

# Driving the Energy Transition with Intelligent Electrification

Corporate Presentation

Q1 2023



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OPTIMIZING POWER

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Company's ability to retain skilled management and staff; currency, exchange and interest rates; the availability of financing opportunities, risks associated with economic conditions, dependence on management; conflicts of interest and market competition; the ability to commercialize the Company's technology; and operating in an environment subject to regulation.

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Readers should not place undue reliance on the Company's forward-looking statements, as the Company's actual results, performance or achievements may differ materially from any future results, performance or achievements expressed or implied by such forward-looking statements if known or unknown risks, uncertainties or other factors affect the Company's business, or if the Company's estimates or assumptions prove inaccurate. The Company does not undertake to update any forward-looking information, except as, and to the extent required by applicable securities laws.

# Exro Overview

Visibility into the company and why it matters



An aerial photograph of a two-lane asphalt road winding through a dense, lush green forest. A single white car is visible on the road, moving away from the viewer. The text is overlaid on the image.

# Bringing advanced technology solutions to optimize electrification

Power Electronics Expertise



# What We Do

Deliver next generation power control technology that expands the capabilities of electric motors and batteries enabling e-mobility and energy storage applications to deliver more with less  
“minimum energy – maximum results”

## Proprietary technologies:

- Coil Driver™
- Cell Driver™
- Battery Control System™
- 40+ issued and pending patents

**100+ employees**

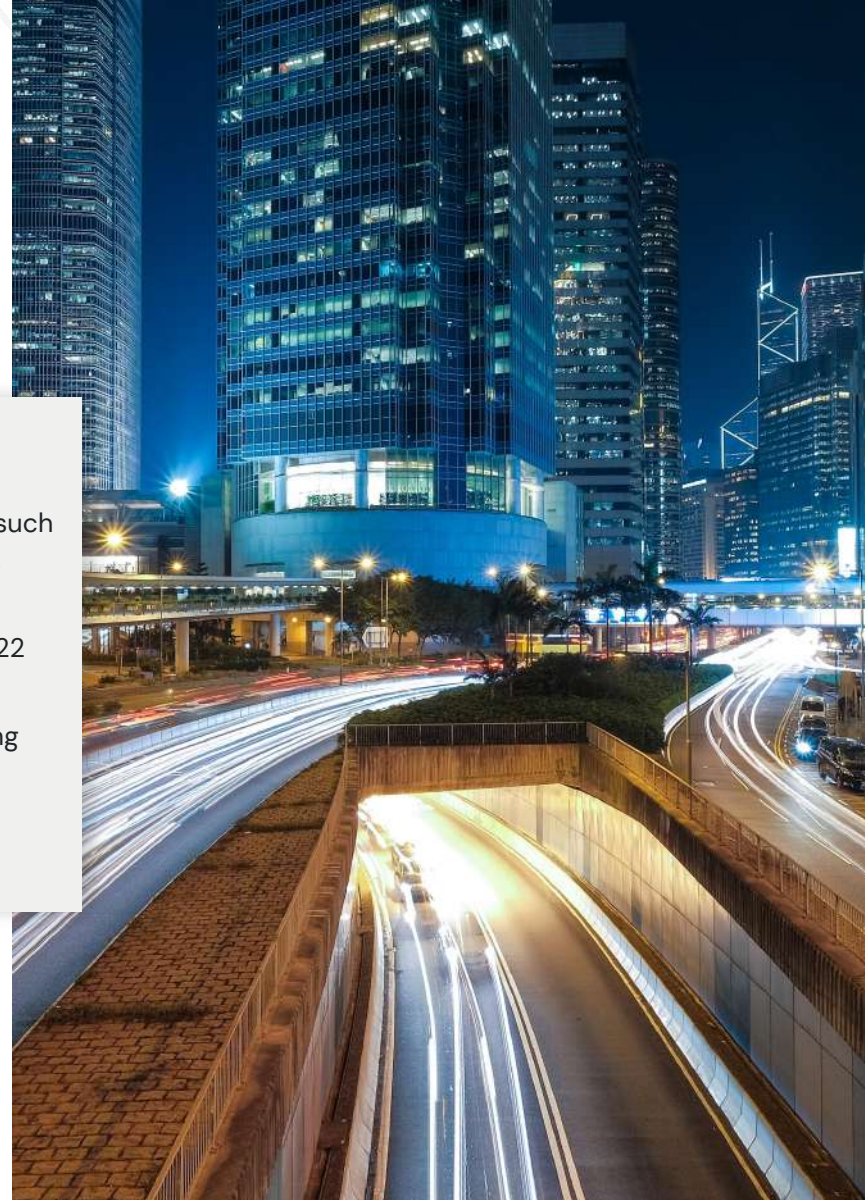
## Public company in US & Canada

- TSX: EXRO
- OTCQB: EXROF

## Software and electronics R&D, design, and manufacturing

- Currently piloting with partners such as Linamar, Sea Electric, Vicinity, Zero
- Demo units on road since Q1 2022 on three continents
- Targeting net-zero manufacturing
- 2023 production launch

