MEDATech Overview

Capabilities | 2022

Who we are

Innovation is Who We Are

An Innovator First

- Fast to fail
- Faster to succeed

MEDATECH ENGINEERED SOLUTIONS | MEDATECH ALTDRIVE | MEDATECH BORTERRA

M OBILE

E QUIPMENT

D ESIGN &

A UTOMATIO N

T ECHNOLOGY

MEDATech has been designing and building custom-engineered mobile equipment and systems for customers across the globe since 2003.

MEDATECH ENGINEERED SOLUTIONS

Engineering services: from consulting to software development to engineer/design/build

MEDATECH BORTERRA

Advanced drilling equipment

MEDATECH ALTDRIVE

All-electric powertrains

Company Profile

MEDATech's core business is mobile equipment design, prototyping & testing services for the construction, mining, transportation & energy sectors. We have offices in Collingwood ON (HQ), Calgary AB and Ocala FL.

Team Experience

We solve a wide range of technical problems involving mechanical, hydraulic, electronic equipment and rechargeable energy systems.

- **Our strength** Product development
- **Our value** Quickly making your product vision a reality

Strategic Focus

- Develop long term partners – Technology, Manufacturing and Customers
- Highly dependable, innovative solutions
- Focus on safety, economy and productivity
- AGILE methodology: develop prototypes within aggressive timelines

Our Team

Robert Rennie
President & Owner

Mark Seeber
Senior Technical Advisor

We are 35 people strong.
Our management team:

- Engineers, technicians, operators and mechanics
- Years of experience in all facets of machine control

John Arnold
General Manager

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Darren Mueller

ALTDrive Product Manager
Engineer - Mechanical

Andrew Severs

MEDATech Product Manager
Engineer - Mechanical

Paul Cholewa

E Innovation Advisor
Controls & Software

Scott Dalrymple

Borterra Product Manager
Engineer - Mechanical

Our Clients


VALE


MacLean Engineering


GOLDCORP


WESTERN STAR


Torex Gold
RESOURCES INC.


nwmo
NUCLEAR WASTE
MANAGEMENT
ORGANIZATION


Southern
Company


A.C.T.


Vermeer


ZAMBONI
Nothing else is even close


OSHKOSH


GHH
FAHRZEUGE


CUBEX


ONTARIO POWER
GENERATION


ANDRITZ
Hydro


KELLER
NORTH AMERICA


Amalgamated Mining
Group


KOVATERA


ARMSTRONG


MEDATECH
ENGINEERED SOLUTIONS


MEDATECH
ALTDRIVE


MEDATECH
BORTERRA

Our Partners

XALT Energy

Battery systems

XALT solutions are defined by the remarkable combination of exceptionally high energy and performance density with an extremely compact design, modular structure, and maximum flexibility.

bel POWER SOLUTIONS & PROTECTION
a bel group

On-board chargers and power electronics

One of the world's largest providers of power conversion and power management solutions.

tm4

DANA

Electric motors, generators, power electronics and control systems

Suitable for the commercial, automotive, marine, mining, rail, motorsports and recreational vehicle markets.

