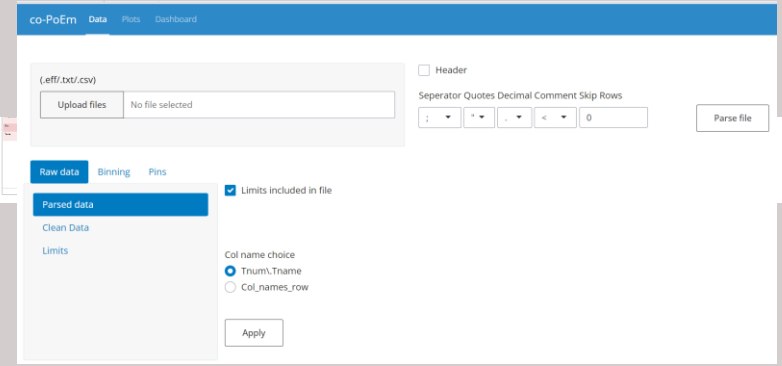
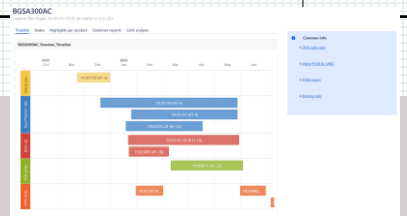
# Lunch meeting CW2422

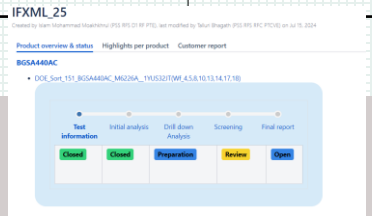
| Timeline → | January | February | March | April | May | June |
|---|---|---|---|---|---|---|
| ↓ Activity | | | | | | |
| **1. Training** | • **Data analysis:** CEDA, Chronos<br>• **Data extraction:** eSquare, Espresso<br>• **Six Sigma foundation** | | | | | |
| **2. POM data analysis** | | • **DOE Iot R9653**<br>• Limits & Pareto analysis | | | | |
| **3. PE matrix & flow** | | | • **Build one single matrix that maps**<br>  • Identifier<br>  • Test type<br>  • Binning<br>  • Plot type<br>  • Functionality | | | |
| **4. Automotation** | | | • **Identify similarities**<br>• Automate analysis<br>• Use Rstudio + Shiny<br>• Quick first report | | | |
| **5. Confluence page** | | | | • **Mini KPI's similar to PE tools**<br>• Track & link dataset with report, revison control<br>• Roles & responsibilities | | |
| **6. ANN exploration** | | | | | | • **Build ANN model ?**<br>• Use analysis matrix & flow<br>• Study requests & analysis patterns |