*Power electronics technology platforms for e-mobility and energy storage*



# Investment Highlights

Accelerating the transition to clean energy by solving the most challenging problems in electrification

## **Innovative solutions**

that address major challenges to the electrification transition in mobility & energy storage

## **Scalable inverter technology**

co-developed with diverse industry partners

## **Macro sustainability**

**tailwinds** driving growth in multiple addressable markets

**Positioned for significant value** realization and growth with commercialization in 2023

**Significant upside through** continued focus on innovation into e-transition market verticals

# Capital Structure

Clean structure provides strong foundation for growth



Basic shares outstanding	135,148,864
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Stock options outstanding	10,802,217
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Warrants outstanding	7,697,922
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Fully-diluted shares outstanding	153,649,003
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**TSX:** EXRO      **OTC:** EXROF

Capitalization table numbers as of July 2022

\* Exro has received letter of acceptance to list on Nasdaq. Committed to completing the listing at an opportune time for shareholders.

# Our Core Technology

The Exro ecosystem



## Motor Control

Exro Coil Driver™ brings electric gearing to EV's



## Battery Control

Exro Battery Control System provides cellular level control to batteries



## Powertrain Optimization

Exro Vehicle Systems offers comprehensive engineering services

*Building the Exro ecosystem with end-to-end solutions —  
from design to repurpose*



# Our Core Technology

Bridging the electrification gap with power electronics expertise

## MOTOR CONTROL

**Exro Coil Driver™** brings electric gearing to EVs by enabling multiple speed-torque combinations in a single motor with Coil Switching technology

- Enable greater flexibility for optimizing powertrain solution
- Suitable for multiple motor designs and integrated axle designs (E-axles)
- Scalable motor controllers from 48 to 800V+
- HV coil driver utilizing SiC technology
- Agnostic to energy supply and motor type

## BATTERY CONTROL

**Exro Battery Control System** extends batteries into a second life by enabling next-generation battery management with cell-level control

- Stationary Energy Storage solutions for commercial and industrial applications
- Unique cell-level control ensures unparalleled safety and up-time
- Suitable for solar and EV charging applications
- First or second life battery energy storage systems

## POWERTRAIN OPTIMIZATION

**Exro Vehicle Systems (EVS)** offers full engineering services capabilities. In house design and power electronics expertise provide optimum efficiency designs

- Full Engineering Design Services to develop next generation cost saving power train designs
- Co-development platform design to customize inverter controls that reduce reliance on multiple motors and/or gearboxes
- Optimize battery usage
- Licencing opportunities available

