

About Applied Fabricators

Applied Fabricators is a sheet metal fabrication shop near Indianapolis with applications in cold storage, roofing, glass/glazing, and building exteriors. Since their founding in 1984, they have prided themselves on quick, personal and premium customer service.

Problem Statement

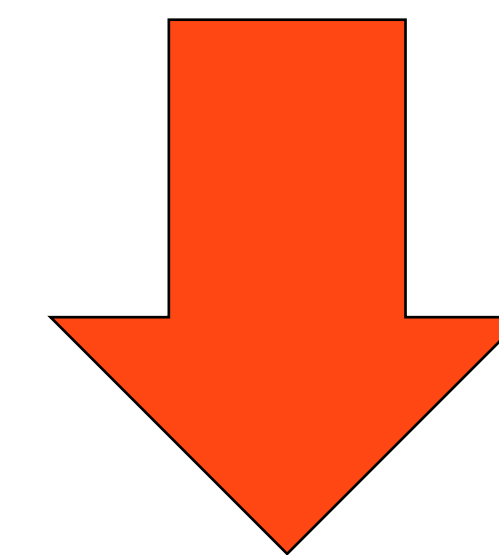
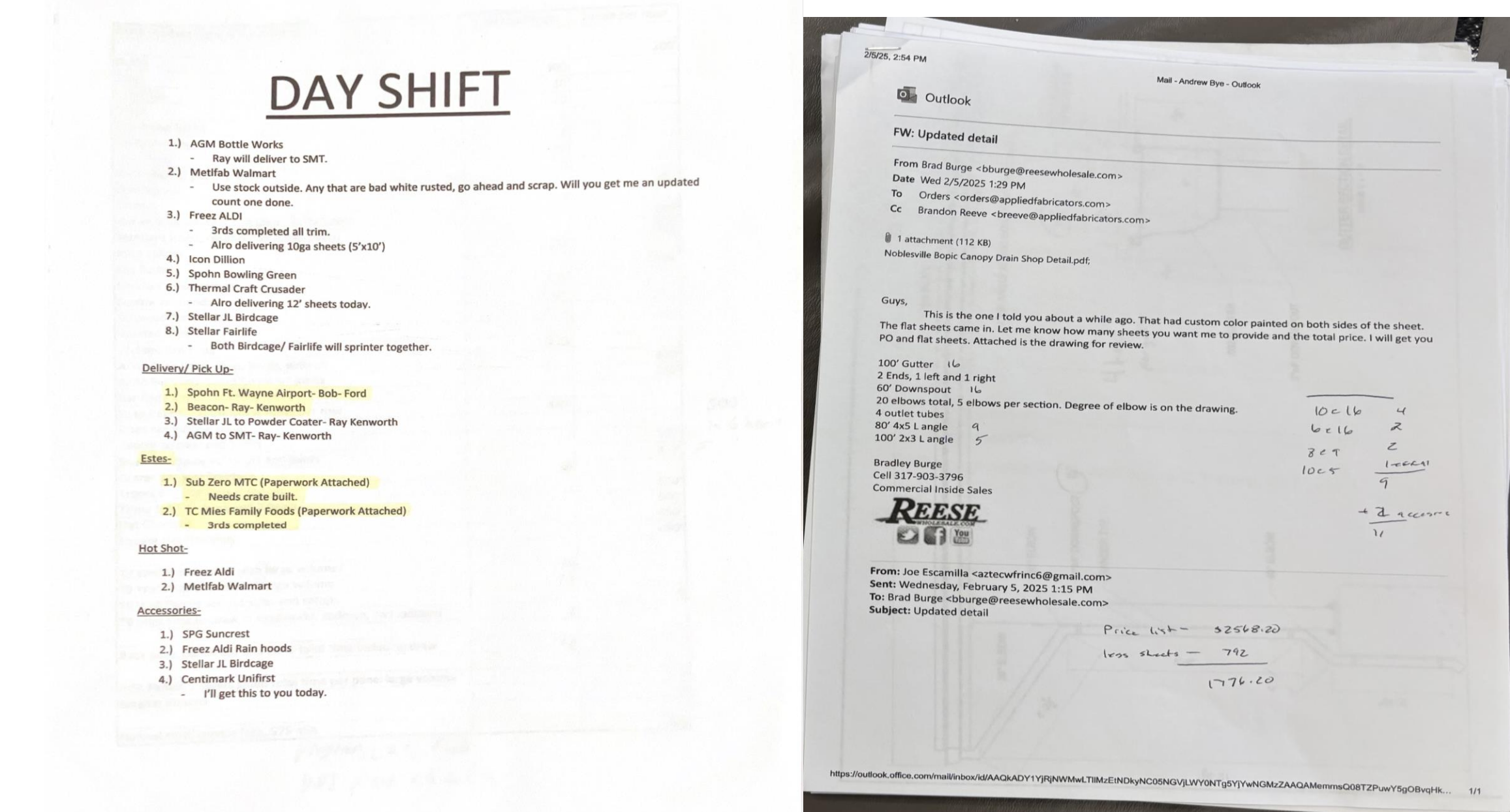
AFAB does not have an established digital scheduling system for their sheet metal manufacturing. They currently rely on a manual, paper-based system managed by a single individual with no set process. Current employees are not able to visualize the schedule or plant capacity. AFAB lacks a digital scheduling system to track and optimize machine and personnel usage to increase overall capacity visibility while maintaining the rapid response time they value.

