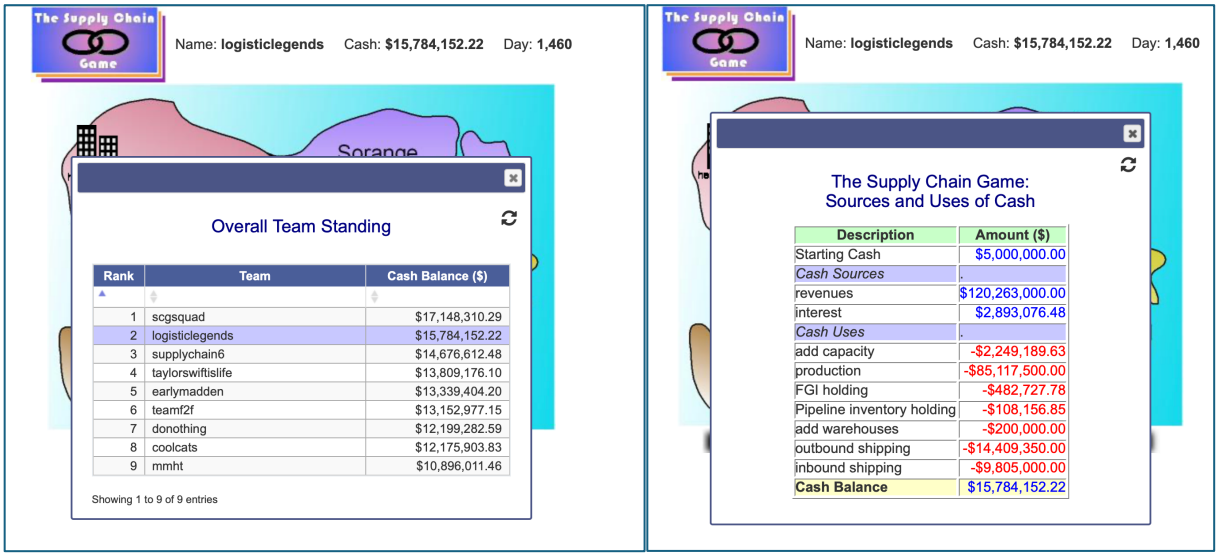
Team Name: logisticlegends **Prof. Ana Muriel**

Supply Chain Game Second Report

Our Team name Logistic Legends came 2nd in class with the below Summary:



At the end of the first part of the game, **Day 730**, we had the following available data, which was essential to trigger a strategy for the second and final phase:

- Cash Balance: $6,797,000
- Calopeia's Warehouse Inventory: 2,528 drums
- Calopeia's Production Capacity: 70 drums/Day

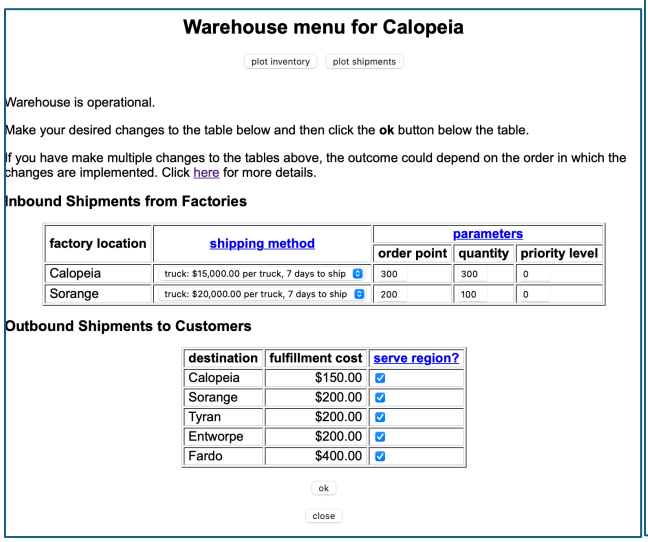
In this second stage, we had 4 different regions with road connections (Calopeia, Sorange, Entworpe, Tyran) and a fifth region in an island (Fardo). The demand, in each one, had its own behavior, therefore, the strategy of how many and where to build factories and warehouses was carefully delineated, considering a positive NPV.

