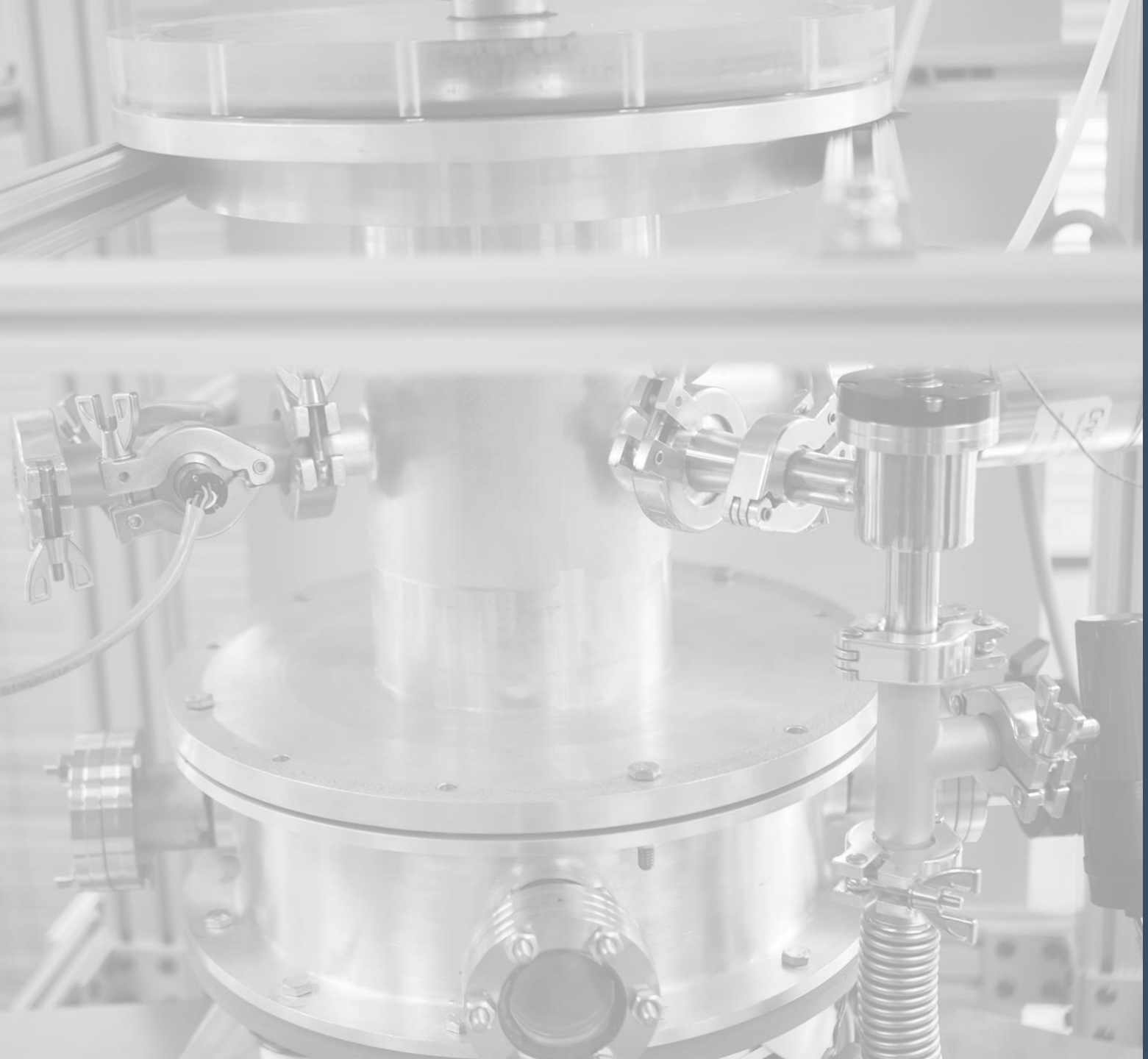
