PE tools for POM (review) Way forward

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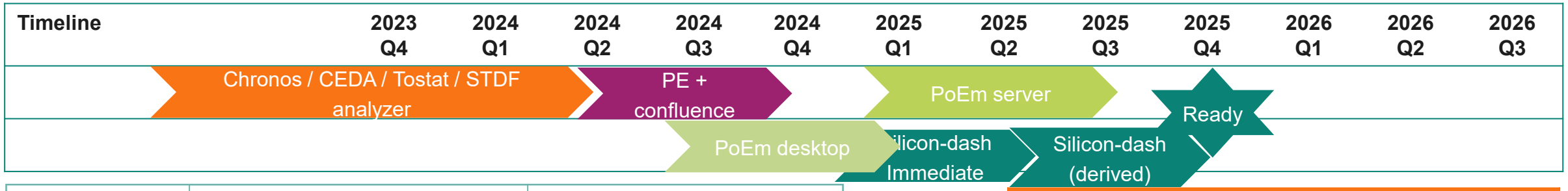
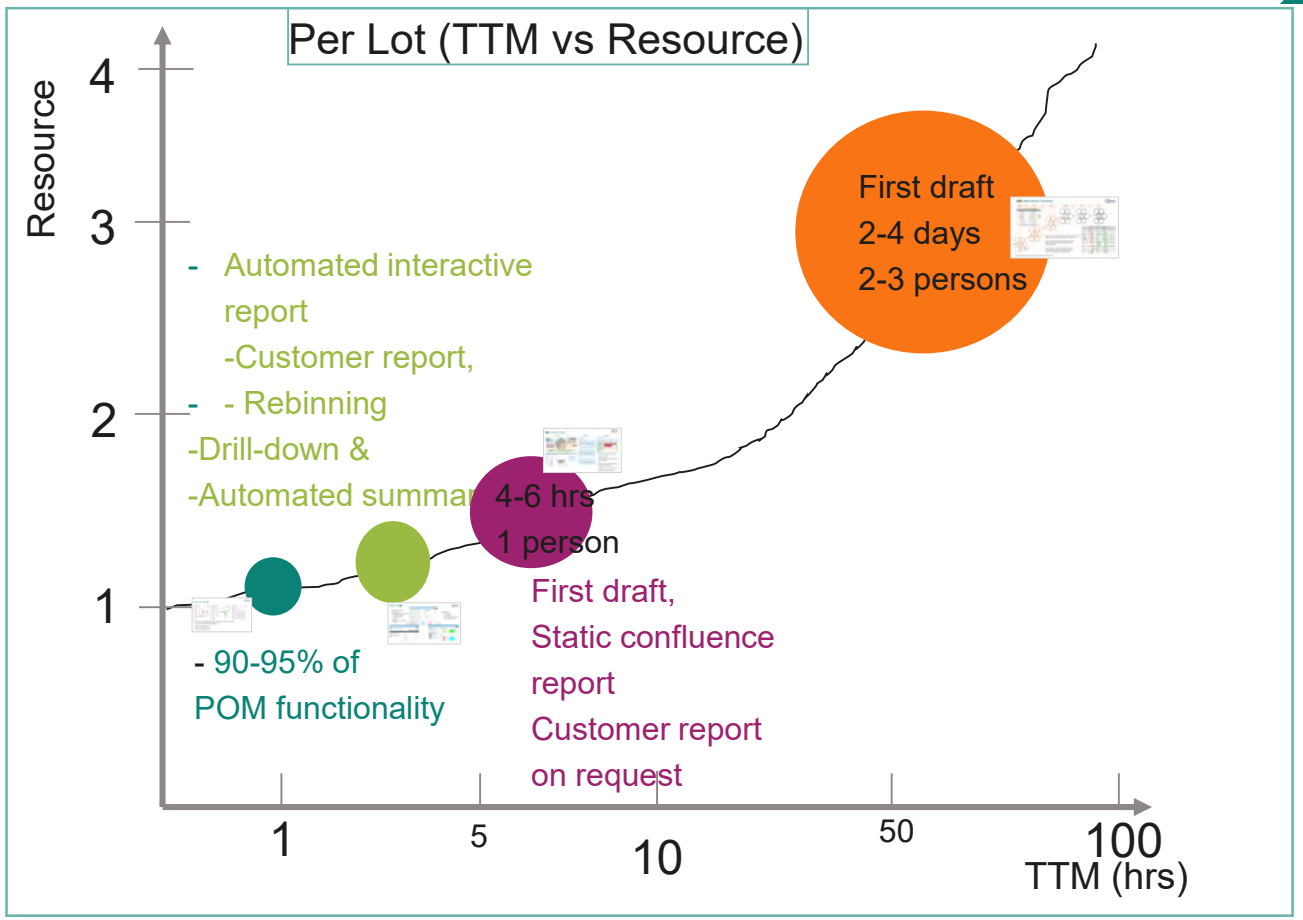
POM PE tools review & way-forward





