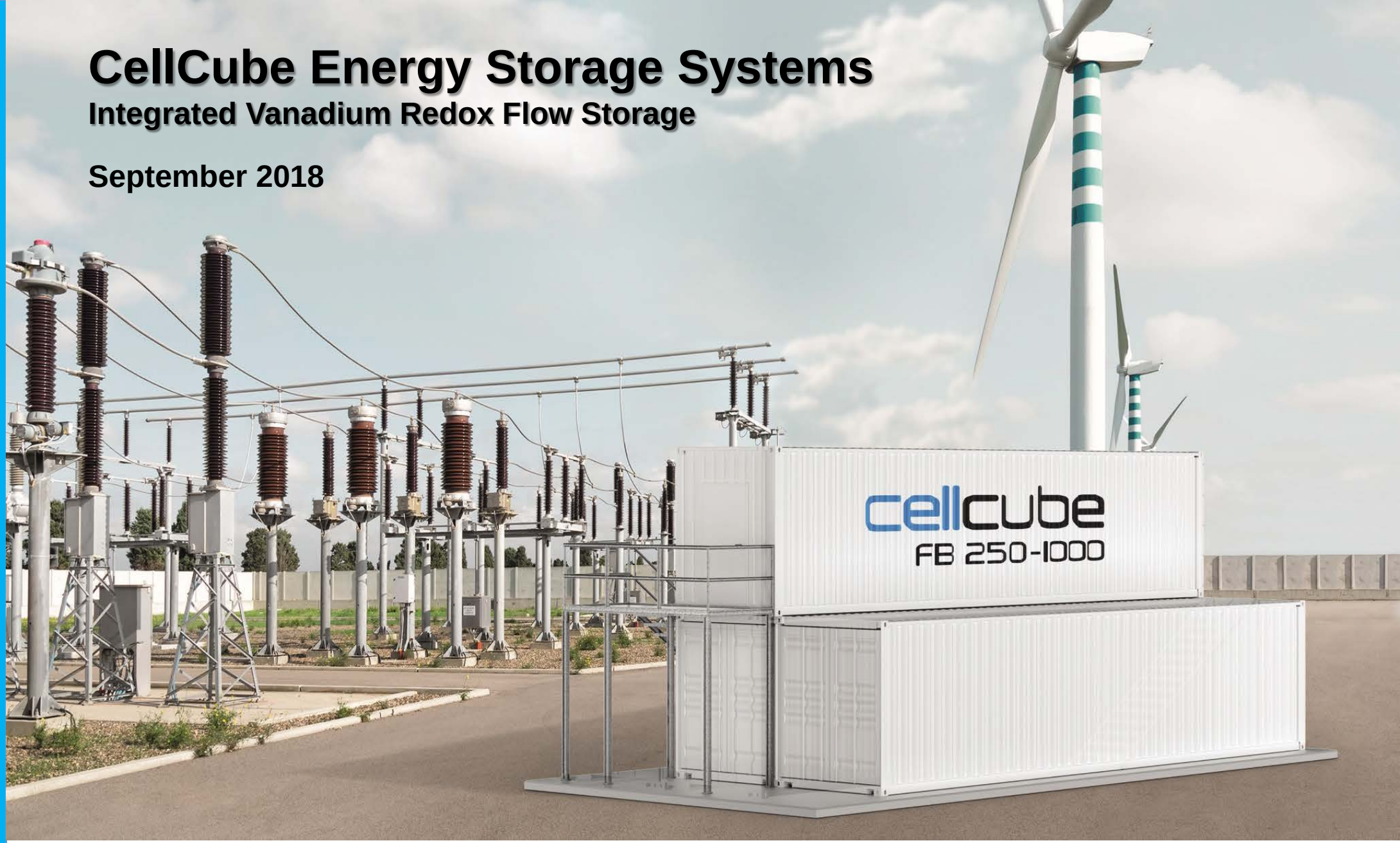
Investor Presentation

CellCube Energy Storage Systems

Integrated Vanadium Redox Flow Storage

September 2018



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Investment Highlights

- Rapidly growing energy storage industry is being driven by large increase in demand to integrate renewable energy into the power grid
- CellCube is the leading worldwide supplier of Vanadium Redox Flow Batteries (VFBs), the preferred battery for large scale stationary energy storage
- Recognized world leading technology developer (130 projects realized, 10+ years operation)
- 12 month sales pipeline currently exceeds $100 million
- EnerCube & PowerHaz acquisitions provide immediate revenue and cash flow
- Announced spin-out of high quality vanadium assets into new publicly traded company while maintaining a 19.9% interest and certain off-take rights
- Proven leadership team
- Significantly undervalued

The CellCube Opportunity

Energy Storage Systems (ESS) are a Game Changer for Modern Grids

What will Flexible, Large-Scale, Low-Cost Storage Projects look like?

VFB Systems will redefine energy storage and shape the global energy supply chain

Renewables
(Wind, PV) threaten grid stability
=> Need for ESS

$130 Billion

ESS Market Deployments until 2030*

CellCube 2019 Projection

Revenue - $85MM

EBITDA - $18MM

Vanadium Flow Battery Technology
Vertically Integrated

V_{23}

Integrated Storage Systems

CellCube ESS

EnerCube Switchgear

The Challenge → The Market → The Opportunity → The Technology → The Solution

*Bloomberg New Energy Finance 2018

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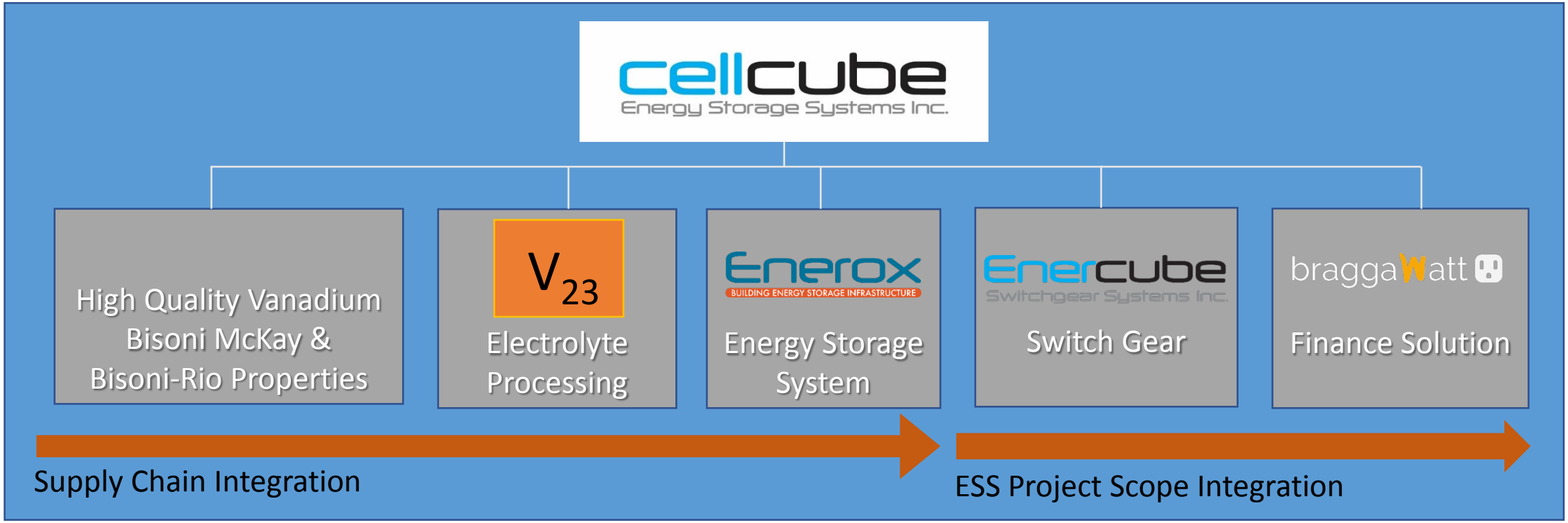
Corporate Structure - CellCube Energy Storage Systems Inc.