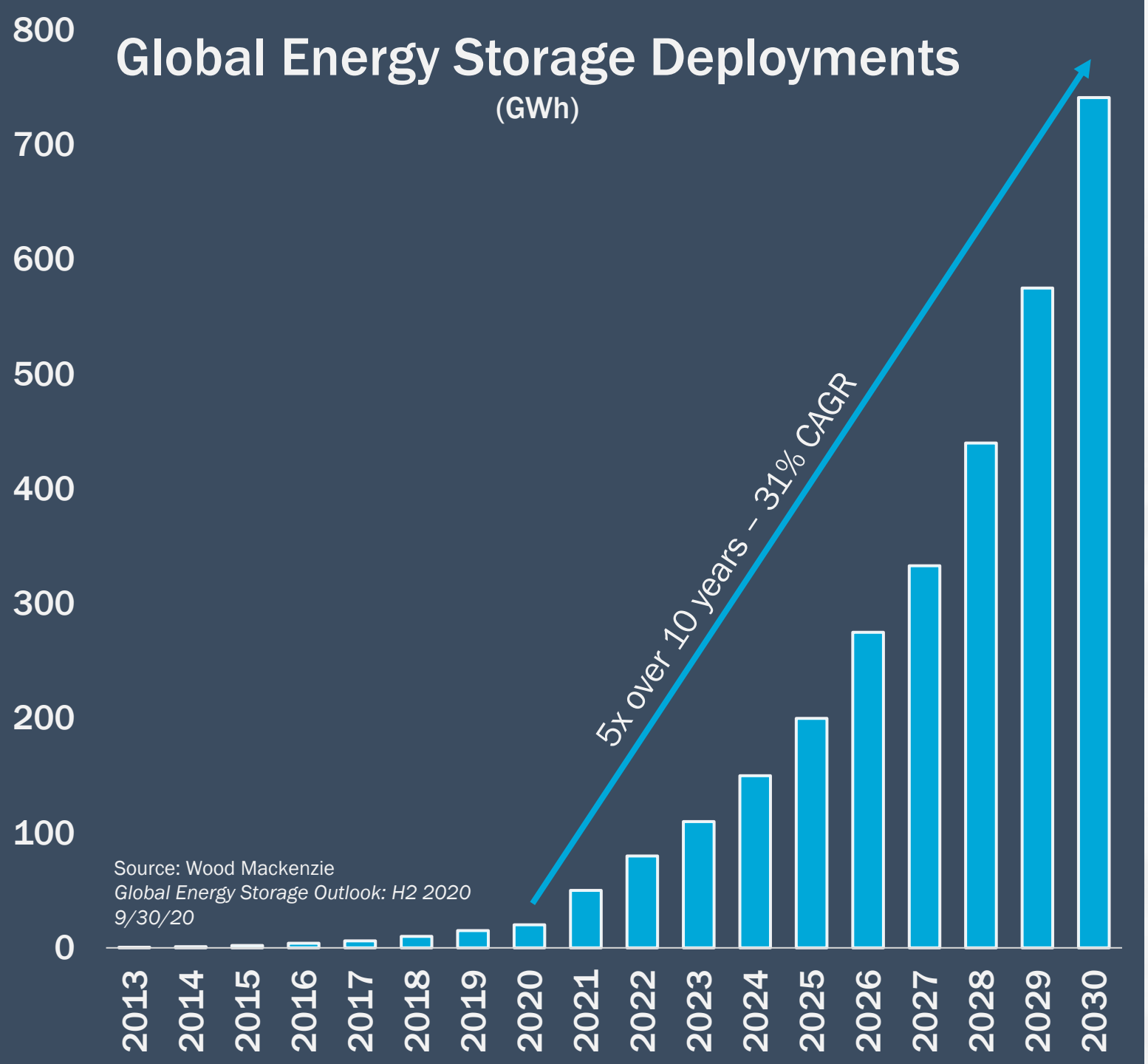


