

**Project Status Letter PSL Number:** PSL\_13

**Covering period:** 04/29-05/05

**Prepared by:** Rachel Szteinberg and J. Mahati Hari

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## Task Summary from Previous Week / Proposed Changes:

Please note that the second column describes what was able to be fully crossed off the WBS by the time of IPR submission. If there is a change that needs to be made, please notify the project manager. This is referenced with WBS v0.3.

<b>TEAM</b>	<b>PREVIOUS WEEK'S SCHEDULED TASKS [AS PER SCHEDULE]</b>	<b>TASKS COMPLETED</b>	<b>FURTHER INVESTIGATION</b>	<b>PROPOSED CHANGES</b>
VSCADA	VSC.4.4 [User Manual Delivered] VSC.4.5 [Final Report Delivered] VSC.4.6 [Final Presentation Delivered] VSC.4.7 [ICD Document Delivered]	VSC 2.1 [Maintenance view demonstrated] VSC 2.2 [Drive View demonstrated] VSC 2.3 [Charging view demonstrated] VSC 2.4 [Sleep/Shutdown view demonstrated] VSC 3.1 [Code to interface with subsystems] VSC.3.2 [Compiled data from individual subsystems] VSC 3.3 [Config UI delivered] VSC 4.4 [User Manual delivered] VSC 4.6 [Final Presentation delivered]	-tasks of PI in car / desktop set up with SCADA are not listed on WBS, will be included in errata	Add "Deployed" deliverable

		VSC 4.7 [ICD Document delivered]		
Cell App	CELL.7.4 [User Manual Delivered] CELL.7.5 [Maintenance Manual delivered] CELL.7.6 [Final Report/Poster delivered] CELL.7.7 [Final Presentation Delivered] CELL.7.8 [ICD Delivered]	CELL.7.4 [User Manual Delivered] CELL.7.8 [ICD delivered]  _____ _____ Not mentioned but completed CELL.7.7 [Final presentation delivered]	CELL.7.5 [Maintenance Manual delivered] was written on IPR - not on website	None
DYNO	DYNO.5.3 [User Manual Delivered] DYNO.5.4 [Maintenance Manual Delivered] DYNO.5.5 [Final Report Delivered] DYNO.5.6 [Final Presentation delivered] DYNO.5.7 [ICD Document delivered]	DYNO.5.6 [Final presentation delivered] DYNO.5.7 [ICD document delivered]	DYNO.5.5 [Final Report Delivered]	None
TSV	TSV.6.3 [User Manual Delivered] TSV.6.4 [Maintenance Manual Delivered] TSV.6.5 [Final Report/Poster Delivered] TSV.6.6 [Final Presentation Delivered] TSV.6.8 [ICD Delivered]	TSV.6.4 [Maintenance manual delivered] TSV.6.6 [Final presentation delivered] TSV.3.3 [Testing of Integrated AMS with load]	TSV.6.3 [User Manual delivered] - previously marked as complete TSV.6.8 [ICD Document delivered] - previously marked as complete	None

TSI	<p>TSI.7.4 [Maintenance manual delivered]          TSI.7.5 [final report delivered]          TSI.7.6 [final presentation delivered]          TSI.7.9 [ICD document delivered]</p>	<p>TSI.1.4: [PCB Components Debugged [Drive Critical Components]]          TSI.1.5: [PCB Integration Approved [Drive Critical Components]]          TSI.3.2: [Source Code Commented]          TSI.4.3: [Circuit Boards Mounted]          TSI.7.3: [User Manual Delivered]          TSI.7.4: [Maintenance Manual Delivered]          TSI.7.6: [Final Presentation Delivered]          TSI.7.9: [ICD Document Delivered]          CAR.2.1: [Implemented Fully Functional TSI [Drive Critical Components]]          CAR.2.2: [Tested TSI]          CAR.2.3: [Recalibrated Throttle to Work with Physical Pedals]          CAR.2.4: [Mounted Box in Car]</p>	None	<p>Change TSI.1.4 to include the Drive Critical Components distinction.</p> <p>Change TSI.3.2 to Source Code Commented.</p> <p>Remove TSI.5.5. For the latter part of the semester we focused on Drive Critical components, which this was not a part of.</p> <p>Change CAR.2.1 to include the Drive Critical Components distinction.</p>
Cooling	<p>COOL.7.3 [User Manual Delivered]          COOL.7.4 [Maintenance Manual delivered]</p>	No data	No data	No data

