



MEDATech Overview

Capabilities | 2022



Who we are

Innovation is Who We Are

An Innovator First

- Fast to fail
- Faster to succeed

M**OBILE****E****QUIPMENT****D****ESIGN &****A****UTOMATIO****T****N
ECHNOLOGY**

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



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




Advanced drilling equipment




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

We are 35 people strong.
Our management team:

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



Robert Rennie
President & Owner



Mark Seeber
Senior Technical Advisor



John Arnold
General Manager

Our Team

We are 35 people strong.
Our management team:

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



Darren Mueller
Sales & Marketing Director



Andrew Severs
Engineering Services Director



Paul Cholewa
Chief Technology Officer



Scott Dalrymple
Senior Design Engineer
& Product Manager for Borterra

Our Clients



Our Partners



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.



On-board chargers and power electronics

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



Electric motors, generators, power electronics and control systems

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



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.



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

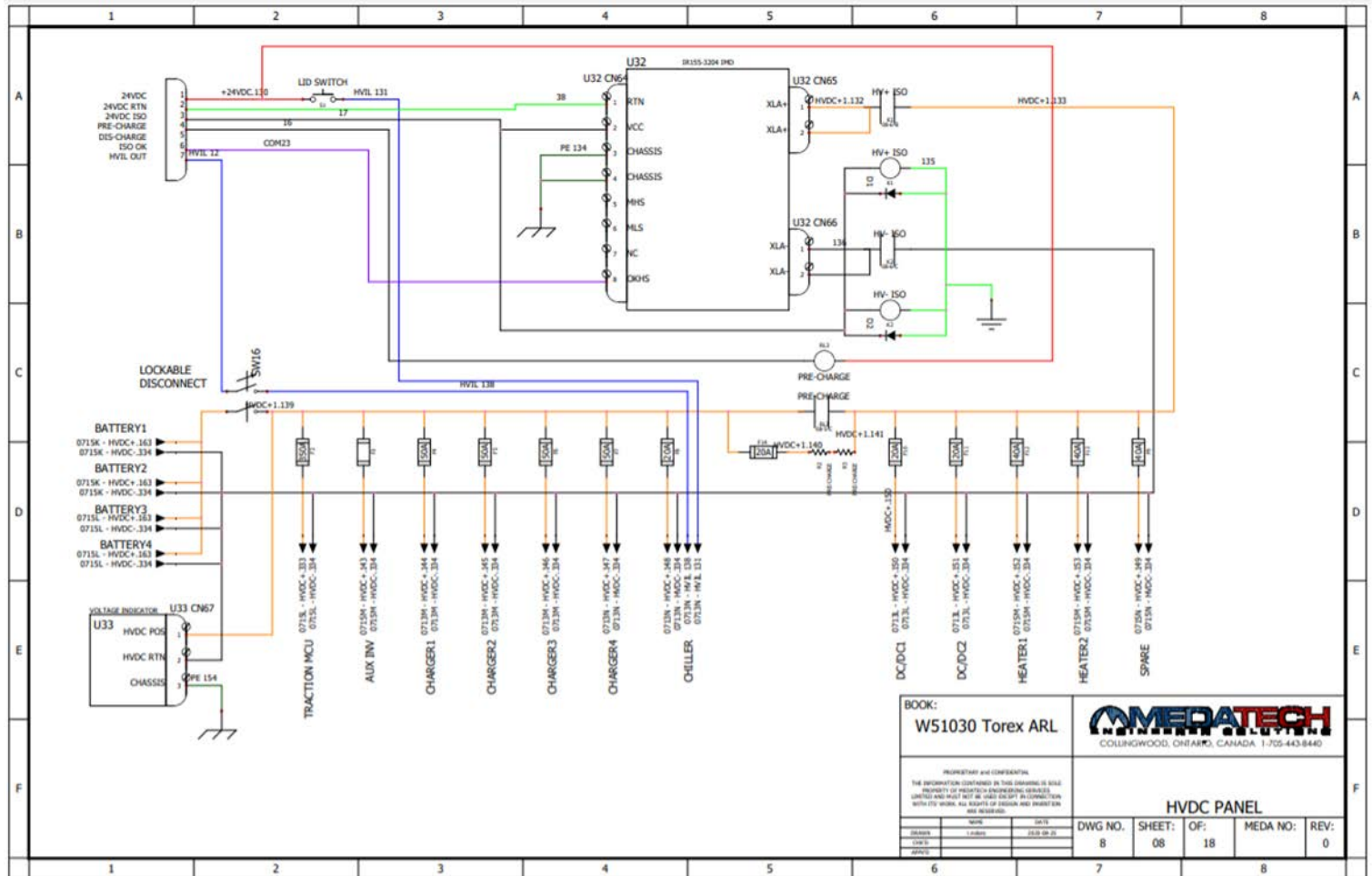
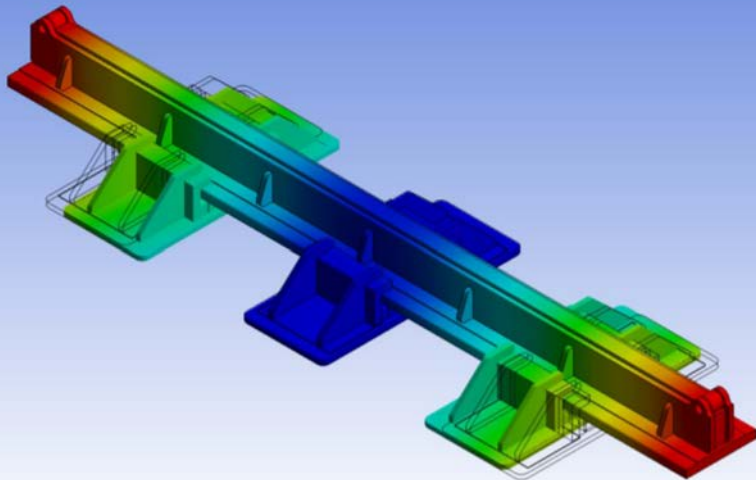
Provide ongoing engineering support