Challenges / original situation

- No dedicated PE, Org. structure
- Big data & several products

Bottleneck

- Conventional tools
- Database & computational power

Mitigation / solution

Dedicated PE + org. structure + Confluence

Alternate solution

PoEm desktop/server

Final solution

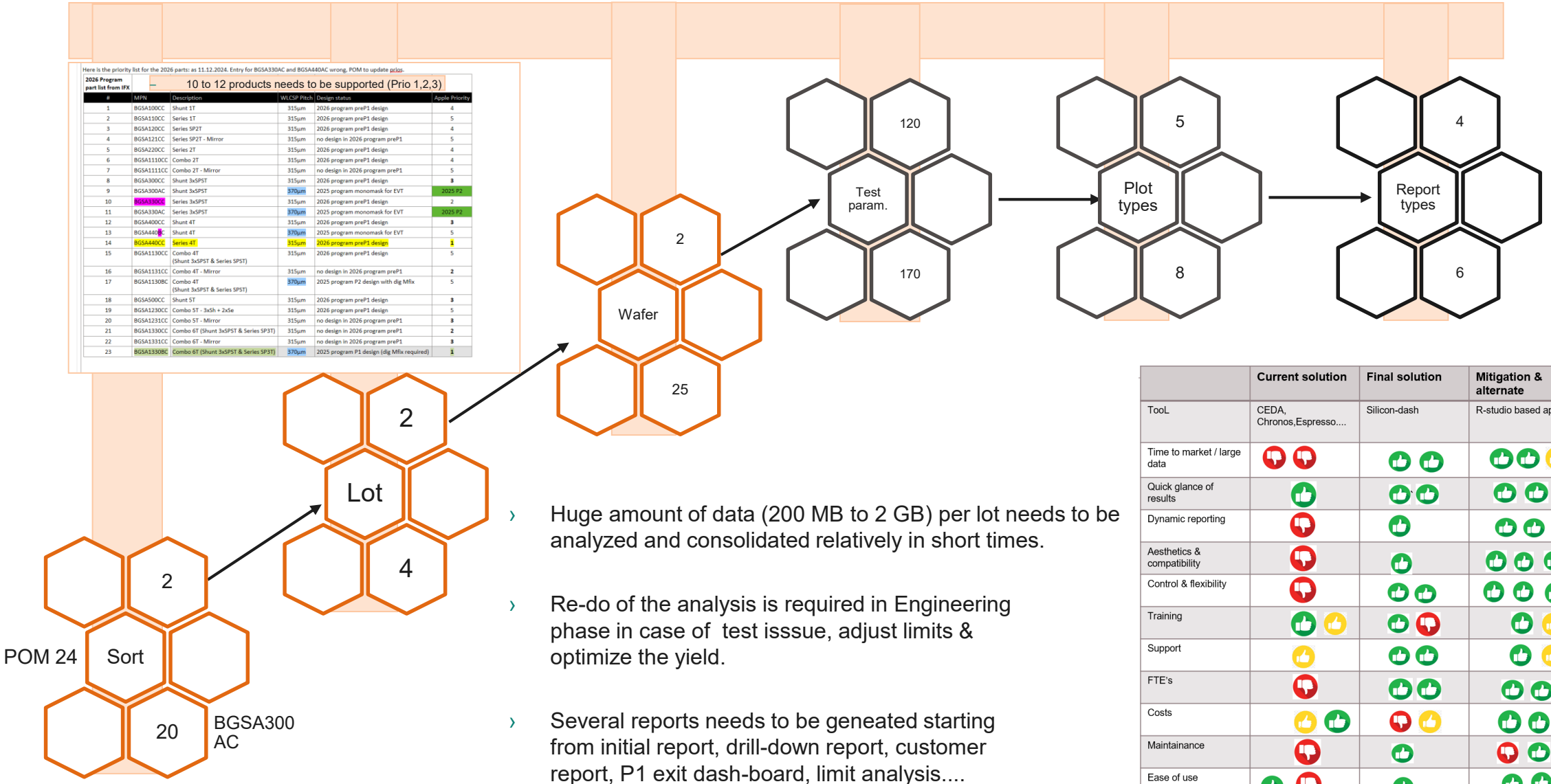
Silicon-dash (90 – 95% of POM functionality)

POM data analysis overhead

Here is the priority list for the 2026 parts: as 11.12.2024. Entry for BGSA330AC and BGSA440AC wrong, POM to update prios.