	<p>COOL.7.5 [Final Report delivered]</p> <p>COOL.7.6 [Final Presentation delivered]</p> <p>COOL.7.7 [ATR delivered]</p> <p>COOL.7.9 [ICD Document delivered]</p> <p>COOL.8.1 [Demonstrated Written Code]</p>			
Systems Engineering	<p>M.3.1[Individual subsystems' manual delivered]</p> <p>M.3.2[overall system's manual delivered]</p> <p>M.4.1[final report delivered]</p> <p>M.4.2 [maintenance manual delivered]</p> <p>M.4.3[ICD delivered]</p> <p>M.5.6 [ATR delivered]</p> <p>M.6.1 [fully integrated/tested]</p> <p>M.6.2 [Presentation Delivered]</p> <p>M.6.3 [posters delivered]</p> <p>M.7.1 [major subsystems documented]</p> <p>M.7.3[overall poster created]</p>	<p>M.5.4 [Photograph evidence annotated]</p> <p>M.6.2 [Presentation Delivered]</p>	<p>M.5.5 [Subsystem integration tests executed]</p>	<p>Add "Create proposed changes/tasks for 2018"</p>
GLV	<p>GLV.6.3[User manual delivered]</p> <p>GLV.6.4 [maintenance manual delivered]</p> <p>GLV.6.5[Final poster/report delivered]</p> <p>GLV.6.6 [final presentation delivered]</p>	<p>GLV.3.8 [VSCADA Buttons Delivered]</p> <p>GLV.6.3 [User Manual Delivered]</p> <p>GLV.6.4 [Maintenance Manual Delivered]</p> <p>GLV 6.6 [Final Presentation Delivered]</p>	<p>GLV.3.7 [HDMI Screen Delivered] - Not sure if this means on the car or just functioning</p>	<p>None</p>

	GLV.6.8 [ICD document delivered]	GLV 6.8 [ICD Document Delivered]		
Interconnect	IC.4.2 [ICD document delivered] IC.4.4 [User manual delivered] IC.4.5 [final report delivered] IC.4.6 [final presentation delivered]	IC.4.2 [Interface control document] IC.4.4 [User Manual Delivered] IC.4.6 [Final presentation Delivered]	IC.4.5 [Final Report Delivered]	None
Car Physics Investigation	PHYS.5.1[theoretical research documented] PHYS.5.2[algorithm research documented]	PHYS.5.1[Theoretical research documented] PHYS.5.2 [Algorithm research documented] CC.2.1 [Efficiency memo Delivered]	None	None
JGB	None Scheduled – Need to add presentation	No data	No data	No data
MGMT	M.3.1[Individual subsystems' manual delivered] M.3.2[overall system's manual delivered] M.4.1[final report delivered] M.4.2 [maintenance manual delivered] M.4.3[ICD delivered] M.5.6 [ATR delivered] M.6.1 [Fully Integrated / Tested LFEV Delivered – Metzgar] M.6.2 [Presentation Delivered] M.6.3 [posters delivered]	M.6.2 [Presentation Delivered] M.6.4 [fully updated website with all subsystems' documentation] M.7.1 [major subsystems documented] M.11.1[finalized BOMs delivered] M.11.2[cumulative purchase request tables delivered] M.11.3[summary tables by subsystem/week] M.11.4[statistical analysis of purchases delivered]	None	M.3.2 [overall system's manual delivered] – remove from WBS M.4.2 [maintenance manual delivered] – remove from WBS M.4.3[ICD delivered] – remove from WBS M.5.4 [Photograph evidence annotated] – redefine M.5.5 [Subsystem integration tests executed] – no formal ATP M.6.1 [Fully Integrated / Tested LFEV Delivered – Metzgar] – We were able to

	<p>M.6.4[fully updated website with all subsystems' documentation]  M.7.1 [major subsystems documented]  M.7.2[poster linked on website]  M.7.3[overall poster created]  M.10.1[proposal for furthering project]  M.10.2[instructional videos delivered]  M.10.3[contacted college communications division ]  M.11.1[finalized BOMs delivered]  M.11.2[cumulative purchase request tables delivered]  M.11.3[summary tables by subsystem/week]  M.11.4[statistical analysis of purchases delivered]</p>			<p>deliver the car, but have not yet performed the Metzgar test  M.6.3 [Posters Delivered] – Due this Wednesday  M.7.2 [Poster linked on website] – overall poster not in the scope anymore, remove from WBS  M.7.3[overall poster created] – remove from WBS</p>
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**Plan for next week:**