Integrating the Best in Class



Enerox GmbH, Austria – Design, Manufacturing, Distribution of the integrated CellCube ESS

EnerCube Switchgear Systems Inc., Canada – Design, Manufacturing, Distribution of Switchgear and Drive Equipment

V23 Resource Corp., Canada – Mining and highest grade of Production for Vanadium and Vanadium Electrolyte

CellCube: Setting the Standard of Vanadium Flow Batteries

The Enerox History

Research and development

CE certification

Market launch FB 200 modules

ISO 9001

More than 100 projects installed worldwide

CellCube invests

Production New Gen FB250

More power, higher efficiency, more energy

1999 → 2004 → 2008 → 2010 → 2011 → 2012 → 2014 → 2016 → 2018 → 2019

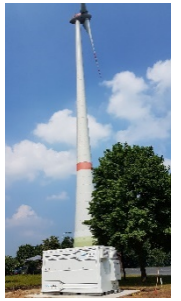
First field tests

GILDEMEISTER invests

Market launch modular systems in the MW-range

First product with 10 years of continuous operation

130 Installations



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Global Leader in Vanadium Flow Batteries

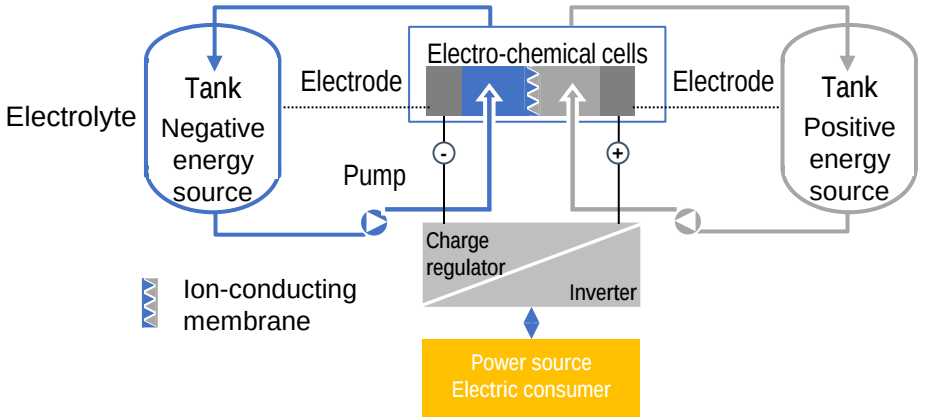
CellCube is a global leader in the development of integrated Energy Storage Systems based on its Vanadium Redox Flow Battery (VFB) Technology

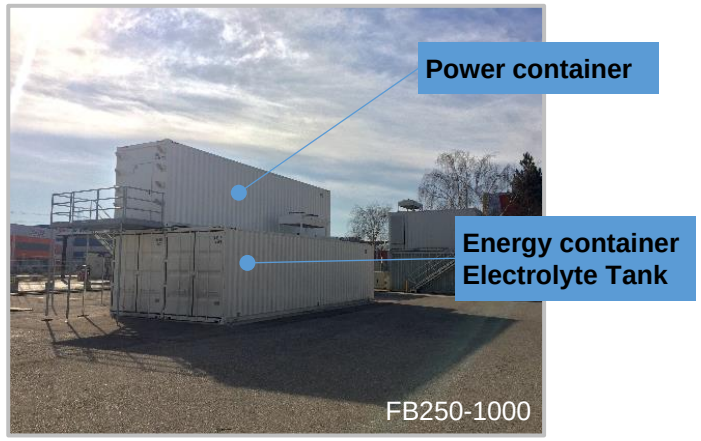
Unlike other Flow Battery Manufacturers, CellCube provides:

- ***Unparalleled integration along the supply chain***
- ***One of the longest standing, continuous history in flow battery development***
- ***Largest fleet of installed flow battery storage systems globally (130 Installations)***
- ***Most experienced in large-scale containerized flow battery systems***
- ***Only manufacturer offering 4,6, and 8 hour storage capacities***
- ***Innovative CapEx deferral methods to accelerate project roll-outs***

Product & Services

Vanadium Redox Flow - ESS





Advantages of Flow Battery Technology

- ✓ Lowest LCOS (Levelized Cost Of Storage) in long duration energy storage systems
- ✓ Product outliving renewable energy generation/matching conventional power generation assets 30+ years
- ✓ 100% usable energy capacity w/o product life impact
- ✓ No capacity degradation 25-30% life time return advantage
- ✓ No cycling dependency (>20,000 cycles)
- ✓ No recycling necessary -> Re-use over many deployments
- ✓ Intrinsically safe, non-flammable, non-explosive

Turnkey Solutions

- ✓ VFB containerized storage system
- ✓ Combined switchgear MV block
- ✓ AC power ready
- ✓ Onboard auxiliaries and control system
- ✓ Control communication interfaces
- ✓ Life cycle and remote monitoring

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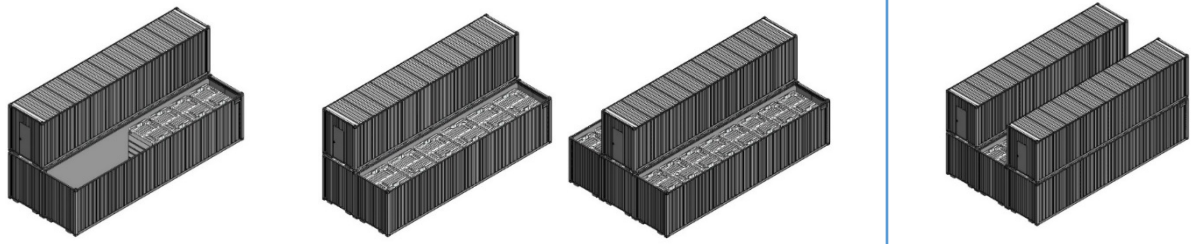
Next Generation Vanadium Flow Battery

