

SeeQ®

connect

FOOD & BEVERAGE







# Using Asset Groups to Easily Create Processing Metrics with Seeq

Chloe Soejima, *Process Engineer II*

**Chobani®**



# Chobani®

- Founded 2005
- 3000+ Employees
- Largest Facility in Twin Falls, ID
- Greek Yogurt, Oat Milk, Dairy-based Coffee Creamers, RTD Coffee Beverages








ONLY NATURAL INGREDIENTS  
GREEK YOGURT

**Chobani**  
**flip**

**Chocolate  
Covered Strawberry**

Strawberry Lowfat Greek Yogurt with Brownie Pieces,  
White Chocolate Chips & Cocoa Swirl Chunks





**How would you  
make yogurt from  
scratch?**

**Especially  
*Greek*  
Yogurt?**



Whey is strained  
out with  
cheesecloth

Cultures ferment  
with milk

Final product is  
nutritious yogurt!



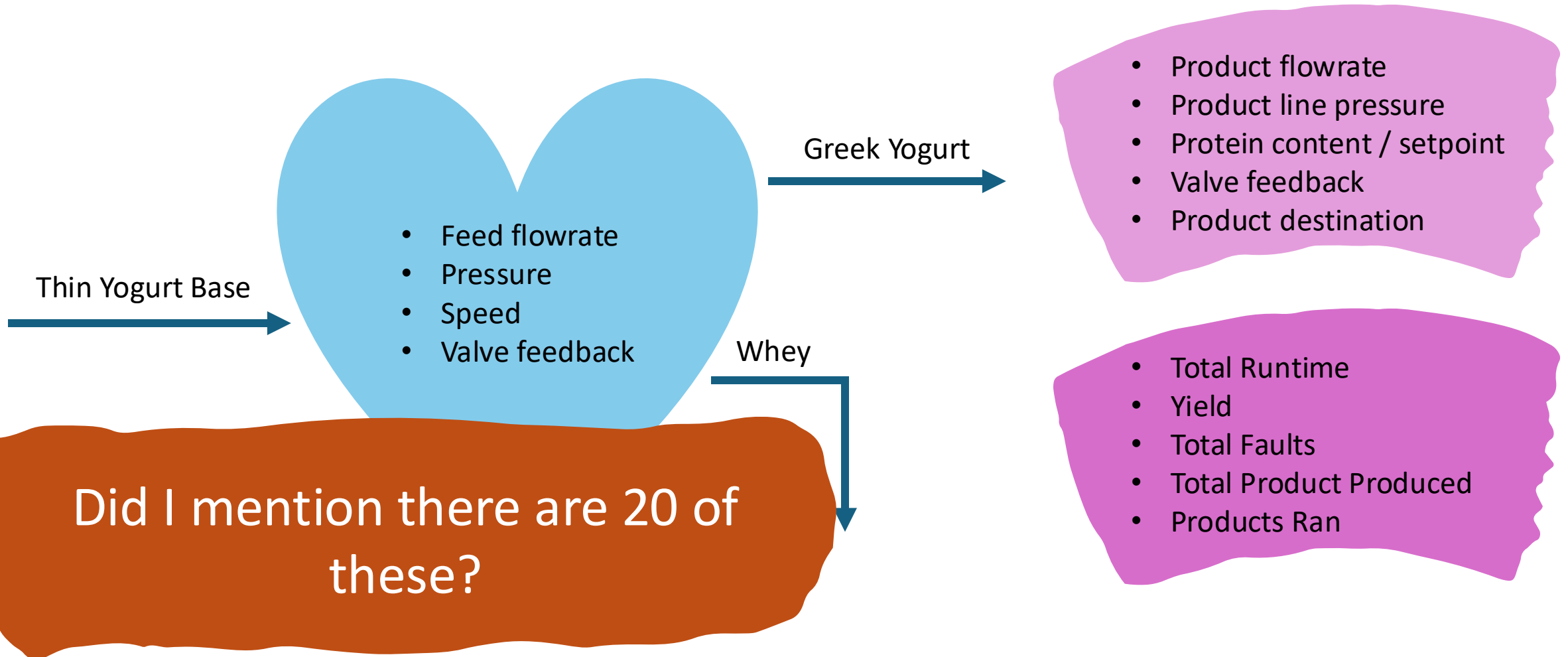
All yogurt bases are strained through a yogurt “Separator”





# The Separator


The “Heartbeat” of the Plant





# The Separator

The “Heartbeat” of the Plant



Since this is  
a central  
process  
operation...