# Exro Motor Control Solution

The World's First Intelligent Coil-Switching Drive

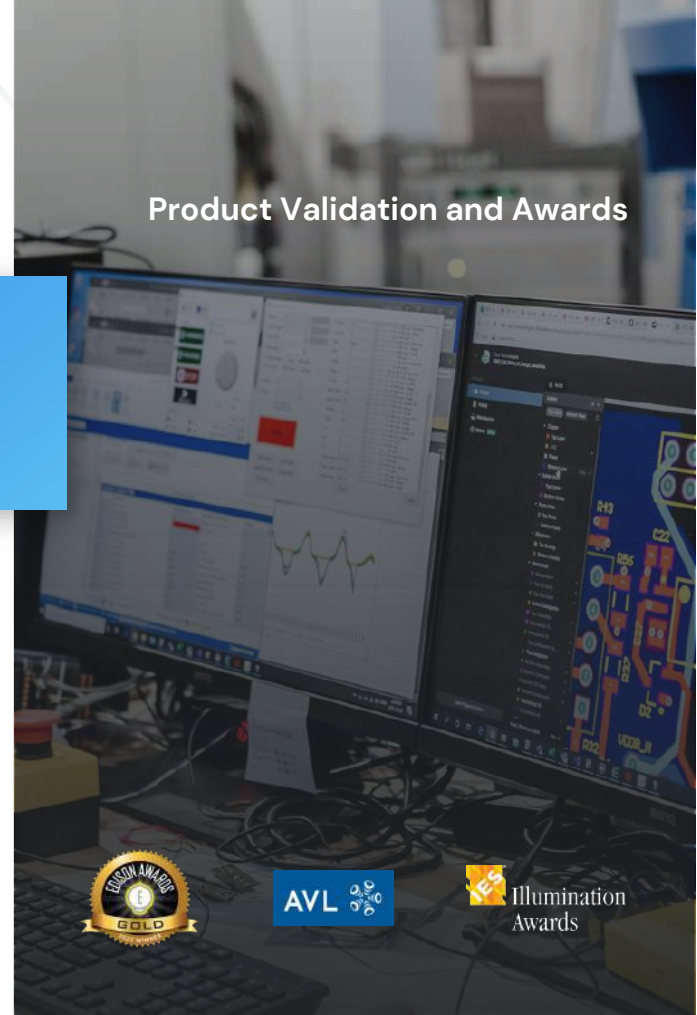
## Exro Coil Driver™

Unique coil-switching technology optimizes the performance and efficiency of powertrains and other systems including electric motors and batteries

- **De-risked** technology that accelerates the transition toward electrification in mobility by solving performance-cost trade-offs
  - Expanded motor capabilities
  - Electric gearing
  - Scalable and cost-efficient performance
- Gold award winner for the 2022 Edison Best New Product Awards™ in manufacturing, logistics and transportation
- 2022 Illuminations Award winner for Business Innovation from the National Electrical Manufacturers Association

*Exro Coil Driver™ is motor type agnostic*

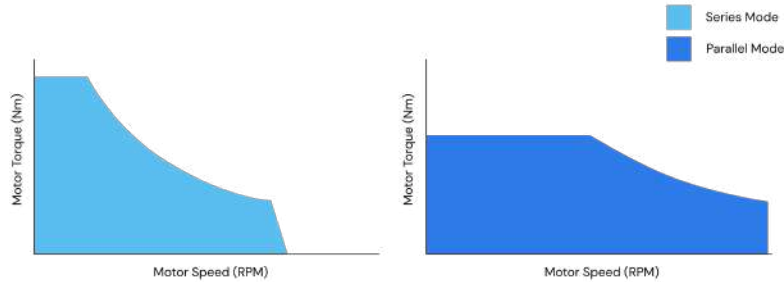
## Product Validation and Awards



# How it Works

Coil Driver™: Not a standard 3 phase inverter

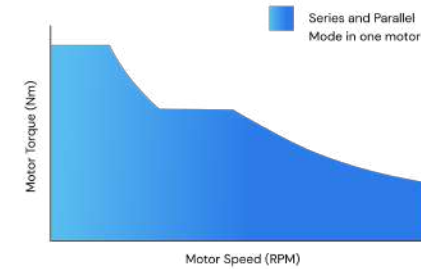
TRADITIONAL TORQUE CHARTS



## Traditional OEMs needed to make a choice

- Two separate modes, two separate motors
  - Series mode = high torque applications
  - Parallel mode = high speed applications
- Left a gap to fill for performance

COIL DRIVER TORQUE CHART



## Electric drives are now transforming for EVs

- Coil Driver brings a next-generation of power electronics that fills the gap
- Electric drive technology are differentiators for EVs
- Now one inverter can do the job of two

# Why it Matters

Significant Value Proposition for E-Mobility Market



\*Potential based on similar application in HD-UDDS drive cycle

Notes:  
1. Heavy-duty urban dynamometer driving schedule.  
2. Total cost of ownership.