# Lunch meeting CW24-36

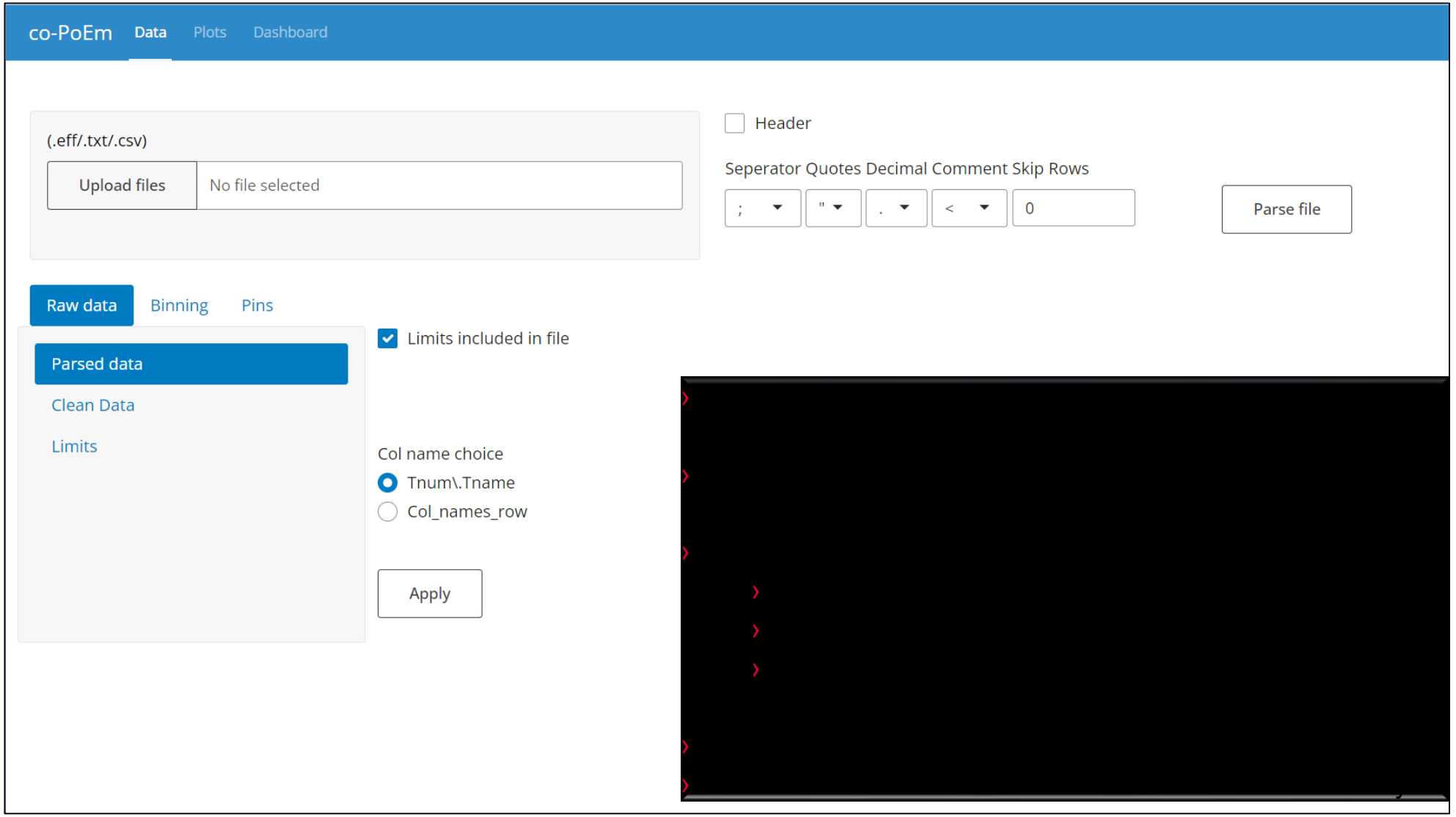
| Timeline → | June | July | August | September | October | November |
|---|---|---|---|---|---|---|
| ↓ Activity | | | | | | |
| 2. POM data analysis | Data Analysis & Reporting | | | | | |
| 4. Automotation | | | Data | Plots | Dashboard | Automated drill-down analysis |
| 5. Confluence page | | | | | | |



# Automation


co-PoEm
Data
Plots
Dashboard
(.eff/.txt/.csv)
Upload files
No file selected
Header
Seperator Quotes Decimal Comment Skip Rows
;
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Raw data
Binning
Pins
Parsed data
Clean Data
Limits
Limits included in file
Col name choice
Tnum\.Tname
Col_names_row
Apply