Most of the plant savings are  
around these 20 machines

- Maintenance metrics
- Recipe specific metrics
- Runtime metrics



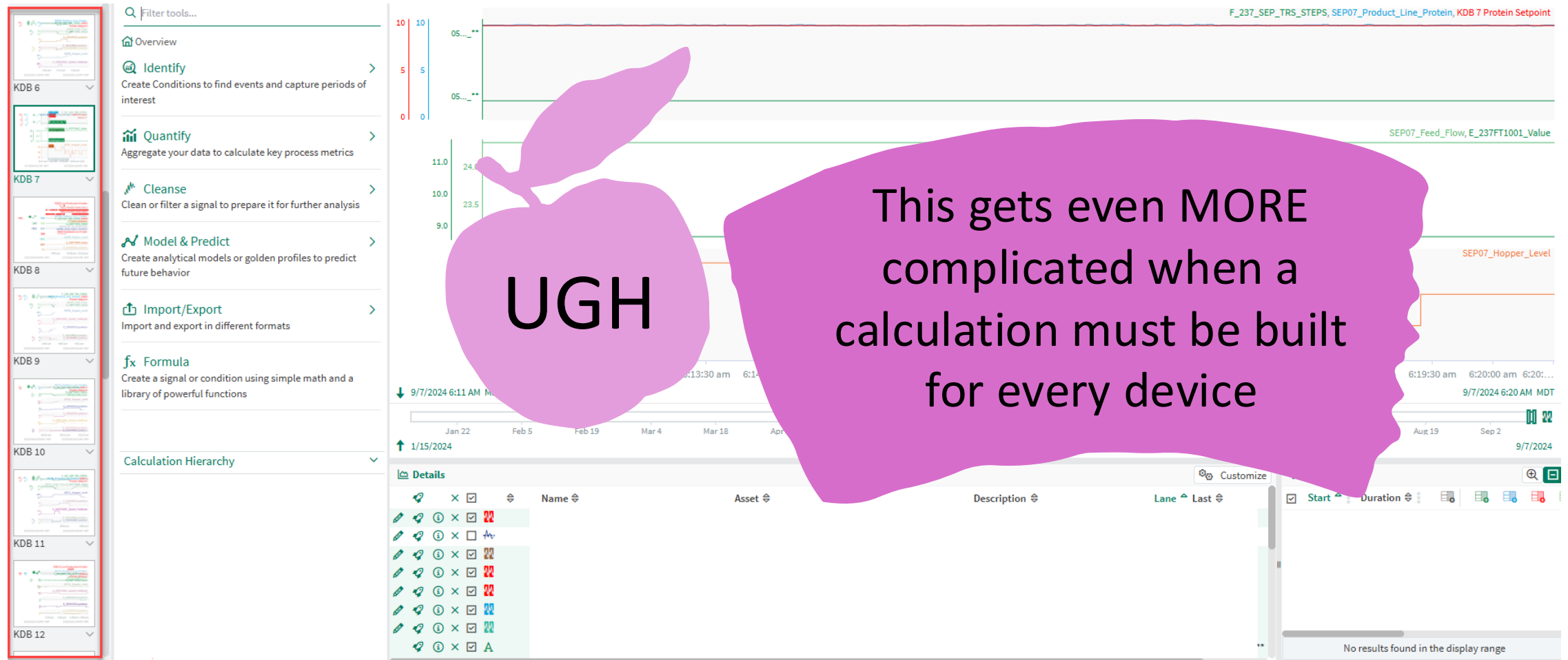
# Trending a Separator



- On a very basic level, might look something like this, with the most vital trends



# Trending... ALL the Separators

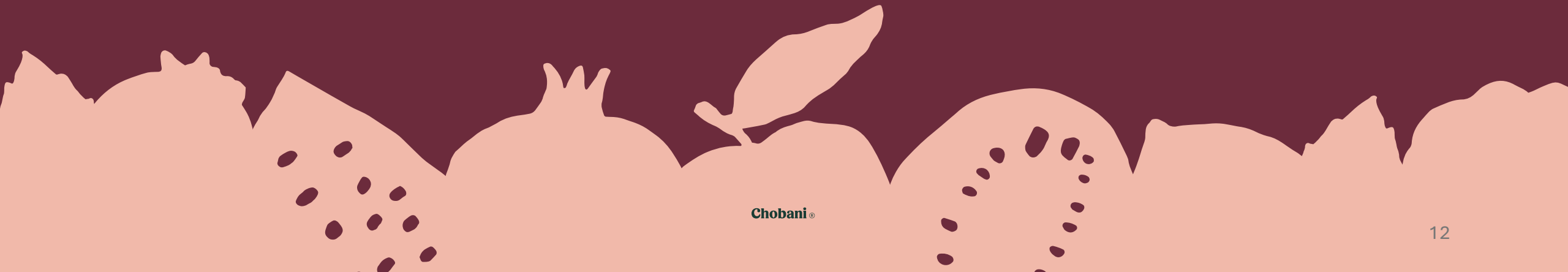


— A page for every separator, building calculations in every page, flipping through constantly to troubleshoot



# Overall Goals

- Create Workbench Analysis Documents for all 20 Separators
  - Easily Navigable
  - Built Quickly
  - Specific to team goals
- Fully Utilize Seeq Visualization tools to drive process improvements
  - Easily communicated
  - Visible across multiple teams





# Some Numbers for the Wise Guy

“Why Not use Data Lab?”