# De-Risked Product Development

Functional demonstration vehicles plus pilots in vehicles on three continents

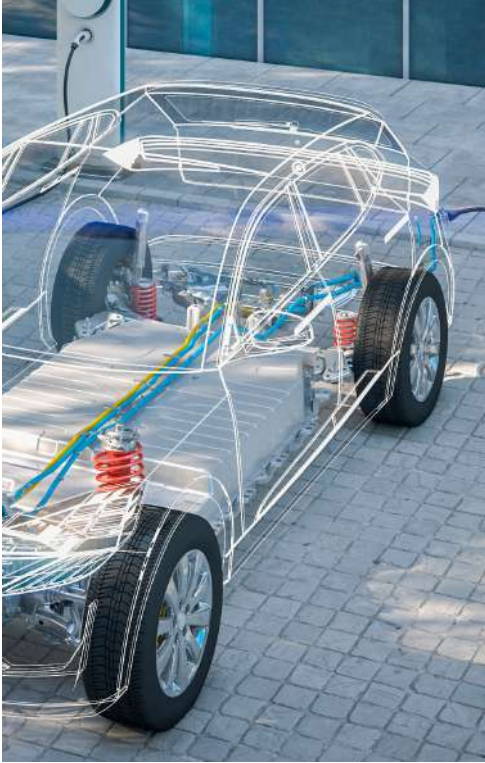


Simulation • Product Testing • On-Road Validation

*Vehicle demonstrators provide insight into how these EVs can outperform their equivalents, simply by adding Exro technology inside*

# Driven by Disciplined Innovation

Minimum energy for maximum results



## What we have done

- Enhanced performance at high speed, better start ability and gradeability at low speed
- Improved operational efficiency & extended range
- Motor and energy supply agnostic, adaptable across mobility applications
- Scalable technology – developed systems from 48V-20 KW to 800V-1.3 MW

## Where we are going



Expanded production capabilities



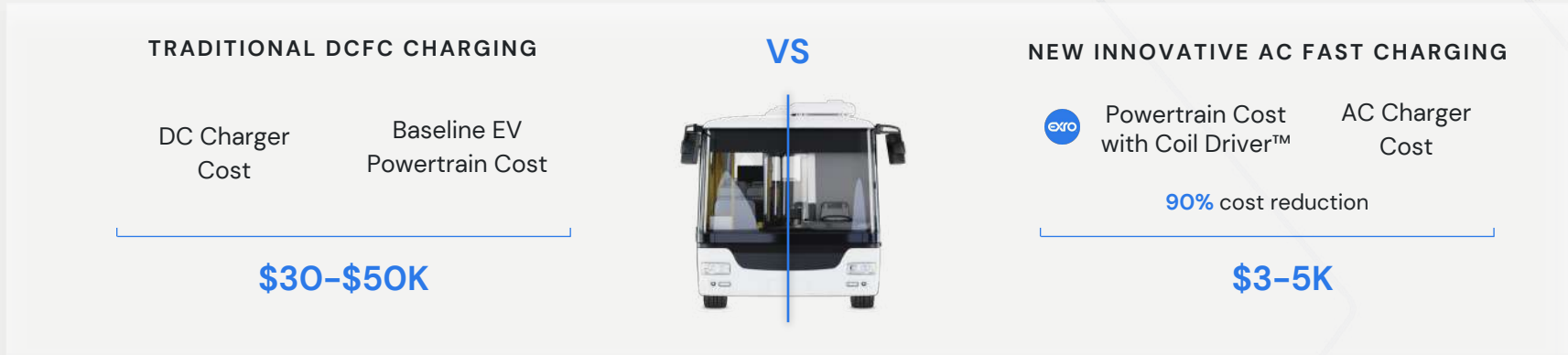
Enabling Rare Earth free solutions



Cost out features - charging

# Coil Driver™ Supports AC Fast Charging and V2X Capabilities

Unlocks attractive fleet electrification economics



## BENEFITS FOR OEMS AND AUTOMOTIVE MANUFACTURERS

- Native technology can deliver up to level 4 fast charging capabilities and capable of V2X <sup>(2)</sup>
- Eliminates need for motor drive and on-board charger
- AC vs. DC significantly reduces environmental impact due to smaller infrastructure foot-print

## BENEFITS FOR EV FLEET AND CHARGING OPERATORS

- Materially reduces TCO for fleet operators
- Unlocks access to AC fast charging network meeting larger per-mile energy demands of E-MHDV <sup>(1)</sup>
- V2X capability has potential to further reduce TCO by transforming EV fleet into revenue-generative asset

Notes:

1. MHDV = Medium- & Heavy-Duty Vehicles.
2. V2X: vehicle to everything.

# Exro Energy

Safer, more efficient battery energy storage systems

## Exro Battery Control System (BCS)

Unique technology that establishes greater depth of control in managing to the cell level in a battery for first & second life applications including commercial & industrial buildings, solar/wind farms, etc.

