

Project Overview

How can we increase visibility and automation in the project management process?

Visualization

- Current, past, and future resource use
- Track project progress
- Assist with future project scheduling

Automation

- Reduce manual data entry
- Increase ease of use
- Increase data accuracy

Constraints

- 6 mo. for implementation & training
- **Minimize changes** to current processes to reduce changeover and learning curve
- **Remote work** with no remote access to TE internal infrastructure
- **No additional cost**, make use of available tools including Microsoft Excel, Access, Power BI and Teams

Assumptions

- Continue to track same information
- Trust submitted labor hours
- Trust charge code classification
- Depend on Cheryl & Tim for data uploads into Access tables
- Automated allocation of hours within a project, *shown below*.

Function	Phase1	Phase2	Phase3
Designer	60%	10%	30%
Controls	20%	60%	20%
Vision	20%	60%	20%
Mech. Build	0	40%	60%
Elec. Build	0	30%	70%

Performance Criteria

- **Reduce redundant data** entry, manipulation and storage
- **Increase efficiency** of team meetings, through dashboards
- **Consolidate processes** for vacation approval on the Engineering and Manufacturing teams
- Design **intuitive** and **interactive** tools to drive improved decision making

Problem Statement

Initial Goals:

- Automatically update visualizations
- Build flat datatables to contain hours, quotes and capacity information on a weekly basis
- Show intuitive project status
- Interface with existing TE tools & processes
- Document all developments & assumptions

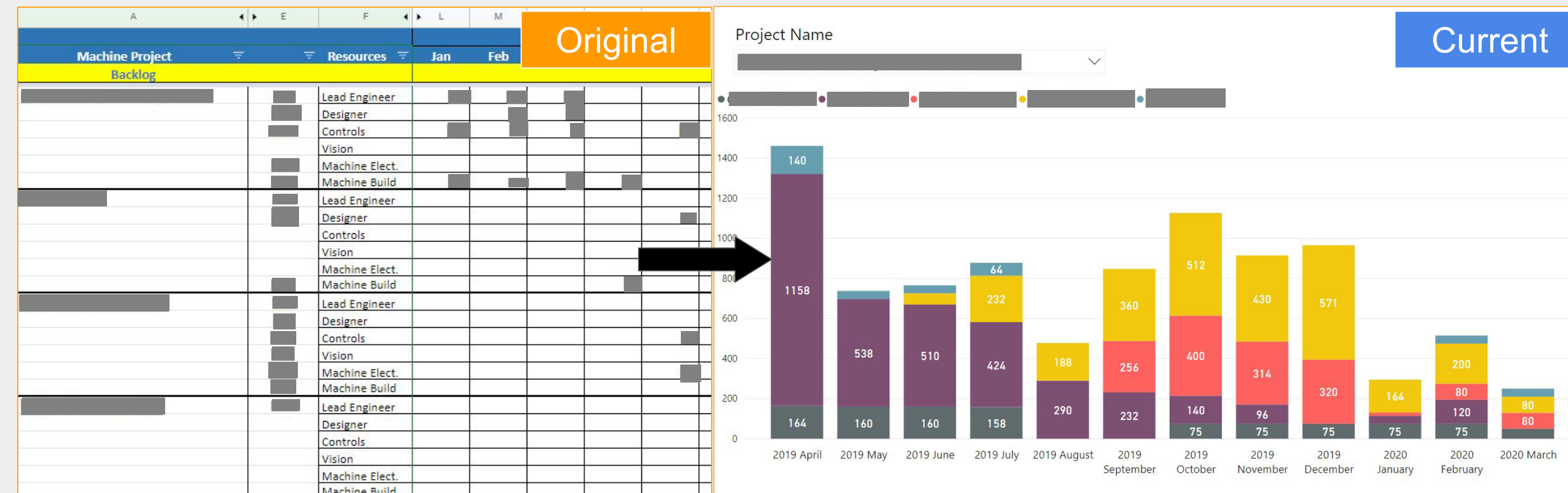
Our focus:

- **Project Forecasting** - Revamping the whole process to enable one time data entry, and quick manipulation based on customer changes
- **Capacity Planning** - Consolidate the vacation process in Engineering and Shop, add contractors
- **Automated Analytics** - Leverage weekly hours timesheets to create reports & tools

Project Forecasting

Forecast Dashboard

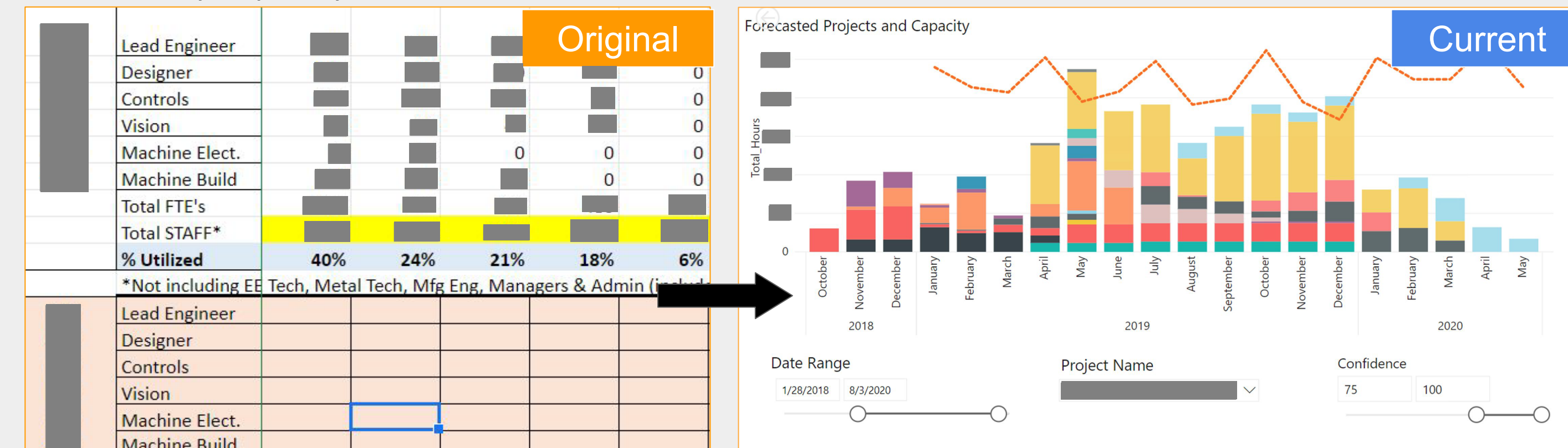
This dashboard enables AMT's manager to visually understand how many project hours have been forecasted for the future. The manager can view generated project schedules in a stacked bar chart of hours per month, color coded by *function or project*. They have the ability to filter by *Date Range, Project Name and Confidence level*. This current Power BI based system is on the right while the original Excel based system is on the left.