---

1

People who  
comfortably use data  
lab on regular basis

---

15%

Forecasted success rate of  
getting other team members  
to learn data lab in a short  
amount of time

---

100%

Amount I agree we could  
do a lot with Data Lab

---


100%


Percent of this presentation  
completed without Data Lab




# Introducing the Asset Group

The Building Block for Multiple Interdepartmental Tools

 Data


 Tools

 Journal

☐ Exact Match

Reset











Filter and Sort ▾

 Search

Asset Groups

Create

Build your own asset group starting from an existing asset tree or manually by searching for signals

Asset Group Editor Mode											
	Asset group 1	<div> Edit asset group</div> <div> Add asset</div> <div> Add column</div>									
	<table><tr><th></th><th>Data Tag</th><th></th></tr><tr><td>Equipment</td><td></td><td></td></tr><tr><td>Asset 2</td><td></td><td></td></tr></table>		Data Tag		Equipment			Asset 2			
	Data Tag										
Equipment											
Asset 2											

Equipment – all 20 separators

Columns – Relevant trends



# Introducing the Asset Group

## The Building Block for Multiple Interdepartmental Tools

[illegible]

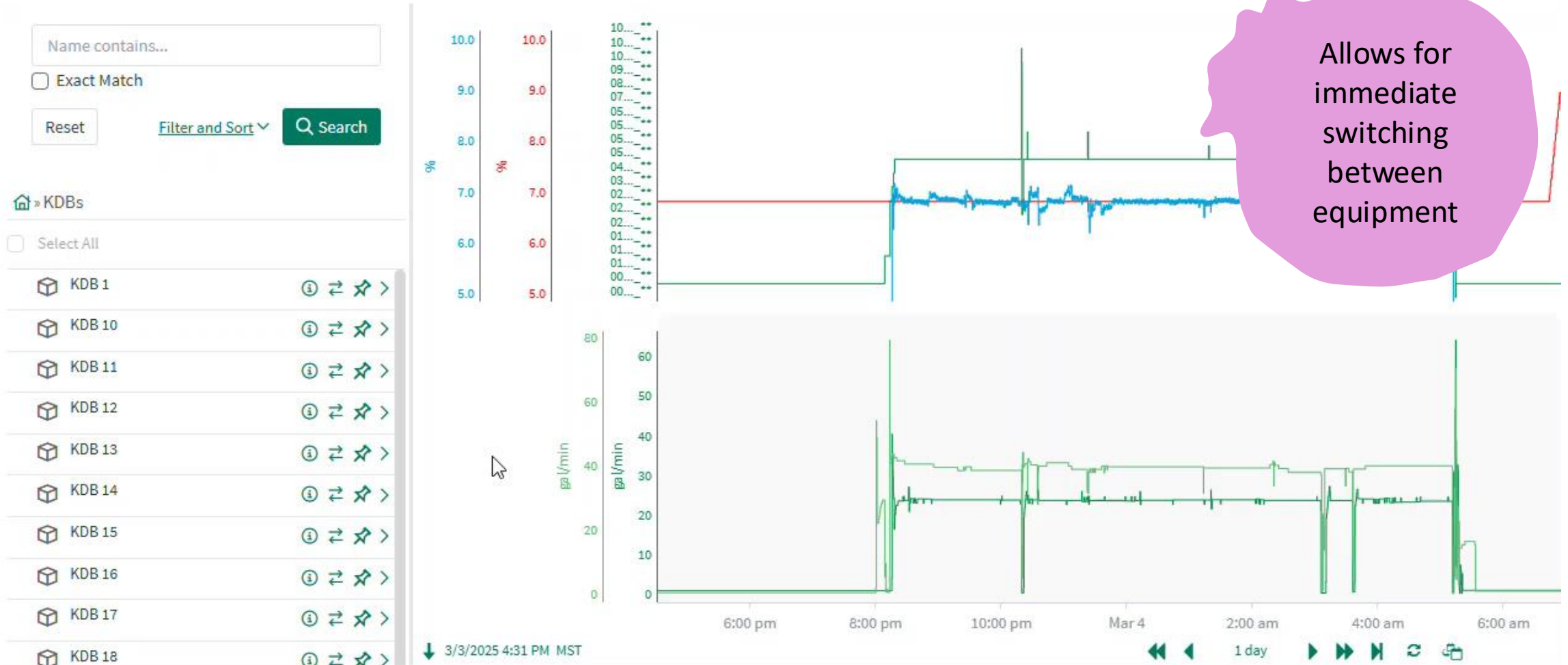
- Adding Columns for any vital Separator Trends

