables are low cost, that shift is impeded by intermittency
 - That intermittency is solved by energy storage
- Unprecedented levels of **global policy support** via the **\$370 billion** U.S. Inflation Reduction Act, the California Energy Commission, U.S. DOE and policies in UK, EU, Canada and Australia
- Although the storage market is currently dominated by lithium-ion, customers are actively seeking alternatives due to rising prices, safety concerns and supply shortages
- Prevailing market conditions present a major opportunity for Invinity's vanadium flow batteries as an economically viable, commercially available, long-duration alternative to lithium-ion



Source: BloombergNEF. Note: "MENA" refers to the Middle East and North Africa; "RoW" refers to the rest of the world. "Buffer" represents markets and use cases that BNEF is unable to forecast due to lack of visibility.

"Total global storage spending likely to approach the trillions by 2050...Lithium-ion will only get us so far, raising urgency for long-duration technologies."



Barclays Capital, 2021

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Invinity Energy Systems

- Vanadium flow batteries are a **proven alternative** to lithium-ion
- Invinity is a **leader** in vanadium flow batteries
- Invinity believes it has the largest fleet of flow batteries ever deployed, totalling over 275 operating modules
- Standardized, factory-built products

65

MWH

Deployed or

contracted

70

PROJECTS

Across 15

countries on five

continents

Over 911 MWh in **sales pipeline**, plus 1.2 GWh longer-term opportunities

134

EMPLOYEES

The most

experienced team

in flow batteries

73

PATENTS

Granted or

pending, plus

trade secrets

15 +

YEARS

R&D investment in

product and

manufacturing







EDF Renewables' 5 MWh Invinity VS3, Oxford UK

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Proven Capabilities

- Invinity's VS3 vanadium flow batteries are already in service delivering energy to the grid and being dispatched commercially by customers
- Invinity has deep expertise in both gridconnected and behind-the-meter storage projects
- Strategic relationships leverage resources and expand Invinity's reach within and beyond core markets of the UK, North America and Australia

Scotland

0.8 MWh



Graph shows operation of a grid-connected Invinity VS3 battery in December 2022



Scottish Water Perth Overnight Renewables Feb 2022



San Jacinto Fire Station Resilience Jun 2022



European Marine Energy Centre Dispatch, firming for hydrogen Aug 2022

0.5 MWh

Scotland **Energy Superhub Oxford** 1.8 MWh Grid Balancing July 2022



England 5 MWh

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Contract Momentum

Drivers of recent contract momentum:

- Growing global storage market combined with challenges to lithium batteries
- VS3 in **operating projects** proving capabilities
- VS3 is now price competitive, particularly as lithium gets more expensive
- Increased **delivery capacity** reduces project delivery wait times, particularly vs. lithium



60 45 **MWh** 30 Elemental (Canada) Webcor (US) Scottish Water (UK) 15 Yadlamalka (Aus) EMEC (UK) Soboba (US) Unnamed C&I (U.S.) ESO (UK) 2021 2020



31 MWh contracts closed since October 2022



Pipeline

Accelerators: bankability study, new routes to market, battery revenue, project funding opportunities





Order-book backlog of £22.0m underpinning the majority of the Company's 2023 revenue expectations

Long-term Qualified includes multiple U.S. **DOE projects** applied for under the **Bipartisan** Infrastructure Law.

Manufacturing at Scale

Invinity is currently supply constrained, not demand constrained.

- IP-intensive cell stacks built in-house, balance of system outsourced
- Current annual stack capacity of 200 MWh meets expected demand over the next 24 months – further expansion requires limited capex
- Our partner Baojia, major renewable energy products contract manufacturer, has flexible capacity for balance of system manufacture in China and Malaysia
- North American final assembly capacity 200 MWh, opportunity to significantly increase UK capacity with limited outlay.
- Increased delivery capacity reduces project delivery wait times, particularly vs. lithium
- Invinity is exploring U.S. domestic manufacturing supported by the Bipartisan Infrastructure Law and the Inflation Reduction Act.



Invinity's North American final assembly in Vancouver, Canada



Baojia facility in Suzhou, China Privileged and confidential. © 2023 Invinity Energy Systems.



Mistral

Low LCOS energy storage with Mistral:

- Mistral suitable for very-large-scale wind, utility and solar installations (+500MWh projects)
- Proven **VS3 technology** in a larger module size
- Lower CAPEX, significantly improved margins over VS3
- Optimized for deliverability, O&M
- Resulting in lower LCOS, a principal program objective
- Co-developed with global-scale engineering partner
- Programme target to get LCOS under \$50/MWh by 2026, four years earlier than U.S. DOE target

Levelised Cost of Storage evolution through Mistral programme



Lithium Data: Lazard LCOS v2 - v7.0; **VS3 Data:** Invinity published estimates; **Mistral Data:** Invinity & development partner programme targets. Calculations assume a 4 hour rated power discharge, 700 cycles per year and 6% discount rate.