Product Engineering
IFXML_24
BGSA300AC
DOE_BGSA300AC
Sort_119_BGSA300AC_M6225A_1YUSW7JT_Wf_#
Sort_121_BGSA300AC_M6225A__1YUSW7JT_Wf_
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Nominal
1YUST7FA_1YUST7FC
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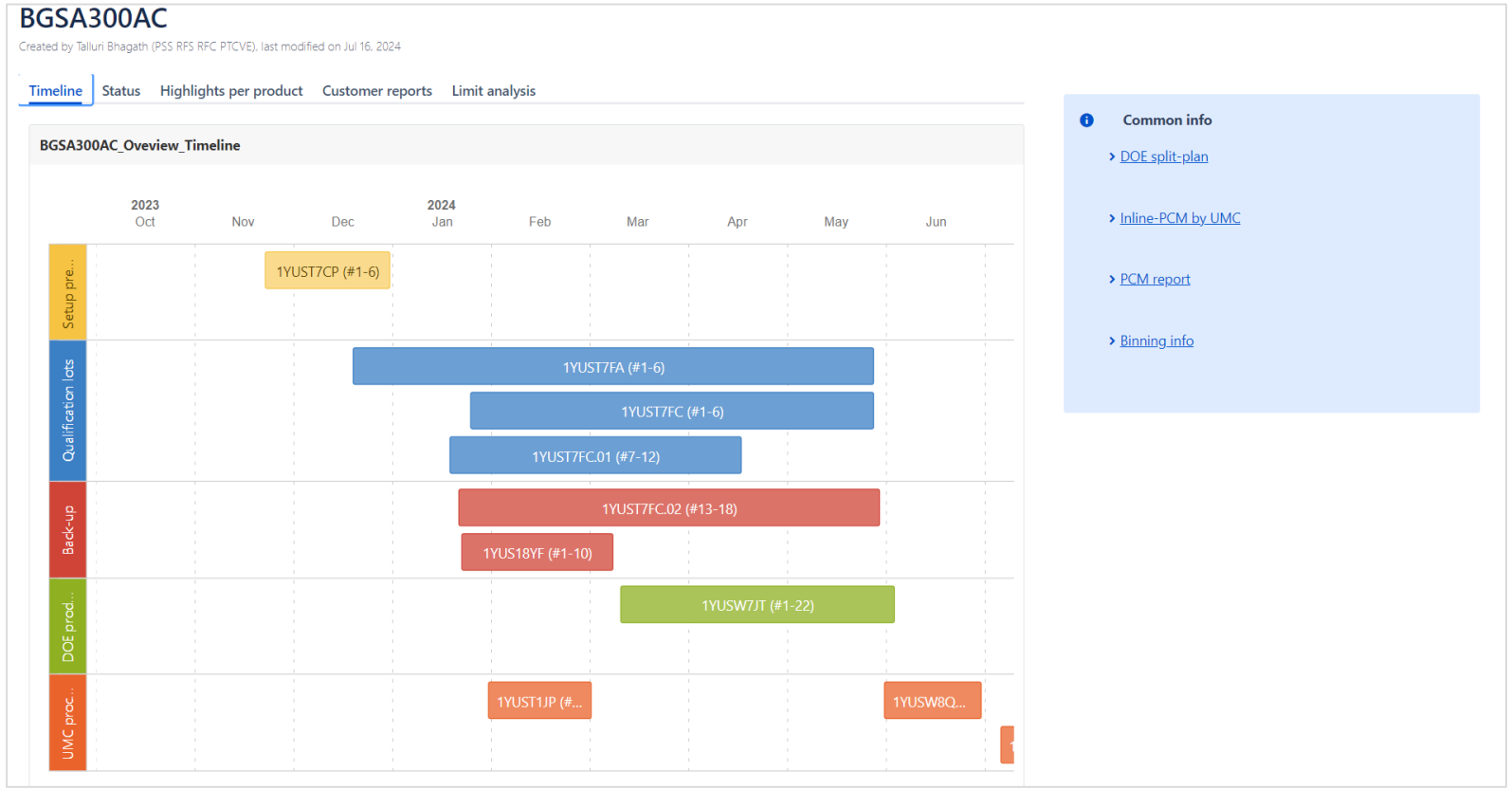
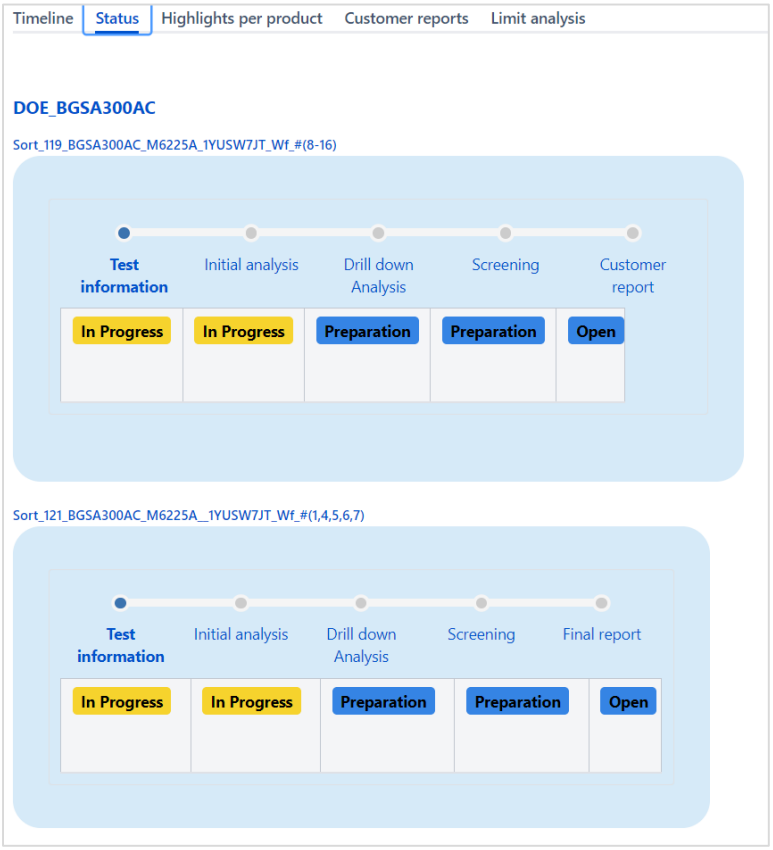
BGSA330AC
BGSA440AC
BGSA1130BC
BGSA1330BC
PE Tools and Methods
Product Engineering Role Description