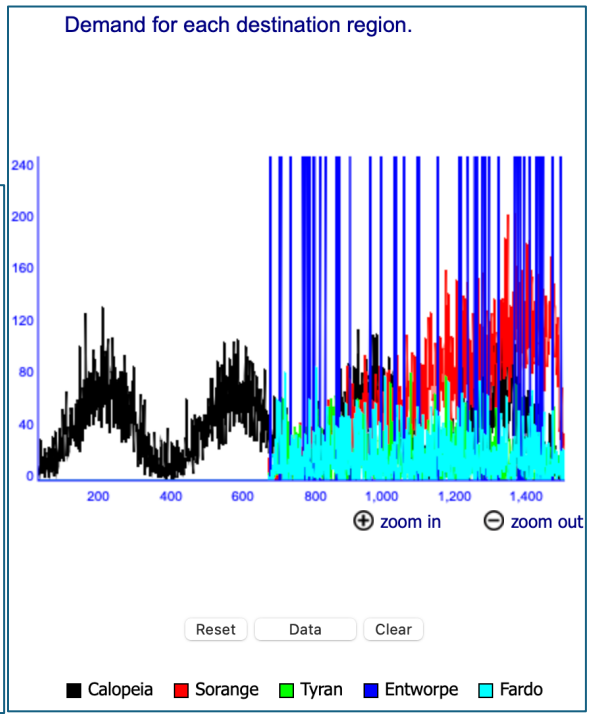
From the key take aways which we have mentioned in Supply Chain Game First Report We focused mainly on the 5 points, and we went into the market keeping these in mind:

1. **Market Selection:** Focus on markets with high demand potential and profitability. Analyzed market trends to identify opportunities based on the demand.
2. **Production Efficiency:** Optimized factory capacity utilization and batch sizes to minimize production costs per unit.
3. **Cost-Effective Transportation:** We chose cost-effective transportation modes based on distance, order volume, and urgency.
4. **Inventory Management:** Maintained inventory levels at warehouse. Implemented effective reorder point and order quantity strategies.
5. **Strategic Expansion:** Expanded operations by investing in new factories and warehouses in high-demand regions.

Looking at the demand of each of the regions the weighted avg demand (based on past 100 Days) looks like below on Day 749 for initial demand reference. (we have calculated the below table)

Every Day	Calopeia	Sorange	Tyran	Entworpe	Fardo
Weighted Avg	28.6	25	12.4	10.0	20.2





We could see that Sorange and Calopeia had good demand and hence we started focusing on those two specific areas to cover up the lost demand.

We started mail shipping for Fardo since there was a variable demand surge which we were not able to fill in time and it was fulfilled from Calopeia. We set order point from Calopeia factory to Entworpe warehouse to 250 since there was a fixed order of 250 at a fixed interval. We increased the factory capacity for the Calopeia and accordingly changed the reorder point and order quantity. Build both a factory and a warehouse in Calopeia with a capacity of 75 drums/Day to meet increasing demand from the region and reduce shipping lead times.

Increased factory capacity in Sorange by 10 drums per Day on Day 807 and added a warehouse on Day 870. Increased Calopeia factory capacity from 75 to 80 drums per Day-on-Day 1001. Scheduled a capacity change in Sorange from 25 to 10 drums per Day-on-Day 1023.

We set the order point from Sorange factory to Calopeia warehouse to 0 on Day 908. Set order point from Sorange factory to Sorange warehouse to 1,000 on Day 903. After looking at the over whelming response from Sorange we allowed demand fulfillment from Sorange factory to Calopeia warehouse on Day 998.

As the demand kept increasing, we kept on increasing the order quantity and lowered the Order point looking at the demand graph.