<b>TEAM</b>	<b>NEXT WEEK'S TASKS [AS PER SCHEDULE]</b>	<b>TASKS TO BE COMPLETED [PROPOSED ON IPR]</b>
VSCADA	No tasks scheduled	VSC 4.5 [Poster delivered]
Cell App	No tasks scheduled	None
DYNO	No tasks scheduled	Car Integration
TSV	No tasks scheduled	Car Integration
TSI	No tasks scheduled	TSI.1.4: [Final Poster Delivered]
Cooling	No tasks scheduled	No data
Systems Engineering	No tasks scheduled	None
GLV	No tasks scheduled	GLV.6.5[ Poster Delivered]
Interconnect	No tasks scheduled	Car Integration
Car Physics Investigation	No tasks scheduled	Poster Presentation
JGB	No tasks scheduled	No data
MGMT	No tasks scheduled	Errata

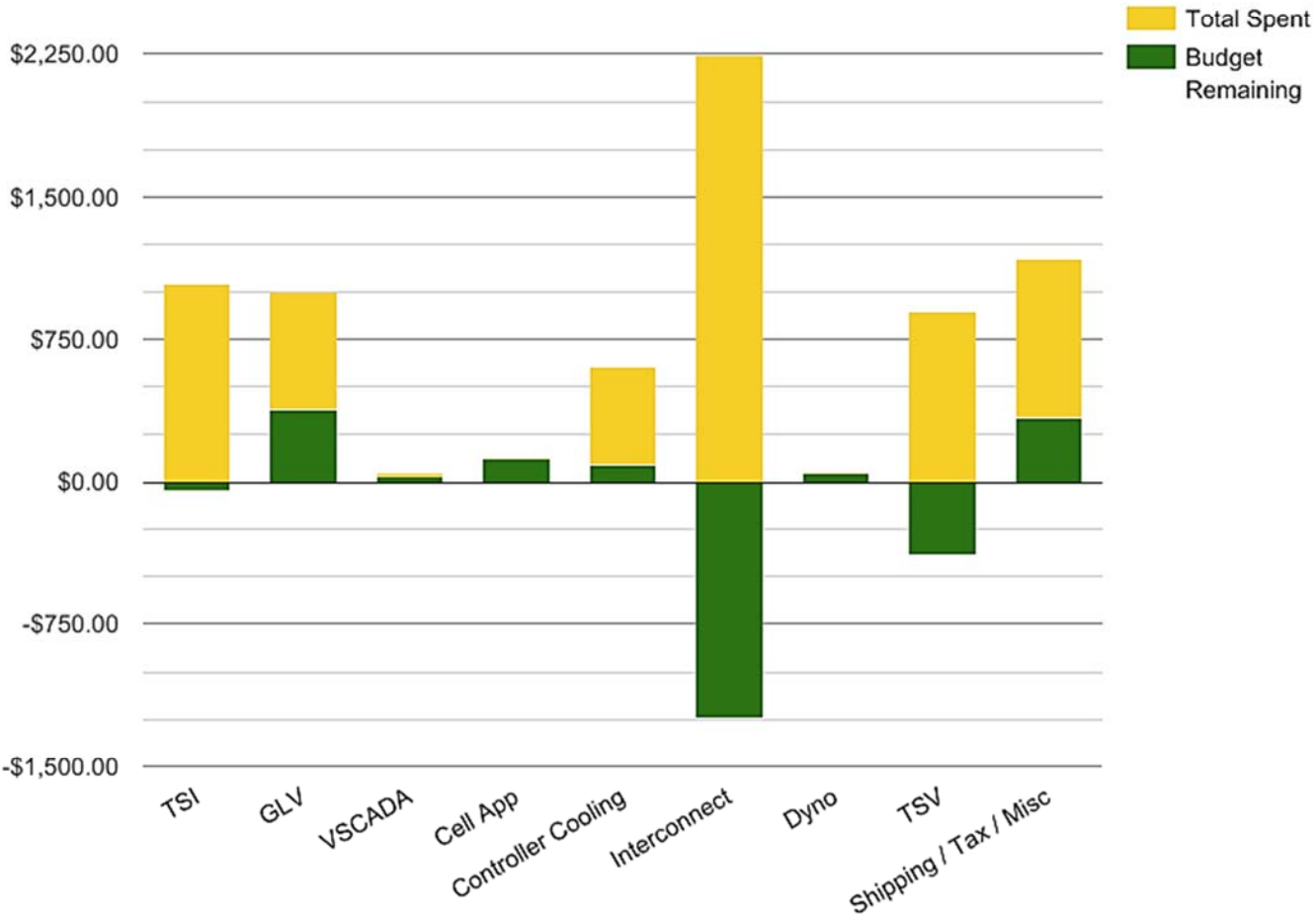
## Cost Summary:

Subsystem	Spent this period	Spent to date	Budget Allocated	Budget Remaining	Percentage Spent
TSI	\$0.00	\$1,041.67	\$1,000	-\$41.67	104.17%
GLV	\$0.00	\$620.90	\$1,000	\$379.10	62.09%
VSCADA	\$0.00	\$21.99	\$50	\$28.01	43.98%
Cell App	\$0.00	\$0.00	\$125	\$125.00	0.00%
Controller Cooling System	\$0.00	\$511.69	\$600	\$88.31	85.28%
Interconnect / Cabling / ICD	\$85.75	\$2,241.52	\$1,000	-\$1,241.52	224.15%
Dyno	\$0.00	\$0.00	\$50	\$50.00	0.00%
TSV	\$16.98	\$890.43	\$500	-\$390.43	178.09%
Physics & Cruise Control	\$0.00	\$0	\$0	-	-
JGB	\$0.00	\$0	\$0	-	-
Shipping / Tax / Miscellaneous	\$67.38	\$834.55	\$1,175	\$340.45	71.03%
<b>Total</b>	<b>\$170.11</b>	<b>\$6,162.75</b>	<b>\$5,500</b>	<b>-\$662.75</b>	<b>112.05%</b>

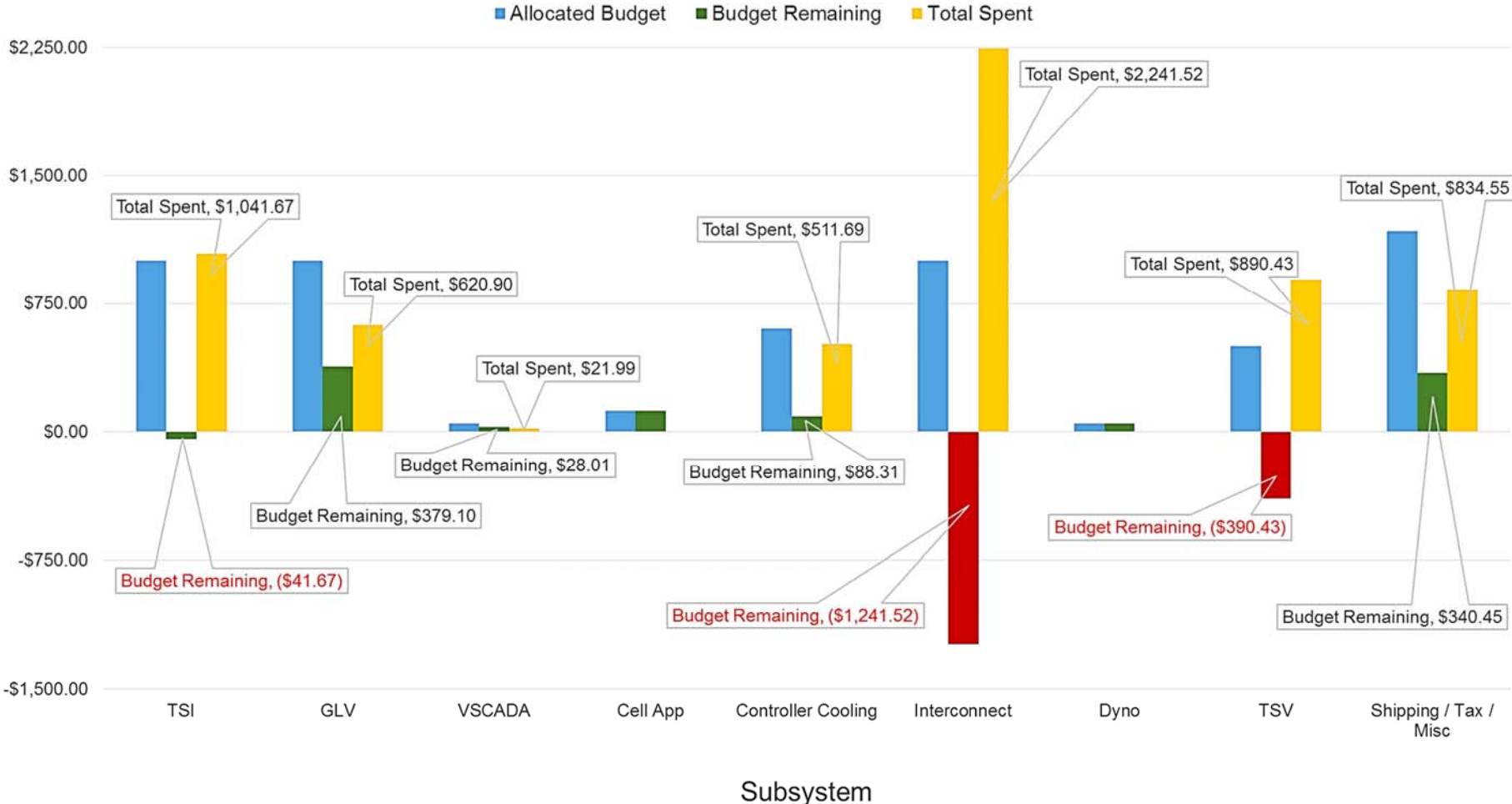
This is the budget through week 15 and does not include purchases that will be made week 16 (finals week). We anticipate to be spending around 115% of our budgeted allocation. This overage is due to costly unknown costs, such as need special cables for completion, breaking or losing expensive hardware, and the several posters printed for the WBS / System Diagram / Poster Session. When we initially planned our budget we allocated \$1,175 to prepare for such “unknown unknowns” and shipping, but having unknown costs that are \$300 cables / \$50+ expedited shipping / almost 15 \$10 posters quickly ran through this allocation.