Capacity Planning

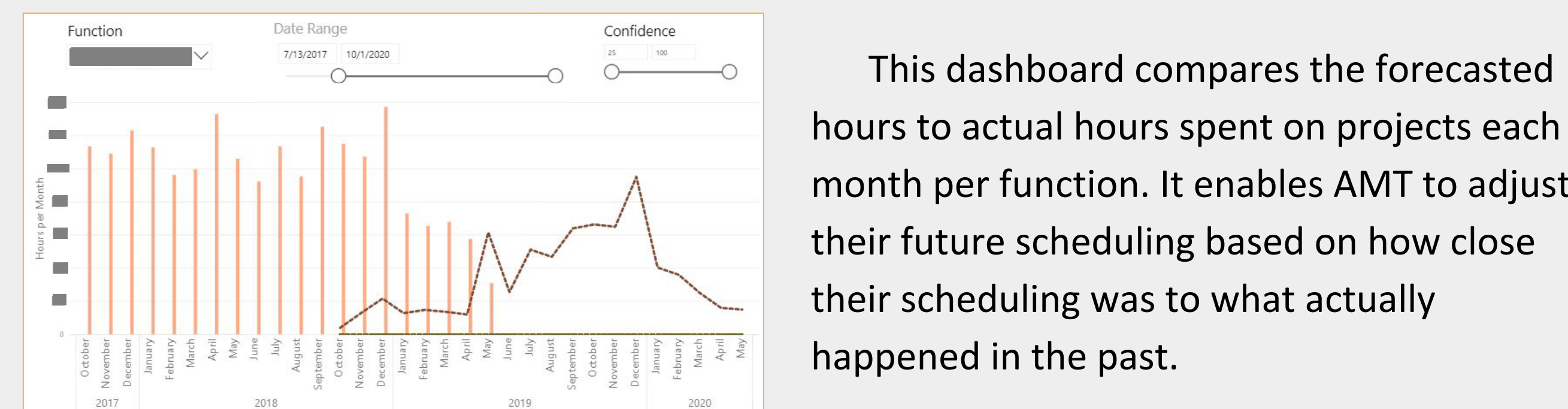
Original System (bottom left, top right)
→ Vacation planning forms did not interface with Access

Current System (right side)
→ Approved Vacation and Personal Time data are automatically uploaded to Access
→ Connected to Power BI displaying monthly capacity in each Function



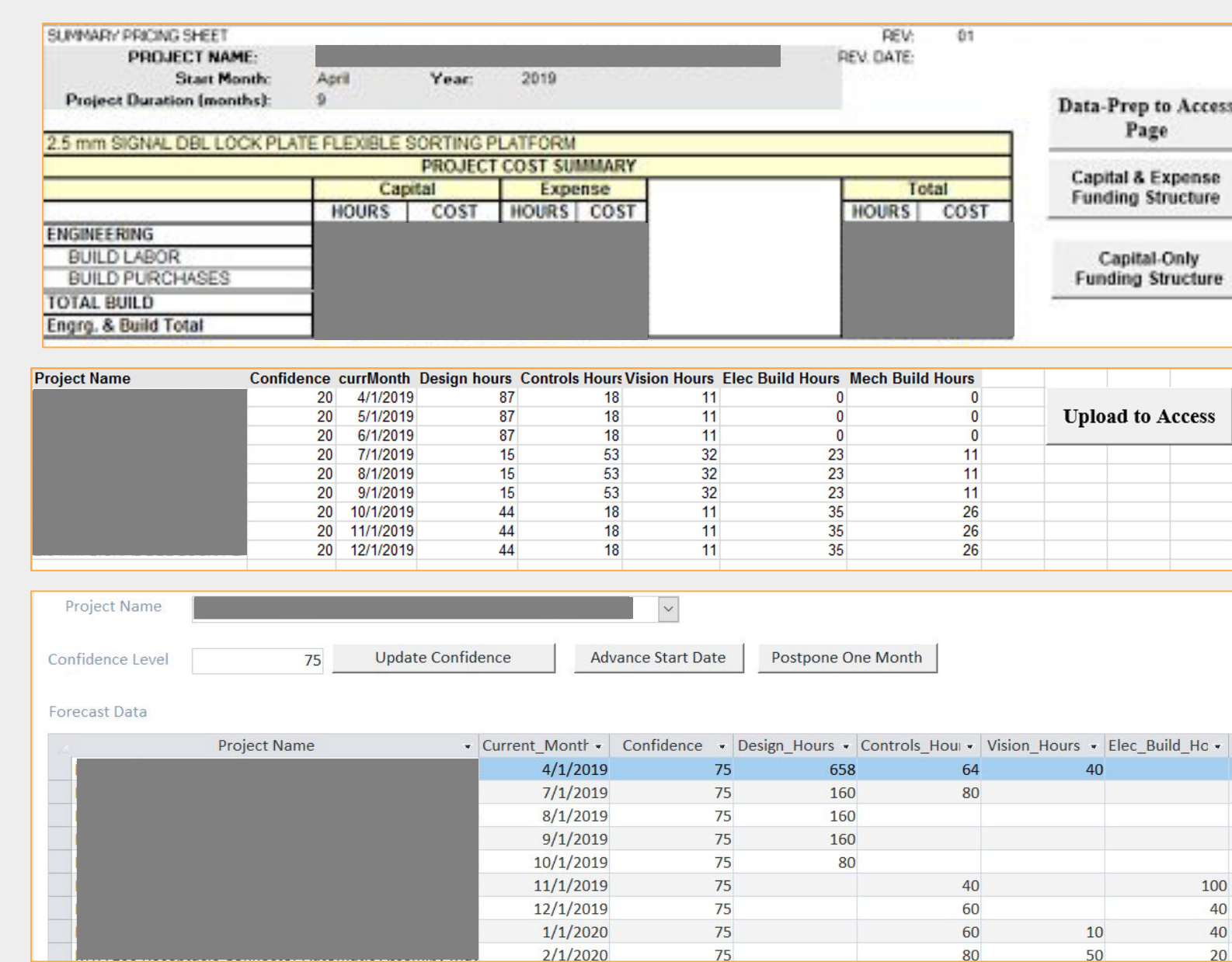
This system allows employees to view and schedule vacation hours through *Microsoft Teams*. AMT's manager uses the dashboard to review the schedule and then make decisions on vacation requests and needs for contractors. The system will then use the information to form a capacity line in Power BI.