# POM confluence page



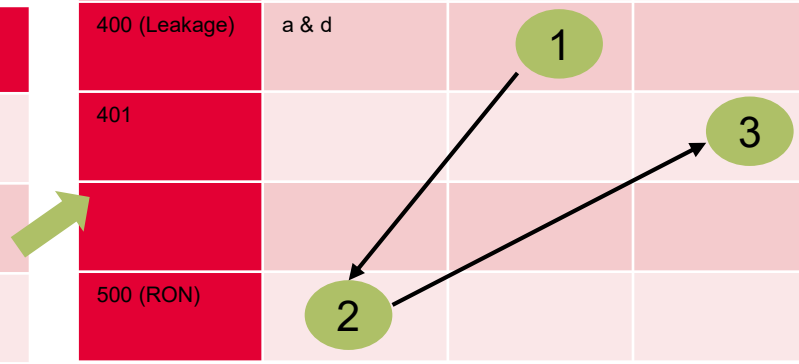

- All needed information at one place connected with a proper flow
- Avoid long emails & loss of information
- Stay connected to big picture
- Help to cope with uncertain resources
- First report is now delivered in days instead of weeks

# Back-up slides

# 3. Analysis matrix

| Dimension 1 | Dimension 2 | Dimension 3 | Dimension 4 |
|---|---|---|---|
| **Identifier** | **Test parameter** | **Functionality** | **Plot type** |
| Lot | Test type | Filtering | Scatter |
| wafer | Limits | Grouping | Cumulative |
| X-Y position | Binning | Correlation | Wafer map |
| Site | | splitting | Pareto |
| Tester | | | |

| Identifier (Lot/wafer..)_1 | Limits & Binning | | | Scope | Conclusion |
|---|---|---|---|---|---|
| a. Filter<br>b. Group<br>c. Correlate<br>d. Plot type | 1 | 8 | | Yield | Limits exploration |
| **Test type** | | | | | |
| 400 (Leakage) | a & d | | | | |
| 401 | | | | | |
| | | | | | |
| 500 (RON) | | | | | Contact issue |