Single- and Scalable Multi-unit Module

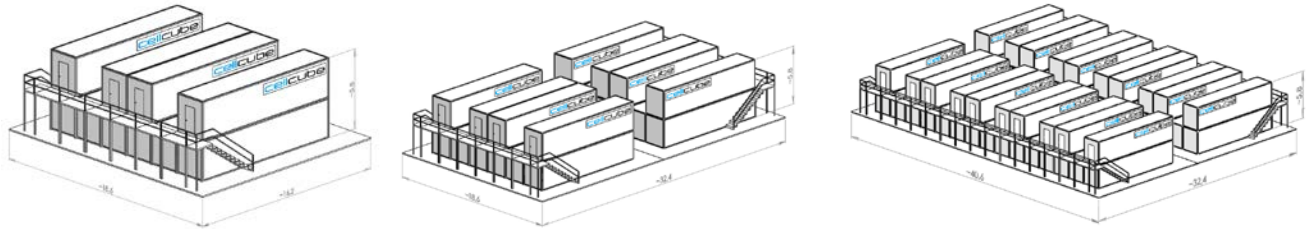
Large Project Module

FB 250 Product Family



FB250	1000	1500	2000	FB500-2000
Rated Power (peak) kW	250 (300)	250 (300)	250 (300)	500 (600)
Rated E capacity kWh	1000 (4h)	1500 (6h)	2000 (8h)	2000 (4h)
Design Life (years)	25-30	25-30	25-30	25-30
Cycle Life	**Non-degradable, indefinite deep discharge cycling**			

Scalability



New Features

- **Increased Peak Power +25%**
- **Improved efficiency at rated power +5%**
- **Optimized energy capacity at rated power (true 4h)**
- **Reduced system cost -30%**

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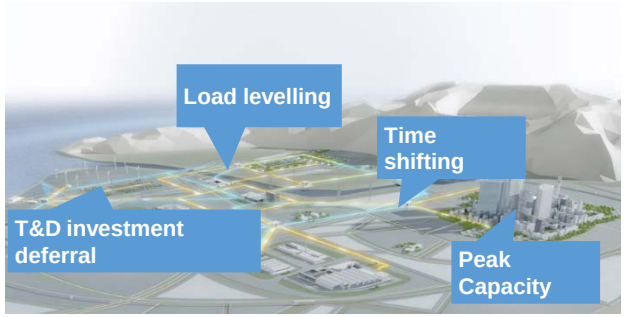
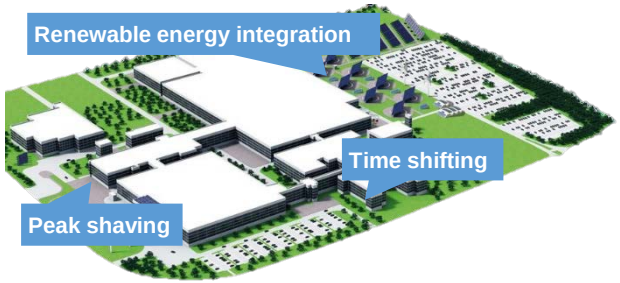
CellCube Target Markets

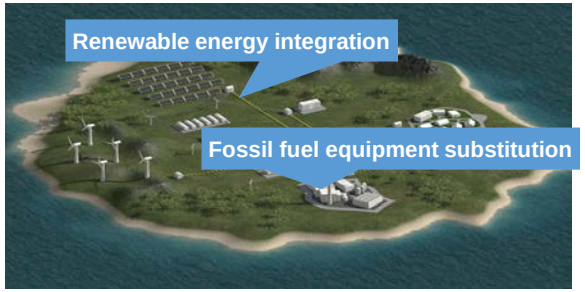
	Grid Scale	Microgrid [1]	Off-grid
Applications	▪ Peaking Capacity ▪ Renewable Firming ▪ Curtailment avoidance ▪ Time of Use and load shifting ▪ Ancillary Services ▪ T&D investment deferral	▪ Fossile fuel reduction ▪ Diesel/CHP backup avoidance ▪ Grid Stability Balancing ▪ Time shifting ▪ Renewable energy integration	▪ Diesel/CHP fuel economy ▪ Diesel/CHP O&M cost reduction ▪ Enable high levels of Energy supply from renewable energy
Customers	▪ Utilities ▪ Independent Power Producers ▪ Transmission system operators ▪ Distribution system operators	▪ Grid operators ▪ IPPs ▪ Generation Asset owners ▪ Distributed system operators	▪ Utilities ▪ Independent power producers ▪ Distribution system operators
Geographies	▪ NAFTA ▪ Europe ▪ MENA ▪ APAC	▪ NAFTA ▪ Europe ▪ APAC ▪ MEA	▪ NAFTA ▪ Europe ▪ APAC ▪ Africa
Benefits	**Providing Peak Capacity Ensuring grid stability while increasing share of renewable energy**	**Demand charge reduction and optimized renewable energy consumption**	**Increasing share of renewable energy while reducing total cost of ownership and fuel dependency**



Grid Scale

DER / Microgrid





Island / Off-grid

- [1] *Microgrid is a group of interconnected loads and distributed energy resources that can connect*
- [2] *Commercial power suppliers are typically companies with integrated renewable energy generation capacity feeding electricity into the grid.*

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Strong and Diversified Customer Base

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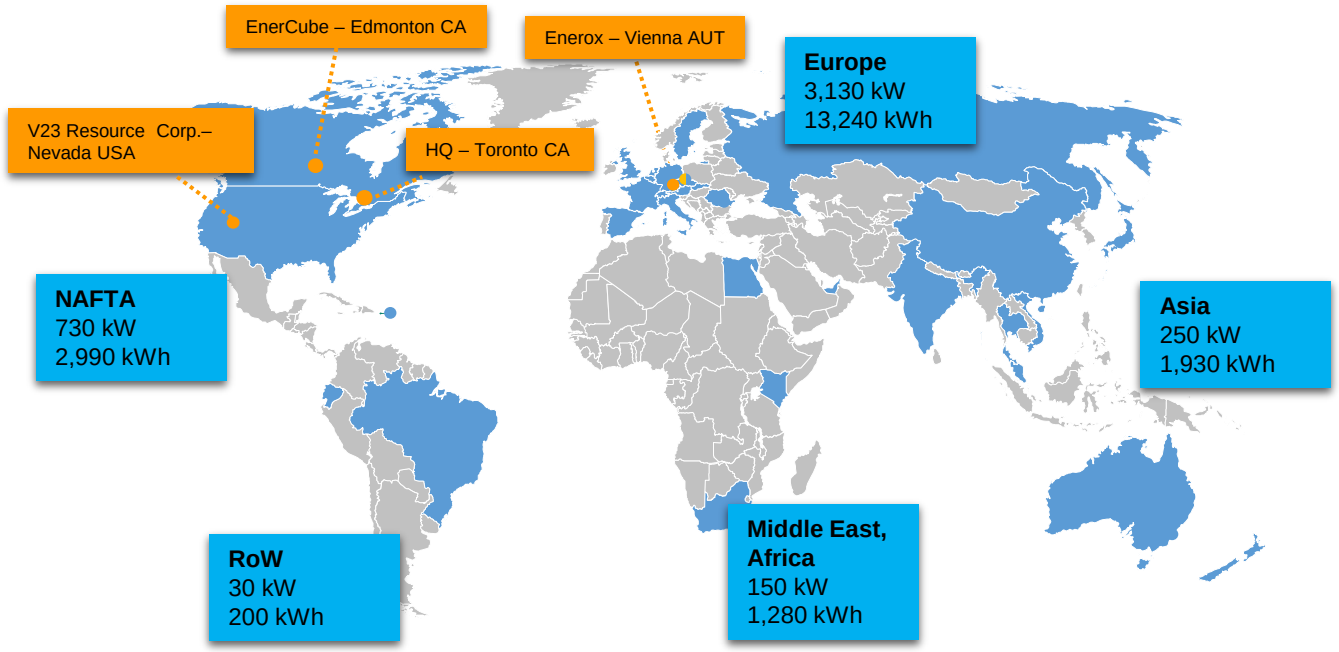
Current Installations Worldwide