- BCS enables a next generation of Energy Storage System (ESS) solutions for EV batteries
- Exro's unique BCS extends batteries into second life for an extra 5-10 years in an ESS application
- Leader in thermal management & runaway
  - BCS connects electronics to individual battery cells
- Enables greater use of existing resources and recycling to promote a circular economy
- On track for UL Certification in Q2 2023





# Exro's Technology Advantages



## CELL LEVEL CONTROL

- Enhanced safety with individual cell monitoring
- Full cell control with ability to adjust current per cell
- Increased depth of discharge
- Negate cell balancing circuits and traditional BMS
- Dynamically isolate defect cells or modules while operating ESS

## MODULAR SYSTEM ARCHITECTURE

- Reduce system maintenance and down-time in case of failure with quick modular replacement
- Minimal installation time

*Design ready for 2nd life cell utilization = significant cost benefit*

# Powertrain Optimization

Exro Vehicle Systems (EVS), Ann Arbor, MI

- EVS provides critical electric vehicle integration support and provides a platform to onboard clients early in the design
- Secured purchase order from a leading tier-1 automotive supplier to provide more than \$1 Million in engineering design and consulting services

## Capabilities

### CONSULTING

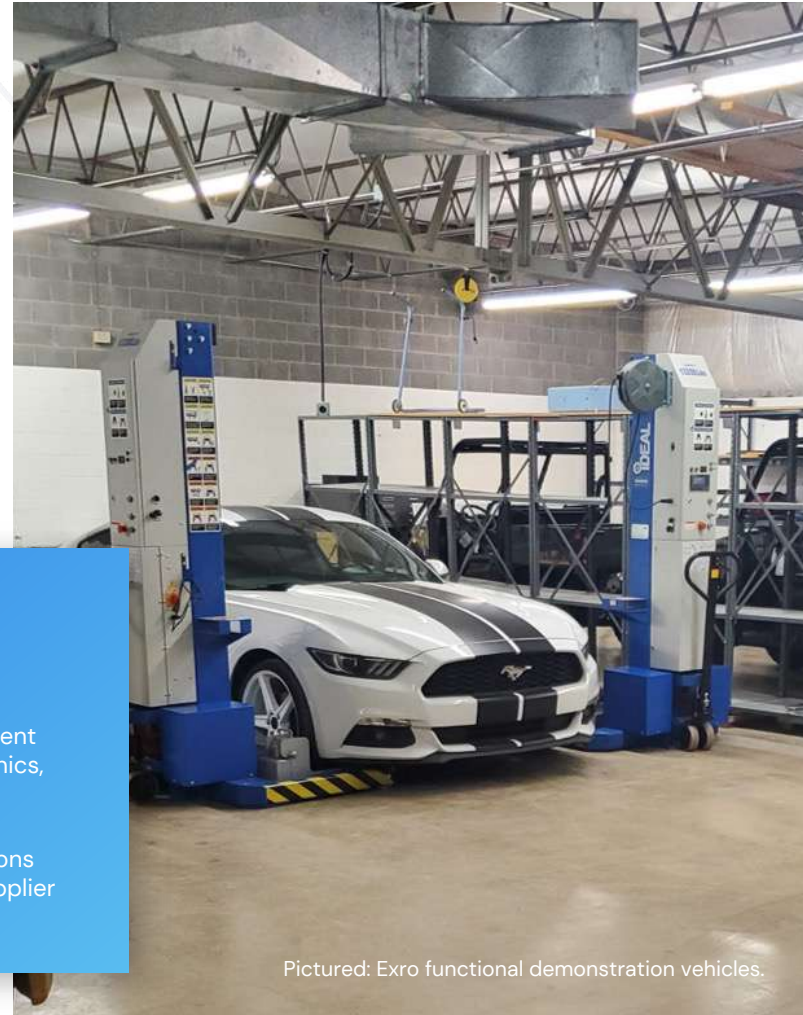
Market analysis, systems architecture definition, component selection, safety-critical analysis, strategic sourcing

### ENGINEERING

System definition, detailed engineering design & development, verification & validation of electrified power systems, production software systems

### TESTING

Relevant capital equipment available to test electronics, software, batteries and vehicles  
Packaged system solutions from a variety of top supplier and preferred partners