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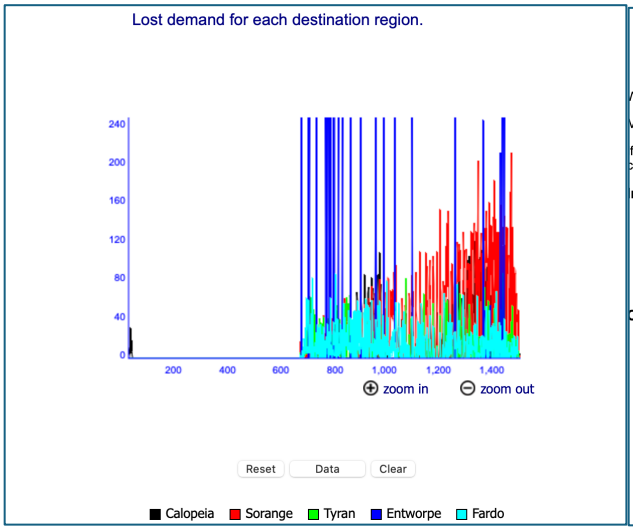
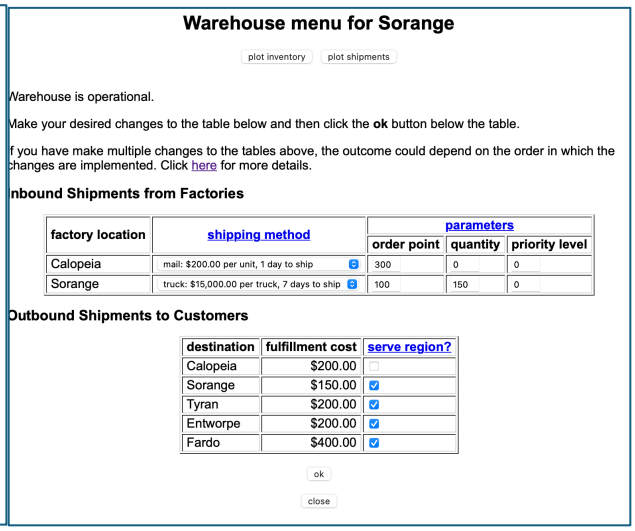
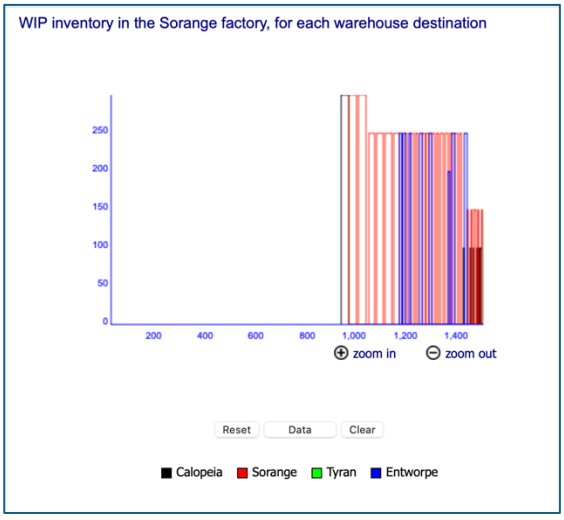
Now After Day 1000 We started to focus on the Entworpe region with sudden spikes. That can be seen in the graph of being fulfilled through our interventions. We Scheduled a warehouse in Entworpe. Shipped from Sorange factory to Entworpe warehouse. Order quantity: Sorange factory to Entworpe warehouse to 250 & Order point: Sorange factory to Entworpe warehouse to 250.

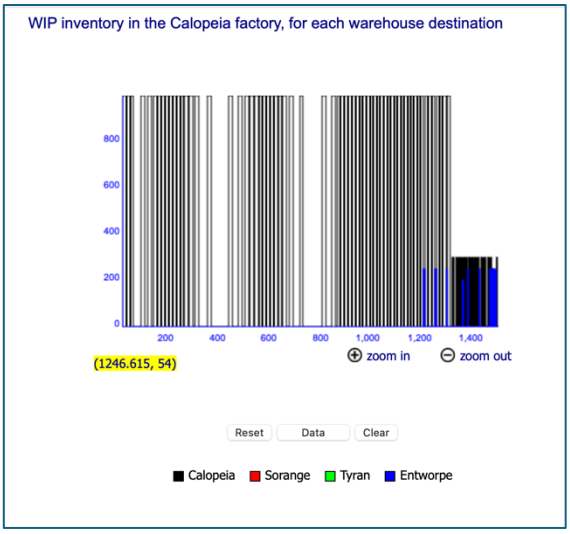




Once that was done, we increased the capacity to 80drums/Day for the Calopeia factory and 25 for Sorange factory on Day 1023.
Allowed demand fulfillment from Fardo to Calopeia warehouse on Day 1040. Blocked demand fulfillment from Calopeia to Entworpe warehouse on Day 1132. Allowed demand fulfillment from Calopeia to Sorange warehouse on Day 1204.