Sold (130 Systems)
Power: 4.3 MW
Energy: 20.1 MWh

Experience

- ✓ A decade of project deliveries
- ✓ Over 130 systems installed
- ✓ Products running since 2008
- ✓ >10,000 cycles achieved in field deployment
- ✓ Combined >2 million operational hours
- ✓ 16 storage applications realized (grid to off-grid)
- ✓ German engineered with combined >100 years development expertise
- ✓ Daily Monitored

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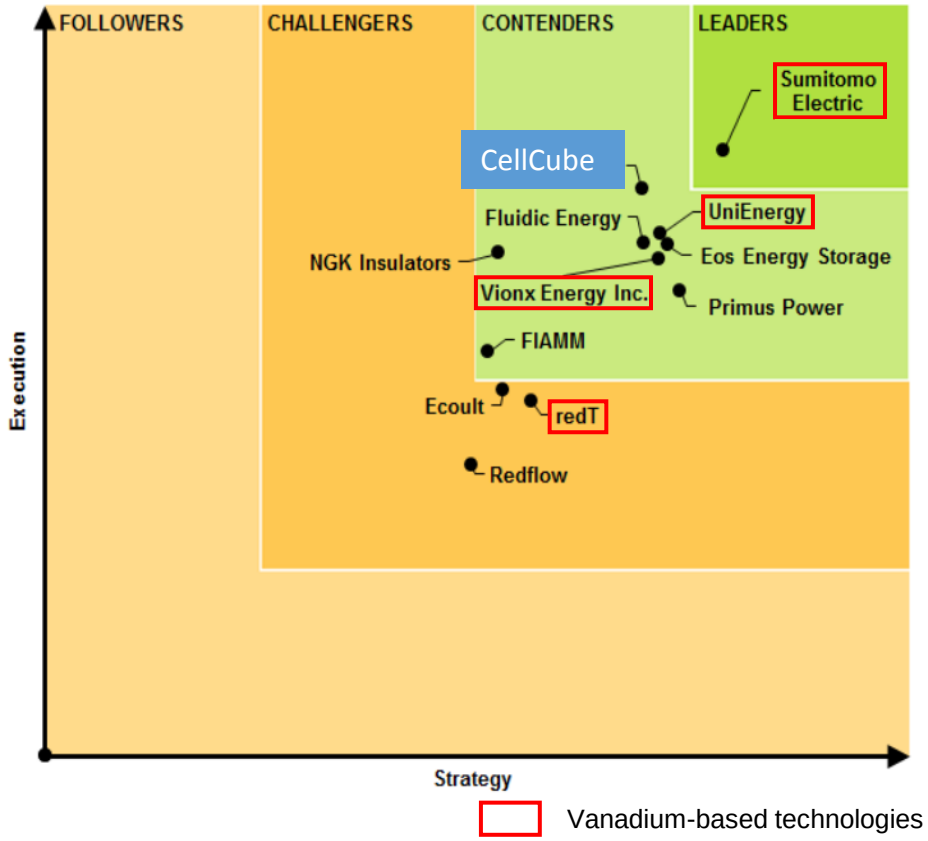
CellCube Competitive Positioning

VFB Competition

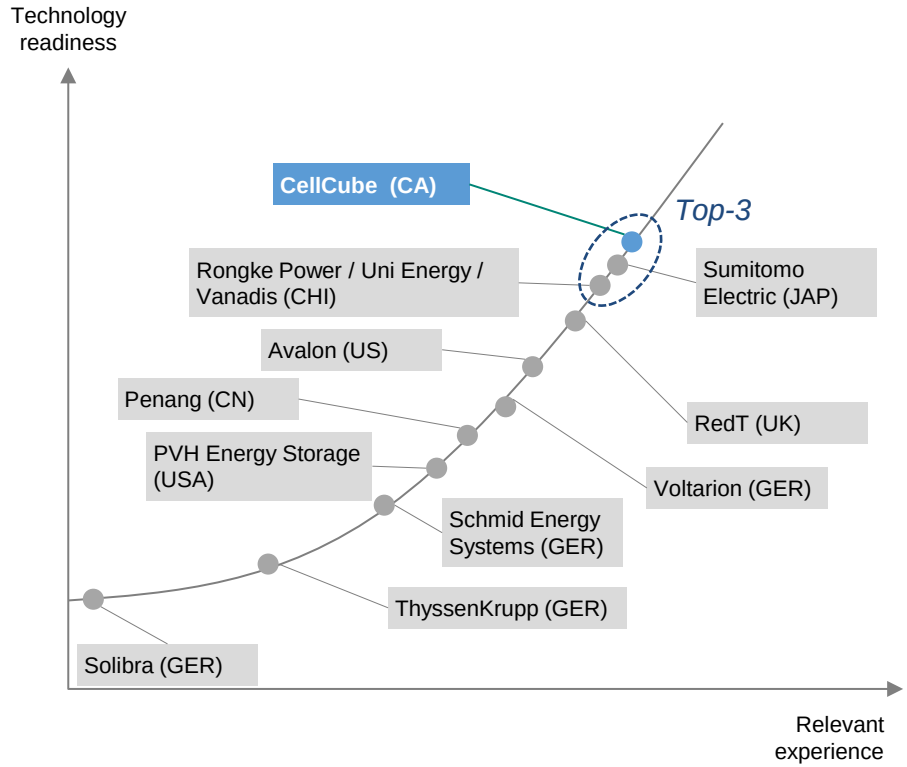
Ranking of Strategy and Execution capabilities (Navigant)



https://www.navigantresearch.com/research/navigant-research-leaderboard-non-lithium-ion-batteries-for-grid-storage

Source: Navigant Research

CellCube's positioning vs. main VFB competitors



Source: Company information, CellCube management assumptions

Management & Directors

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Mike Neylan – CEO, Director

- 20+ years experience financial, legal and international corporate
- Private Equity Portfolio Manager with Sprott Inc., $11B+ AUM, $300MM+ investments in renewable power sectors
- Experience includes COO of Aquilon Power Corp., General Counsel at Just Energy and Group Counsel-Europe at RBC Capital Markets in London, UK
- BA Economics (U. Western Ontario), LL.B. (Queen's University)

Stefan Schauss – President, Director

- 20 years experience in sales and business development (US, EMEA, APAC)
- Strong experience in high-tech startup operations
- A decade of experience in energy storage systems
- MSc. Physics (U. Mainz, Germany)

Chris Hopkins – CFO, Director

- 30 years of Canadian and international energy and mining experience
- Director of several public companies
- C.P.A., MDA

Brian Ricker – President & CEO (EnerCube)

- 30 years experience in the electrical industry
- Formerly with Eaton Corporation
- Multi-national power management experience

