# Torque and Tides, Bespoke Consulting

Amira Aquarian, Colin McDermott, Victoria Giumenta, Kaushikk Ganesan, Alexandra Anthony, Michael Whiteside


## Our Client

**Shoreline Bespoke Vehicles:** Boutique carmaker focused on low-volume, high-performance builds

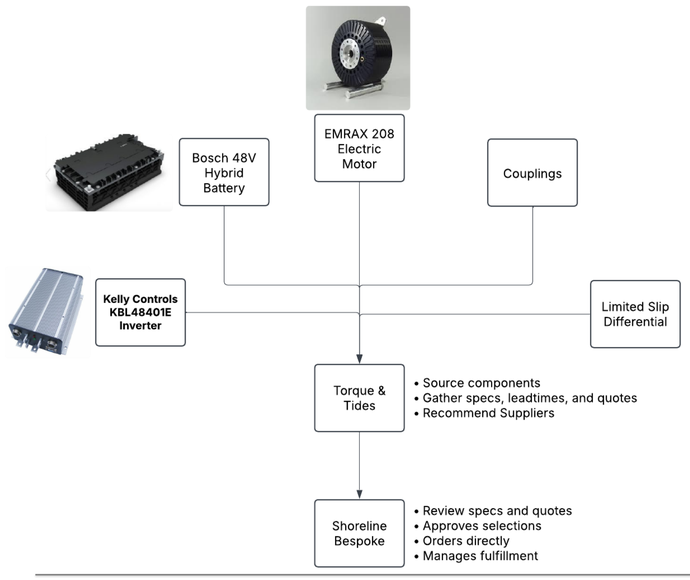
**Target audience:** Automotive collectors and driving enthusiasts

**Key challenge:** No reverse gear in current drivetrain; unreliable suppliers

**Project goal** : Improve drivability and streamline supply chain for their *Laguna* model

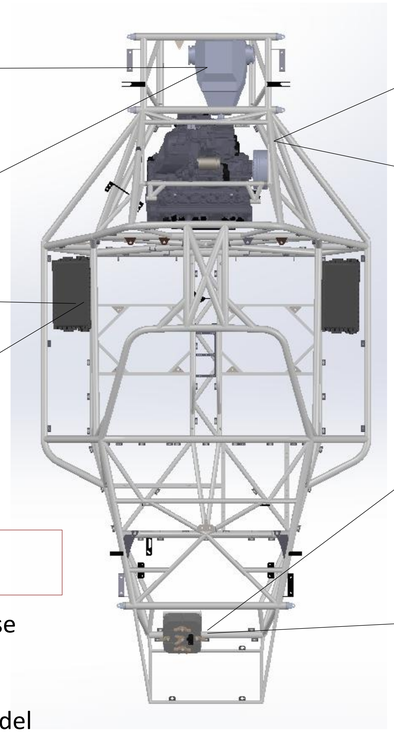
**Why it matters:** Helps Shoreline deliver street-legal, performance-ready vehicles without compromising design

## Supply Chain




**Differential:**
One-way limited-slip differential maintains high-performance torque delivery.

**Battery**
Provides energy for reverse motion and captures energy during braking.



**Electric Motor:**
Electric motor provides seamless reverse motion and hybrid assist.

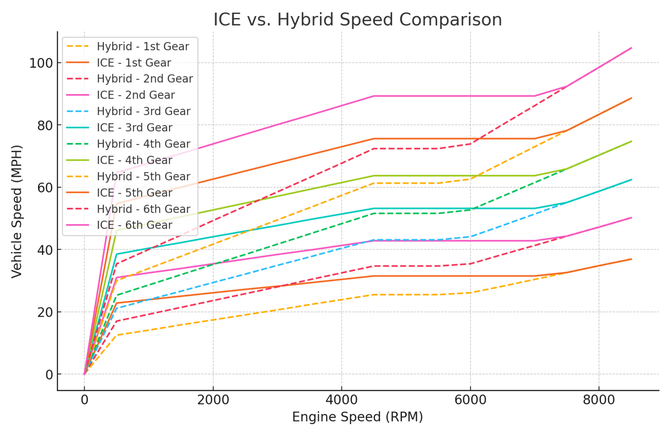
**Power Control Module:**
Powertrain Control Module (PCM**)** intelligently manages electric and ICE modes.

