

Project Status Letter Week 14  
 Covering Period from 4/28/2019 to 5/5/2019  
 Prepared by Alex Kmetz and Katie Lee

**Weekly Team Goals**

<b>Week</b>		<b>Complete</b>
<b>14</b>	<b>4/28/2019 - 5/5/2019</b>	
1	2D "Enclosures" Completed and Installed in Dyno Room	Complete
2	PCBs Completed and QA Tested for Functionality	Complete
3	Subsystem ICDs Complete and Dyno Room Wiring Complete	Not Complete
4	AMS Communicating Cell Voltages and Temperature of Single Cell	Not Complete
5	TSI Throttle Controlling the Motor	Not Complete
6	All Documentation Uploaded to Website	Not Complete
7	ATR Complete and Submitted	Not Complete
8	All Firmware Completed and QA Tested for Functionality	Not Complete
9	Motor Spinning While Connected to Dyno Load	Not Complete
10	Final Documentation Delivered to Professors and Department Head	Not Complete

<b>Week</b>		<b>Complete</b>
<b>15</b>	<b>5/5/2019 - 5/10/2019</b>	
1	Subsystem ICDs Complete and Dyno Room Wiring Complete	Not Complete
2	AMS Communicating Cell Voltages and Temperature of Single Cell	Not Complete
3	TSI Throttle Controlling the Motor	Not Complete
4	All Documentation Uploaded to Website	Not Complete
5	ATR Complete and Submitted	Not Complete
6	All Firmware Completed and QA Tested for Functionality	Not Complete
7	Motor Spinning While Connected to Dyno Load	Not Complete
8	Final Documentation Delivered to Professors and Department Head	Not Complete

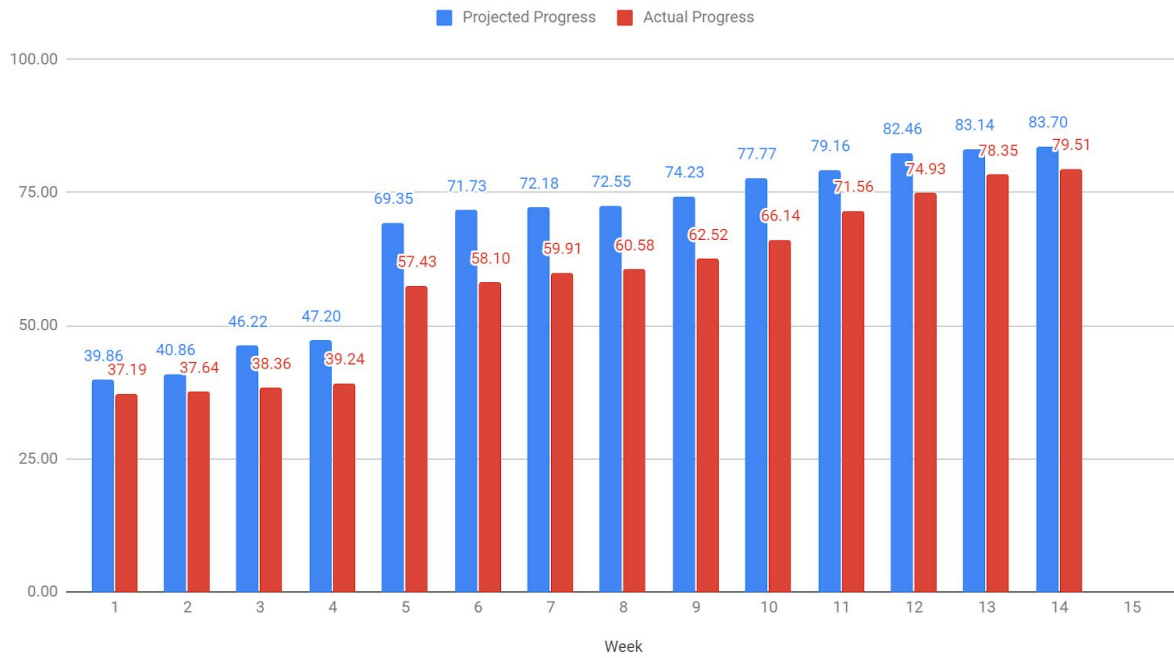
**DYNO and CAR Integration Action Tracking**

Completion of Previous Semester Goals: 91%

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

## Completing of Current Semester Goals: 79.51%

### 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%	100.00%	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	
MCS Installed in TSI Enclosure	100.00%	100.00%	No	TSI Enclosure Fabricated
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	100.00%	100.00%	No	
TSI Board Manufactured	100.00%	100.00%	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	100.00%	100.00%	No	
TSI Firmware Written	100.00%	100.00%		
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%	100.00%	No	
Cooling Enclosure Manufactured	20.00%	0.00%	No	
TSV Packs Manufactured	50.00%	33.33%	No	
TSV Packs Connected to Motor Controller in Dyno Room	0.00%	0.00%	No	
TSV CellMan Boards Fabricated	53.85%	46.15%	No	