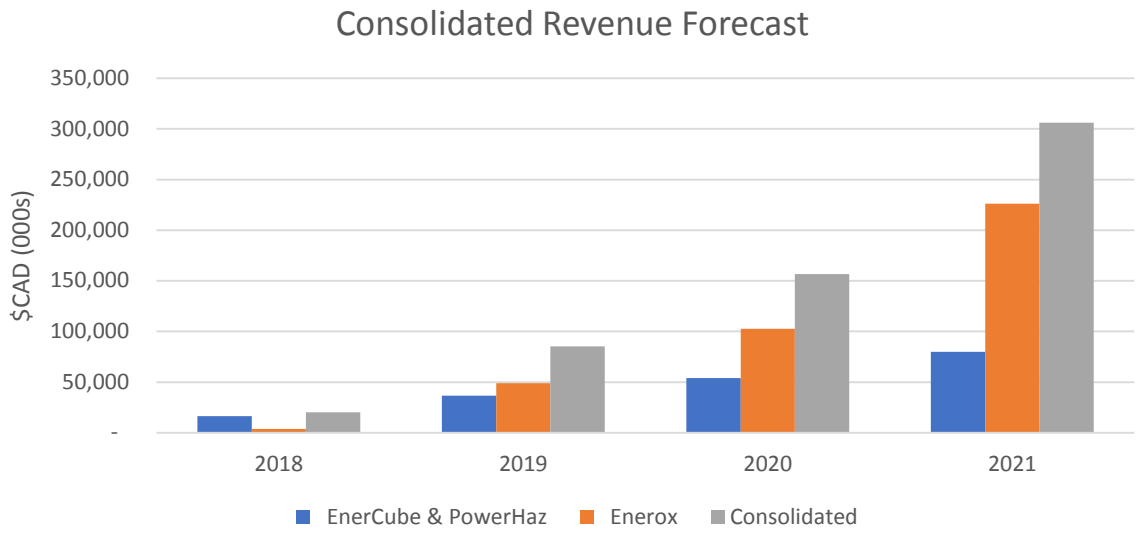
Alexander Schoenfeldt – COO (Enerox)

- 20 years energy sector Experience
- Proven track record ramping startups like Younicos, Locamation, Anyline
- Specialized in structuring high technology and innovative business segments (Siemens/Younicos)

Creating Shareholder Value

3 Year Business Projection

- Containerized large scale energy storage systems
- 377MW contracted projects
- Ramp to 4GWh annual manufacturing capacity
- Regional assembly plants in Europe and North America
- 20+ years in operations & maintenance income stream
- Innovative electrolyte lease programm with 20+ year income stream



+45% CAGR Storage Market

+76% CAGR Company

+20% YoY Market Share Growth

+200% Project Size Growth

-30% Cost Reduction Equipment

-50% V-Elyt Cost Reduction

3 Year Financial Projection

- **CDN $550 million revenue from Equipment Sales**
- **CDN $75 million revenue from Electrolyte Lease Contracts**
- **CDN $2.5 billion Life Time Contracts (Electrolyte Lease)**

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Financial Projection*

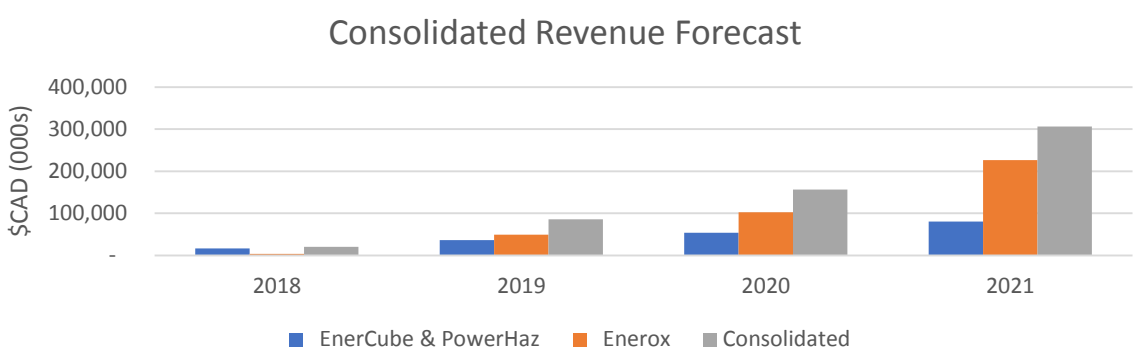
* Prepared by CellCube Management

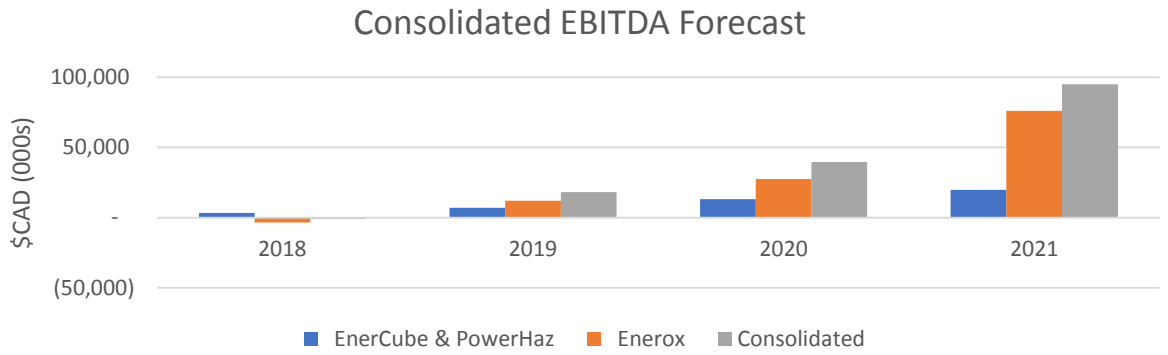
Enerox ($CAD 000s)	2018	2019	2020	2021
Revenue Equipment	3,695	37,752	78,090	166,296
Life Cycle Services	-	2,265	5,629	12,874
Lease Income	-	8,892	19,050	47,095
Total	**3,695**	**48,909**	**102,770**	**226,265**
EBITDA	**(3,511)**	**11,991**	**27,523**	**76,171**
EBITDA %	-	25%	27%	34%

EnerCube Revenue	2018	2019	2020	2021
Revenue				
Enerox	3,695	48,909	102,770	226,265
EnerCube & PowerHaz	16,419	36,500	54,000	80,000
Total Revenue	**20,113**	**85,409**	**156,770**	**306,265**

EnerCube & PowerHaz ($CAD 000s)	2018	2019	2020	2021
Revenue Core business	14,231	26,000	37,000	50,000
Enerox - Battery	-	4,500	9,000	20,000
PowerHaz	2,188	6,000	8,000	10,000
Total	**16,419**	**36,500**	**54,000**	**80,000**
EBITDA	**3,336**	**7,083**	**13,174**	**19,738**
EBITDA %	20%	19%	24%	25%

EnerCube EBITDA	2018	2019	2020	2021
Enerox	(3,511)	11,991	27,523	76,171
EnerCube & PowerHaz	3,336	7,083	13,174	19,738
Corporate	(800)	(1,000)	(1,000)	(1,000)
Total EBITDA	**(975)**	**18,074**	**39,697**	**94,910**





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Capital Structure

CellCube Energy Storage Systems Inc.

