

Project Status Letter Week 4  
 Covering Period from 2/18/2019 to 2/24/2019  
 Prepared by Alex Kmetz and Katie Lee

**Weekly Team Goals**

Week		Complete
4	2/18/2019 - 2/24/2019	
1	Detailed and COMPLETE drawings of all enclosures with all contents depicted in the drawing	
2	Budget Summary and Plan Rev. 2 Complete and Delivered	
3	First Draft ATP submitted to Professors for review	

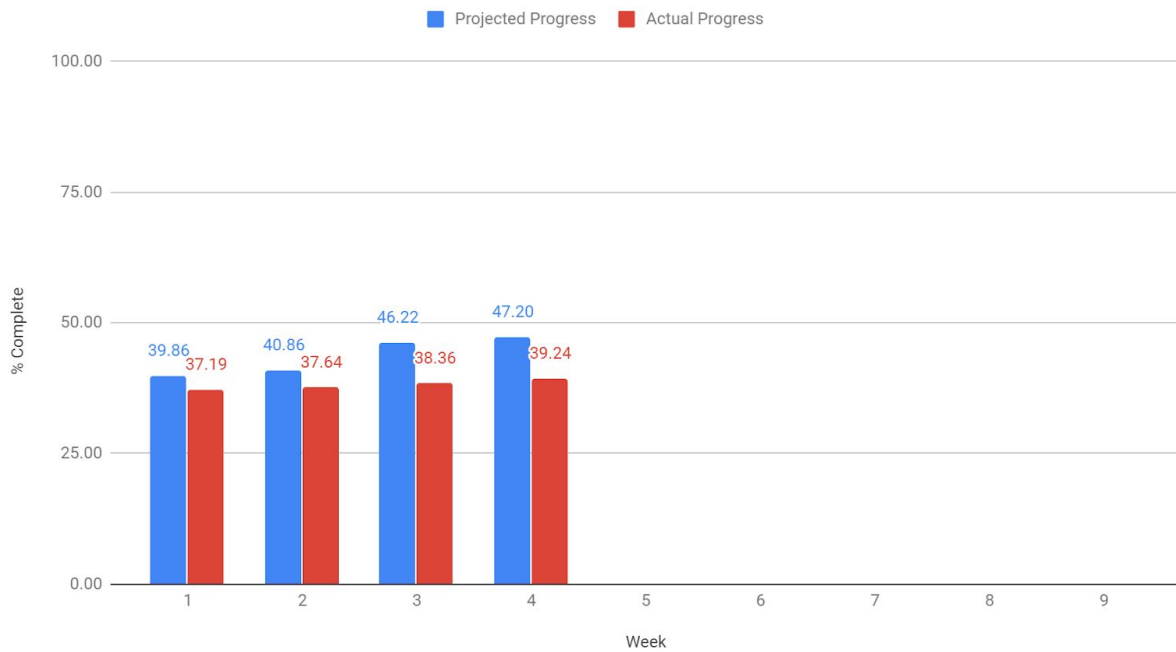
**DYNO and CAR Integration Action Tracking**