Historical Comparison



Quote Management

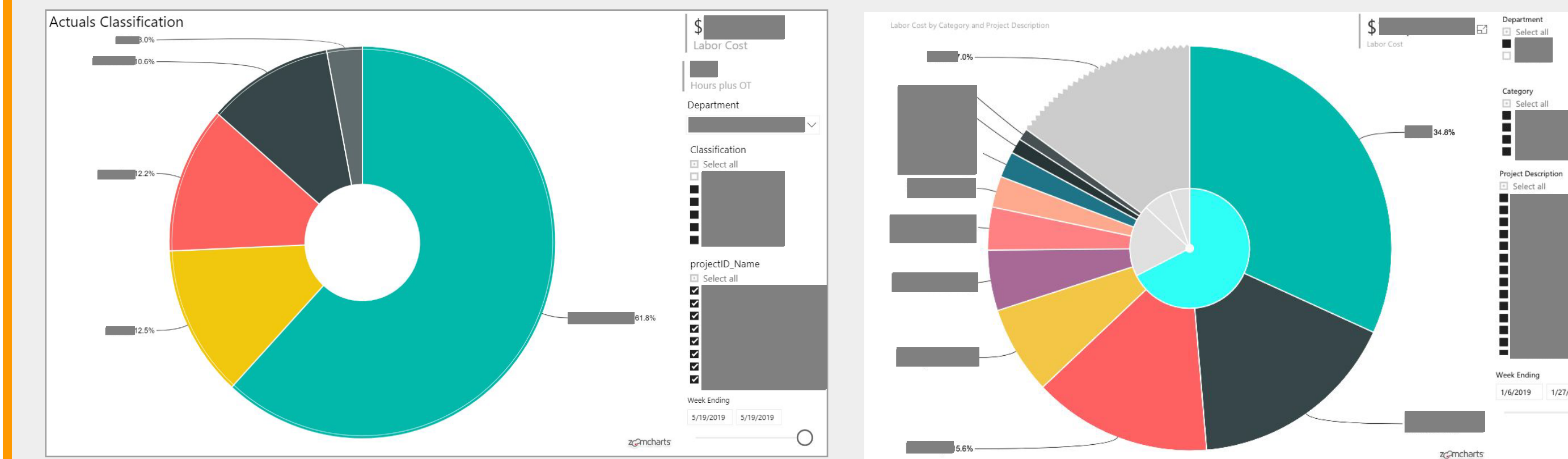
- **One time data entry** to calculate expected project timeline based on the assumption, total hours, and cost
- **Macro button** for automated scheduling and uploading data to Access
- **VBA code** updates any previously existing quotes for a project
- Allows quick changes to project start date, confidence level and hours per month through an Access form