Stock Symbol
- CSE (CUBE)
- OTCQB (CECBF)
- Frankfurt (01X)

Recent Price:	$0.19
Market Capitalization:	$26 million
Avg Daily Volume:	756,000
Share Structure:	
Common Shares	138,017,953
Warrants	51,379,222
Convertible Debenture	7,483,333
Options	5,440,000
Fully Diluted	202,320,508

Institutional Investors	
Sprott Asset Management	Vertex
Sprott Inc.	Gravitas
NHP Asset Management	Goodman & Company
LOM	

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OTCQB: CECBF Frankfurt: 01X

www.cellcubeenergystorage.com

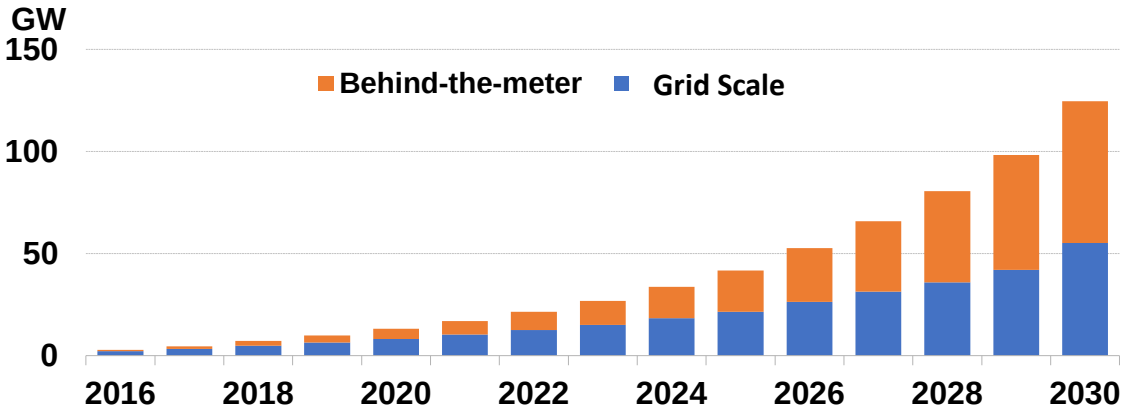
Appendix

Acronyms

APAC	= Asia Pacific
BoS	= Balance of System
BoP	= Balance of Plant
BTM	= Behind-the-meter (grid edge)
CHP	= Combined Heat and Power
C&I	= Commercial & Industrial
CESS	= CellCube Energy Storage System
IPP	= Independent Power Producer
EMEA	= Europe, Middle East, Africa
EPC	= Engineering, Procurement, Construction
ESS	= Energy Storage System
LCOS	= Levelized Cost of Stored energy
LCOE	= Levelized Cost of Energy
Li	= Lithium Ion (battery)
MW	= Unit of electrical power, 1000 kW
MWh	= Unit of electrical energy, 1000 kWh
O&M	= Operation and Maintenance
RE	= Renewable Energy
VFB	= Vanadium Flow Battery
VFRB	= Vanadium Redox Flow Battery

CellCube Growth Projection

Market Share

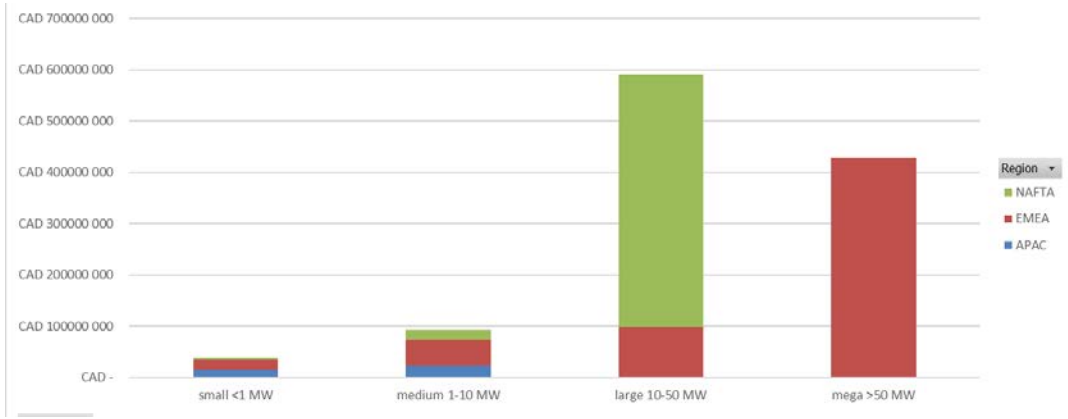


Mkt Segment (MW)	2019	2020	2021
Behind-The-Meter	3,400	4,900	6,700
Grid Scale	6,400	8,100	10,200
Total Market	9,800	13,000	16,900
Projection CellCube 2018 (MW)	**22**	**54**	**123**
Projected Mkt Share CellCube	***0.2%***	***0.4%***	***0.7%***

1% Mkt share equals 267MW in 2023

Sales Pipeline

42 large projects (Aug 18)



Total Projects in Pipeline	Forecast Contract Value (M USD)
Americas	395
EMEA	457
APAC	28
Total Pipeline approx. (absolute)	880
Total Pipeline (weighted)	135

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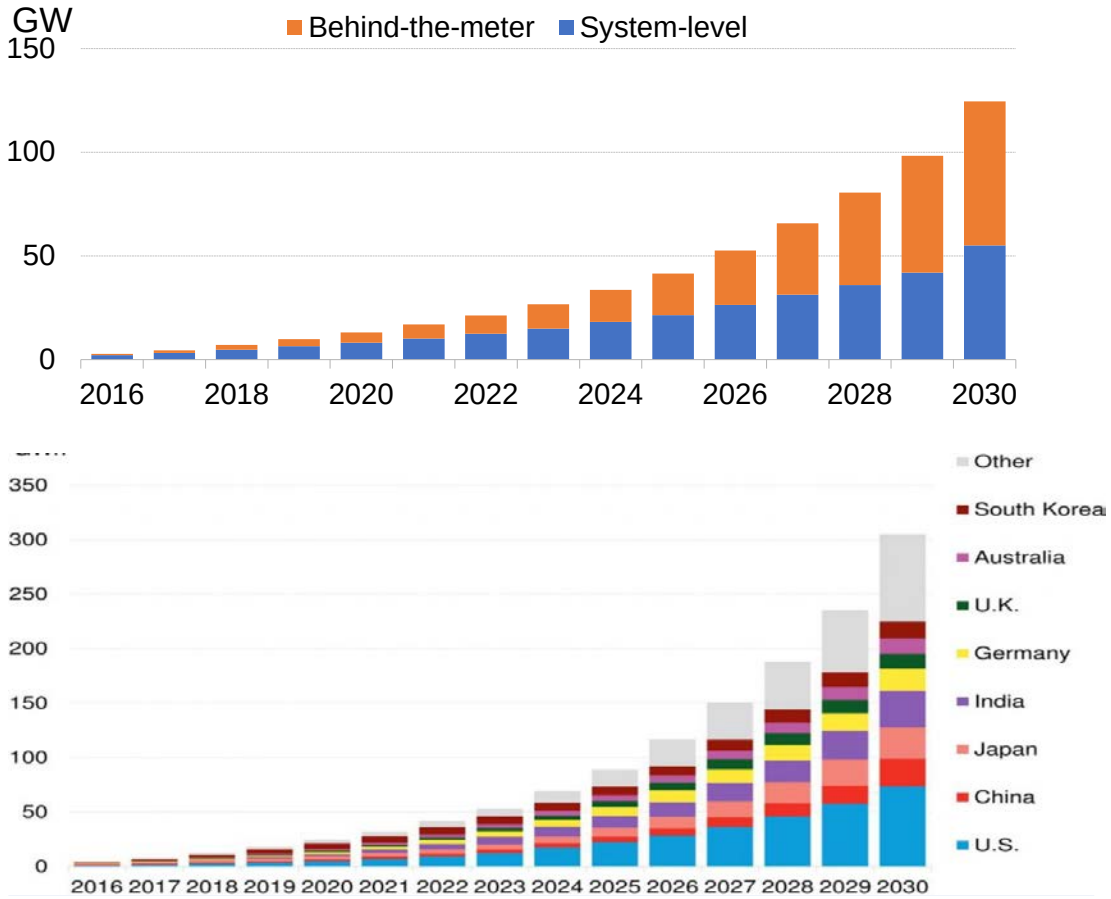
Energy Storage Demand

What Do the Analysts Say?