Completion of Previous Semester Goals: 91%

- Missing Completions: SCADA Connectivity, Full Motor Testing Setup, TSI Board

Completing of Current Semester Goals: 39%

Projected Progress and Actual Progress



Task / Item	In Progress Projected (%)	In Progress Actual (%)	Complete	Dependencies
Motor Spinning in Dyno Room	100.00%	100.00%	No	Motor Purchased Motor Controller Purchased Pulley / Shaft Fabricated Motor Installed in Motor Mount MCS Installed in Fixture Pulley / Shaft Connected to Motor
Motor Purchased	100.00%	100.00%	Yes	
Motor Controller Purchased	100.00%	100.00%	Yes	
Motor Controller Connected to TSI, Cooling, and Motor in Dyno Room	100.00%	83.33%	No	Motor Controller Purchased MCS / TSI / Cooling Fixture Fabricated TSI Board Complete TSI Mounting Plate Complete
Motor Mount Fabricated	100.00%	100.00%	Yes	
Motor Installed in Motor Mount in Dyno Room	100.00%	100.00%	Yes	Motor Purchased Motor Mount Fabricated
Pulley / Shaft Fabricated	100.00%	100.00%	Yes	
Pulley / Shaft Connected to Motor and Mounted in Dyno Room	100.00%	100.00%	No	Motor Purchased Pulley / Shaft Fabricated
MCS / TSI / Cooling Fixture Fabricated	100.00%	100.00%	Yes	
Car Motor Mount Fabricated and Installed on Frame	25.00%	0.00%	No	Frame Purchased
Motor Installed in Car Motor Mount	25.00%	0.00%	No	Car Motor Mount Fabricated and Installed on Frame
Motor Spinning in Car	12.50%	0.00%	No	Motor Spinning in Dyno Room Motor Installed in Car Motor Mount Motor Controller Connected to TSI, Cooling, and Motor in Car TSI Enclosure Mounted on Car Motor Connected to TSV Packs
Motor Controller Connected to TSI, Cooling, and Motor in Car	37.50%	16.67%	No	Motor Controller Connected to TSI, Cooling, and Motor in Dyno Room Motor Controller Installed in TSI Enclosure TSI Enclosure Fabricated
MCS Installed in TSI Enclosure	20.00%	0.00%	No	TSI Enclosure Fabricated

Frame Purchased	66.67%	50.00%	No	
Body Manufactured and Mounted on Frame	0.00%	0.00%	No	Frame Purchased
Seat and Seatbelt Purchased and Installed in Car	14.29%	0.00%	No	Frame Purchased
Firewalls Fabricated and Installed in Car	25.00%	0.00%	No	Frame Purchased
Pedal Cluster Fabricated	0.00%	0.00%	No	
Pedal Mounting Plate Manufactured	0.00%	0.00%	No	
Pedal Cluster Installed in Car	0.00%	0.00%	No	Pedal Cluster Fabricated Pedal Mounting Plate Manufactured
Differential Purchased	0.00%	0.00%	No	
Differential Integrated with Motor and Wheels	0.00%	0.00%	No	Wheels Mounted on Car Motor Installed in Car Motor Mount
Wheels Acquired	0.00%	0.00%	No	
Wheels Mounted on Car	0.00%	0.00%	No	Frame Purchased Wheels Acquired
Drivetrain Manufactured	0.00%	0.00%	No	
Drivetrain Integrated on Car	50.00%	0.00%	No	Drivetrain Manufactured Frame Purchased
GLV Board Manufactured	100.00%	100.00%	Yes	
GLV Mounting Plate Manufactured	100.00%	100.00%	Yes	
Safety Loop Testing Panel Mounted in Dyno Room Rack	100.00%	100.00%	Yes	
Safety Loop Functional In Dyno Room	100.00%	100.00%	Yes	GLV Board Manufactured
GLV Enclosure Manufactured	33.33%	0.00%	No	
GLV Enclosure Mounted on Car	33.33%	0.00%	No	GLV Enclosure Manufactured
Safety Loop Integrated on Car	0.00%	0.00%	No	Safety Loop Functional in Dyno Room
TSI Board Manufactured	100.00%	92.31%	No	
TSI Mounting Plate Manufactured	100.00%	100.00%	Yes	
TSI Throttle / Brake Control Panel Manufactured	100.00%	100.00%	Yes	TSI Board Manufactured TSI Mounting Plate Manufactured
TSI Enclosure Manufactured	20.00%	0.00%	No	