Automated Analytics

Automated Actuals Report

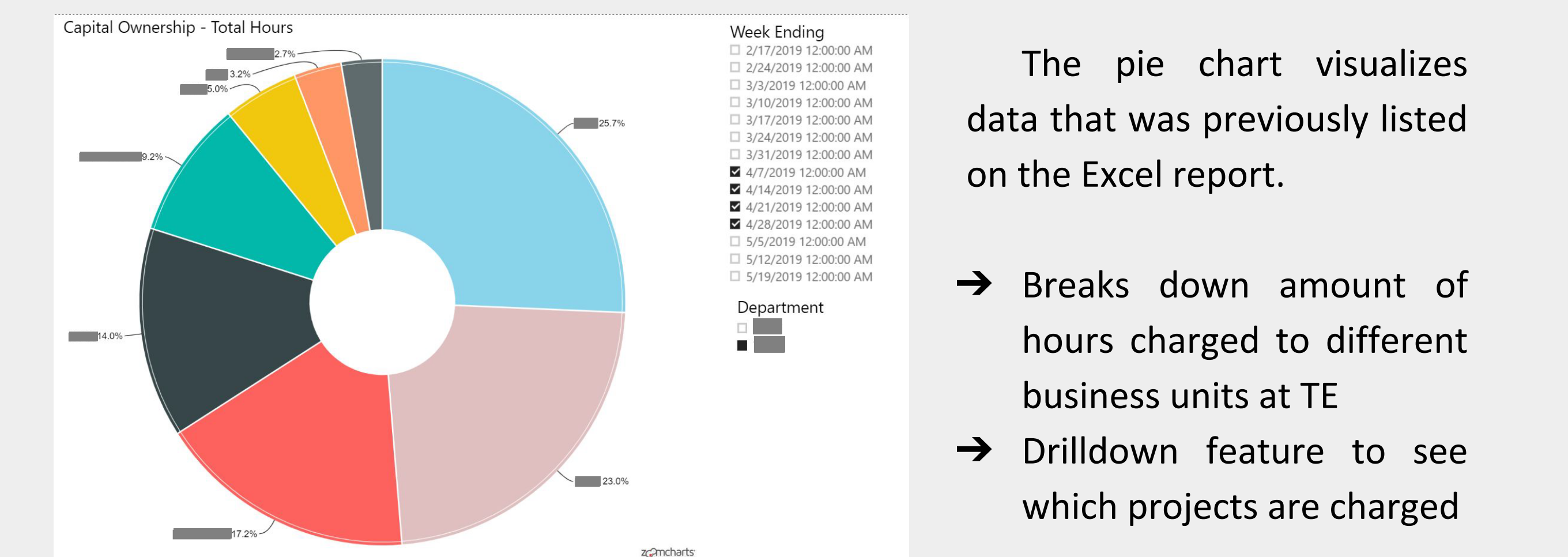
- Previously reported via manual entry in Excel from printed weekly timesheets
- New dashboards are completely automated
- Ability to filter by *department, project, charge category and time period*
- Visual quantification, and drill down functionality to understand breakdowns



Automated FY_2019 Sheet

This report shows which project codes employees are charging their time to.

- No manual entry required
- Increased ease of use
- Mistake proof to Increase accuracy of data