Bloomberg New Energy Finance

Grid-Scale ESS markets will grow above 40GW



Source: Bloomberg New Energy Finance
Note: System-level refers to projects that provide system services independent of where they are connected to the grid.

Bloomberg New Energy Finance

- Grid-Scale ESS markets will grow in excess of 300GWh until 2030
- Total Deployed Market - Average Storage Duration of 4 hours

GreenTech Media

- Peaking Capacity Plants will be replaced by Battery Energy Storage from 2020 onwards
- Lithium Batteries might not be competitive to replace peaking capacity

NREL (National Renewable Energy Labs, US)

- Significant peaking capacity now over 40 years old. Over the next 20 years, we would expect about 152 GW of peaking capacity to retire
- U.S. peak capacity plants are aging, and future retirements will provide opportunities for substantial battery storage to enter this market

Trends Take away

- ✓ **1h duration energy capacity => avg. 4h duration capacity market by 2030**
- ✓ **Grid scale markets for energy storage convert to energy centric (capacity market) applications from 2019 onwards.**
- ✓ **Early movers will capture the high end of the merit order of power contracts**
- ✓ **Market demand for longer bridging periods (i.e. 4h => 8h) requires better solutions than Li batteries**

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Energy Storage Market

Future Grid Services Need Energy-Centric ESS

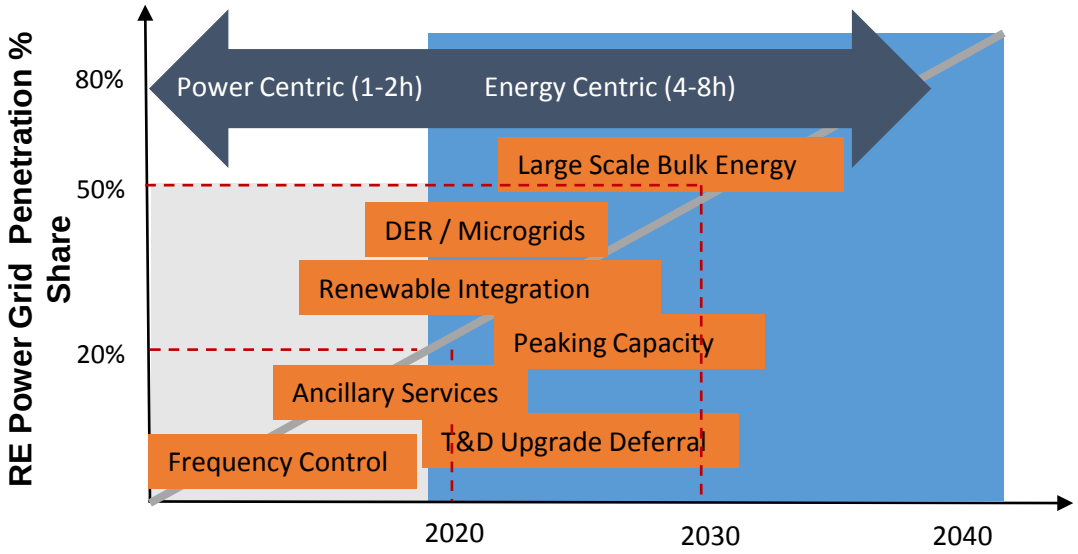
Paradigm Shift 2020

- Applications for Storage change to an energy capacity focus
- Energy Storage System Deployments evolve from <1h to 4h+
- Main Driver Renewable Energy power generation deployments on electrical grids

ESS Markets

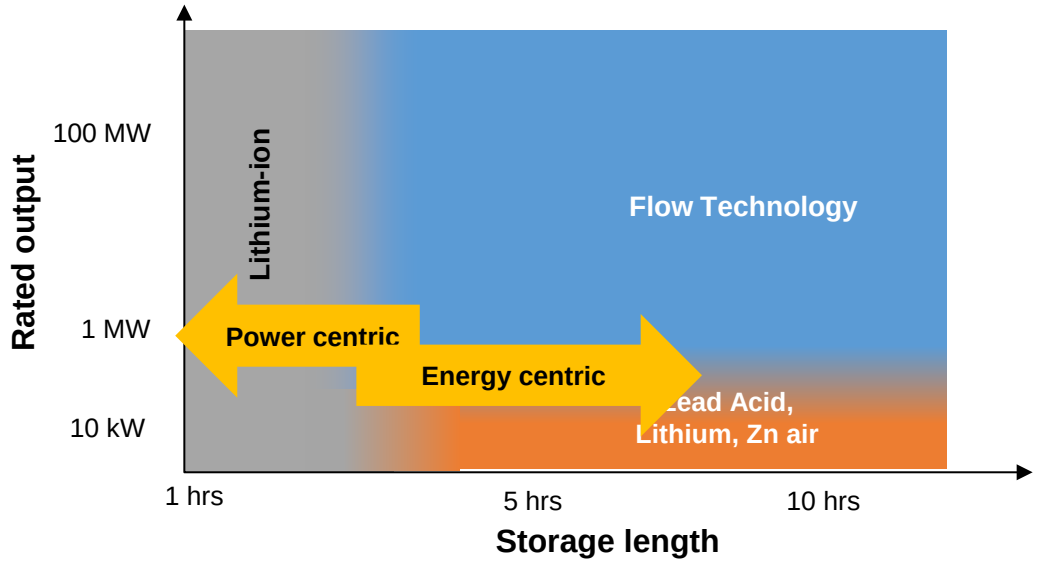
- Price competitiveness favors VFB as the long duration ESS choice
- Li dominance over the past years is being questioned as evidence of short comings (degradation, product life) surface
- Market turning to new applications – requiring new technology

Leading ESS Applications vs RE Penetration



Source: BNEF, Navigant, Enerox Observation

Comparison of Best Fit Battery Technologies



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Enerox Energy Storage Systems - Bankability

Achieved Certifications and IP

Bankability Study (Germanic Lloyd, DNV-GL 2016)

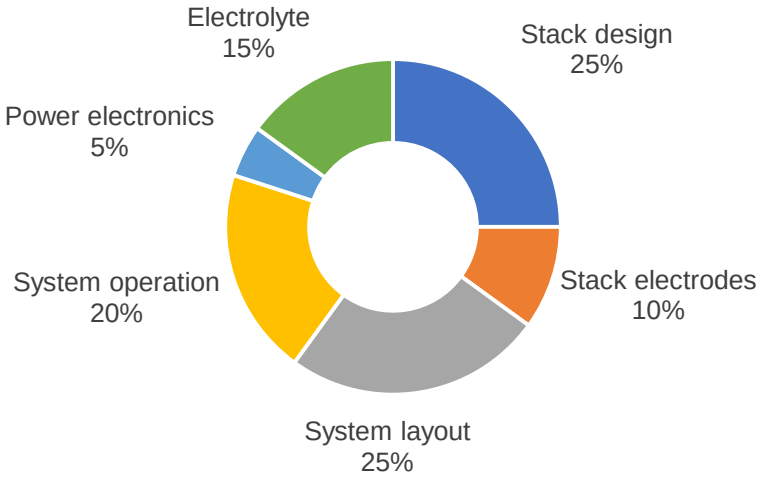
Third Party Assessment of Enerox (Gildemeister Energy Storage GmbH)
By Germanic Lloyd

The overall conclusion from this exercise is that GESt is a mature organisation with the right processes in place that ensure the good quality of the CellCube products leaving the factory.