TSI Enclosure Mounted on Car	0.00%	0.00%	No	TSI Enclosure Manufactured
TSI Integrated with Throttle / Brake Control on Car	0.00%	0.00%	No	TSI Enclosure Mounted on Car TSI Throttle / Brake Control Manufactured
Cooling Loop Filled with Water and Tested For Leaks	100.00%	100.00%	Yes	
Cooling System Mounted on Fixture in Dyno Room	100.00%	100.00%	Yes	MCS / TSI / Cooling Fixture Fabricated
Cooling System Connected to MCS and Motor in Dyno Room	100.00%	100.00%	Yes	MCS / TSI / Cooling Fixture Fabricated
Cooling System Connected to TSI in Dyno Room	100.00%	80.00%	No	
Cooling Enclosure Manufactured	20.00%	0.00%	No	
Cooling System Mounted on Car	0.00%	0.00%	No	Cooling Enclosure Manufactured
Cooling System Connected to TSI on Car	0.00%	0.00%	No	Cooling System Mounted on Car TSI Enclosure Mounted on Car
TSV Packs Manufactured	0.00%	0.00%	No	
TSV Packs Connected to Motor Controller in Dyno Room	0.00%	0.00%	No	
TSV CellMan Boards Fabricated	55.00%	33.00%	No	
TSV SegMan Boards Fabricated	42.86%	14.29%	No	
TSV PackMan Boards Fabricated	62.50%	37.50%	No	
TSV Powering Motor via Motor Controller in Dyno	0.00%	0.00%	No	TSV Packs Manufactured PackMan Boards Fabricated CellMan Boards Fabricated SegMan Boards Fabricated
SCADA Recording Data and Writing to a File	100.00%	71.43%	No	
SCADA Displaying Data to Rack Monitor in Dyno Room	75.00%	75.00%	No	
SCADA Communicating with GLV in Dyno Room	100.00%	100.00%	Yes	GLV Board and Mounting Plate Integrated
SCADA Communicating with TSI in Dyno Room	75.00%	75.00%	No	TSI Board and Mounting Plate Integrated
SCADA Communicating with Motor Controller in Dyno Room	100.00%	75.00%	No	
SCADA Communicating with TSV in Dyno Room	0.00%	0.00%	No	
SCADA Displaying Data to GLV	0.00%	0.00%	No	

Screen				
SCADA Communicating with GLV on Car	0.00%	0.00%	No	GLV Enclosure Mounted on Car
SCADA Communicating with TSI on Car	0.00%	0.00%	No	TSI Enclosure Mounted on Car
SCADA Communicating with Motor Controller on Car	0.00%	0.00%	No	
SCADA Communicating with TSV on Car	0.00%	0.00%	No	
All Connecting Wires Produced with Correct Connector Types	100.00%	100.00%	Yes	
Dyno Room Testing Plan Complete	100.00%	100.00%	Yes	
Dyno Room Wiring Diagram Complete	100.00%	100.00%	Yes	
All Subsystems fully wired in Dyno Room	100.00%	100.00%	Yes	
All Tests According to Test Plan Run in Dyno Room	100.00%	0.00%	No	
Car Testing Plan Complete	0.00%	0.00%	No	
Car Wiring Diagram Complete	0.00%	0.00%	No	
All Subsystems Fully Wired on Car	0.00%	0.00%	No	
All Tests According to Test Plan Run on Car	0.00%	0.00%	No	

**Project Item Completion Chart:**

Team	Tasks Completed	Tasks Planned for Next Week	Proposed Changes	Overdue WBS Items
VSCADA	none	<p><b>Zian:</b> SCADA.2.1 - VSCADA and TSI Connected via CAN</p> <p>SCADA.2.2 - Receiving Data from TSI Sensors</p> <p><b>Sam:</b> SCADA.5.1 - VSCADA and MCS connected via CAN</p> <p>SCADA.5.2 - VSCADA receiving data from MCS Sensors</p> <p>SCADA.5.3 - VSCADA sends warning for error sensor data</p>	<p><b>Sam:</b> SCADA.5.4 was descoped last semester</p> <p>Add a task for SCADA post-processing</p>	<p><b>Sam:</b> SCADA.5.1 - VSCADA and MCS connected via CAN</p> <p>SCADA.5.2 - VSCADA receiving data from MCS Sensors</p> <p>SCADA.5.3 - VSCADA sends warning for error sensor data</p>
TEST	none	<p><b>Katie:</b> M.2.3 - ATP Submitted for Review</p> <p>ATP_Draft_6 (Fall)</p> <p>ATP_Draft_1 (Spring)</p>	none	<p><b>Katie:</b> M.2.3 - ATP Submitted for Review</p> <p>ATP_Draft_6 (Fall)</p> <p>ATP_Draft_1 (Spring)</p>
GLV	<p><b>Max:</b> GLV.1.1 - PCB Circuit Schematic Complete and Approved</p> <p>GLV.1.2 - PCB Layout Complete and Approved</p> <p>GLV.4.1 - GLV Interconnect Document (ICD) Delivered</p>	<p><b>Max:</b> GLV.1.3 - PCB Purchase Order Approved and Submitted</p> <p>GLV.1.4 - PCB Parts List Purchase Order Approved and Submitted</p> <p>GLV.2.1 -</p>	<p><b>Max:</b> Remove GLV.3.4</p>	<p><b>Max:</b> GLV.1.3 - PCB Purchase Order Submitted and Approved</p> <p>GLV.1.4 - PCB Parts List Purchase Order Submitted and Approved</p> <p>GLV.2.1 - Enclosure</p>