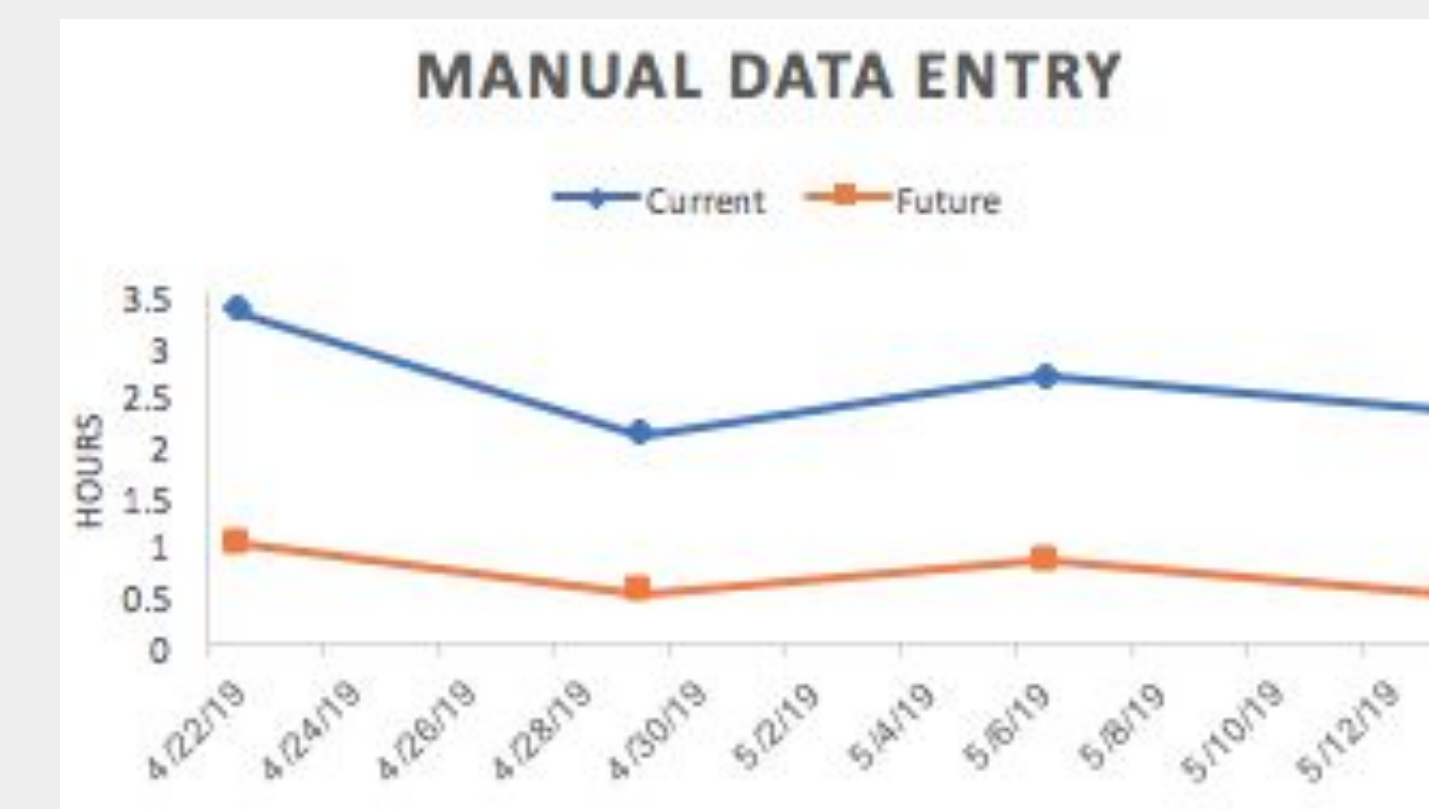


The pie chart visualizes data that was previously listed on the Excel report.

- Breaks down amount of hours charged to different business units at TE
- Drilldown feature to see which projects are charged

Performance

- Reduce redundant excel sheets from 6 to 1, an **83% reduction**
- Standardized work procedures: RFQ sheet, Vacation Planning tool, Teams Dashboards
- Shorten meetings, democratize project status & budget, enable accurate project tracking
- Implemented system that has visualization, where they previously had none, that supports decision making



Reduced manual data entry for administrator, **saving 2+ hrs/week**.

Acknowledgement

A huge thanks to **Tim Darr** and **Cheryl Wright**, our project sponsors! We also received great feedback from the Engineering team during our training.