2026 Program part list from IFX – 10 to 12 products needs to be supported (Prio 1,2,3)

#	MPN	Description	WLCSP Pitch	Design status	Apple Priority
1	BGSA100CC	Shunt 1T	315µm	2026 program preP1 design	4
2	BGSA110CC	Series 1T	315µm	2026 program preP1 design	5
3	BGSA120CC	Series SP2T	315µm	2026 program preP1 design	4
4	BGSA121CC	Series SP2T - Mirror	315µm	no design in 2026 program preP1	5
5	BGSA220CC	Series 2T	315µm	2026 program preP1 design	4
6	BGSA1110CC	Combo 2T	315µm	2026 program preP1 design	4
7	BGSA1111CC	Combo 2T - Mirror	315µm	no design in 2026 program preP1	5
8	BGSA300CC	Shunt 3xSPST	315µm	2026 program preP1 design	3
9	BGSA300AC	Shunt 3xSPST	370µm	2025 program monomask for EVT	2025 P2
10	BGSA330CC	Series 3xSPST	315µm	2026 program preP1 design	2
11	BGSA330AC	Series 3xSPST	370µm	2025 program monomask for EVT	2025 P2
12	BGSA400CC	Shunt 4T	315µm	2026 program preP1 design	3
13	BGSA440AC	Shunt 4T	370µm	2025 program monomask for EVT	5
14	BGSA440CC	Series 4T	315µm	2026 program preP1 design	1
15	BGSA1130CC	Combo 4T (Shunt 3xSPST & Series SPST)	315µm	2026 program preP1 design	5
16	BGSA1131CC	Combo 4T - Mirror	315µm	no design in 2026 program preP1	2
17	BGSA1130BC	Combo 4T (Shunt 3xSPST & Series SPST)	370µm	2025 program P2 design with dig Mfix	5
18	BGSA500CC	Shunt 5T	315µm	2026 program preP1 design	3
19	BGSA1230CC	Combo 5T - 3xSh + 2xSe	315µm	2026 program preP1 design	5
20	BGSA1231CC	Combo 5T - Mirror	315µm	no design in 2026 program preP1	3
21	BGSA1330CC	Combo 6T (Shunt 3xSPST & Series SP3T)	315µm	no design in 2026 program preP1	2
22	BGSA1331CC	Combo 6T - Mirror	315µm	no design in 2026 program preP1	3
23	BGSA1330BC	Combo 6T (Shunt 3xSPST & Series SP3T)	370µm	2025 program P1 design (dig Mfix required)	1



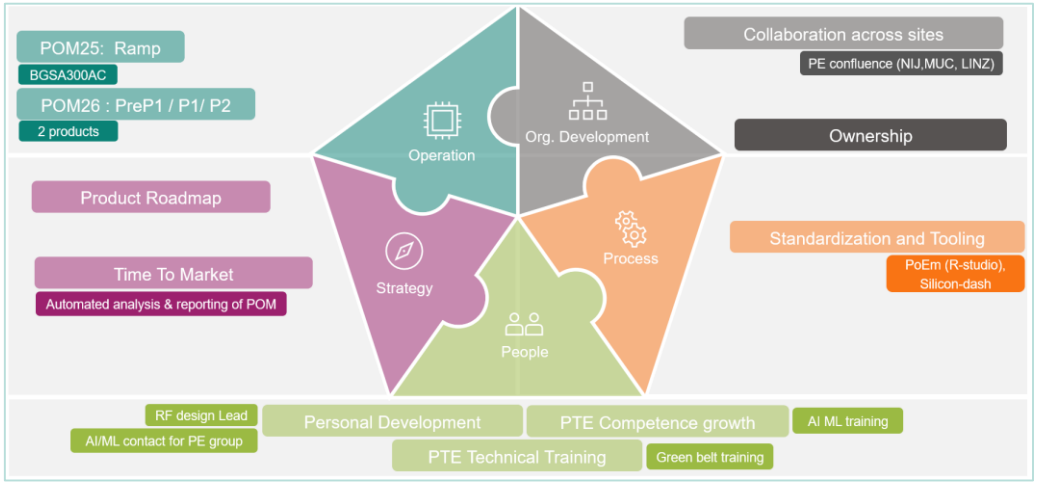
- Huge amount of data (200 MB to 2 GB) per lot needs to be analyzed and consolidated relatively in short times.
- Re-do of the analysis is required in Engineering phase in case of test isssue, adjust limits & optimize the yield.
- Several reports needs to be geneated starting from initial report, drill-down report, customer report, P1 exit dash-board, limit analysis....