# Revterra Company Overview
# TMCES 2021

REVTERRA




**Energy Storage** is a critical element in enabling our transition to sustainable energy

Wood Mackenzie expects global energy storage deployments to increase to **741 GWh by 2030**

Lithium-ion batteries will play a role in this growth but are **far from ideal**

REVTERRA

# Mechanical Bearing Systems
## Inefficient and Prone to Wear

Mechanical bearing systems place several components into **direct contact** with each other

Direct contact causes **friction**, **inefficiency**, and **component wear and tear over time**

Mechanical bearings require significant ongoing **operation and maintenance expenses**

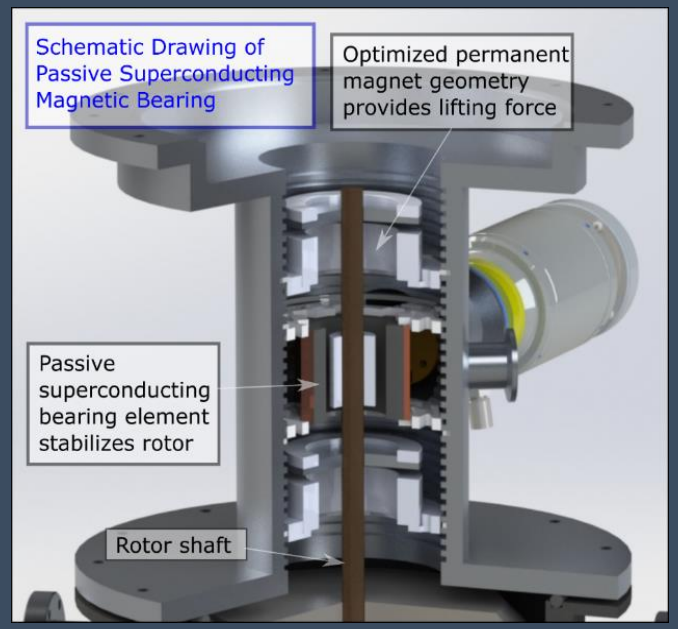
# Active Magnetic Bearing Systems

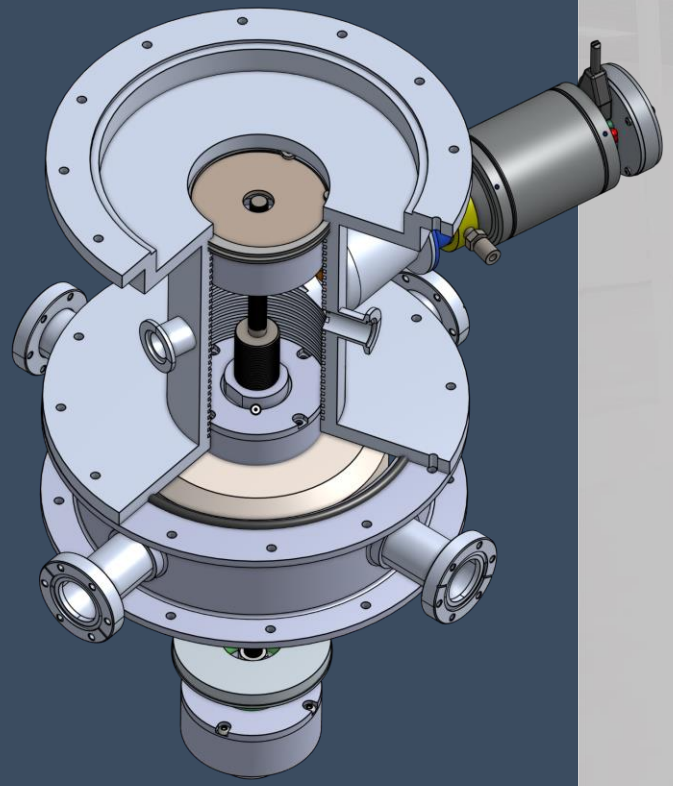
Active magnetic bearing systems use **electromagnets and complex control circuitry** to levitate a mass

These active systems **require constant power input** to maintain levitation

Momentary power loss or component failure will cause **levitation to cease** and **potential system failure**