		Enclosure Designed, Approved, and Submitted to machine shop		Designed, Approved, and Submitted to machine shop  GLV.2.2 - Enclosure Parts Acquired  GLV.2.3 - Enclosure Assembled
TSI	<p><b>Xiaonan:</b> TSI.1.2 - TSI PCB Layout Complete and Approved</p> <p><b>Yuqiu:</b> TSI.1.2 - TSI PCB Layout Complete and Approved</p> <p><b>Tianyu:</b> TSI.1.1 - PCB Circuit Schematic Complete and Approved</p> <p><b>Antonio:</b> High Voltage Warning Signs Designed and Cut</p>	<p><b>Xiaonan:</b> TSI.1.3 - PCB Purchase Order Approved and Submitted</p> <p>TSI.1.4 - PCB Parts List Purchase Order Approved and Submitted</p> <p><b>Tianyu:</b> TSI.1.3 - PCB Purchase Order Approved and Submitted</p> <p>TSI.2.1 - Enclosure Designed, Approved, and Submitted to Machine Shop</p> <p>TSI.5.3 - IMD Purchased and Acquired</p> <p><b>Yuqiu:</b> TSI.1.3 - PCB Purchase Order Approved and Submitted</p>	none	<p><b>Tianyu:</b> TSI.2.1 - Enclosure Designed, Approved, and Submitted to Machine Shop</p> <p>TSI.5.3 - IMD Purchased and Acquired</p>
TSV	<p><b>Sam:</b> TSV.3.1 - PackMan Block Diagram Submitted and Approved</p>	<p><b>Alex:</b> TSV.2.2 - SegMan PCB Layout Complete and Approved</p>	none	<p><b>Weston:</b> TSV.4.6 - Cell Connecting Bar Designs</p>

	<p>TSV.3.2 - First PackMan PCB Circuit Schematic Complete and Approved</p> <p>TSV.3.3 - First PackMan PCB Layout Complete and Approved</p> <p><b>Yishak:</b> TSV.1.2 - First CellMan PCB Layout Completed and Approved</p> <p>TSV.4.10 - High Voltage Path Bar Designs</p>	<p><b>Robson:</b> TSV.8.9 - Implement State of Charge Algorithm</p> <p>TSV.8.10 - Incorporate Cell Characterization with SOC Algorithm</p> <p><b>Sam:</b> TSV.3.4 - PackMan PCB Purchase Order Approved and Submitted</p> <p>TSV.3.5 - First PackMan PCB Parts List Purchase Order Submitted and Approved</p> <p><b>Weston:</b> TSV.4.6 - Cell Connecting Bars Design</p> <p>TSV.4.10 - High Voltage Path Bar Design</p> <p><b>Yishak:</b> TSV.6.2 - A high-level block diagram of the battery packs (with wiring)</p> <p>TSV.2.1 - First SecMan PCB Circuit Schematic</p>		
Cooling	<p><b>Weston:</b> COOL.4.2 - Budget Delivered to Robson</p> <p>COOL.4.3 - BOM Delivered to Robson</p>	<p><b>Weston:</b> COOL.1.1 - Cooling Enclosure</p>	none	none
Interconnect	<p><b>Drew:</b> FRAME.2.2 -</p>	<p><b>Drew:</b> Cockpit Panel</p>	none	<b>Drew:</b> INT.2.2 -