Estimated Production Times*

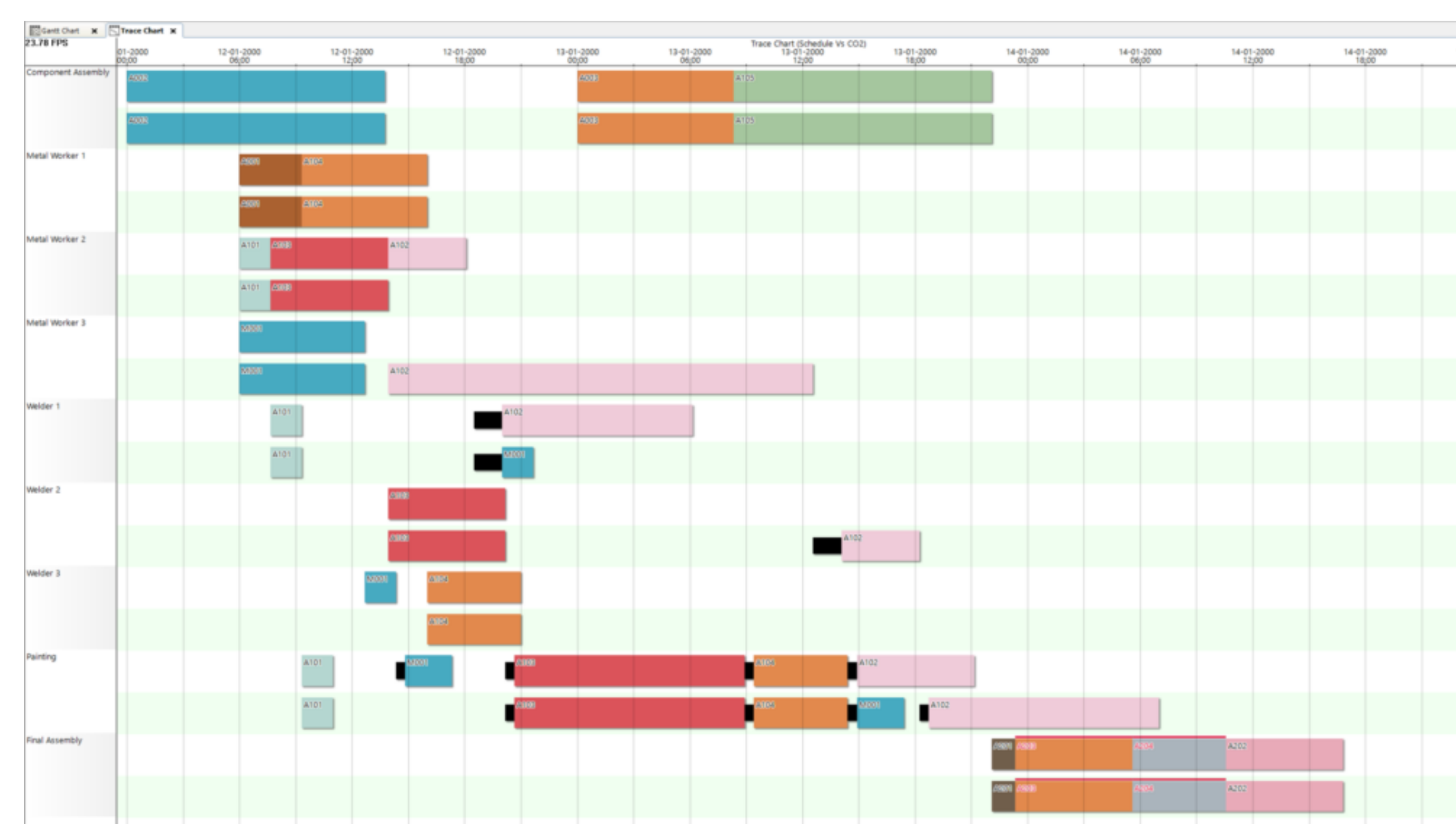
Operation Type	Machine	Bends/ Cuts per minute
Shear	10' Cidan Rapido	1.02
	12' Cidan Rapido	1.53
Brake	Roper	0.55
	Thalman	2.20
Packaging	22.75 minutes/project	