It might  
look like a  
lot, but it  
only needs  
to be built  
**ONCE**



# Introducing the Asset Group

## The Asset Swap








# Asset Visuals

The Asset Tree


**fx** Production on Selected Protein Type ■





✓ Variables + Add variable Details

Name	Item	
\$rn	 <b>Recipe Number</b> <span>▼</span> <span>+</span> <span>✎</span> <span>×</span>	
\$spt	 <b>Selected Protein Type</b> KDBs with WM CODE # » KDB 4 <span>▼</span> <span>+</span> <span>✎</span> <span>×</span>	
\$tss	 <b>TRS Sequence Steps</b> KDBs with WM CODE # » KDB 4 <span>▼</span> <span>+</span> <span>✎</span> <span>×</span>	

✓ Formula 📋 ?

```
1 (($tss~="*05*").removeShorterThan(1s))  
2 .intersect($spt==$rn)
```

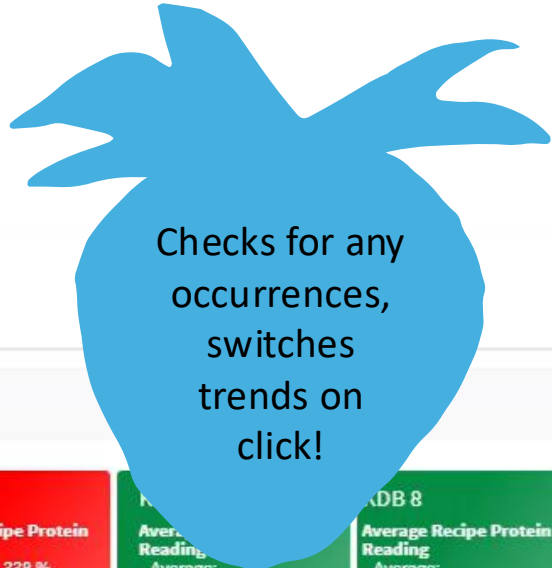
 Calendar Chain C

-  Trend
-  XY Plot
-  **Treemap**
-  Table & Charts



# Asset Visuals

The Asset Tree



Statistics:

Average Recipe Protein Reading ▾

Average Recipe Protein Reading ▾

Average ▾

Standard Deviation ▾

KDBs with WM CODE #



<b>KDB 1</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 11</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 13</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 15</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 17</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 19</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 20</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 4</b> Average Recipe Protein Reading Average: 11.338 % Standard Deviation: 0.1278 %	<b>KDB 6</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 8</b> Average Recipe Protein Reading Average: Standard Deviation:
<b>KDB 10</b> Average Recipe Protein Reading Average: 11.015 % Standard Deviation: 0.1147 %	<b>KDB 12</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 14</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 16</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 18</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 2</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 3</b> Average Recipe Protein Reading Average: 11.043 % Standard Deviation: 0.3075 %	<b>KDB 5</b> Average Recipe Protein Reading Average: 11.179 % Standard Deviation: 0.2195 %	<b>KDB 7</b> Average Recipe Protein Reading Average: Standard Deviation:	<b>KDB 9</b> Average Recipe Protein Reading Average: Standard Deviation:

2/27/2025 9:05 AM MST

◀◀ ◀ 12 hours ▶ ▶▶ ▶ ▶ ▶ ▶ ▶

2/27/2025 9:05 PM MST



# Speed Building Reports

## Calculated Item Columns

**Asset Group Editor Mode**

Edit asset group | Add asset | Add column

Backpressur...tpoin | Bowl Speed

**Add calculated item**

**Add calculated item**

Calculation type

- ☒ Existing Seeq item
- ☐ Build formula from scratch

Cancel | Next

**Map parameters to columns**

Column 1

Documentation | AI Assistant | [Hide Help](#)

Variables

Name	Item	
\$b	Backpressure	+ ✎ ✕
\$bs	Backpressure Setpoint	+ ✎ ✕
\$bs2	Bowl Speed	+ ✎ ✕
\$bv	Backpressure Value	+ ✎ ✕

1 `$series.setMaximumDuration(40h).aggregate(totalDuration(`

Back | Cancel | **Add calculated item**

**Formula Introduction**

Welcome to Seeq Formula! Read an [overview of the Seeq Formula Language in the Seeq Knowledgebase](#). More detailed topics are listed below, divided based on the data type and functionality.





**Detail Pages**

- [About Signals](#) - A signal is a series of samples
  - [Signal Cleansing](#)
  - [Derived Signals](#)
  - [Discrete Signal Transforms](#)
  - [Signal Aggregation](#)
  - [Signal Statistics](#)
  - [About Samples](#)
  - [String Functions](#)
  - [Waveform Generators](#)
  - [Signal Properties](#)
  - [Signal Frequency Analysis](#)
  - [Signal Forecasts](#)
  - [Math Functions](#)
  - [Transformations](#)
  - [Water and Steam Properties \(IAPWS-IF97\)](#)
  - [Add-on Functions](#)
  - [signal\(\)](#)
- [About Conditions](#) - A condition is a series of capsules



# Speed Building Reports

## Calculated Item Columns

 KDBs	 Edit asset group	 Add asset	 Add column
Production ...e Code	Production Timer	Protein Reading	Protein SP
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓
fx	✓	✓	✓

immediately  
calculated for  
all assets in  
group!