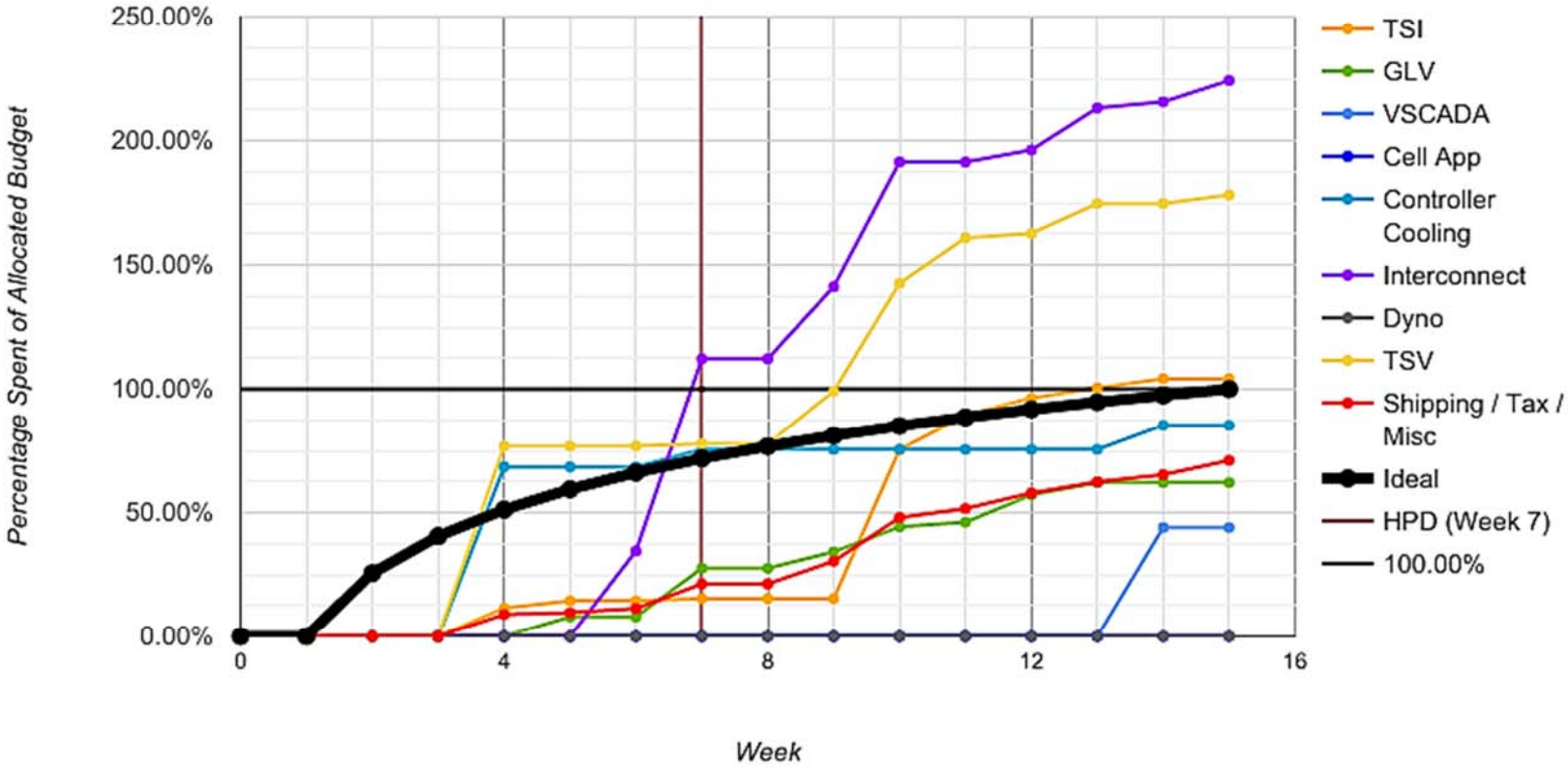
# Subsystem Budget Spending



# Budget Spending

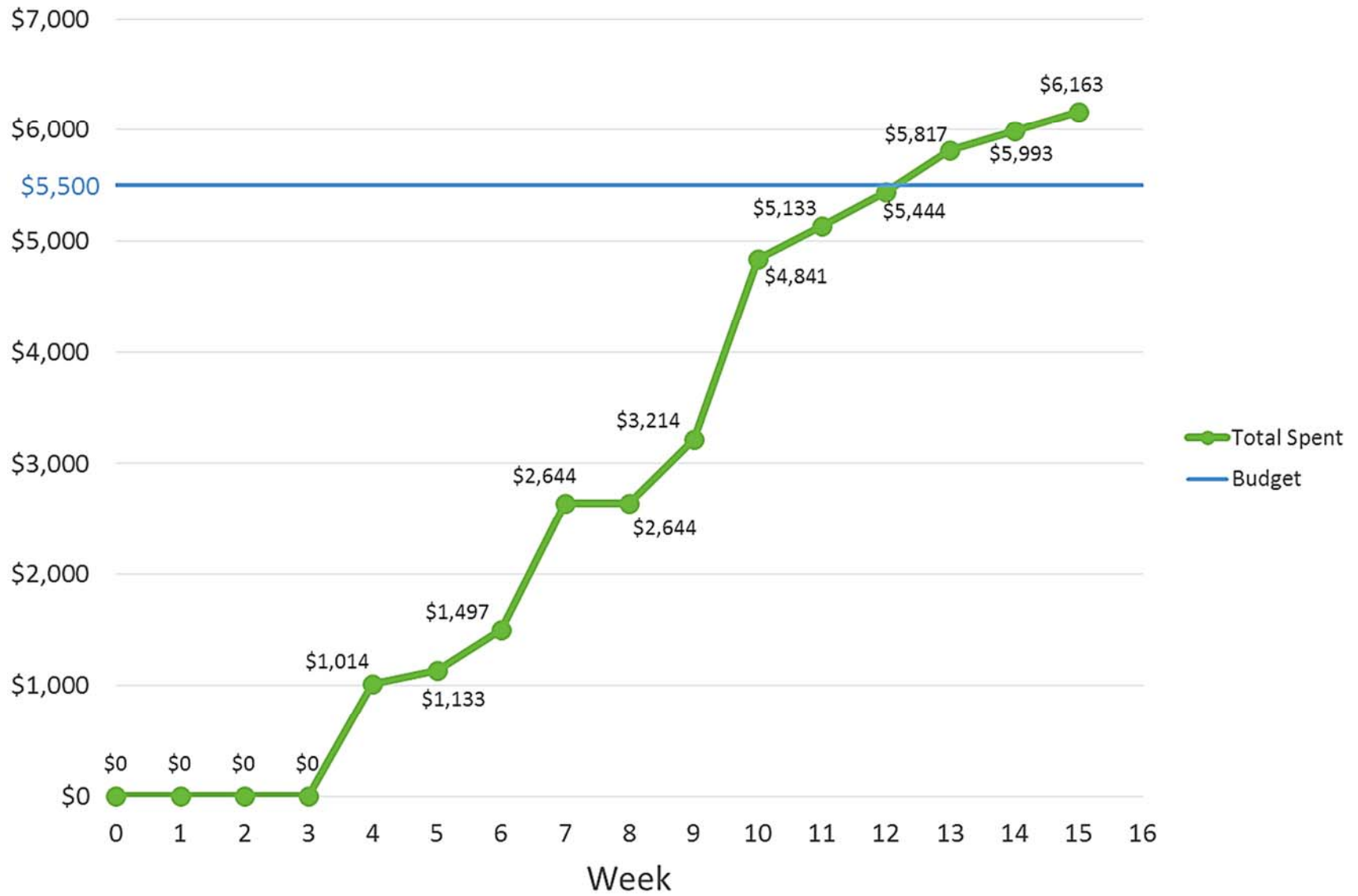


### Percentage Spent of Subsystem Budget Allocations

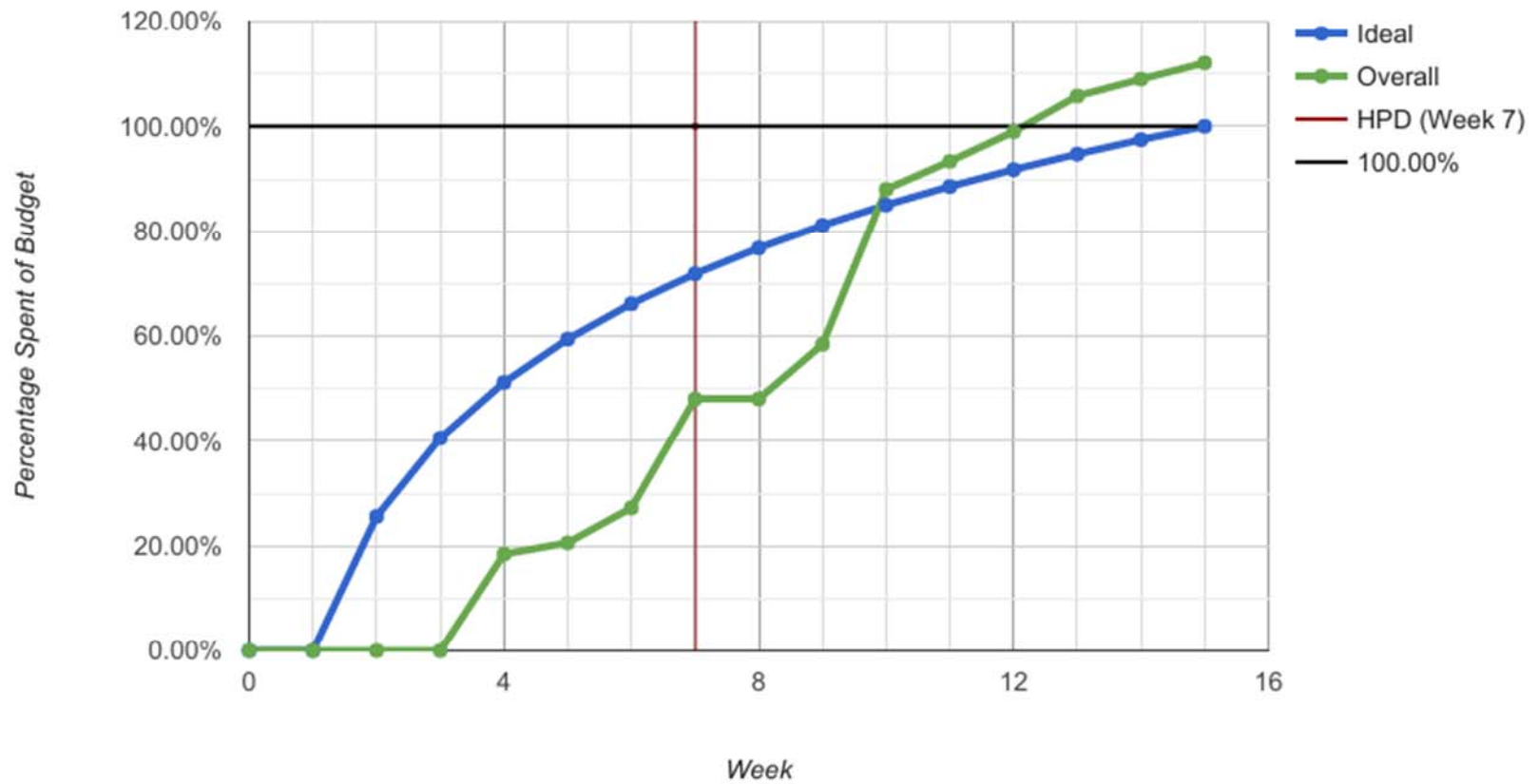


**Ideally Spent per Subsystem (by Week 15): 100%**

# Total Spent



## Percentage Spent of Total Budget



**Ideally Spent Overall (by Week 15): 100%**

## Receiving Report:

The following items were all received during this period:

Purchase Order #54\*\* – VSCADA/Cooling – Amazon – microSD, Arduino, CAN-BUS Shield (Appendix I)

Purchase Order #57 – IC\* – Mouser – 35-pin connectors (Appendix III)

\*IC stands for Interconnect/Cabling/ICD

\*\*Only 1 out of 3 items of Purchase Order #54 was outstanding / received during this period

Req #	Team	Vendor	Vendor PN	Qty	Item Description	Ordered Date	Received Date
54	Cooling	Amazon		1	Sparkfun CAN-BUS Shield for Arduino and compatibles	24-Apr-17	1-May-17
57	IC	Mouser	571-776164-1	3	Automotive Connectors PLG 35 POS F/H BLK	4-May-17	5-May-17
57	IC	Mouser	571-DT06-12SA	5	Automotive Connectors SZ 16 DT 12 WAY PLUG RoHS Compliant	4-May-17	5-May-17
57	IC	Mouser	571-7708541	250	Automotive Connectors RECEPT CONTACT LOOSE	4-May-17	5-May-17