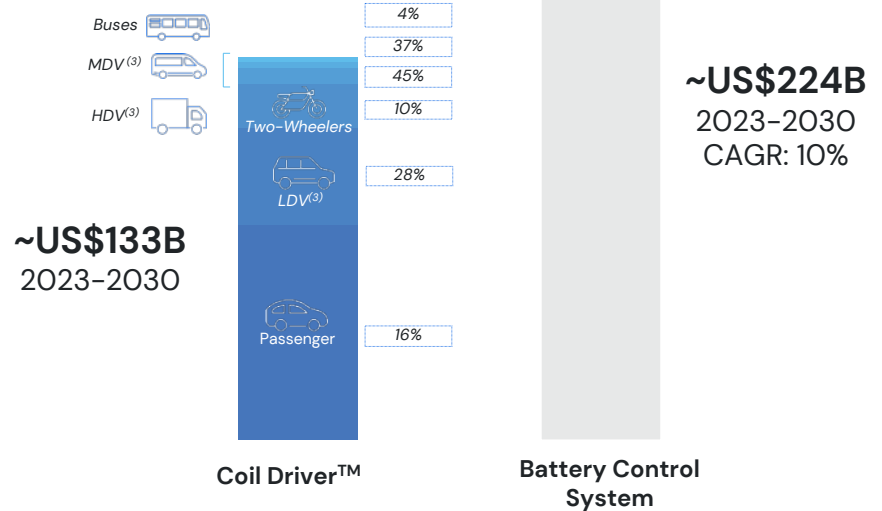
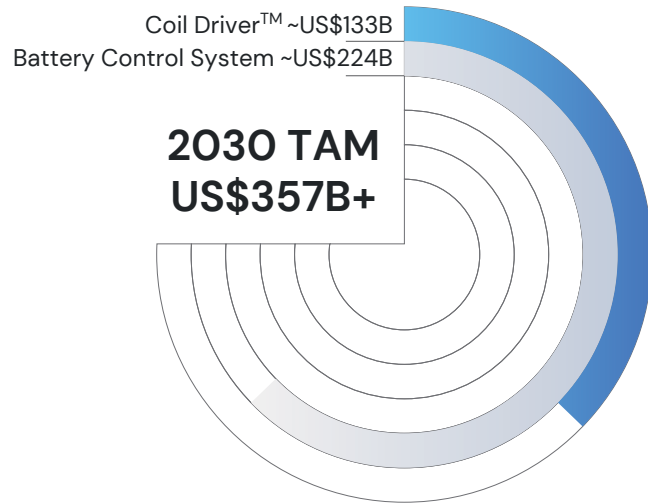
Pictured: Exro functional demonstration vehicles.

# Outlook

Market Strategy | Our Capabilities | Our People

# Large TAM Opportunity Supported by Secular Tailwinds

Exro's Coil Driver and BCS are positioned to capture rapidly expanding use case markets



*Exro's propulsion-agnostic design significantly increases its market opportunity across all e-mobility classes*

Notes:

1. Bloomberg NEF Electric Vehicle Outlook 2022.
2. Bloomberg NEF Global Energy Storage Market 2022.
3. HDV: Heavy-Duty Vehicles; MDV: Medium-Duty Vehicles; LDV: Light-Duty Vehicles.



2023 – 20230 CAGR to reach projected market size



# A Systematic Go-to-Market Strategy

Roadmap to capitalize on a rapidly growing and changing electrification ecosystem



Attack market in waves: build on momentum with key ecosystem players



Expand technology offering through core products partnerships



Continue successful track record of innovation



Increase penetration of engineering, testing and consulting with OEMs



Expand other ancillary revenue opportunities

# Attack Market in Waves

Roadmap to grow market share and unlock shareholder value



**TARGETED MARKET  
PENETRATION**

Coil Driver™ for low and  
high voltage applications



**MASS  
PRODUCTION**

Custom inverter and eAxle  
solutions for high-profile  
OEM partners



**OFFERING  
DIVERSIFICATION**

Turnkey electrification  
solutions including  
vehicle services



# Targeted Market Penetration

- Positioned to evolve and engage alongside the electrification of transportation regardless of propulsion technology market direction
- Technology is highly adaptable and will optimize a wide range of e-mobility applications
- Next generation platform of power electronic solutions for multiple applications

*Motor and propulsion agnostic technology to capitalize on electrification trends and drive Exro's growth*

## Current & Potential Partners



# Mass Production Through Partnerships



- Major Tier 1 supplier to global OEMs
- 26,000+ employees across 60+ global facilities
- C\$6.5B 2021 revenue
- June 2021: announced partnership to co-develop a lower cost/ higher performance eAxle using Exro's Coil Driver™ technology
- Technology developed has a wide range of potential EV applications



<b>Product</b>	Coil Driver™ eAxle for medium-duty commercial vehicles
<b>Timing</b>	<ul style="list-style-type: none"><li>→ Finalization of testing and validation of prototypes expected in 2022</li><li>→ Following testing, Exro and Linamar plan to commercialize the Coil Driver™ eAxle into series production</li><li>→ Delivery of prototypes: completion of phase 1 with the delivery of prototypes in November 2022</li></ul>
<b>Sales/ Volume</b>	First revenue expected in 2023/ 2024



# Offering Diversification

Functional demonstration units and working models. Electrification Applications.