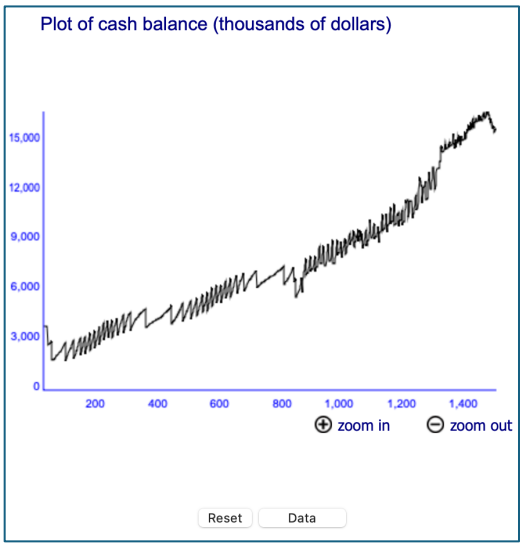
We allowed the shipping to Fardo through mail since there were demand spikes from this location. Once we got to know that all the optimal changes had got in, we kept it stable and made very minor adjustments to the order point and the order quantity. Finally, we set order quantity from Calopeia factory to Calopeia warehouse to 300 on Day 1269 and order quantity from Sorange factory to Sorange warehouse to 150 on Day 1373. Towards the end we reduced production from both the factory and order point in the warehouse of all the 3 locations.

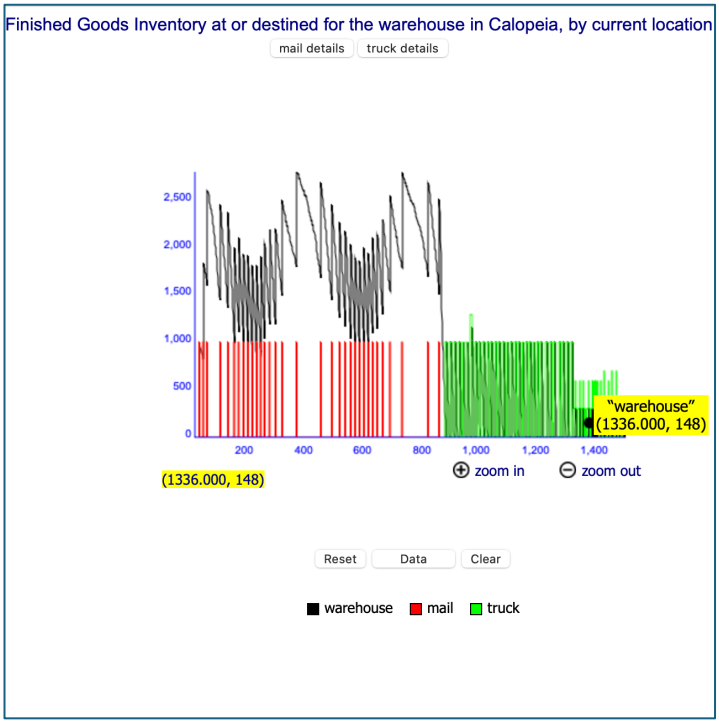




After the Day 1420, the whole strategy was to end the stock that existed in the various warehouses, and we activate shipments from the central warehouses.
Day 1432, order point and order quantity reduced to 10 at Fardo Plant. We set shipment method to mail to Fardo's warehouse. The goal was to deplete the entire inventory and then meet demand by shipping small batches of 10 drums each to the warehouse via mail.

Notable changes include setting the order quantity for Sorange-Sorange shipments to 150 barrels, optimizing the order point for Calopeia-Calopeia orders to 300 barrels, and fine-tuning the logistics to align with demand patterns and production capabilities. These strategic moves reflect a proactive approach to managing the supply chain, ensuring efficient operations, and maximizing cash position as the simulation approaches its conclusion on Day 1460.





Conclusion:
A comprehensive analysis of Jacobs Industries' Supply Chain Game 2 shows a number of strategic choices and modifications taken during the simulation, motivated by an accurate assessment of demand trends, manufacturing capabilities, margins, cash flow, and inventory levels in various geographical areas. Increasing Calopeia's production capacity, setting up facilities at Sorange, Entworpe, Tyran, and Fardo, and adjusting order points and quantities to maximize output and reduce lost demand were among the first suggestions made.