## Purchase Requests:

The following items were ordered during this period:

Purchase Order #56 – TSV – StickerYou – DIN Rail terminal blocks and jumpers (Appendix II)

Purchase Order #57 – IC\* – Mouser – 35-pin connectors (Appendix III)

\*IC stands for Interconnect/Cabling/ICD

Req #	Team	Vendor	Vendor PN	Quantity	Item Description	Ordered Date
56	TSV	StickerYou		2 pages (8 stickers)	Vinyl rectangular sticker, 6" x 2.25", Removable white vinyl (glossy), pages of stickers	1-May-17
57	IC	Mouser	571-776164-1	3	Automotive Connectors PLG 35 POS F/H BLK	4-May-17
57	IC	Mouser	571-DT06-12SA	5	Automotive Connectors SZ 16 DT 12 WAY PLUG RoHS Compliant	4-May-17
57	IC	Mouser	571-7708541	250	Automotive Connectors RECEPT CONTACT LOOSE	4-May-17

## Outstanding Orders:

The following items have been ordered but have not yet been received:

Purchase Order #56 – TSV – StickerYou – DIN Rail terminal blocks and jumpers (Appendix II)

<b>Purchase Request #</b>	<b>Team</b>	<b>Vendor</b>	<b>Quantity</b>	<b>Item Description</b>	<b>Ordered Date</b>
56	TSV	StickerYou	2 pages (8 stickers)	Vinyl rectangular sticker, 6" x 2.25", Removable white vinyl (glossy), pages of stickers	1-May-17



# APPENDIX I

## ECE Department Material Request

**Course:** ECE 492  
**Professor:** Nadovich/Schmult

**Req Number:** 54

**Requested By:** VSCADA & Cooling  
**Requested Date:** 24-Apr-17  
**Ship By:** Prime 2-Day

**Vendor:** Amazon  
**Web Site:** [www.amazon.com](http://www.amazon.com)  
**Phone:** 1-888-280-4331

#	Team	Vendor PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	VSCADA	B010Q588D4	SanDisk Ultra 64GB microSDXC UHS-I Card with Adapter, Grey/Red, Standard Packaging (SDSQUNC-064G-GN6MA)	1	\$21.99	\$21.99	26-Apr-17
2	Cooling		Arduino Uno R3 Microcontroller A000066	1	\$18.82	\$18.82	26-Apr-17
3	Cooling		Sparkfun CAN-BUS Shield for Arduino and compatibles	1	\$39.95	\$39.95	1-May-17

Subtotal:	\$80.76
Shipping / Tax:	\$2.64
Grand Total:	\$83.40

# APPENDIX II

## ECE Department Material Request

**Course:** ECE 492  
**Professor:** Nadovich/Schmult

**Req Number:** 56

**Requested By:** TSV  
**Requested Date:** 1-May-17  
**Ship By:** Expedited

**Vendor:** StickerYou  
**Web Site:** [www.stickeryou.com](http://www.stickeryou.com)  
**Phone:** (877) 437-8825

#	Description	Quantity	Unit Price	Total Price	Rcvd
1	Vinyl rectangular sticker, 6" x 2.25", Removable white vinyl (glossy), pages of stickers	2 pages (8 stickers)	\$2.1225 per sticker	\$16.98	

Subtotal:	\$16.98
Shipping Fees:	\$14.99
Coupon Discount:	\$1.70
Grand Total:	\$30.27

Instructor Approval: \_\_\_\_\_

# APPENDIX III

## ECE Department Material Request

**Course:** ECE 492  
**Professor:** Nadovich/Schmult

**Req Number:** 57

**Requested By:** Cabling (Jeremy)  
**Requested Date:** 4-May-17  
**Ship By:** Overnight

**Vendor:** Mouser  
**Web Site:** <http://www.mouser.com/>  
**Phone:** 800-346-6873

#	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	571-776164-1	776164-1	Automotive Connectors PLG 35 POS F/H BLK	3	\$10.70	\$32.10	5-May-17
2	571-DT06-12SA	DT06-12SA	Automotive Connectors SZ 16 DT 12 WAY PLUG RoHS Compliant	5	\$5.080	\$25.40	5-May-17
3	571-7708541	770854-1	Automotive Connectors RECEPT CONTACT LOOSE	250	\$0.11	\$28.25	5-May-17

Subtotal:	\$85.75
Shipping Fees:	\$54.09
Grand Total:	\$139.84