

## **Accomplishments So Far:**

- Spinning Motor
  - Powered by Dyno Room (AEC 401) High Voltage Power Supply
  - Interfacing with Motor Controller and Motor Controller Software
  - Spinning with Dyno load attached
- Grounded Low Voltage (GLV) PCB Revision 1 Manufactured and Tested
  - Revision 2 to be purchased soon
- Tractive System Interface (TSI) PCB Revision 1 Manufactured and Tested
  - Revision 2 Purchased → To be tested
- TSI Testing Board Revision 1 Purchased
  - To be complete and tested upon arrival
- Accumulator Management System (AMS) Designed and Reviewed
  - Cell Manager Board Revision Purchased → to be tested
  - Segment Manager Revision 1 PCB Layout In-Progress
  - Pack Manager Revision 1 PCB Purchased → to be tested
- SCADA System Communicating with GLV, TSI, Dynamometer Sensors and Motor Controller
  - Logs data and displays to a viewer
  - Ability to break safety loop
- Formula Hybrid Electric Rules Compliant Safety Loop in Dyno Room (AEC 401)
- Frame Designed and Purchased
- Motor and Motor Controller Purchased
- Car Motor Mount and Differential Manufactured / Purchased
- Tractive System Voltage (TSV) Accumulator Frame Manufactured
- All steering components purchased

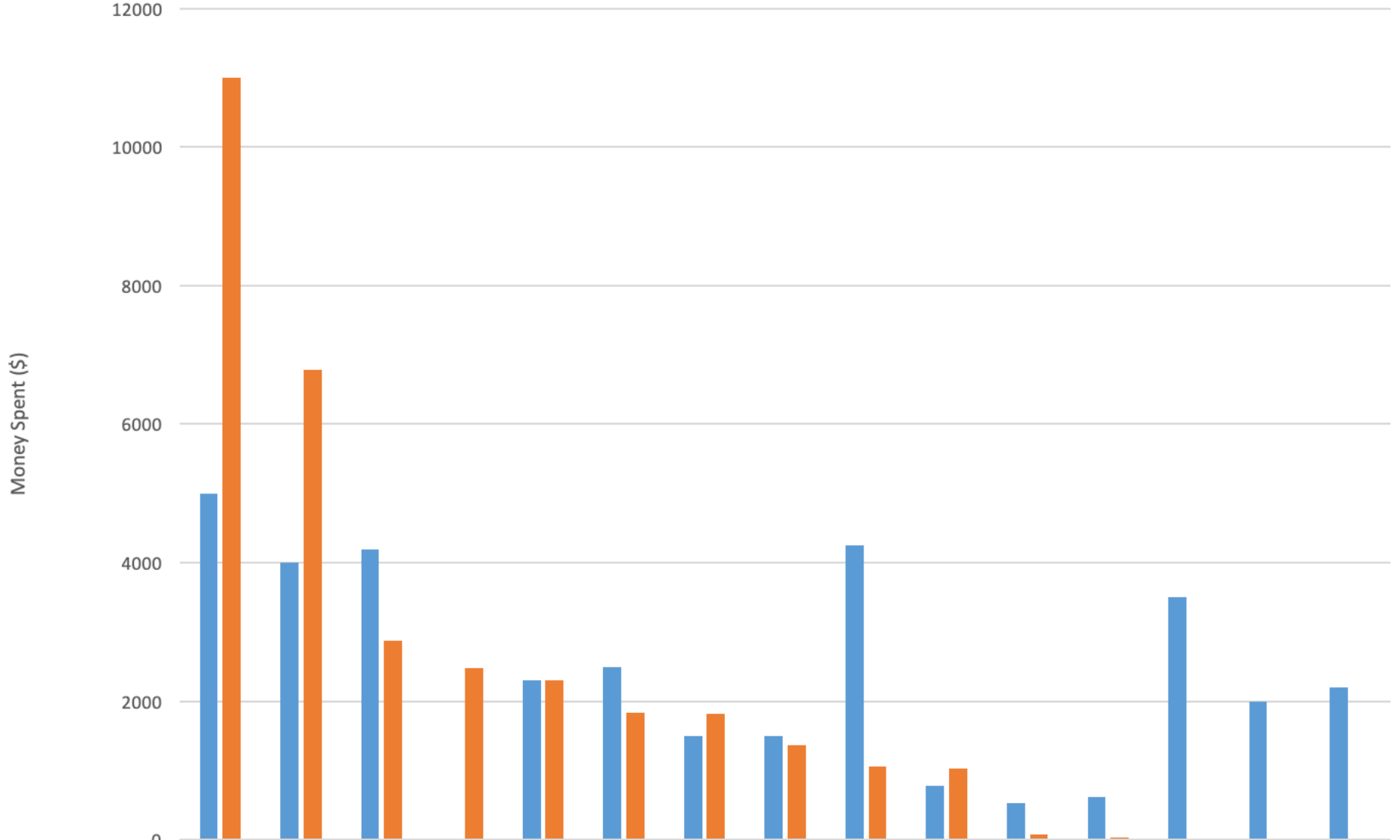
### **Project Goals By End of March / Semester:**