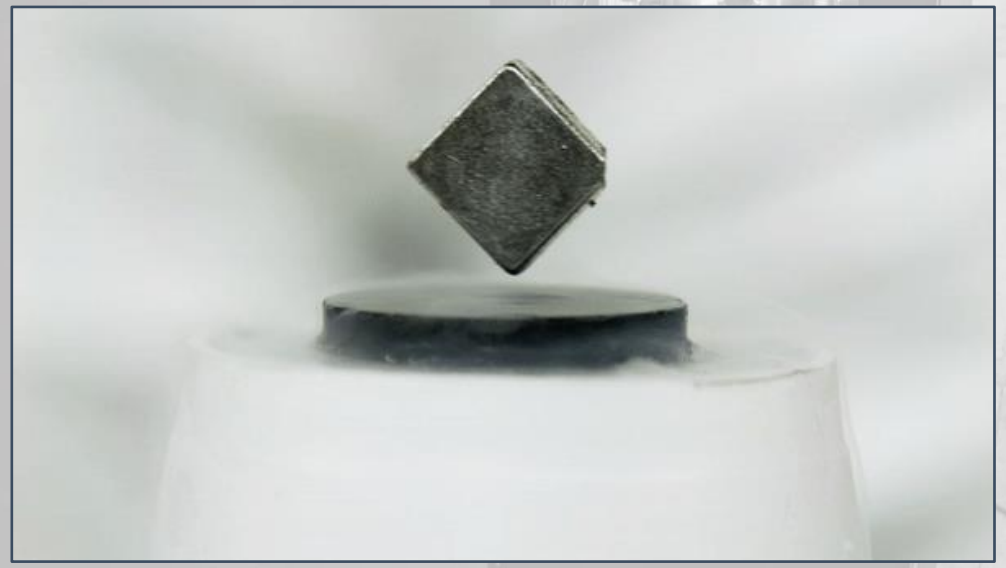
# Proprietary Magnetic Bearing Enabling Technology



High load-bearing, low-loss **superconducting magnetic bearing**

Initial application in **flywheel energy storage system (FESS)**, but many other possible applications



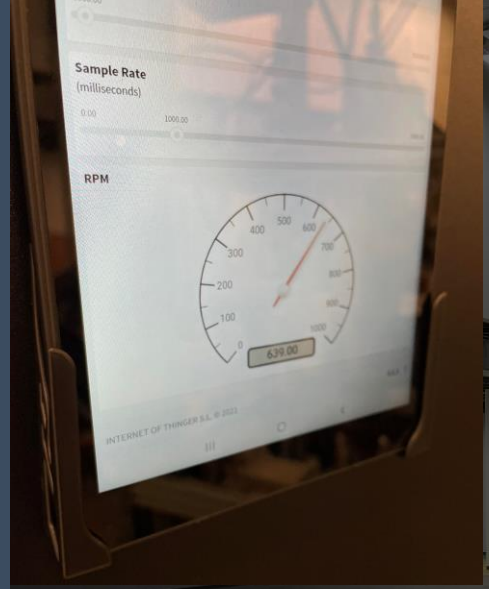
# Revterra System Prototype

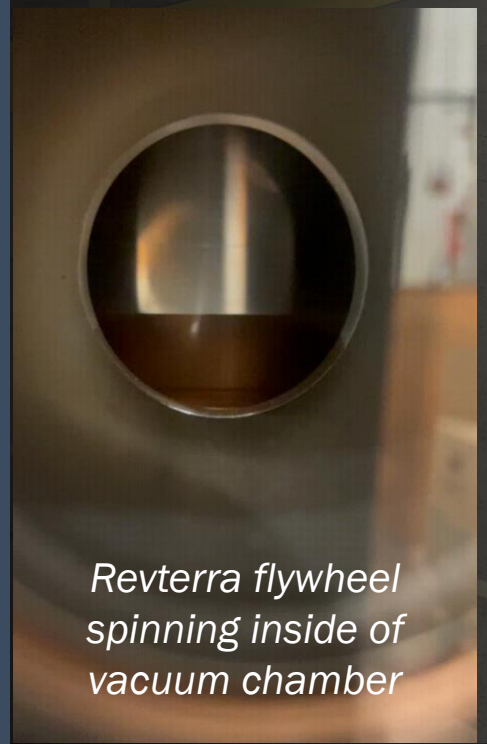
## S1 Unit – 1kW System

Revterra has built and thoroughly tested our initial S1 prototype unit

This demonstration unit showcases and validates kinetic energy storage technology