## Overview

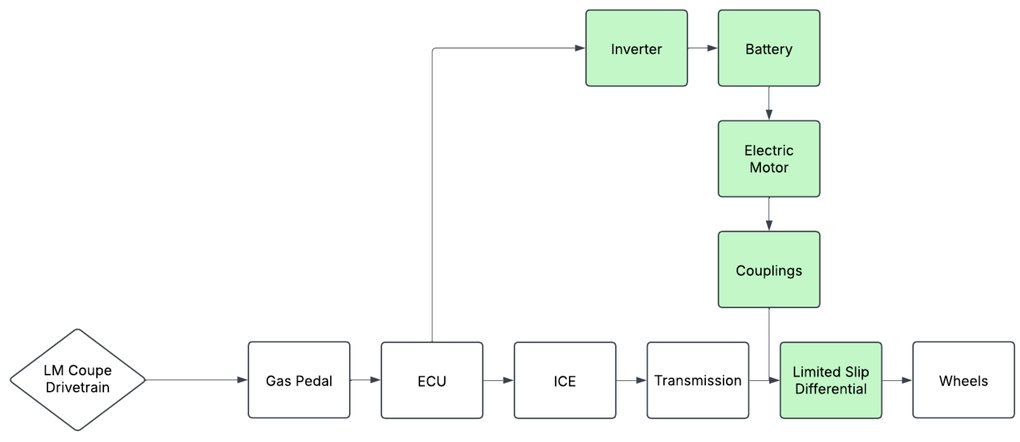
**Custom hybrid final drive system** with integrated reverse functionality.

**Designed for integration** with Shoreline's *LM Coupe* model and future prototypes.

**Simplified drivetrain design** reduces weight and complexity.




## The System

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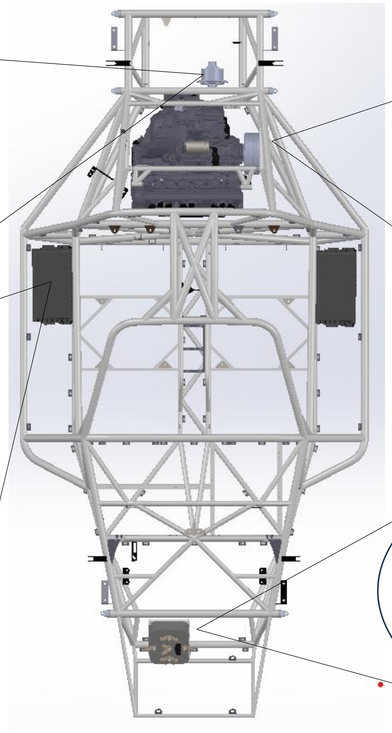
Differential

**One-way limited-slip differential** maintains high-performance torque delivery



Electric Motor

**48V electric motor** provides seamless reverse motion and hybrid assist

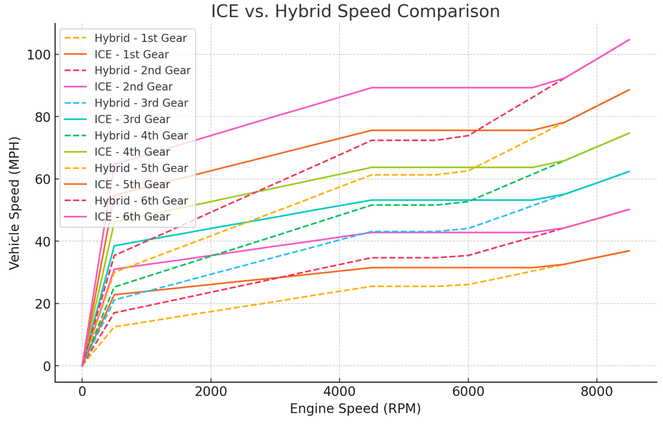
Battery

Inverter

## Supply Chain




## ICE vs. Hybrid Speed Comparison

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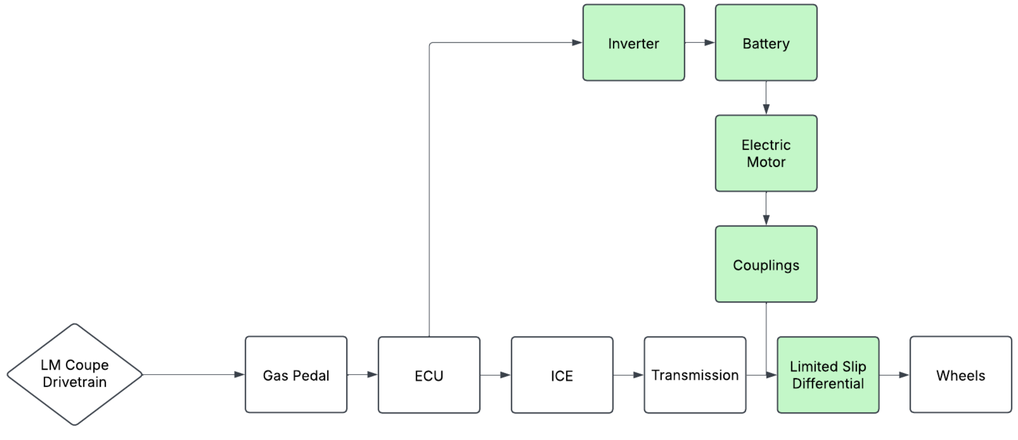


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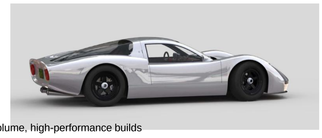
Of course! Here's a clean, poster-friendly **"Solution"** section using concise bullet points, based on your project:

Let me know if you want a version that emphasizes the consulting business model alongside the technical solution!