Topic Description	*DNV GL findings*	*Overall judgment*
Quality System Documentation	DNV GL found a good Quality System and Documentation in place at GESt, with clear quality responsibility and authority, and operational procedures and instructions.	
Human Resources	DNV GL found a mature Human Resources function in place, in which development of employees is at the core, with focus on training and personnel competence development.	
Internal Support functions	The internal support functions at GESt are well organized and cover HR, Office Management (including salary handling, majority of this activity is outsourced), Commercial Administration, and Quality Management.	
Capability & Contracts	The internal sales support department has procedures, processes and routines in place to ensure that commercial contracts are checked, and that GESt has the capabilities to fulfil a client's needs. If a client wishes to deviate from the GESt terms & conditions, corporate legal is involved.	
Design and Development	DNV GL has reviewed the design documentation, and found these to be comprehensive, internally consistent regarding functional and technical requirements. See also chapter 5, for a more detailed assessment.	
Purchasing & Subcontracting	DNV GL found that procedures and records are in place to assess and select qualified suppliers. Supplied products and services are verified to specified requirements. Formally approved exemptions are documented.	
Production Process Control	DNV GL found the project execution and documentation in line with company procedures, and linked to quality control. The interfaces with other departments are clear and well documented. Over time, changes in execution were implemented in improved project support documentation.	

Confidential

Active Patents



Overall: 19 different patent families with applications in various countries.

Industry Certifications

qualityaustria SYSTEM CERTIFIED ISO 9001:2008 No.15898/0	ISO 9001, 50001
TÜV SÜD NRTL US / CSA	NRTL(UL) and CSA
TÜV SÜD / CE	IEC DIN CE-Mark

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EnerCube and PowerHaz

Enabling Seamless Integration of Energy Assets

- EnerCube is one of Western Canada's largest independently owned switchgear manufacturers providing custom and turnkey solutions
- EnerCube provides innovative and high quality custom products such as arc-resistant and metal-clad switchgear, motor control centres, and inverters to heavy power users, pipelines, refineries, manufacturers, municipalities, and infrastructure providers
- PowerHaz designs temporary and mobile power products that are used on industrial and construction sites for shutdowns, turnarounds, and large-scale construction demolition
- Both EnerCube and PowerHaz provide complementary products and services for Enerox

cellcube Energy Storage Systems Inc.

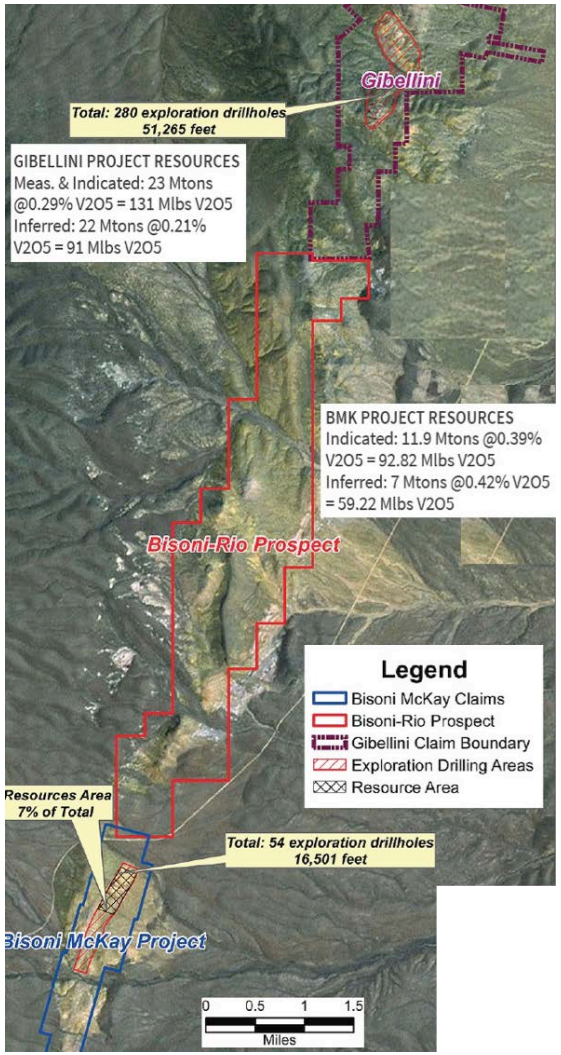
Braggawatt Financial Services

Enabling Financing of Energy Assets

- CDN $2.5 million investment (10%) in Braggawatt Energy Inc.
- Braggawatt provides financing through an online platform that allows corporations and not-for-profit organizations to effectively adopt cost-saving onsite energy solutions
- CellCube and Braggawatt now working together to develop unique finance products for Enerox's energy storage solutions
- Will accelerate Enerox global roll-out
- See www.braggawatt.com

Vanadium Resources

Bisoni McKay & Bisoni – Rio Vanadium Properties



- CellCube recently announced its intention to spin out its vanadium assets into a new publicly traded company while maintaining a 19.9% interest and certain off-take rights
- CellCube Energy Storage Systems has a total of 4,115 acres of vanadium claims in north-eastern Nevada in its Bisoni McKay and Bisoni-Rio properties
- Contains significant vanadium carbonaceous resources that allow for high level of vanadium electrolyte purity. The resource is known as a “pure play” as the vanadium is contained in a carbonaceous shale rather than with other minerals which most often is the case
- NI 43-101 (2016) Indicated Resources estimated at 11,879,590 tons at an average grade of 0.39% V_2O_5 and Inferred Resources estimated at 7,048,056 tons at an average grade of 0.42% V_2O_5
- Supergene enrichment zone of up to 35 feet width identified immediately below Redox zone, revealing anomalous grade surges of 50% to 150%
- Continuity of mineralization confirmed in past exploration drilling campaigns. Less than 10% of the properties have been explored
- Close to surface; examining modern open pit extraction methods
- Recently announced research results indicate potential vanadium recovery rates in excess of 90%

Vanadium Electrolyte Development

Vanadium pentoxide V_2O_5

- 35-50% of the cost of a vanadium redox flow battery is the vanadium electrolyte
- Pacific Northwest National Laboratories (“PNNL”) is the premier leader in advanced vanadium electrolyte research
- CellCube has access to PNNL’s patented vanadium electrolyte formulas for use in vanadium redox flow batteries

HAZEN

UNIVERSITY OF CALGARY

Pacific Northwest NATIONAL LABORATORY

Production of vanadium and vanadium electrolyte is being advanced with research contracts with Hazen Research Inc. and University of Calgary

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