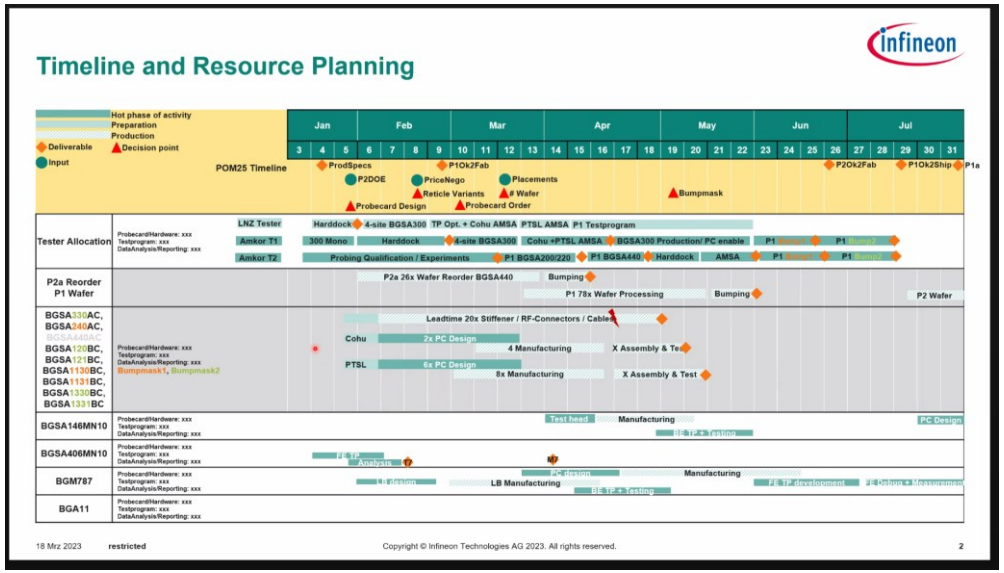



| Analysis identifier | Analysis order | Objective | Conclusion | Next step |
|---|---|---|---|---|
| R9653_1 | 213 | Cpk = 1.68 | Yiel loss not acceptable | Explore limits |
| R9653_2 | | | | |
| . | | | | |
| . | | | | |
| R9653_N | | | | |

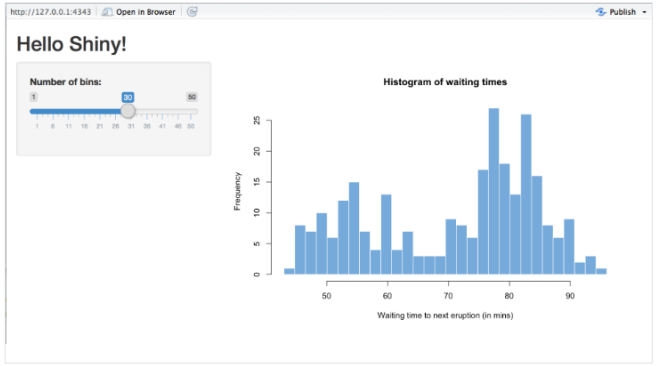
- Link to further analysis with a flow that can be traced back to PE marix.
- Track objective, scope, observations and conclusions for a particular dataset.
- Maximize the re-use of analysis & reports from your peers related to a particular dataset.
- Once there is more data on analysis flow that can be linked back to PE matrix, then identification of logical similarities is possible.
  - This helps in defining the most used functionalities, plots, and probably their order of use & needed post processing.....
  - Use this information to automate using data science tools (Rstudio) and build a web based app (Python).

# 4. Automation

## › Why automation ?




Example Shiny Apps




- Big line-up of upcoming devices & analysis requests.
- Huge pressue in terms of TTM & low FTE
- Product requirements might be different but analysis flow is expected to be similar.
- Seek to identify and automate 60-70% of the PE activity & flow
- Pick best practices/services from existing tools and put together using Rstudio/Python.
- Build a web based app to publish, re-use & quick glance of first results with one click.
- Further analysis & discussion doesn't need to be start from scratch.