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

**HV Battery
Drive Systems
+ TMS**

**Cab Controls
and HVAC**

**Auxiliary
Drive Control
Design**

**Vehicle Drive
Control and
Data Logging**

**Implement
Control System
Design**

**Drive-by-Wire
Steering Control
Design**



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

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

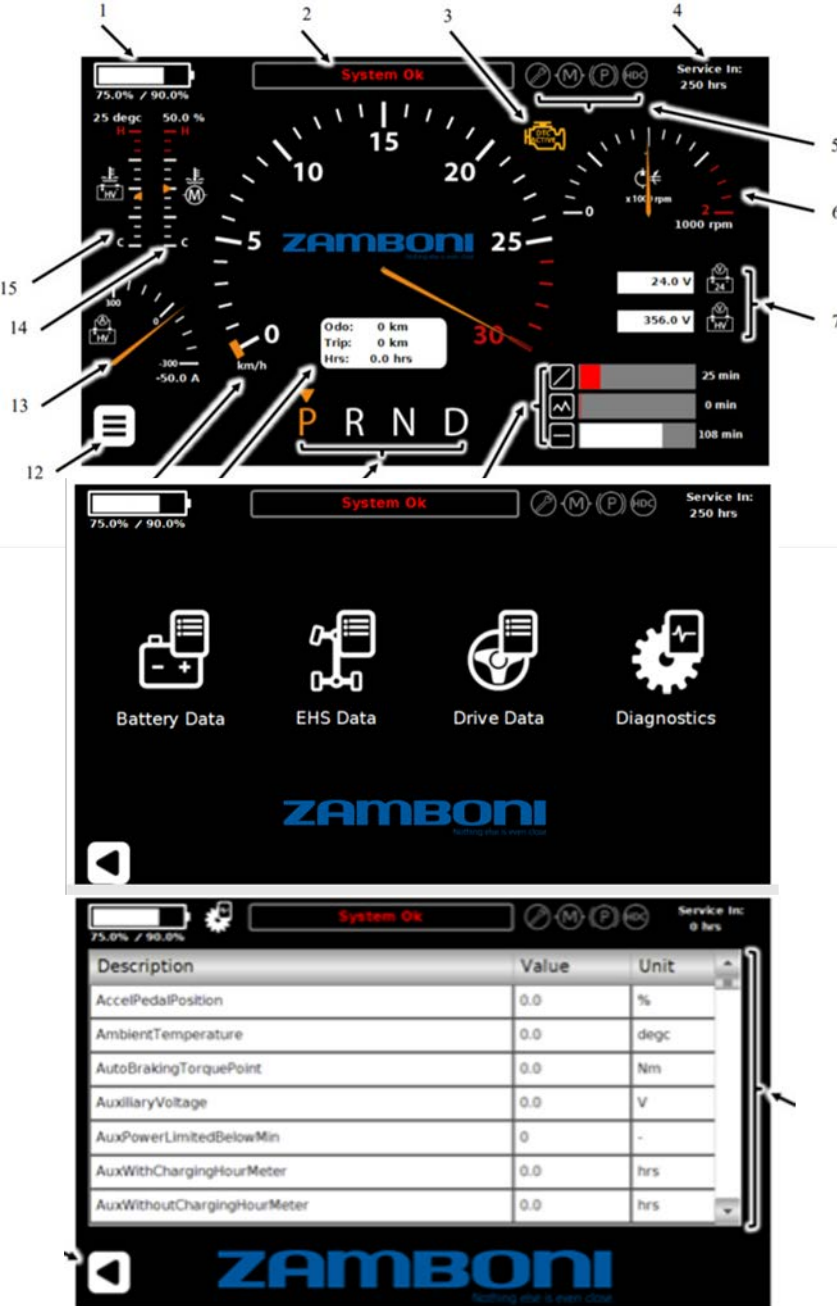
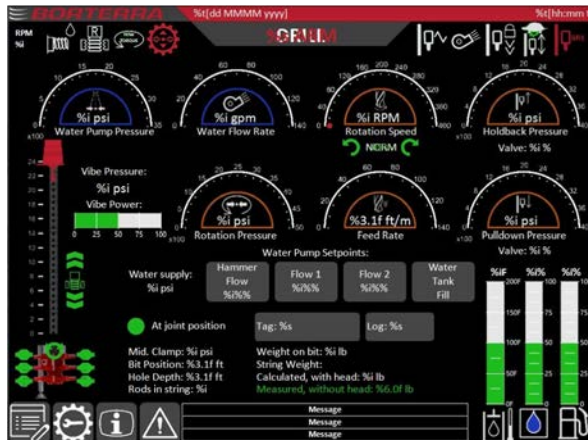
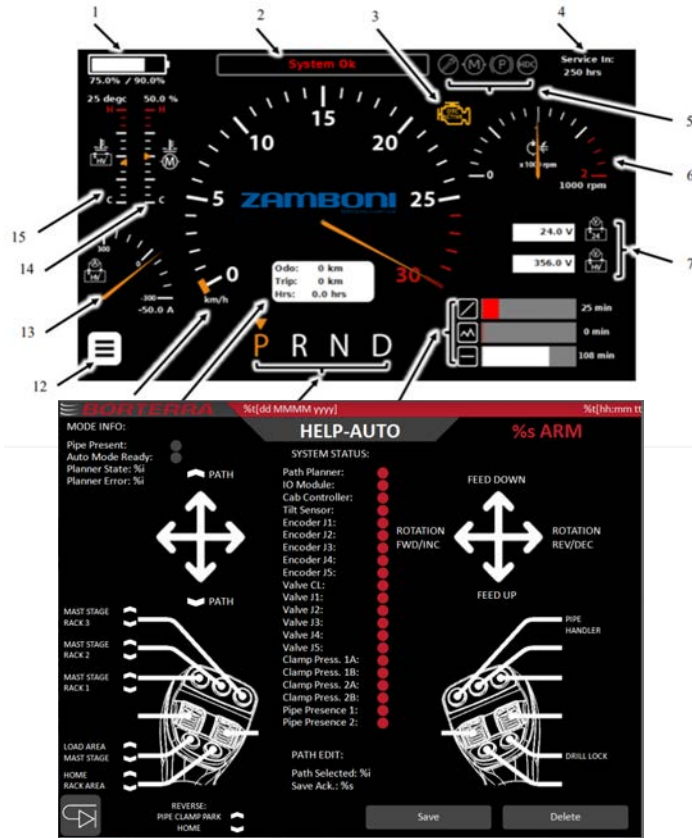