## LOW VOLTAGE DRIVES

→ eVTS



→ NDA Europe



## HIGH VOLTAGE DRIVES

→ Vicinity Motor Corp



→ SEA Electric



## INTEGRATED AXLE MODULE

→ Strategic Partner

→ Linamar



→ eAxle September product sample delivery



## DESIGN SERVICES

→ Partner announced >1M in revenue in 2022

→ Multiple projects under review



## EXRO ENERGY STORAGE SYSTEM

→ C&I integrators  
→ Pilot partner H2 2022

→ First production Q3 2023



*Fully functional demonstration units provide Exro customers the ability to experience top-end performance impacts across a range of applications*

# Customer Momentum Building

Recent Coil Driver™ purchase order announcements backed by multiyear supply agreements (MSA)

## VICINITY LIGHTNING E-BUS



Initial PO backed by MSA for up to 2,500 high-voltage Coil Drive Systems over a 36-month term

## EVTS FIREFLY ESV



Initial PO for a first lot of 1,000 low-voltage Coil Drive Systems with additional units over a 36-month term

## SEA ELECTRIC F59 DELIVERY VAN



Initial PO backed by MSA for minimum of 1,500 high-voltage Coil Drive Systems over a 36-month term; On-road pilot as early as Nov 2022

## MAJOR EUROPEAN NDA PARTNER



New product development incorporating Coil-Driver to introduce a hybrid diesel-electric powertrain for off-highway application; Initial samples in Q1 2023

*Fully executed these MSA's would equate to >US\$100 M in revenue  
and <20% of annual production capacity*

# Our Capabilities



## Manufacturing Center

CALGARY, AB, CANADA

- World-class automated manufacturing facility with functional safety team
- Automated assembly processes with minimal operator intervention
- Complete clean room with SMT line(s)
- Commissioned by end of 2022
- Launch of commercial/ non-auto production Q3 2023
- Automotive certified by end of 2024 (post 12 months of production)
- 37,000 ft<sup>2</sup>



## Innovation Center

CALGARY, AB, CANADA

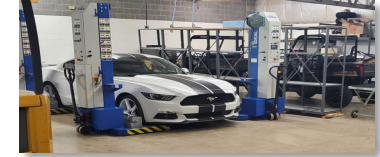
- Advanced Power Electronics design
- Full product development with validation and sample assembly
- Medium & small dyno testing capacity
- Dedicated engineering team of 35+
- 15,000 ft<sup>2</sup>



## Innovation Center

PHOENIX, AZ, USA

- Advanced Power Electronics and Energy Storage design
- Full product development with validation and sample assembly
- HQ for Energy Storage
- Medium dyno testing bay
- Product demonstration center for USA
- 15,000 ft<sup>2</sup>



## Exro Vehicle Systems

ANN ARBOR, MI, USA

- Provides vehicle integration solutions for automakers pursuing electrification, including end-to-end electric vehicle design and engineering services
- Focuses on complete powertrain designs that integrate Exro's core technology with vehicle powertrains including embedded software, Vehicle Control Units (VCUs) and batteries

*Exro's testing capabilities includes 4 dynos and 8,000+ hrs of in-house testing capabilities per annum*

# World-Class Manufacturing Center

Inverter facility near completion in Calgary, AB with net-zero targets

## Ability to Supply

- Capacity of ~100,000 units/year
- Technical cleanliness
- Track and trace
- Class 10,000 clean room with SMT line(s)
- Targeting net-zero building:
  - solar power roof
  - water conservation
  - zero waste production



**ISO 9001**  
Quality Management System

**ISO 14001**  
Health & Safety

**ISO 45001**  
Environmental Management

**ISO 26262**  
Automotive Functional Safety

**IATF 16949**  
Global Automotive Quality Management System



# Comprehensive Intellectual Property Protection Program

Exro's patented control technology expands the capabilities of electric motors and batteries

## 40

### PATENTS PUBLISHED AND PENDING

- 25 issued patents and 15 pending applications
- IP wholly owned in 13 patent families providing or seeking global protection in strategic countries
- Global portfolio coverage including US, CA, CN, DE, DK, EP, FR, GB, HK, IN, IT, JP, SK
- Trade secrets to protect proprietary software and algorithms