	<p>Frame Panel Components integrated</p> <p>FRAME.2.3 - Frame panels Tested in Dyno Room</p>	<p>Designed and Manufactured</p>		<p>Full wiring purchase order submitted</p>
Mech	<p><b>Hayden:</b> PART.6.8 - SCADA and Motor Controller Connected and Communicating via CANBus</p> <p>Fixed Dyno Valve</p> <p>PART.6.2 - Pulley / Shaft Connected to the Dyno Belt</p>	<p><b>Hayden:</b> PART.6.9 - Motor Controller Configured</p> <p>Design safety enclosure for the motor in the DYNO</p>	<p><b>Hayden:</b> Dyno motor mount and shaft redesign</p>	<p>none</p>
Management	<p><b>Alex:</b> ATP Outline Presented</p> <p><b>Katie:</b> ATP Outline Presented</p>	<p><b>Alex:</b> M.2.3 - ATP Submitted for Review</p> <p><b>Katie:</b> M.1.4 - Electrical Systems Form</p> <p>M.2.3 - ATP Submitted for Review</p> <p><b>Robson:</b> Formally request funding from the engineering division</p>	<p>none</p>	<p><b>Alex:</b> M.2.3 - ATP Submitted for Review</p> <p><b>Katie:</b> M.1.4 - Electrical Systems Form</p> <p>M.2.3 - ATP Submitted for Review</p>

**Purchasing Summary from Previous Week:**

★ Chassis/Body includes our co

<b>Sub-system</b>	<b>Previously Allocated Budget</b>	<b>Total Spent</b>	<b>Budget Remaining</b>	<b>Percentage Spent</b>
Brakes	\$3,500.00	\$0.00	\$3,500.00	0.00%
Chassis/Body	\$5,000.00	\$11,000.00	-\$6,000.00	220.00%
Cooling	\$620.00	\$37.64	\$582.36	6.07%
Drivetrain	\$0.00	\$2,475.00	-\$2,475.00	
GLV	\$780.00	\$1,025.08	<b>-\$245.08</b>	<b>131.42%</b>
Interconnect	\$1,500.00	\$1,367.78	\$132.22	91.19%
Motor/MCS	\$4,000.00	\$6,781.02	<b>-\$2,781.02</b>	<b>169.53%</b>
Pedal/Controls	\$2,000.00	\$0.00	\$2,000.00	0.00%
Steering	\$2,500.00	\$0.00	\$2,500.00	0.00%
Suspension	\$2,200.00	\$0.00	\$2,200.00	0.00%
TSI	\$1,500.00	\$1,751.33	<b>-\$251.33</b>	<b>116.76%</b>
TSV	\$4,187.00	\$2,752.75	\$1,434.25	65.75%
VSCADA / DYNO	\$525.00	\$73.69	\$451.31	14.04%
Shipping/Tax	\$4,246.80	\$960.05	\$3,286.75	22.61%
Registration	\$2,300.00	\$2,300.00	\$0.00	100.00%
<b>Overall</b>	<b>\$34,858.80</b>	<b>\$30,524.34</b>	<b>\$4,334.46</b>	<b>87.57%</b>

**Purchases from Previous Weeks:**

The following purchases were made by the ME department.

McMaster - Inv. #: 85772774	-\$800.74	02/05/19	7 line items: aluminum, garolite, HDPE sheets.
Amazon - Ord. #: 3551430	-\$111.55	02/11/19	Standard external retaining ring,a tapered section, axial assembly, SAE 1060-1090 carbon steel, phosphate, and oil finish; radial bearing, single row.
Amazon - Ord. #: 5397851	-\$37.92	02/13/19	HK2820 Needle Bearing 28x35x20 TLA2820Z (qty. 2)
CNC Specialty Store - Ord. #: 6403	-\$50.33	02/11/19	6 x Mobil grease XHP 222 cartridge (13.7 oz)
McMaster - Inv. #: 86267864	-\$364.23	02/11/19	5 line items: 6061 aluminum, 1/4" Thick, 8"x8", etc.
McMaster - Inv. #: 87160221	-\$17.12	02/20/19	Low-carbon steel sheet, 12"x12"x0.0600"

**Total: \$1,381.89**