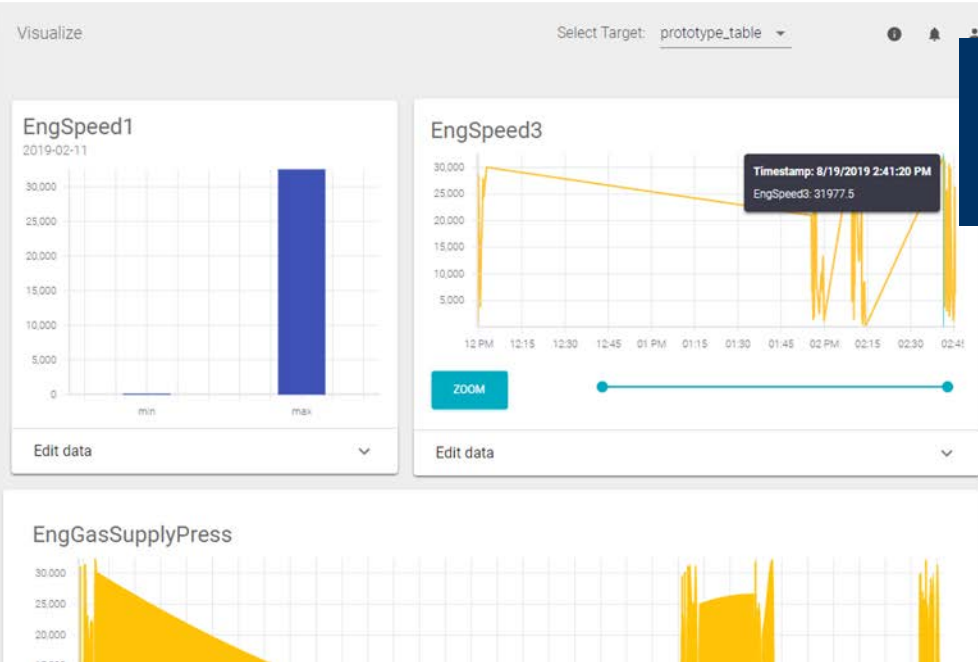
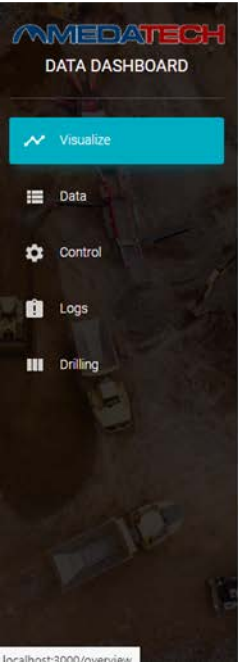
Figure 3: Diagnostic Data Screen

Control System Development

Bridging the gap between operator and machine:

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

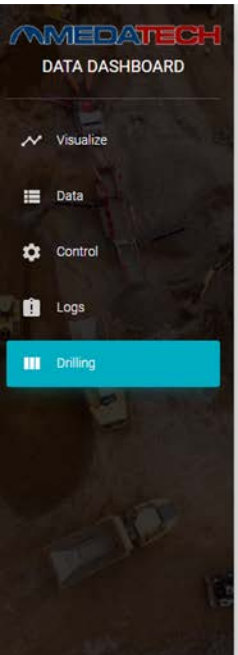




Web-Based Telematics

Delivering cloud-stored data for advanced analytics and modeling:

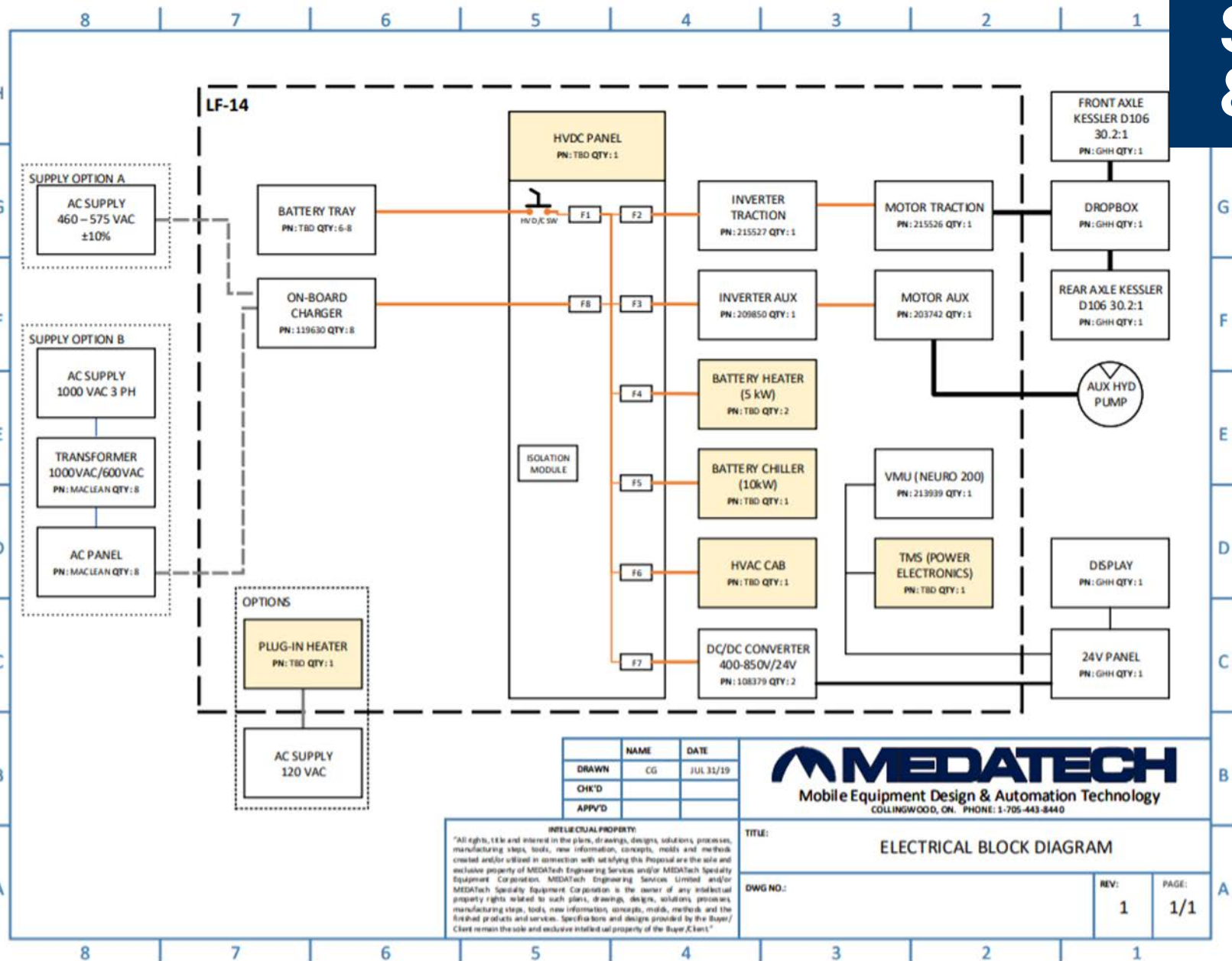
- In-house-designed Graphical User Interface (GUI)
- Drag-and-drop DBC files
- Application-specific data visualization, including charts & plots
- Download tabular data & event logs