ABB

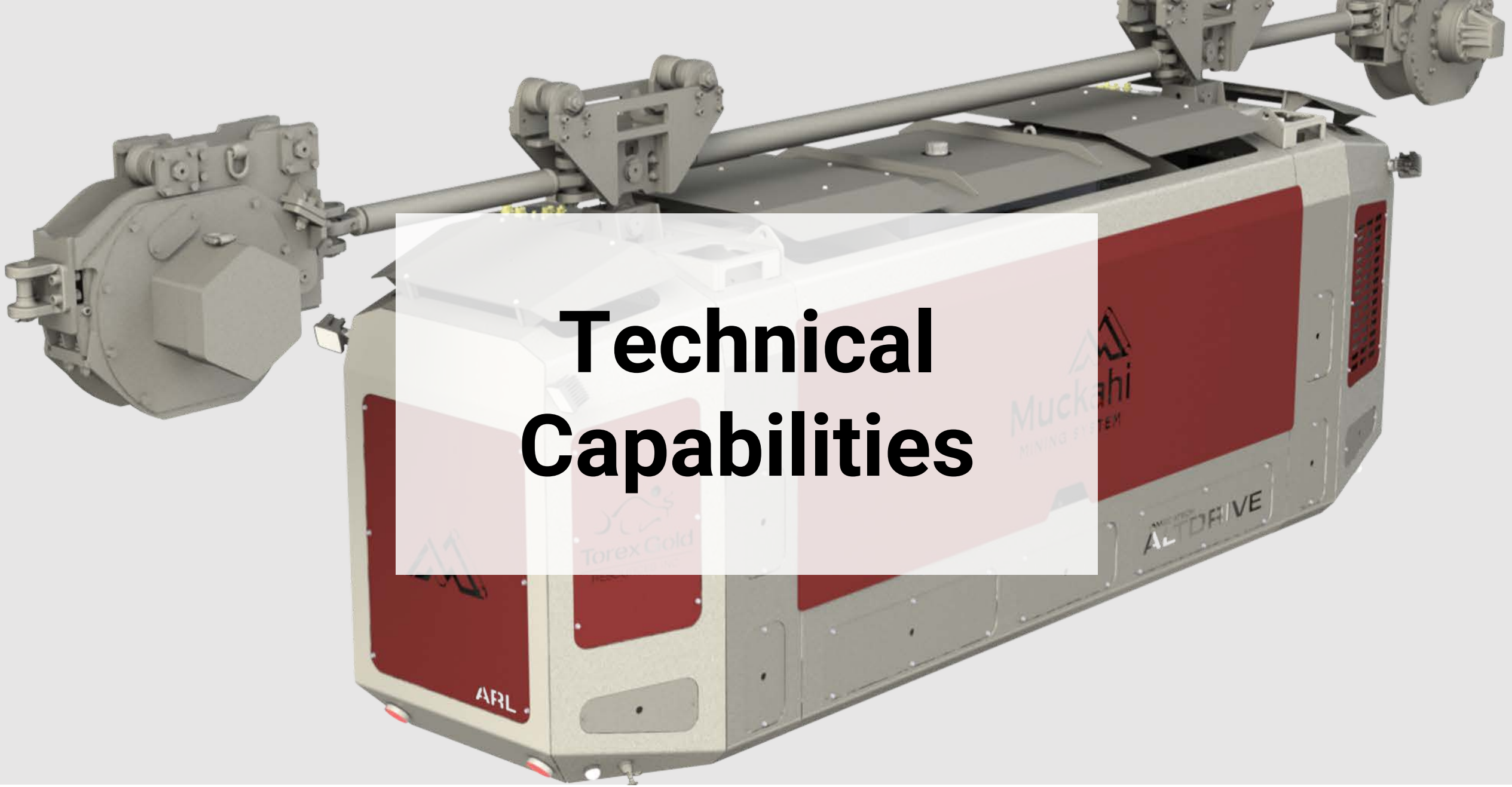
Charging solutions & robotics

ABB Charging Solutions and ABB Robotics supply ABB Robotics is a pioneer in robotics, machine automation and the full range of fast and ultra-fast EV charging solutions.

MEDATECH ENGINEERED SOLUTIONS

MEDATECH ALTDRIVE

MEDATECH BORTERRA



Technical Capabilities

Our Technology

REQUEST

OEM/end user requests a modified or completely new machine design/build

ENGINEER

Complete ground-up engineering work: Mechanical, Hydraulic, Electrical & Software engineering