Changing the Economics of Energy

The energy market will be altered fundamentally when renewable energy on demand costs less than the least expensive fossil-fuel generation.

- Renewables already provide lowest **cost energy**, but they need energy storage to become baseload
- Lithium batteries have too high a **LCOS** (levelised cost of storage) to compete with conventional baseload.
- Mistral targets low LCOS that, combined with solar or wind, provides energy on demand below average gas baseload costs
- We see Mistral as fundamental to the global energy transition





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Pathway to Profitability

Mistral is designed to achieve industry-standard margins while delivering a low-LCOS storage product.

Step 1 – Deploy VS3, for vital experience and to reduce risk:

- Validation of core technologies
- **Experience** with a variety of applications, complex installations, integration with energy infrastructure, market pricing requirements, etc.
- Manufacturing expertise, partnerships, supply chain relationships.
- **Positive** but relatively low gross margins

Step 2 – Mistral development, a low-LCOS product by design:

- Focus on LCOS as decision metric for all design elements; "simplify and scale" wherever possible
- Improved electrochemical performance through cumulative advances, increasing capacity
- Optimize deliverability and reduce maintenance costs, significant LCOS components
- Design for efficient manufacture with subsystem articulation

Step 3 – Mistral deployment, higher margins enabling profitability:

- capabilities
- segmentation



Achieve economies of scale; leverage partner and contract manufacturer

Optimize supply chain with volume suppliers focused on cost and quality

Reduce logistics costs through appropriate product and manufacturing

Use **resulting higher margins** to drive volume and improve efficiency

Financial Summary

Invinity is focusing on operational excellence, financial discipline, and scalability.

Revenue

- 2022 revenue in line with expectations
- 2023 revenue target on track, 85% already contracted or delivered
- 2024 order backlog expected to increase throughout 2023

Costs and cash

- Active management of cost base
- Project cash flows utilized carefully

Margins

- Current VS3 focus
- Mistral aiming to significantly increase gross margin

Gamesa relationship

- Ongoing funding (\$4.62m continues)
- Extension of option term

Strategic Financing

Ongoing discussions with strategic investors to provide additional capital



2023 ORDER BACKLOG

Underpins 2023 Revenue Expectations







Supports 2024 Revenue Expectations

Establish Invinity as the leading alternative to lithium-ion batteries for stationary energy storage

Strategy	Objective	
Capitalise on sales momentum and grow strategic partnerships to drive additional sales across global network	Demonstrate ability to exceed customer expectations , gain field experience, achieve revenue	
Announce Mistral pilot projects in 2023, commercial launch in 2024	Demonstrate conclusive leadership in large-scale, low-LCOS energy storage	
Win high-profile projects in core markets alongside credible partners	Validate robust alternative to lithium to meet future energy storage needs and grow market share	
Target greater U.S. "domestic" content to help developers take advantage of the U.S. Inflation Reduction Act	Advance U.S. strategy in market development , manufacturing efficiency, deployments and government support	



Invinity batteries on the front page of February's PV Magazine Privileged and confidential. © 2023 Invinity Energy Systems. 12



DE PHOTOVOLTAIC MARKETS & TECHNOLOGY

THE LONG GAME

Extending duration is the new main event for energy storage

Appendix



Vanadium Flow Battery Technology



Invinity VS3 Standardized Battery Module

- 37 kWh, 10 kW (nominal)
- 1 x 2 x 2 meters (approx.)
- 3rd generation vanadium flow battery
- Self-contained and fully integrated
 - Control systems
 - Power electronics
 - Cooling
 - Secondary containment
 - Complete and tested from the factory



Lithium-ion vs Vanadium Flow

	Lithium-ion	Vanadium flo	
Service life	5-15 years – far shorter than generating assets	 25 years or more – r generating ass	
Raw materials supply	Global lithium battery production required for EV transition	 No conflict minerals; v more abundant than	
Safety	Increasing awareness of fire risk due to real-world incidents	 No fire risk	
No. of cycles	< 250 per year	 Unlimited	
Length of cycle	< 4 hours	 4–12 hours	

Invinity batteries can scale to longer duration at a reduced cost. Unlimited cycling, proven safety and durability make them ideal for high-throughput applications that markets now demand.



WC

natches ets

/anadium n copper