Could be deployed in a small-scale UPS application as-is



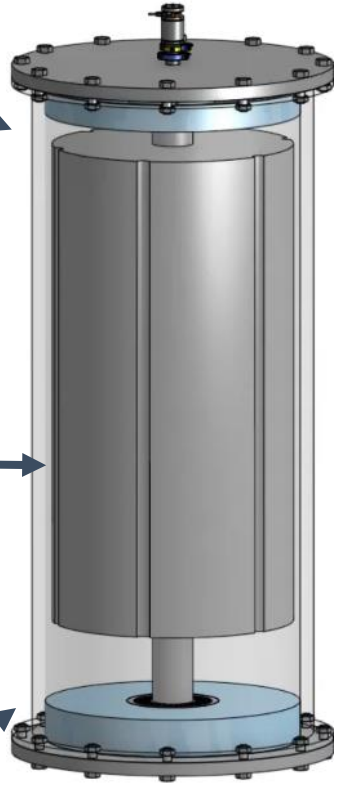



*Revterra flywheel spinning inside of vacuum chamber*

# Our 100 kWh Commercial System

## S100 Features and Specifications

Passive Magnetic Levitation - No Contact



Low-Cost Steel Flywheel Stores Kinetic Energy

Highly Efficient Motor/Generator Accelerates and Decelerates the Flywheel

**Energy:** 100 kWh

**Power:** 25 kW

**Duration:** 4 hours at max output

**Features:**

- ✓ 100% recyclable
- ✓ No hazardous chemicals
- ✓ Encased underground
- ✓ Tolerates wide range of environmental conditions
- ✓ Unlimited daily cycle count

## Modular and Scalable

100kWh / 25kW

1MWh / 250kW

10MWh / 2.5MW

Scale to Any Energy/Power Requirement

# Revterra Flywheel System
## Uses 100% Recycled Steel


The Revterra flywheel system is 99% steel by weight – other components are safe and easy to dispose of

We use 100% recycled steel, which will again be 100% recyclable at the end of its 30-year estimated lifetime

Our system minimizes waste and has a much more environmentally friendly footprint than alternatives

# Energy Storage Market Opportunities


## Utility-Scale Storage

Solve intermittency issues for large wind or solar developments, energy arbitrage, participate in ancillary services markets.

## Rapid EV Charging

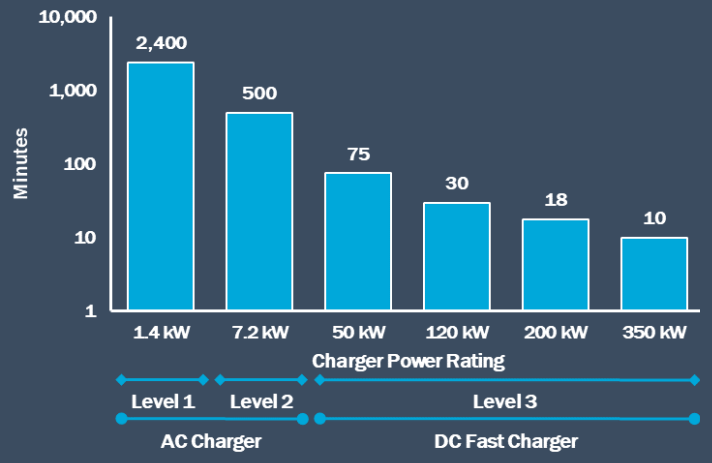
Enable long-term rapid EV charging without the need for costly infrastructure upgrades or frequent battery cell replacements from high cycle counts.