BUILD

Complete ground-up prototype build

TEST

Perform testing & commissioning

DRAWINGS

Provide as-built drawings, documentation and models

SUPPORT

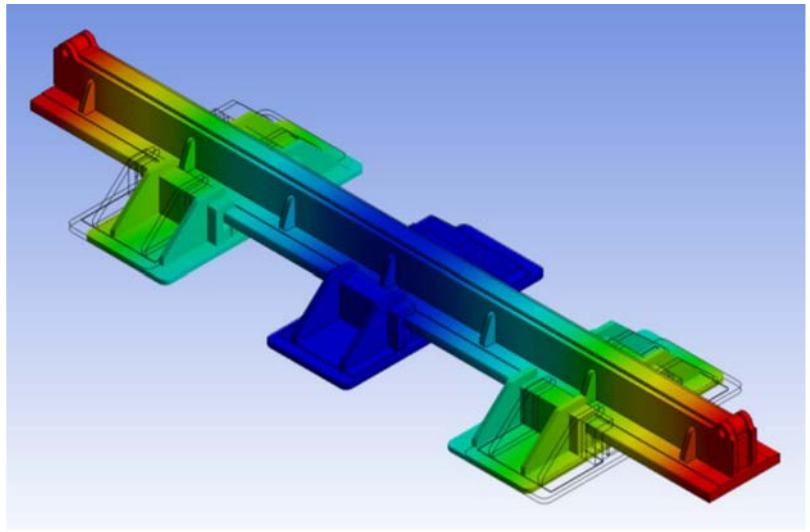
Provide ongoing engineering support

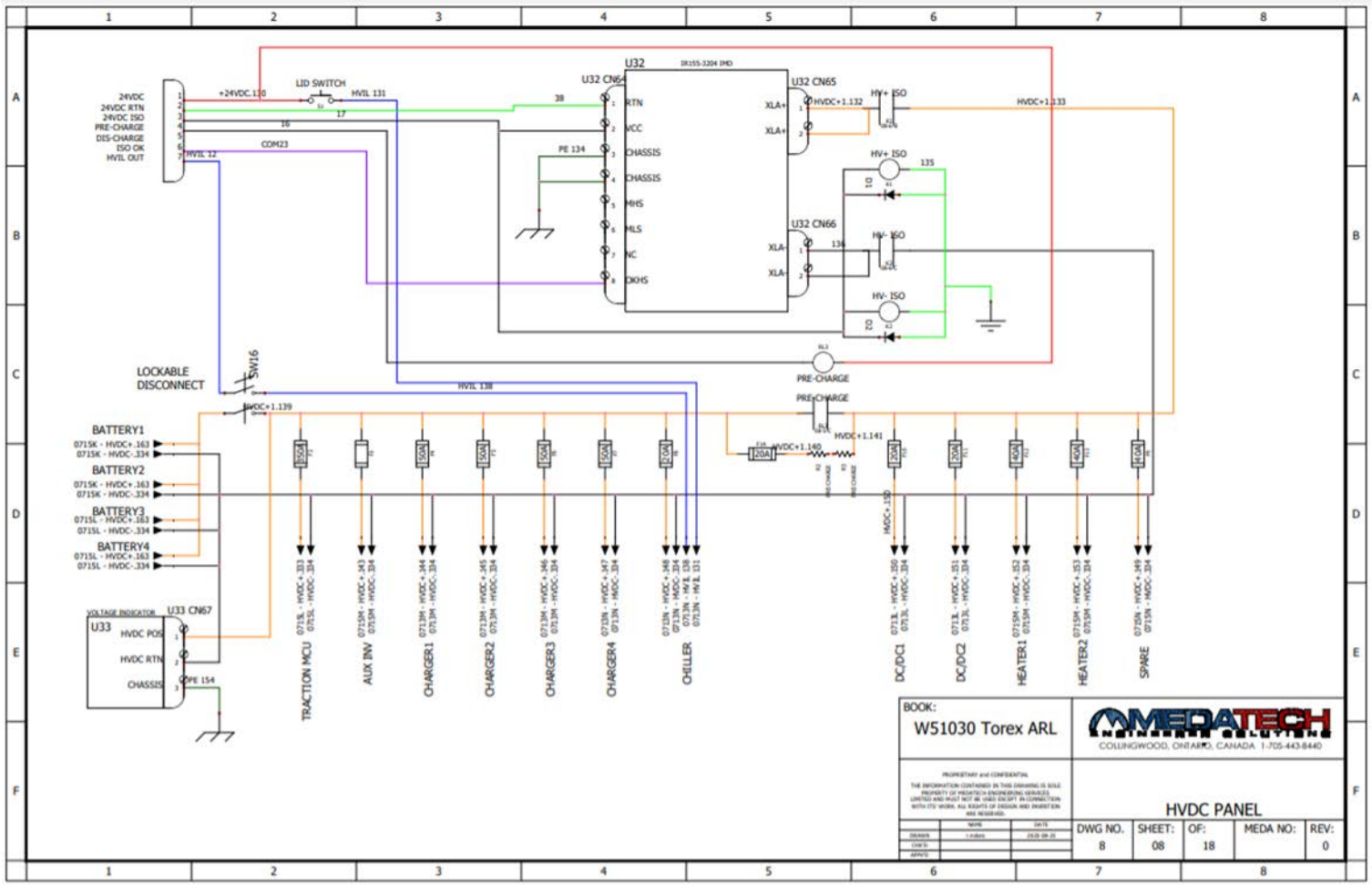
Mechanical and Electrical Engineering

Mobile engineering: from concept and design to build and testing

- Schematics & panel design: high/low voltage power distribution
- Component selection
- Mechanical / hydraulic engineering
- 3D modelling
- Structural analysis
- Functional safety implementation

Mechanical and Electrical Engineering





Software Development

A key strength

- Local / IoT solutions
- Automatic & virtual testing and validation

Project Management

Seamless project management

- For OEM/supplier design/build project teams
- Testing & validation
- Support for the complete vehicle

Our Technology

MEDATech handles every aspect of EV-powered vehicle design and creation.