System Design & Architecture

From consulting to software development, system architecture & prototyping:

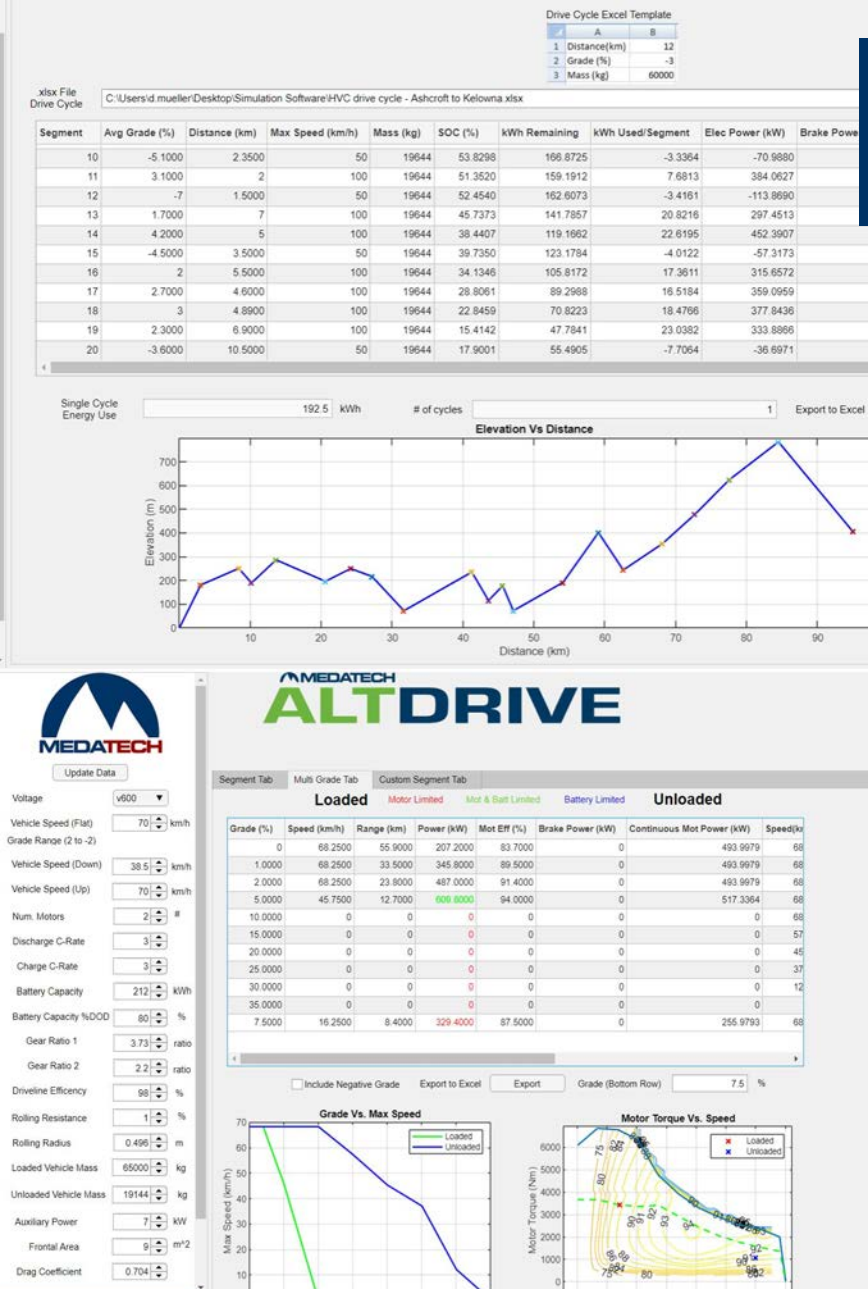
- Requirements & functional specifications
- Architecture & diagramming
- Model-based design and simulation (MATLAB®/Simulink)
- CAN-based control system engineering
- Functional safety systems & standards
- Electromobility simulations for EV component integration
- Software development



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





How can we help you?

1(705) 443-8440
sales@medatech.ca