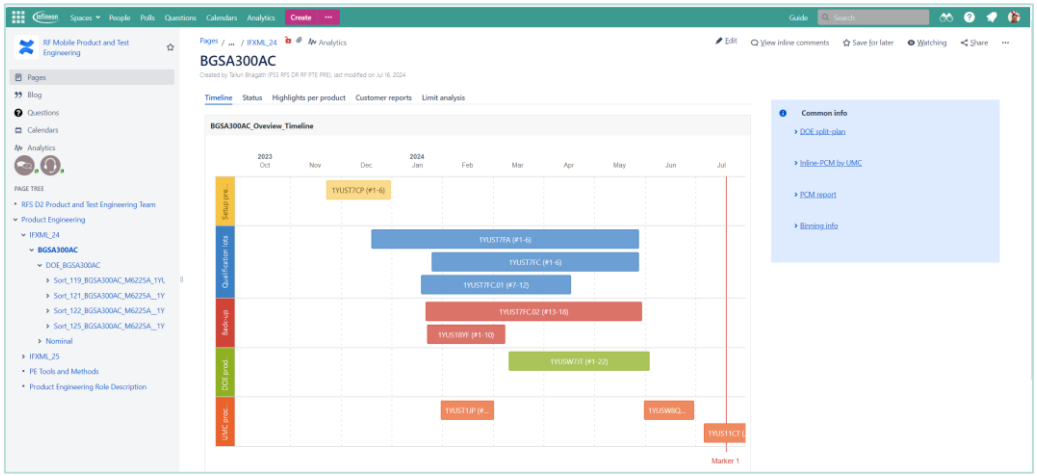
	Current solution	Final solution	Mitigation & alternate	
TooL	CEDA, Chronos,Espresso....	Silicon-dash	R-studio based app.	Comments
Time to market / large data	👎👎	👍👍	👍👍👍	Improved TTM
Quick glance of results	👍	👍👍	👍👍	
Dynamic reporting	👎	👍	👍👍	Publish report as dynamic page
Aesthetics & compatibility	👎	👍	👍👍👍	
Control & flexibility	👎	👍👍	👍👍👍	R-studio give more control
Training	👍👍	👍👎	👍👍	Relatively simple
Support	👍	👍👍	👍👍	
FTE's	👎	👍👍	👍👍	Reduced FTE's for data analysis
Costs	👍👍	👎👍	👍👍	
Maintainance	👎	👍	👎👍	
Ease of use	👍👎	👍	👍👍	

Example: https://confluencewikiprod.intra.infineon.com/display/RFMTELW/DOE_BGSA300AC