# Managing Risks Through Well Defined Supply Chain Program

## 10+ Years of Relationship with Leading Suppliers

- Commitment to long-term partnerships with quality suppliers, which includes global Tier 1 OEMs
- Development partners lead to long-term partnerships with suppliers

## Strong Demand Plan

- Production agility leading to scalability
- Early purchases for product development bear fruit for supplier relationships

## Global Chip Shortage Mitigation Program

- Secured major components for 2023 production
- Supplier redundancy limits concentration risk and ensures timely sourcing



# Environmental, Social, Governance

Committed to the highest standards

## ENVIRONMENTAL

**Environmental matters are at the core of Exro's operations and are embedded across the organization's activities**

- World class targeting net-zero automated manufacturing facility in Calgary, AB
- Optimized energy efficiency, with all lights converted to LED format in its main facility
- Responsible sourcing and procurement, with exclusive utilization of recyclable, renewable products in the workplace

## SOCIAL

**Exro fosters a cohesive and inclusive corporate culture, enabling positive social change**

- Manufacturing facilities ISO 9001, 14001 and 45001 certified, implementing safety best practices
- Emphasis on gender equality and diversity, with an employee diversity target in place
- 2022 net employee score of 90%+
- Partnerships with leading global Tier I automotive suppliers to ensure sustainability integration across the supply chain
- Involved in community support and charitable endeavors

## GOVERNANCE

**Rigorous and impactful governance is foundational to Exro's board and executive team mandates**

- Board Diversity, both in backgrounds, gender, and area of expertise
- Business ethics underscored by robust internal policies and track record of the team
- Comprehensive risk management oversight
- Sound corporate governance, underpinned by diligent executive team

# Management

Strong team in place to see Exro through accelerated growth



**Sue Ozdemir**  
Chief Executive Officer

- Former CEO of GE's Small Industrial Motors Division – General Electric (NYSE: GE) (“GE”).
- \$160M revenue enterprise



**John Meekison**  
Chief Financial Officer

- 20+ Years Experience as CFO in Capital and Small Cap Markets.
- Previous Capital Experience- Haywood Securities



**Josh Sobil**  
Chief Commercial Officer

- 10+ Years Experience in electric motors and power electronics as Siemens (NSEI: SIEMENS) segment leader from 2016–2019 and sales leader at GE (NYSE: GE)
- Mechanical Engineer & MBA



**Darrell Bishop**  
Chief Investment Officer

- 10+ Years Experience in Investment Banking and Capital Markets
- Previous Capital Experience – Peters & Co Limited, Haywood Securities, National Bank
- Mechanical Engineer & MBA



**Eric Hustedt**  
Chief Technology Officer

- 20+ Years Experience – Automotive Inverter Design and Manufacturing
- International Rectifiers Automotive
- KSR International,
- Vishay Intertechnology (NYSE: VSH)

# Board of Directors

Extensive automotive industry experience & connections



**Mark Godsy**

Executive Chairman

- Co-Founder ID BioMedical
- Co-Founder AngioTech Pharmaceuticals



**Sue Ozdemir**

Chief Executive Officer



**Frank Borowicz**

Director

- 40+ years exp corporate governance, regulatory compliance and risk management



**Jill Bodkin**

Director

- Former Director at Westport (NASDAQ: WPRT)
- Former Partner at E&Y



**Rod Copes**

Director

- Former Chief Operating Officer at Rivian electric vehicles; Former division President at Harley-Davidson
- 30+ years automotive executive



**Terence Johnsson**

Director

- Former Vice President at Audi, Volkswagen, General Motors
- 35+ years automotive sales experience



# Investment Attributes

A unique high-growth technology opportunity in the electrification transition race

Innovative solutions that address major challenges to the electrification transition in e-mobility & energy storage

Scalable inverter technology co-developed with diverse industry partners

Macro sustainability tailwinds driving growth in multiple addressable markets

Positioned for significant value realization and growth with commercialization in 2023

Significant upside through continued focus on innovation into e-transition market verticals



# Thank you

## **Sue Ozdemir**

Chief Executive Officer

12-21 Highfield Circle SE  
Calgary, AB, T2G 5N6 Canada

## **John Meekison**

Chief Financial Officer

7853 E Ray Rd,  
Mesa, AZ 85212, USA

## **Darrell Bishop**

Chief Investment Officer

[www.exro.com](http://www.exro.com)

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Questions? [ir@exro.com](mailto:ir@exro.com)