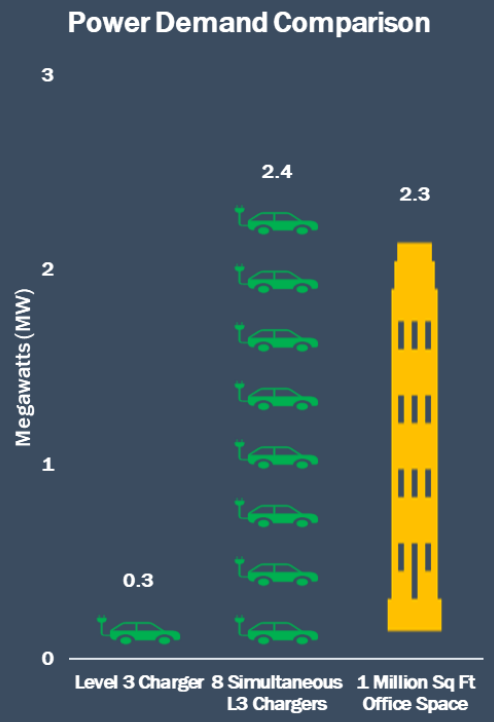
## Commercial/Industrial

Protect critical loads as an uninterruptible power supply and ride-through backup power. Peak shave high demand periods and integrate local renewables.

# EV Charging Basics

## Higher Power, Faster Charging




Key EV adoption hurdles: **range anxiety** and **long charging wait times**

**More charging locations are needed** near transportation corridors, **and they must be fast**

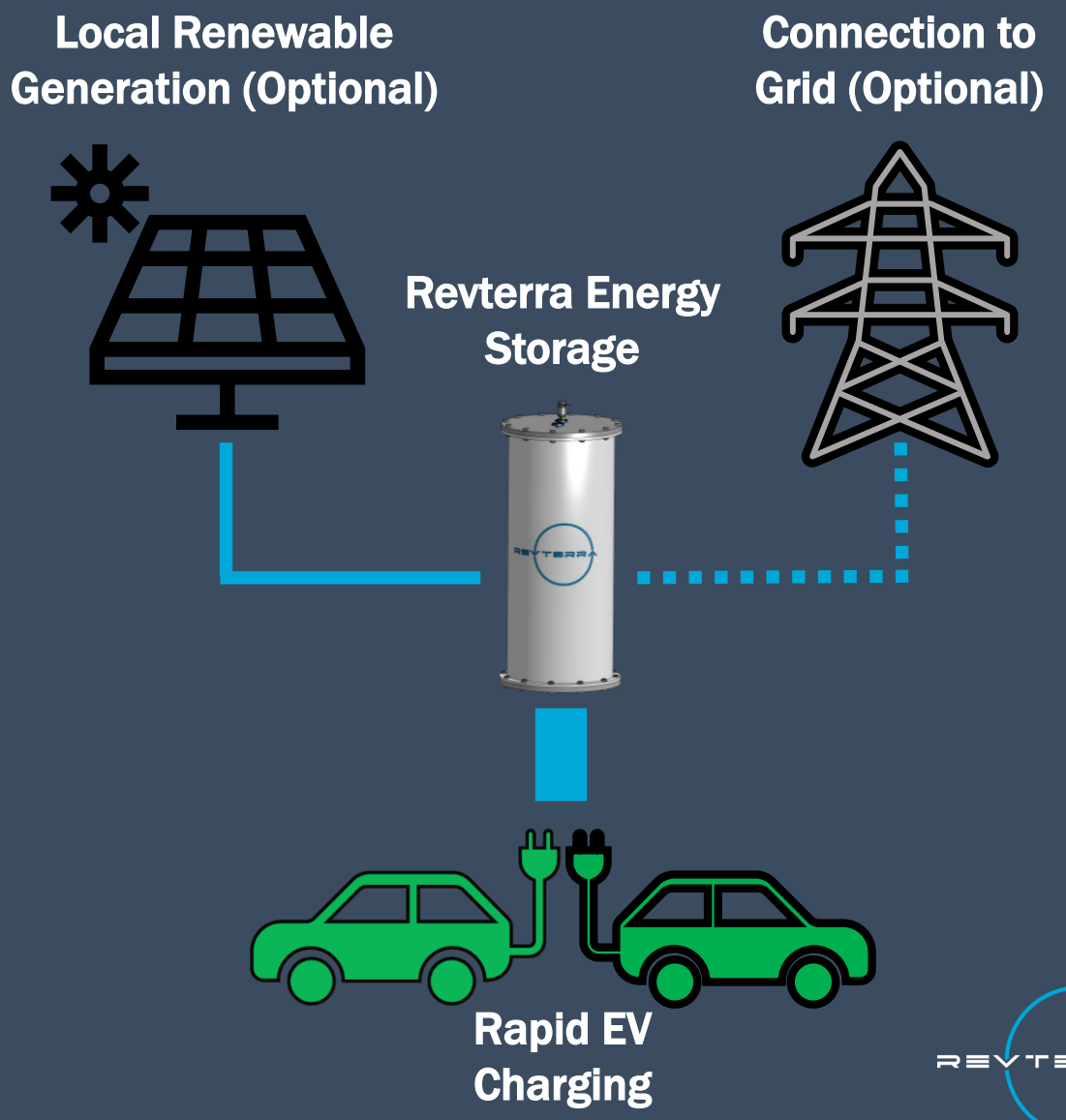
DC fast chargers "refill" an EV in less than 15 minutes – **8 simultaneous charges draw more power than a 1M sq ft office tower**