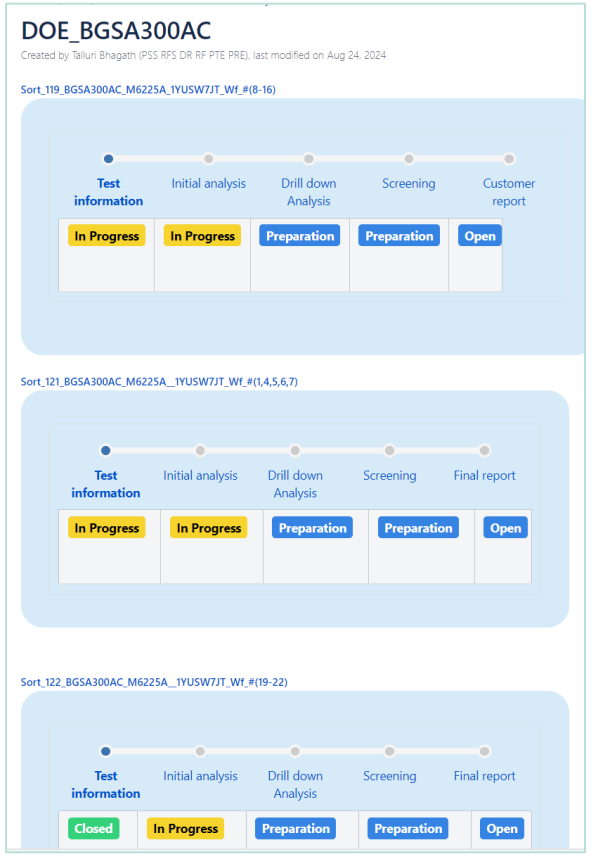
POM confluence page

– Level 1

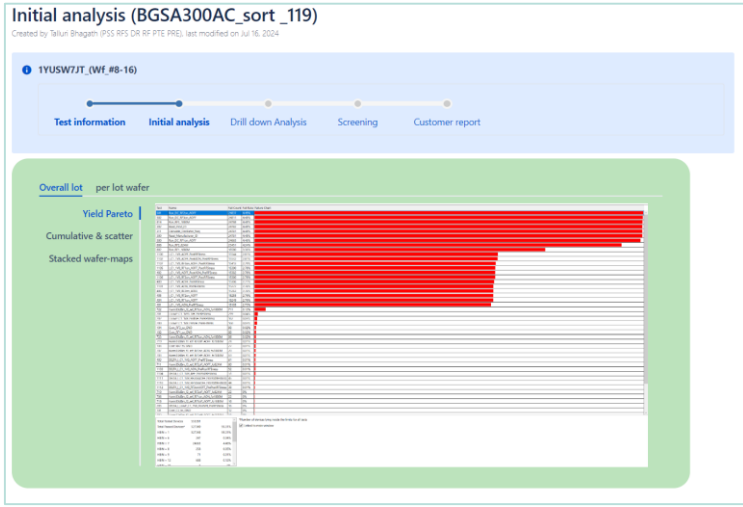




– Level 2



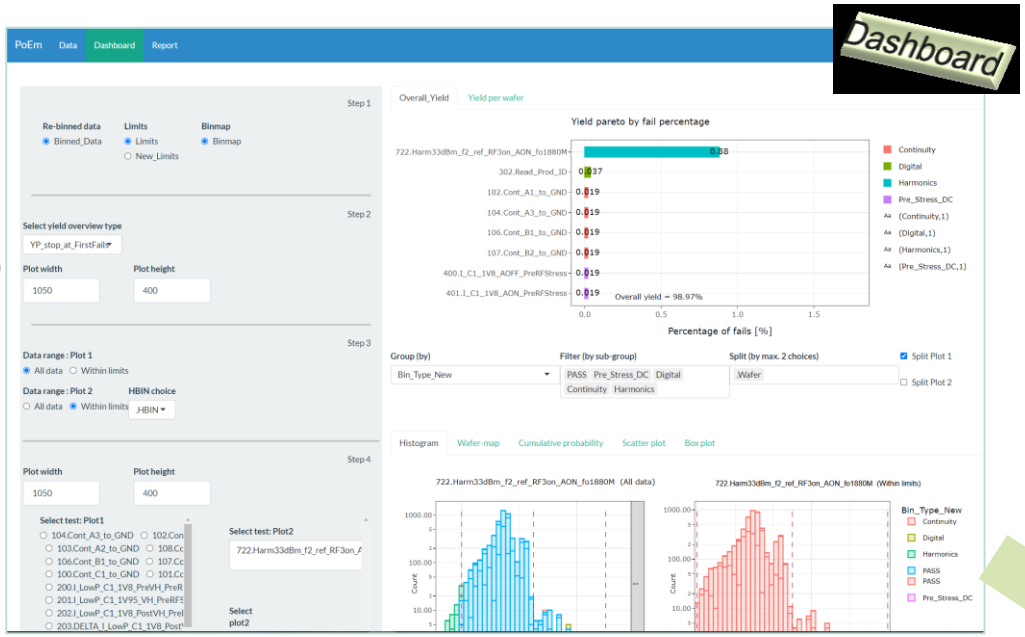
– Level 3

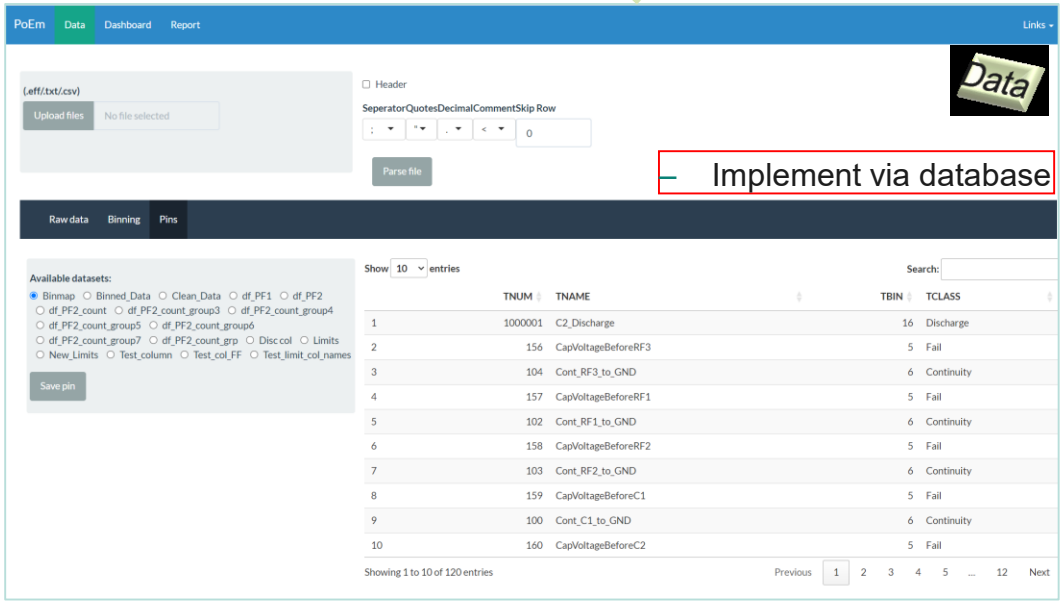


- Gives immediate context to the analyzed results
- All relevant data at one place and 2-3 clicks away