TSV SegMan Boards Fabricated	46.67%	40.00%	No	
TSV PackMan Boards Fabricated	50.00%	50.00%	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
TSV Firmware Written	37.50%	25.00%		
SCADA Recording Data and Writing to a File	100.00%	100.00%	No	
SCADA Displaying Data to Rack Monitor in Dyno Room	100.00%	100.00%	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	33.33%	33.33%	No	
SCADA Displaying Data to GLV Screen	100.00%	100.00%	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	

**Project Item Completion Chart:**

Team	Tasks Completed	Tasks Planned for Next Week	Proposed Changes	Overdue WBS Items
VSCADA	<p><b>Sam:</b> Explicit status display</p> <p>SCADA.5.1 - VSCADA and MCS Connected via CAN</p>	<p><b>Sam:</b> SCADA.5.2 - VSCADA receiving data from MCS Sensors</p> <p>SCADA.5.3 - VSCADA sends warning for Error Sensor Data (TSV)</p>	none	<p><b>Sam:</b> SCADA.5.2 - VSCADA receiving data from MCS Sensors</p> <p>SCADA.5.3 - VSCADA sends warning for error sensor data (TSV)</p>
TEST	<p><b>Alex:</b> ATP Accepted</p> <p><b>Katie:</b> ATP Accepted</p>	<p><b>Alex:</b> ATR</p> <p><b>Katie:</b> ATR</p> <p><b>Drew:</b> ATR</p>	none	none
GLV	<p><b>Max:</b> GLV1.12 - PCB Testing Complete</p> <p>GLV.2.4 - Enclosure Installed and Wired in Dyno Room</p> <p>GLV.3.1 - Subsystem Testing Plan submitted and approved by system engineers</p> <p>GLV.3.2 - Subsystem testing plan performed and debugged</p> <p>GLV.4.4 - GLV and VSCADA connected via CAN</p> <p>GLV.4.5 - GLV and TSI Connected</p> <p>GLV.4.8 -</p>	<p><b>Max:</b> GLV.4.6 - GLV and TSV Packs connected</p> <p>GLV.4.7 - GLV and Cooling Connected</p>	none	none

	<p>GLV and Safety Loop connected</p> <p>GLV.6.3 - Final Documentation delivered to Project Managers</p> <p>GLV.6.4 - Electrical Systems Form information delivered</p>			
TSI	<p><b>Tianyu:</b>  TSI.1.8 - TSI PCB Tested</p> <p>TSI.7.6 - TSI and Cooling Connected</p> <p>TSI.7.4 - TSI and TSV connected</p> <p>TSI.7.1 - TSI and MCS Connected</p> <p><b>Yuqiu:</b>  TSI.1.8 - TSI PCB Populated and Tested</p> <p>TSI.7.1 - TSI and MCS Connected</p> <p>TSI.7.4 - TSI and TSV Connected</p> <p>TSI.7.6 - TSI and Cooling Connected</p> <p><b>Xiaonan:</b>  TSI.1.8 - TSI PCB Tested</p> <p>GLV integration complete</p> <p>CAN integration complete</p> <p>Drive state test complete</p> <p>Pre-charge/discharge circuit test complete</p>	<p><b>Tianyu:</b>  TSI.8.1 - Final Documentation Delivered to Project Managers</p> <p><b>Yuqiu:</b>  TSI.8.1 - Final Documentation Delivered to Project Managers</p>	none	none

TSV	<p><b>Katie:</b> AIRs mounting plate manufactured and mounted in Dyno Room</p> <p>AIRs connected to TSV power supply</p>	<p><b>Alex:</b> High Voltage Indicator Circuit Layout Complete and Approved</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>Yishak:</b> TSV.6.2 - A high-level block diagram of the battery packs (with wiring)</p> <p>TSV.1.9 - First CellMan PCB Debugged and Complete</p> <p>TSV.2.9 - First SegMan PCB Debugged and Complete</p> <p><b>Zian:</b> TSV.9.2 - Firmware Logic / State Machine Delivered and Approved</p>	none	<p><b>Alex:</b> High Voltage Indicator Circuit Layout Complete and Approved</p> <p><b>Yishak:</b> TSV.6.2 - A high-level block diagram of the battery packs (with wiring)</p> <p>TSV.1.9 - First CellMan PCB Debugged and Complete</p> <p>TSV.2.9 - First SegMan PCB Debugged and Complete</p>
Cooling	<p><b>Antonio:</b> Cooling temperature and flow sensor integration with TSI</p>	<p><b>Weston:</b> COOL.3.4 - Cooling and TSI Connected</p> <p>COOL.3.5 - Cooling and GLV Connected</p>	none	none