- Project Management
- Battery Packaging
- Electrical & Mechanical Engineering
- Human Machine Interface (HMI)
- Vehicle Control (VMU)
- Cab Controls and HVAC
- EV Software
- Telematics
- System Design
- Autonomous System Design

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Material Handling & Robotics

Borterra RodBot™

Smart Material Handling Systems

Fully Digital Control Technology

Advanced smart-control systems for any application:

- Design & engineering
- Bench testing & installation
- Support & service

Fully Digital Control Technology

Telematics System Technology

- Fully-engineered telematics systems for any application
- Simple web user interface/dashboard

Full System Design/Build Services

Technical capabilities:

- Full dynamic structural analysis
- Model-based design and simulation (MATLAB® / Simulink)
- CAN-based control-system engineering
- Full electrical-system design for high voltage and control systems
- Vehicle dynamic analysis
- Specialty engineering

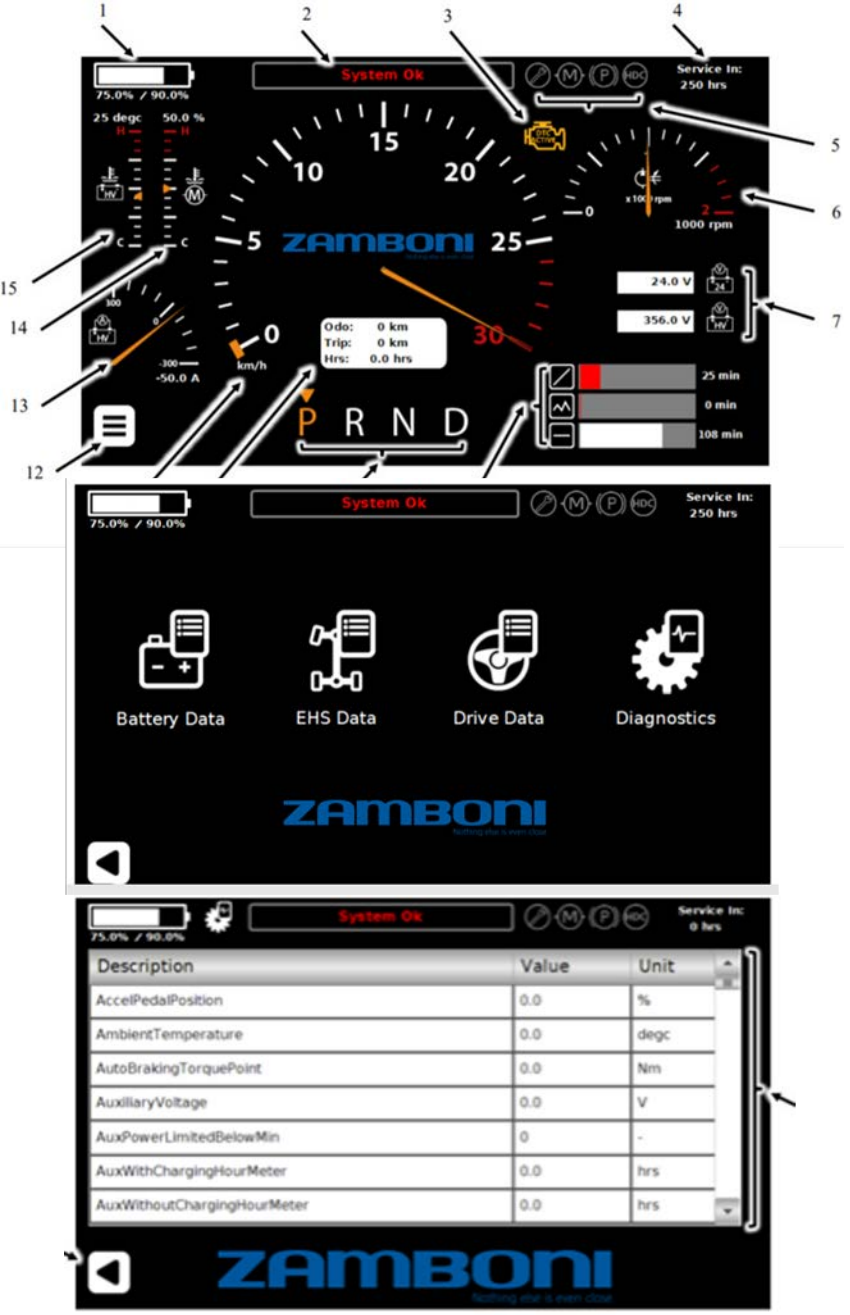


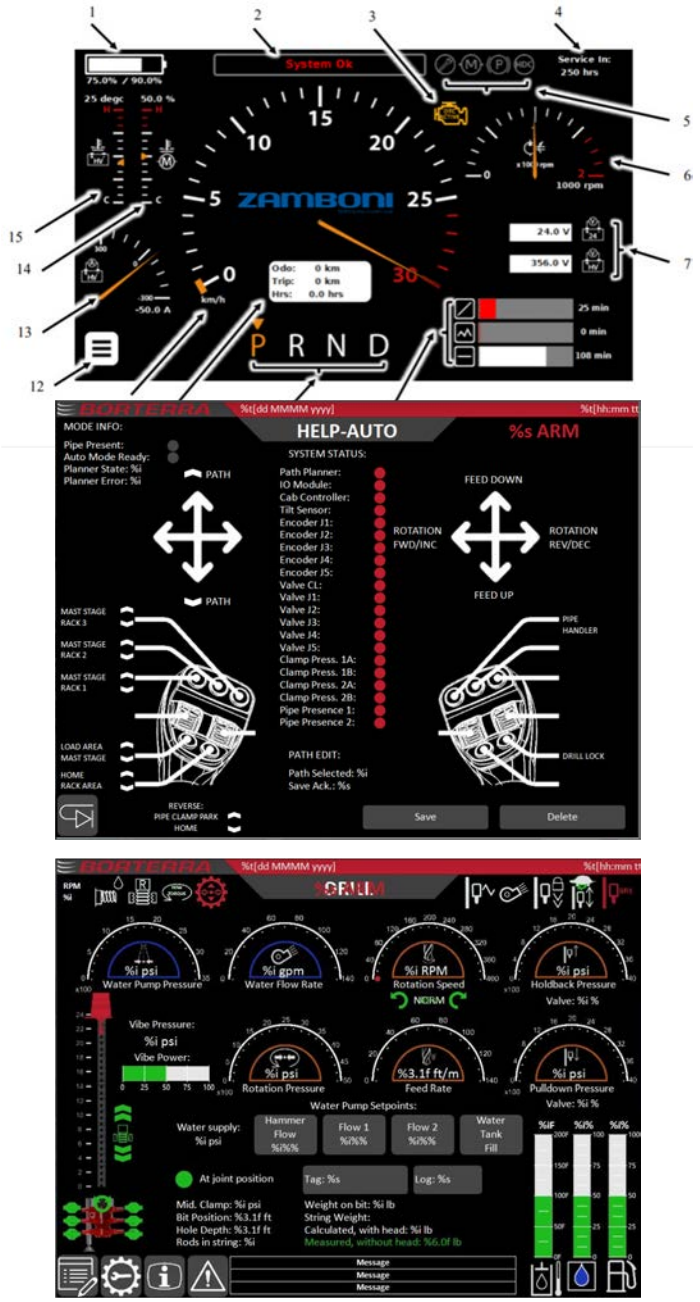
Figure 3: Diagnostic Data Screen

Our Technology

MEDATech solves:

- Battery-electric drives
- Human-Machine Interface (HMI)
- Vehicle Management Units (VMU)
- Temp Management Systems (TMS)
- Cab controls and HVAC
- Off-board fast charging stations
- Auxiliary hydraulics
- EV software