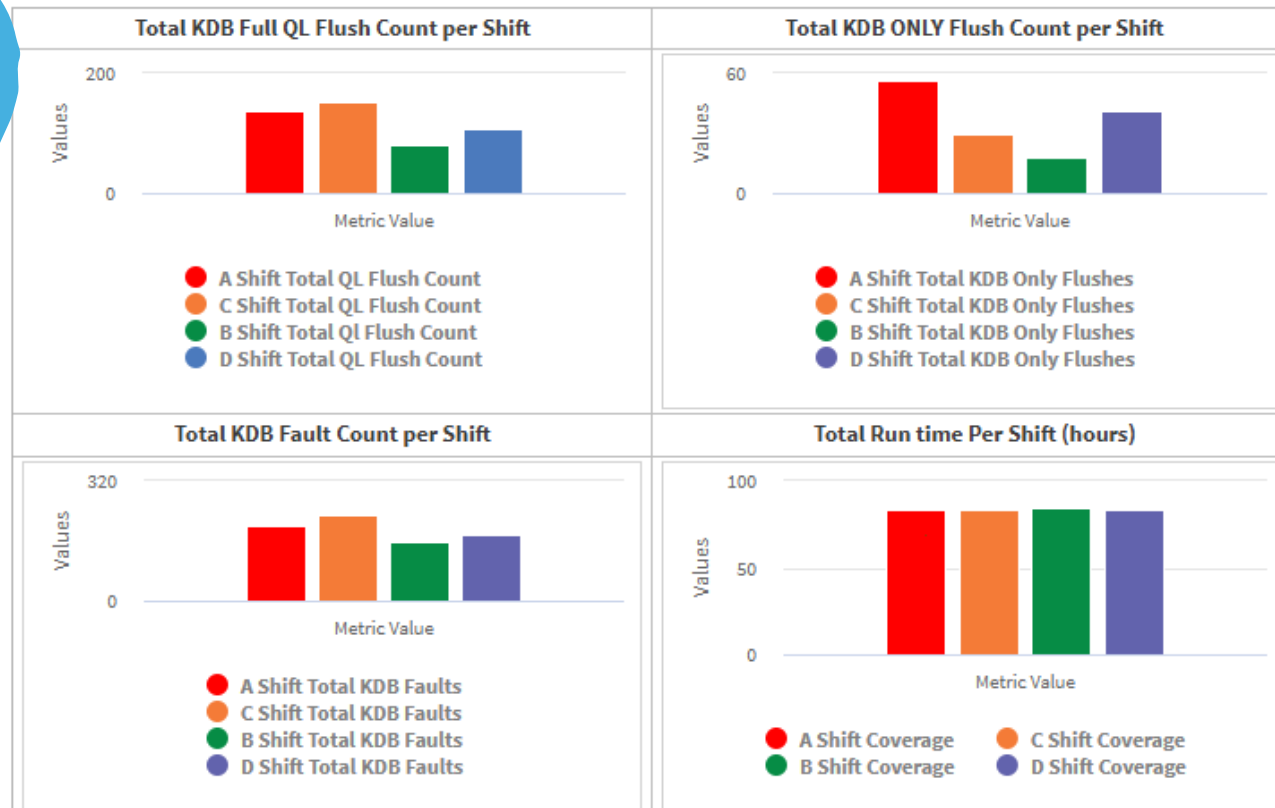


# Speed Building Reports

What can we accomplish with these skills alone?