Many locations that would be ideal for rapid EV charging stations **lack the necessary grid infrastructure**

Revterra enables DC fast chargers **in any location**, regardless of grid connectivity

Our system also allows for **integration of renewables into a local microgrid**, and provides significant power resiliency

## Revterra Brings Rapid EV Charging To Any Location



# Fully Installed System Rendering

# Revterra Team and Partners

## Ben Jawdat, PhD
Founder/CEO

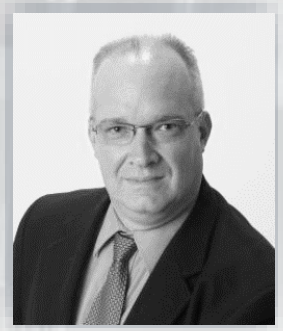
*Experience:*
- Postdoc at Air Force Research Lab
- Postdoc at Rice University

## Patrick Flam, CFA
CFO

*Experience:*
- VP of Equity Research at Simmons Energy
- Equity Research Associate at Scotia Howard Weil

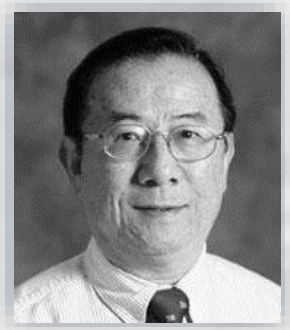
## Jacob Reeb
Mechanical Engineer

*Experience:*
- Mechanical Engineer at Temporal Power
- Product Development at Emcara



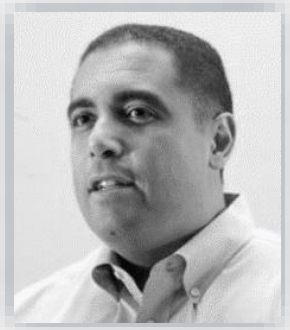
## Rex Mennem, PhD
Mechanical Engineer

*Experience:*
- Engineering Manager at Schlumberger



## Wei-Kan Chu, PhD
Advisor

*Experience:*
- Professor of Physics at University of Houston



## Hossam Elbadawy
Advisor

*Experience:*
- Managing Director at SCF Ventures
- VP of Manufacturing at Schlumberger

## Alex Nguyen
Advisor

*Experience:*
- CFO at Vertice Oil Tools
- Analyst at Citadel Investment Group

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