- **Shoreline Bespoke Vehicles** – boutique carmaker focused on low-volume, high-performance builds
- **Target audience** – automotive collectors and driving enthusiasts
- **Key challenge** – no reverse gear in current drivetrain; unreliable suppliers
- **Project goal** – improve drivability and streamline supply chain for their *Laguna* model
- **Why it matters** – helps Shoreline deliver street-legal, performance-ready vehicles without compromising design

## Our Solution

- **Custom hybrid final drive system** with integrated reverse functionality
- **48V electric motor** provides seamless reverse motion and hybrid assist
- **One-way limited-slip differential** maintains high-performance torque delivery
- **Powertrain Control Module (PCM)** intelligently manages electric and ICE modes
- **Simplified drivetrain design** reduces weight and complexity
- **Regenerative braking capability** enhances energy efficiency
- **Designed for integration** with Shoreline's *Laguna* model and future prototypes

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# Project Title

Student Names Listed
Department/Affiliation, Advisor(s), Project Sponsor

## HEADER COPY

Keep the text brief. Blocks of text should not exceed three paragraphs (viewers won't bother to read more than that).

Use text to:

•(a) introduce the study (what hypothesis was tested or what problem was investigated? why was the study worth doing?)

•(b) explain visuals and direct viewers attention to significant data trends and relationships portrayed in the visuals,

•(c) state and explain the interpretations that follow from the data. In many cases, conclusions can be summarized in a bullet-point list.

•Depending upon the stage or nature of your project, the text could also include sections on future research plans or questions for discussion with viewers.

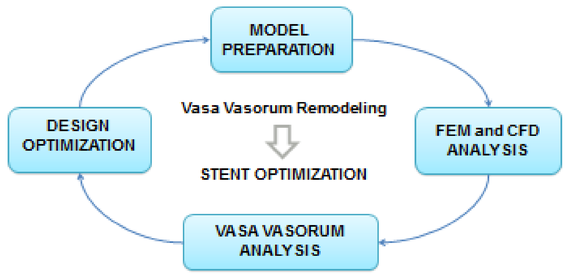
•Cite and reference any sources of information other than your own, just as you would do with a research paper. Ask your professor about the particular citation system that you should use (every discipline uses slightly different styles). The "References Cited" is placed at the end of the poster.

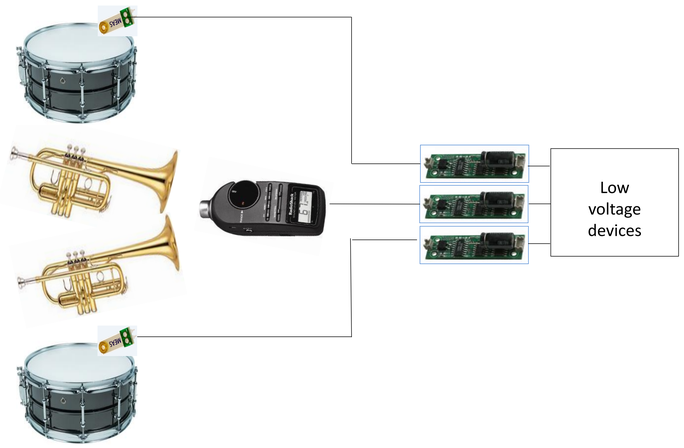
## HEADER TO GO HERE

**General aim and format**

A poster is a graphically based approach to presenting research. In presenting your research with a poster, you should aim to use the poster as a means for generating active discussion of the research.

## PROOF OF CONCEPT/ EXPERIMENT/SIMULATION




## HEADER TO GO HERE

**Visuals:** Present numerical data in the form of graphs, rather then tables (graphs make trends in the data much more evident). If data must be presented in table-form, KEEP IT SIMPLE.

Visuals should be simple and bold.

Leave out or remove any unnecessary details.

Make sure that any visual can "stand alone" (i. e., graph axes are properly labeled, maps have north arrows and distance scales, symbols are explained, etc.).

Use color to enhance comprehension, not to decorate the poster.

Make sure that the text and the visuals are integrated.

Figures should be numbered consecutively according to the order in which the are first mentioned in the text.



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