- Fully Incorporated and Tested Electrical System in Dyno Room (AEC 401)
  - Includes:
    - Rule Compliant Safety Loop
    - GLV
    - TSI
    - Motor
    - Motor Controller
    - SCADA
  - Measures Torque and RPM
  - Monitors All Sensors Present Using SCADA
- Functional Prototype TSV Pack
  - Accumulator Management System (AMS) Complete and Tested
  - Will Demonstrate Ability To Charge Segment and Monitor Cell Voltage / Temperature
  - Cell data communicated to SCADA via CAN
  - Completed mechanical pack design to be fabricated at the end of the semester or over the summer
- Complete Mechanical Car

**Current Budget and Spending Breakdown as of 3/3/2019 10:00 PM:**

<b>Sub-system</b>	<b>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	\$1,840.34	\$659.66	73.61%
Suspension	\$2,200.00	\$0.00	\$2,200.00	0.00%
TSI	\$1,500.00	\$1,817.33	<b>-\$317.33</b>	<b>121.16%</b>
TSV	\$4,187.00	\$2,868.75	\$1,318.25	68.52%
VSCADA / DYNO	\$525.00	\$73.69	\$451.31	14.04%
Shipping/Tax	\$4,246.80	\$1,055.13	\$3,191.67	24.85%
Registration	\$2,300.00	\$2,300.00	\$0.00	100.00%
<b>Overall</b>	<b>\$34,858.80</b>	<b>\$32,641.76</b>	<b>\$2,217.04</b>	<b>93.64%</b>

## Budget Spending Breakdown



	Chassis/Body	Motor/MCS	TSV	Drivetrain	Registration	Steering	TSI	Interconnect	Shipping/Tax	GLV	VSCADA/DYNO	Cooling	Brakes	Pedal/Controls	Suspension
Allocated Budget	\$5,000.0	\$4,000.0	\$4,187.0	\$0.00	\$2,300.0	\$2,500.0	\$1,500.0	\$1,500.0	\$4,246.8	\$780.00	\$525.00	\$620.00	\$3,500.0	\$2,000.0	\$2,200.0
Total Spent	\$11,000.0	\$6,781.0	\$2,868.7	\$2,475.0	\$2,300.0	\$1,840.3	\$1,817.3	\$1,367.7	\$1,055.1	\$1,025.0	\$73.69	\$37.64	\$0.00	\$0.00	\$0.00

**Money Needed To Accomplish Goals for this semester :**

<b>Sub-system</b>	<b>Proposed Budget</b>
Brakes	\$3,940
Chassis/Body	\$567
Cooling	\$200
Drivetrain	\$2,688
GLV	\$538
Interconnect	\$0
Motor/MCS	\$200
Pedal/Controls	\$570
Steering	\$0
Suspension	\$3,401
TSI	\$1,056
TSV	\$752
VSCADA / DYNO	\$500
Shipping/Tax	\$2,806
<b>Total To DYNO Integration + Full Mechanical Car</b>	<b>\$17,217</b>
<b>Remaining Current Budget</b>	<b>\$2,217</b>
<b>Money Needed To Accomplish Goals</b>	<b>\$15,000</b>

**Additional Money Needed To FSAE 2020:**

<b>Sub-system</b>	<b>Cost</b>
Brakes	\$0
Chassis/Body	\$0
Cooling	\$0
Drivetrain	\$0
GLV	\$300
Interconnect	\$1,000
Motor/MCS	\$5,000
Pedal/Controls	\$0
Steering	\$0
Suspension	\$0
TSI	\$1,000
TSV	\$5,000
DYNO	\$2,000
Shipping/Tax	\$3,400
Competition Costs	<b>\$12,300</b>
<b>Total</b>	<b>\$30,000</b>