## KDB Activity - Shift Comparison Summary

Using Asset Groups decreases time to build ANY kind of report over separators

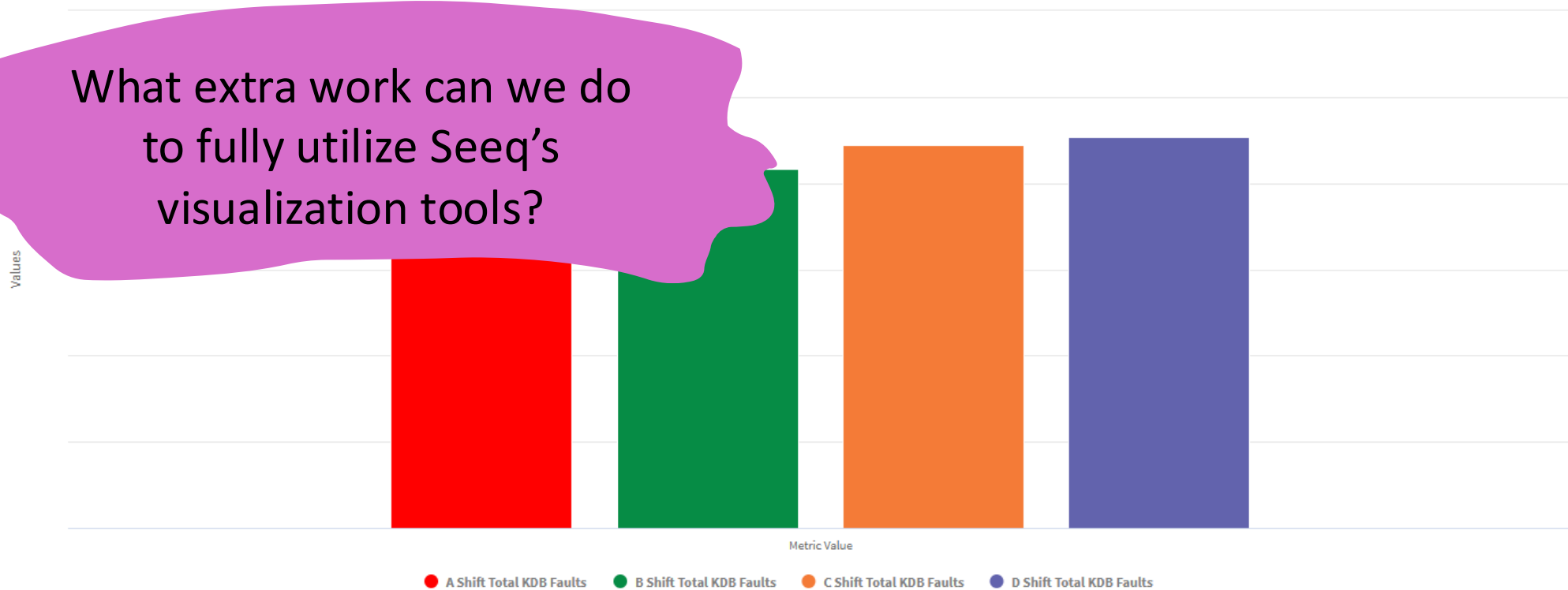




# Working “Smarter not Harder”

Faulting Root Cause Analysis

What extra work can we do to fully utilize Seeq's visualization tools?



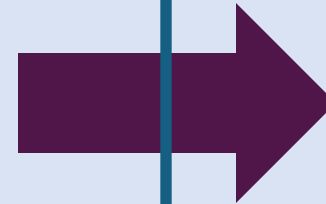


# Separator Faulting

Root Issue Occurs



Logic categorizes 33 reasons  
to stop production



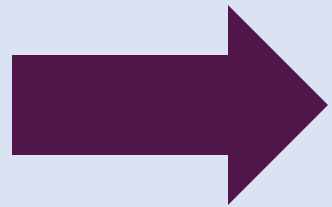
Separator enters Fault  
“step”



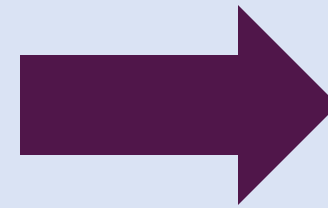
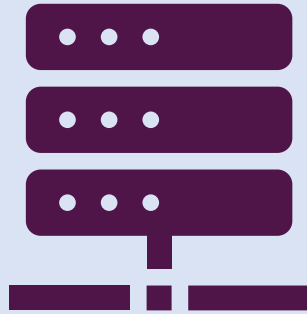


# Separator Faulting

Trend fault code number



Add fault code trend for  
each separator in Asset  
Group



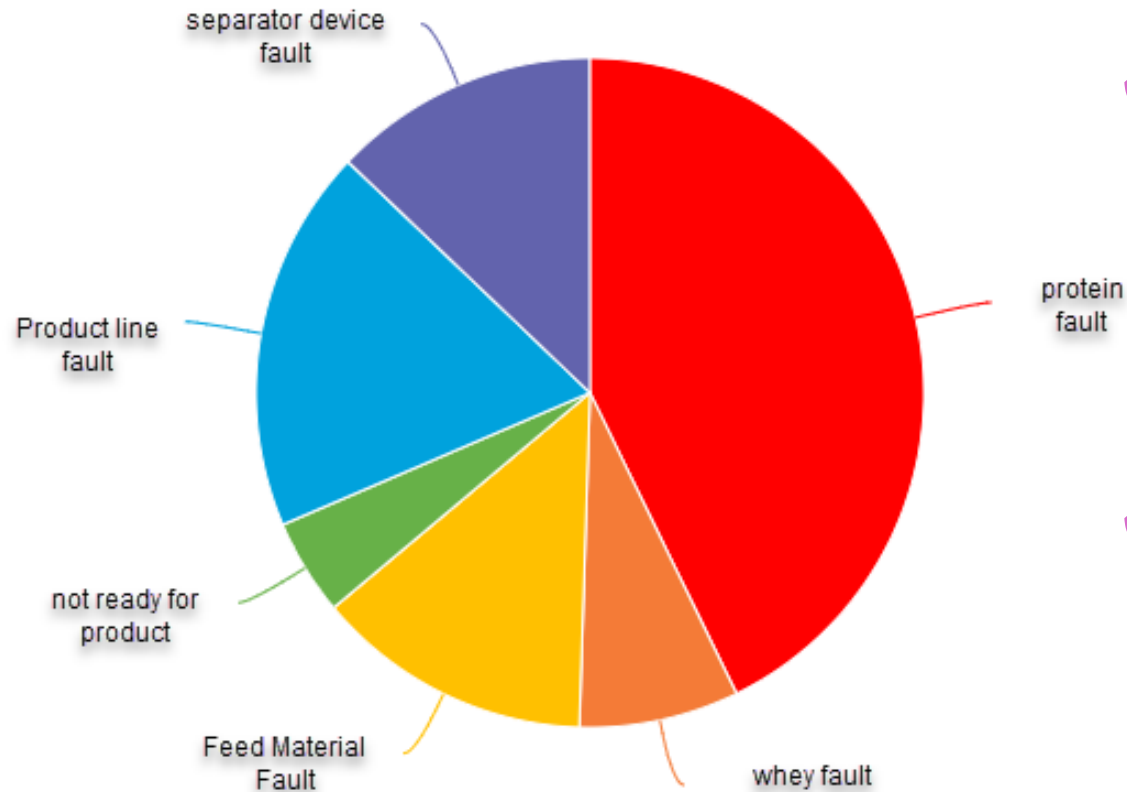
Create calculations and  
visualize in pie chart