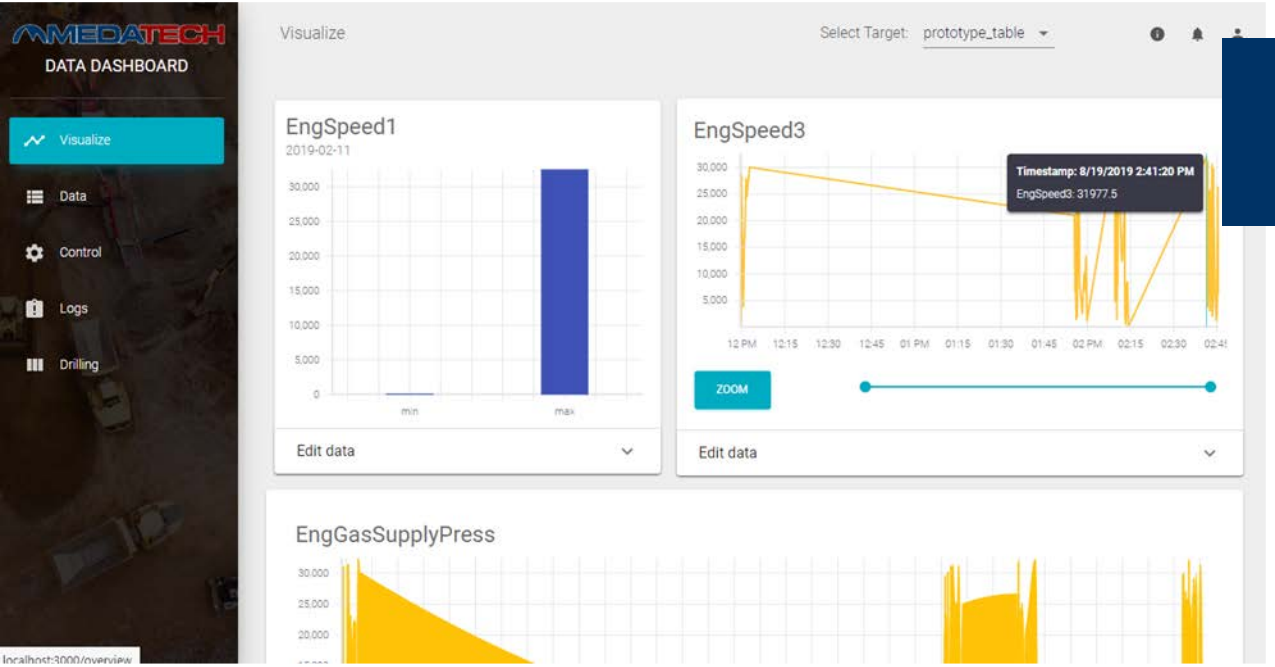
Control System Development

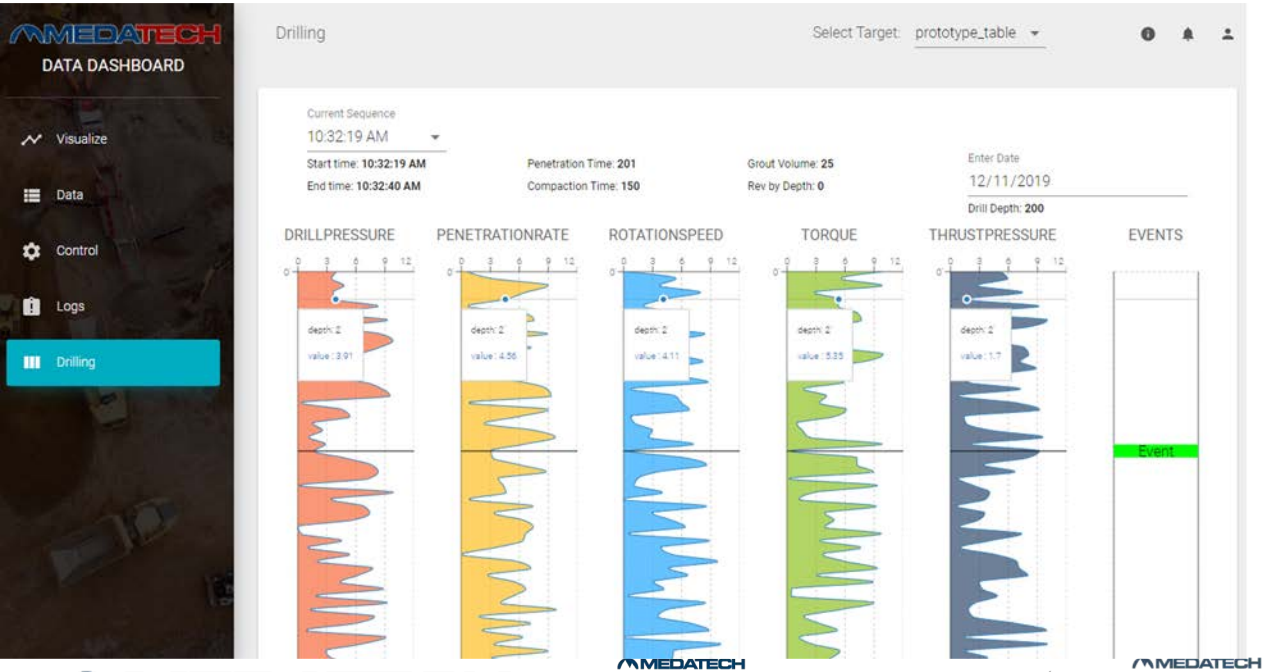


Bridging the gap between operator and machine:

- Human-Machine Interface (HMI)
- Electrical control systems
- Test and validation (Electronic testing Lab)

Web-Based Telematics

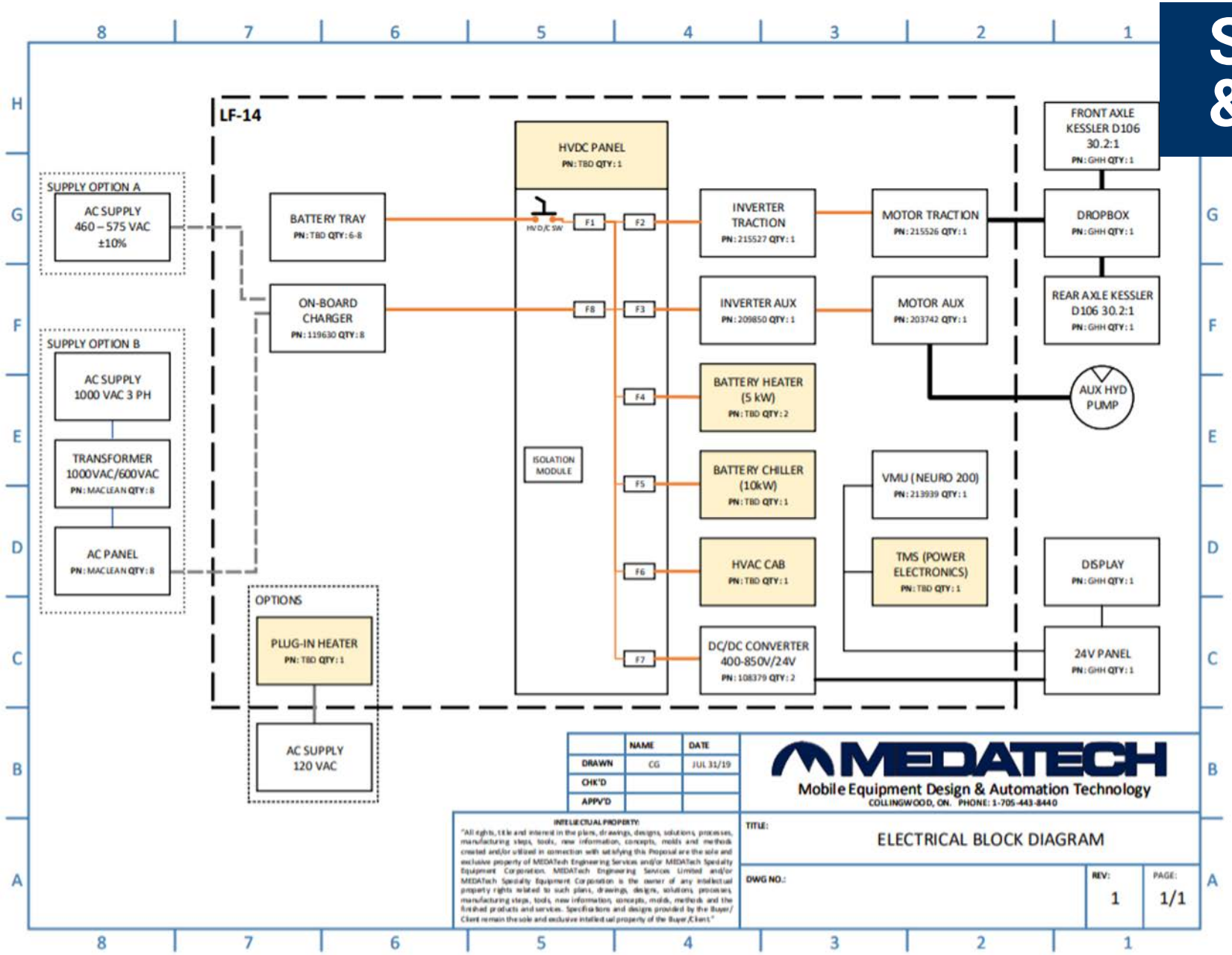




Delivering cloud-stored data for advanced analytics and modeling:

- In-house-designed Graphical User Interface (GUI)
- Drag-and-drop DBC files
- Application-specific data visualization, including charts & plots
- Download tabular data & event logs

System Design & Architecture



From consulting to software development, system architecture & prototyping:

- Requirements & functional specifications
- Architecture & diagramming
- Model-based design and simulation (MATLAB®/Simulink)
- CAN-based control system engineering
- Functional safety systems & standards
- Electromobility simulations for EV component integration
- Software development

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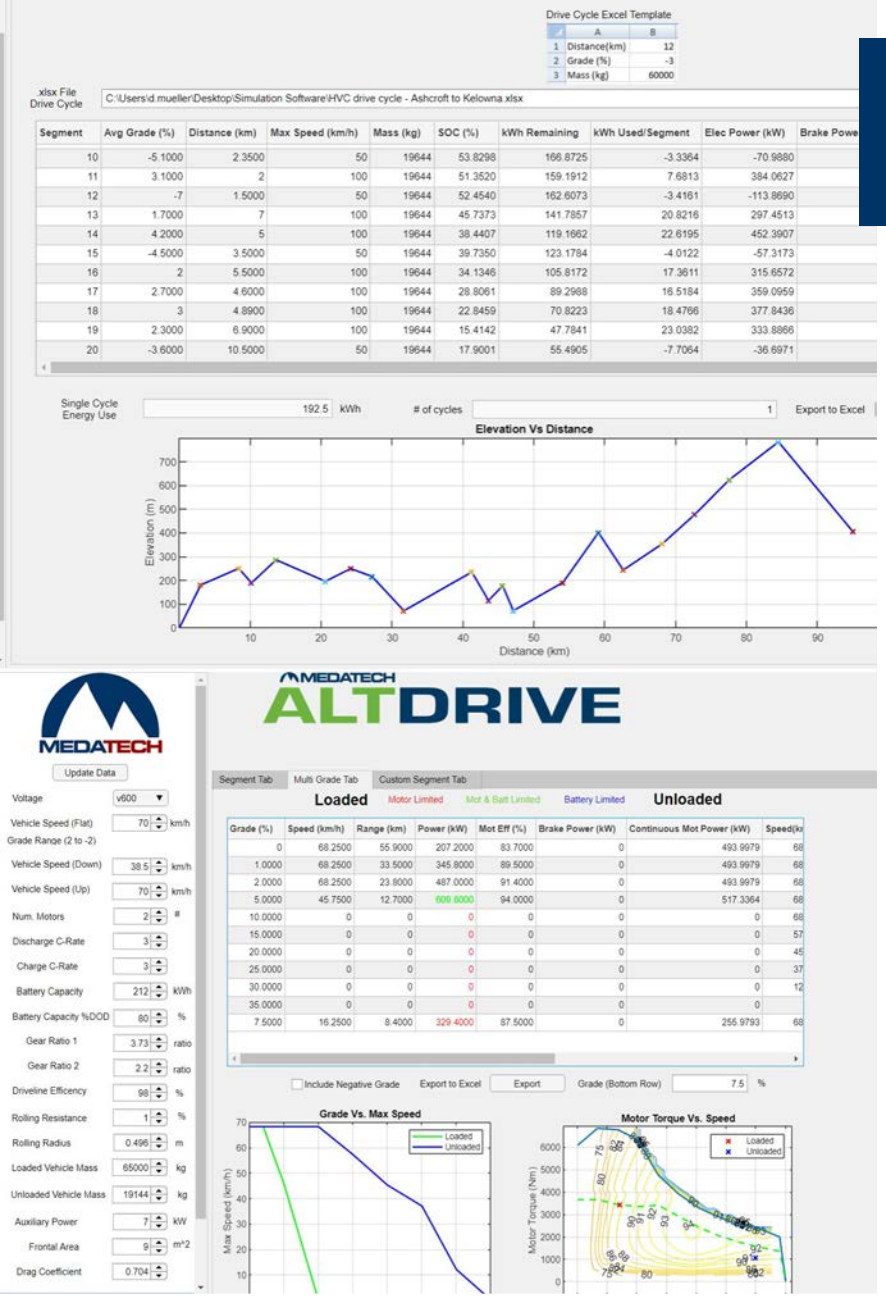
EV Simulation



In-house software design:

- Validate drive power/energy requirements
- Validate auxiliary power/energy requirements
- Calculate required gear ratios
- Battery and motor efficiencies
- Analyze and compare duty cycles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How can we help you?
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