		COOL.3.6 - Cooling and MCS Connected		
Interconnect	<p><b>Drew:</b> Make Wires Look Pretty</p> <p>Wood Paneling Installation</p> <p><b>Alex:</b> GLV and TSV Cable PRoduction</p> <p><b>Katie:</b> Connected Motor Cables to Motor Controller</p>	<p><b>Drew:</b> General Debugging</p> <p>INT.3.17 - Cooling - MCS Connected</p>	none	none
Mech	none	none	none	none
Management	<p><b>Antonio:</b> Found and documented second vendors for all POs</p>	<p><b>Alex:</b> M.1.6 - Sustainability Report</p> <p>Final Documentation</p> <p><b>Katie:</b> Project Video</p> <p>Final Documentation</p>	none	<p><b>Alex:</b> M.1.6 - Sustainability Report</p> <p><b>Katie:</b> Project Video</p>



Purchasing Summary from Previous Week:

<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	\$122.03	\$3,377.97	3.49%
Chassis/Body	\$5,000.00	\$10,500.85	<b>-\$5,500.85</b>	<b>210.02%</b>
Cooling	\$620.00	\$112.59	\$507.41	18.16%
Drivetrain	\$0.00	\$3,309.05	<b>-\$3,309.05</b>	
GLV	\$780.00	\$1,242.28	<b>-\$462.28</b>	<b>159.27%</b>
Interconnect	\$1,500.00	\$1,618.41	-\$118.41	<b>107.89%</b>
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	\$1,174.86	\$1,325.14	46.99%
Suspension	\$2,200.00	\$954.30	\$1,245.70	43.38%
TSI	\$1,500.00	\$2,961.97	<b>-\$1,461.97</b>	<b>197.46%</b>
TSV	\$4,187.00	\$3,524.40	\$662.60	84.17%
VSCADA / DYNO	\$525.00	\$484.02	\$40.98	92.19%
Shipping/Tax	\$4,246.80	\$1,567.49	\$2,679.31	36.91%
Registration	\$2,300.00	\$2,300.00	\$0.00	100.00%
<b>Overall</b>	<b>\$34,858.80</b>	<b>\$36,653.27</b>	<b>-\$1,794.47</b>	<b>105.15%</b>

## Purchases from Previous Weeks:

4/30/2019					
ECE Department Material Request					
Course: ECE 491 Professor: Nadovich			Req Number: 63		
Requested By			Vendor: Pegasus Auto Racing Supplies		
Name: Robson Adem			Web Site: <a href="http://www.pegasusautoracing.com">www.pegasusautoracing.com</a>		
Email: <a href="mailto:ademr@lafayette.edu">ademr@lafayette.edu</a>			Phone: 800-688-6946		
Phone: 4845919265			Ship By: 2-DAY Shipping		
Index	Quantity	Part Number	Description	Unit Price	Extended Price USD
1	10	3356	SCCA Off Decal for Master Switch and BRBs	\$0.54	\$5.40
				Shipping Fees	\$21.03
				Grand Total:	\$26.43
Instructor Approval:					
Department Approval:					

5/1/2019					
ECE Department Material Request					
Course: ECE 491 Professor: Nadovich			Req Number: 64		
Requested By			Vendor: Pegasus Auto Racing Supplies		
Name: Robson Adem			Web Site: <a href="http://www.pegasusautoracing.com">www.pegasusautoracing.com</a>		
Email: <a href="mailto:ademr@lafayette.edu">ademr@lafayette.edu</a>			Phone: 800-688-6946		
Phone: 4845919265			Ship By: 2-DAY Shipping		
Index	Quantity	Part Number	Description	Unit Price	Extended Price USD
1	1	91287A154	18-8 Stainless Steel Hex Head Screw M8 x 1.25 mm Thread, 30 mm Long Pack of 25 each	\$10.73	\$10.73
2	1	93475A270	18-8 Stainless Steel Washer for M8 Screw Size, 8.4 mm ID, 16 mm OD Pack of 100 each	\$7.90	\$7.90
3	1	92148A200	18-8 Stainless Steel Split Lock Washer for M8 Screw Size, 8.5 mm ID, 14.8 mm OD Pack of 100 each	\$7.73	\$7.73
				Shipping Fees	\$6.39
				Grand Total:	\$32.75
Instructor Approval:					
Department Approval:					