# Example Pie chart

Faulting Root Cause Analysis



For all 20 Separators combined

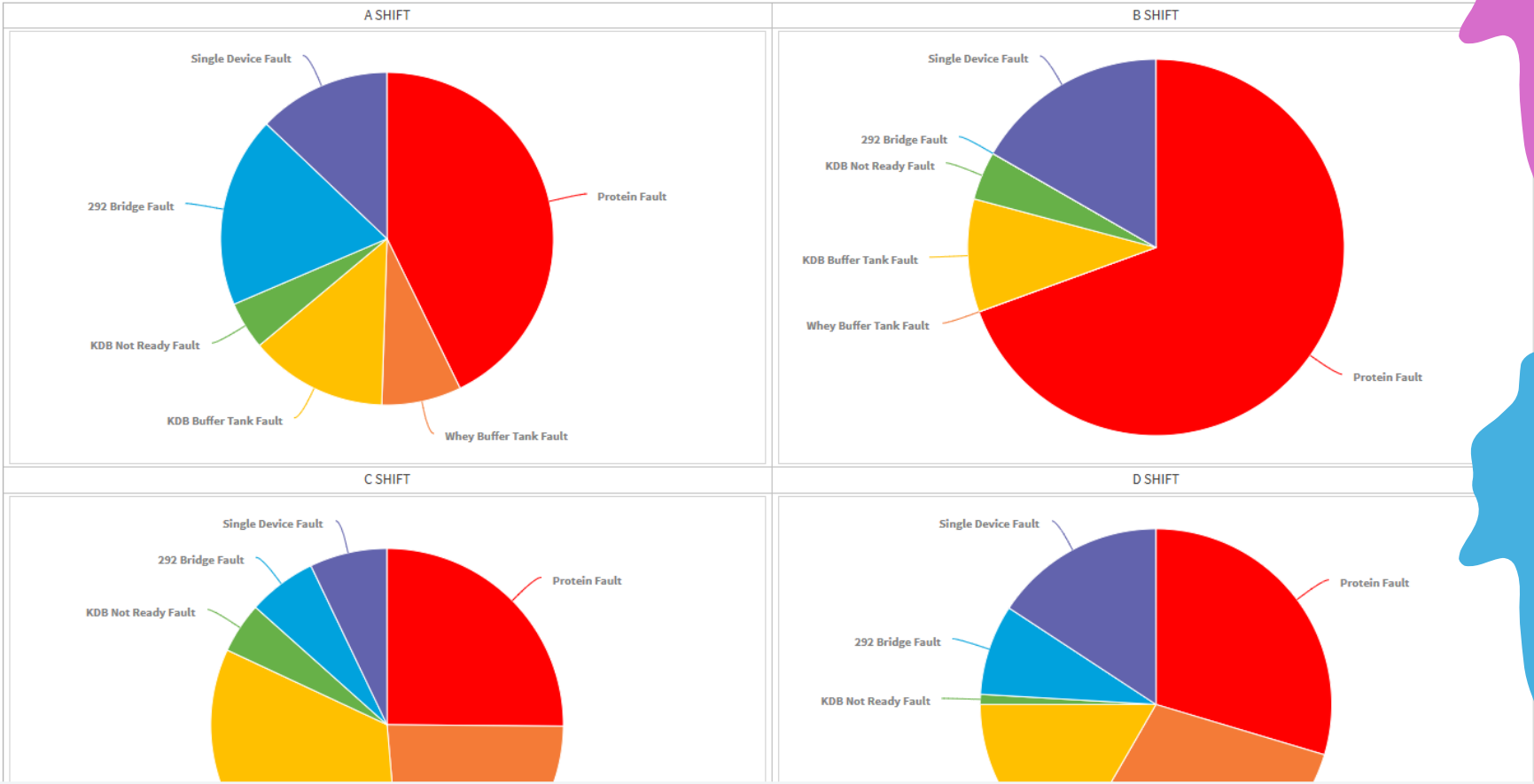
Filtered For all 4 shifts to compare



# Final Report

## Faulting Root Cause Analysis

### KDB Shift Fault Breakdown



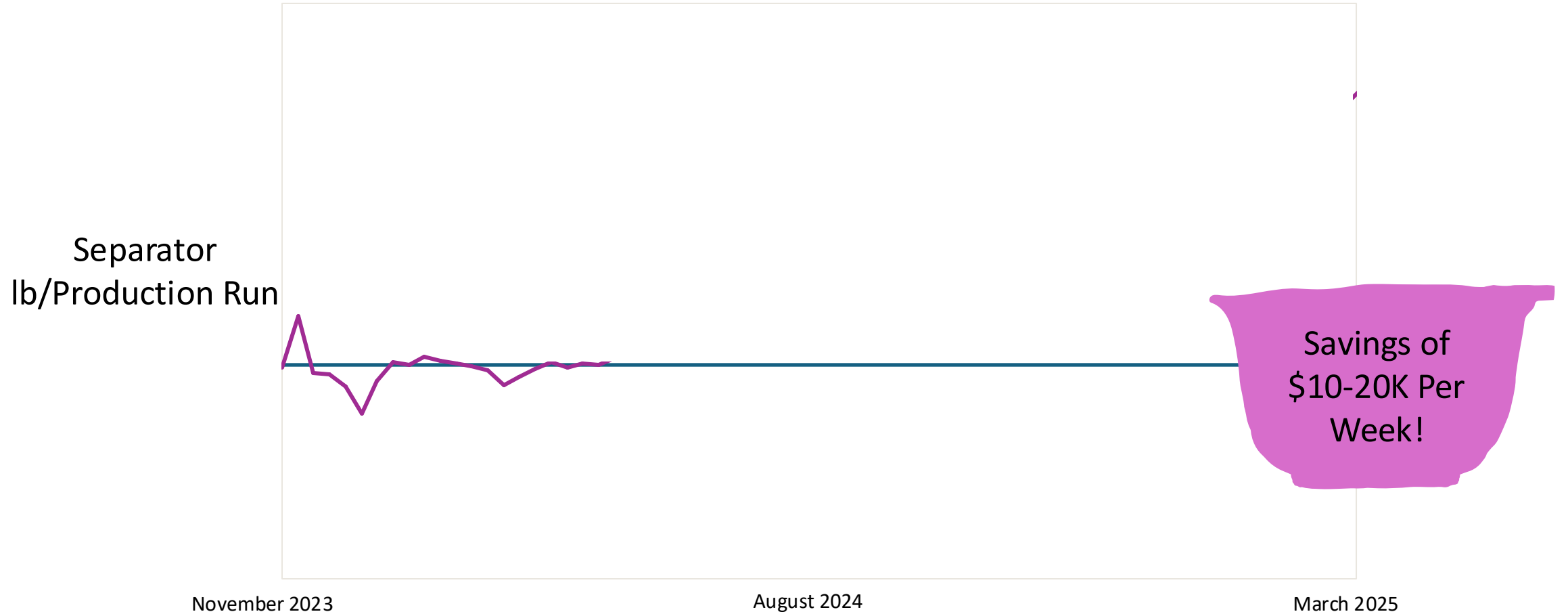
-Inclusion of  
fault code trend  
-fast build  
calculations in  
Asset Group

-Email  
Notifications  
in Organizer  
Topic



# Show Me the Money

How Does this Impact Final Separator Performance / Savings Initiatives?

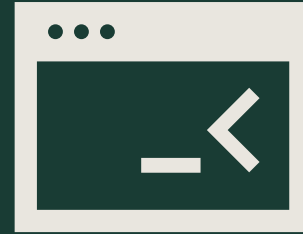




# Conclusions



Asset Group use significantly cuts report building time commitments down for fast analysis



Simple programming additions enhance Seeq's reporting abilities to focus team efforts



Sharing of reports built with Asset Groups encourage new teams to learn and use Seeq



Regular sharing of projects drives skill growth company wide and user literacy

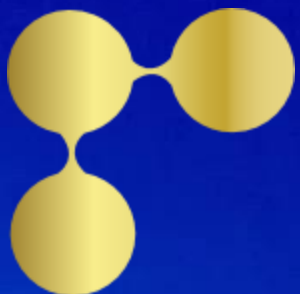




Thank You!

Any  
Questions?





SeeQ®

connect

Thank You