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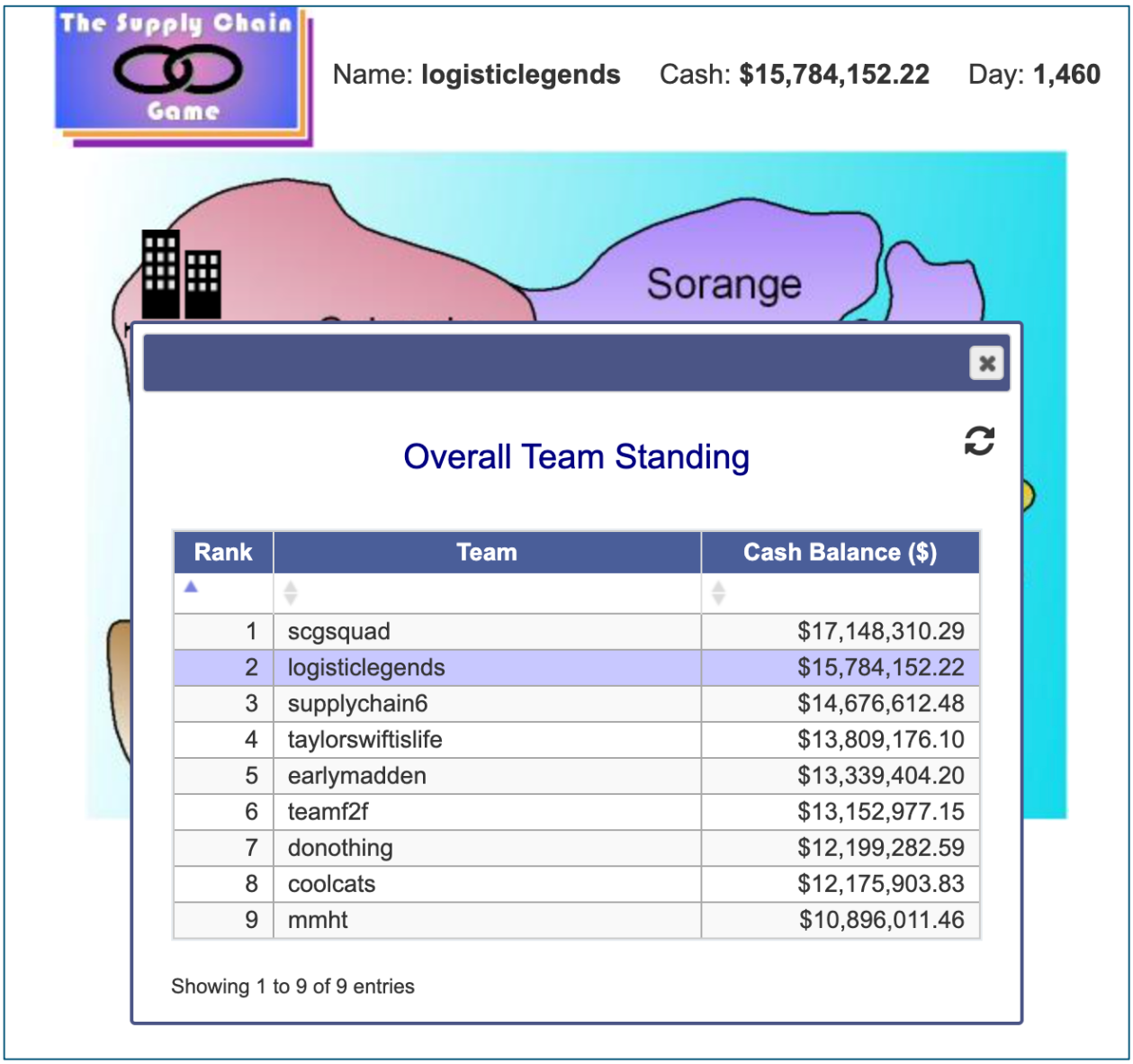
Final Overall Team Standing:



Rank	Team	Cash Balance ($)
1	scgsquad	$17,148,310.29
2	logisticlegends	$15,784,152.22
3	supplychain6	$14,676,612.48
4	taylorswiftislife	$13,809,176.10
5	earlymadden	$13,339,404.20
6	teamf2f	$13,152,977.15
7	donothing	$12,199,282.59
8	coolcats	$12,175,903.83
9	mmht	$10,896,011.46

Showing 1 to 9 of 9 entries