*Based on initial data collection trial

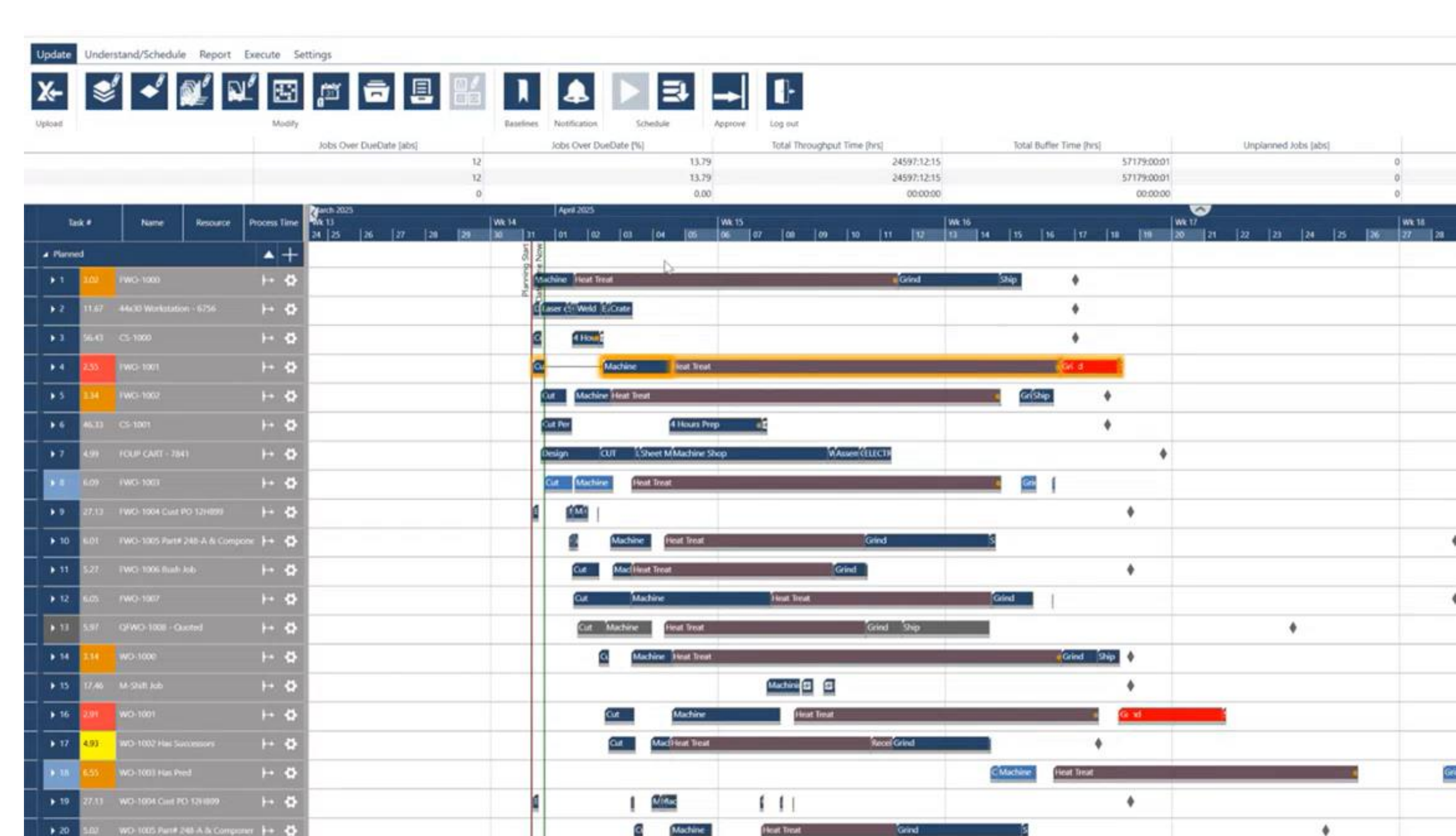
Current Scheduling (Paper-Based)



Future Scheduling Option (OpCenter)



Future Scheduling Option (just plan it)



Scheduling Program Decision Matrix

	Self-coded Program	Machine Metrics	Just-Plan-It	OpCenter*	Weight
Cost	10	5	8	2	4
User-Friendly Interface	2	9	9	7	9
Machine Connection	1	10	1	8	1
Capacity Tracking	6	3	9	10	7
Optimized Scheduling	6	1	7	10	5
Job Shop Compatibility	8	2	9	10	9
Connection between Fabricators and Scheduling System	3	10	9	10	3
Total:	212	185	320	319	

*Note: OpCenter ratings are tentative pending a formal product demo

Approaches

Time Studies and Data Analysis:

- Understand current operational capacity
- Estimate fabrication times on each machine

Option 1:

Self-Coded Program: Excel (VBA), Python, and Power BI

- More Flexibility, Less Usability, less Opportunity for Automation

Option 2:

Existing Scheduling Program: Machine Metrics, Just-Plan-It, or OpCenter

- More User-Friendly, Opportunity for Automation, not Specifically Designed for AFAB

Expected Results + ROI

By having a centralized, streamlined scheduling tool, AFAB can improve communication and coordination between departments, and gain insights into available work capacity. This capacity can be optimized with further data collection and analysis. When leveraged, we expect machine and personnel usage to increase. From our initial data trial, we project that if the available man-hours are leveraged appropriately, AFAB will experience a **1.3x increase** in jobs shipped. There is a substantial amount of potential growth to be captured, and the scheduler provides a roadmap as to how to capture it.