- Still manual way to create reports & upload to confluence
- Confluence is not a data storage solution (confluence police)

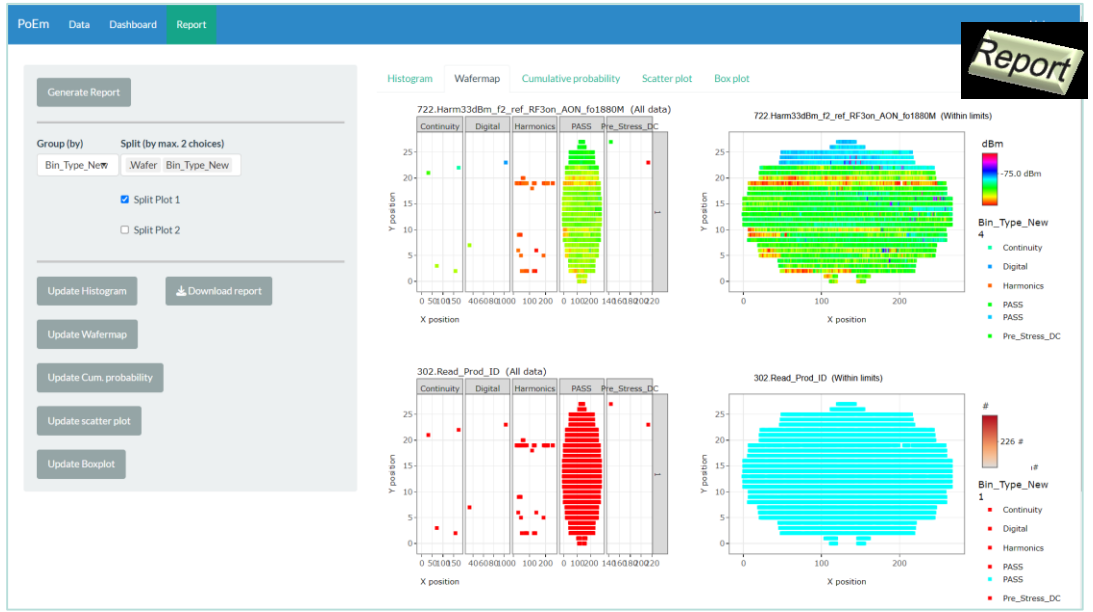
PoEm for POM

- R studio based Shiny App
- Advantages
  - Flexibility (Additional functionality)
  - Context & interactivity
  - Automated solution
- Limitations
  - Desktop version & Big data
  - Database



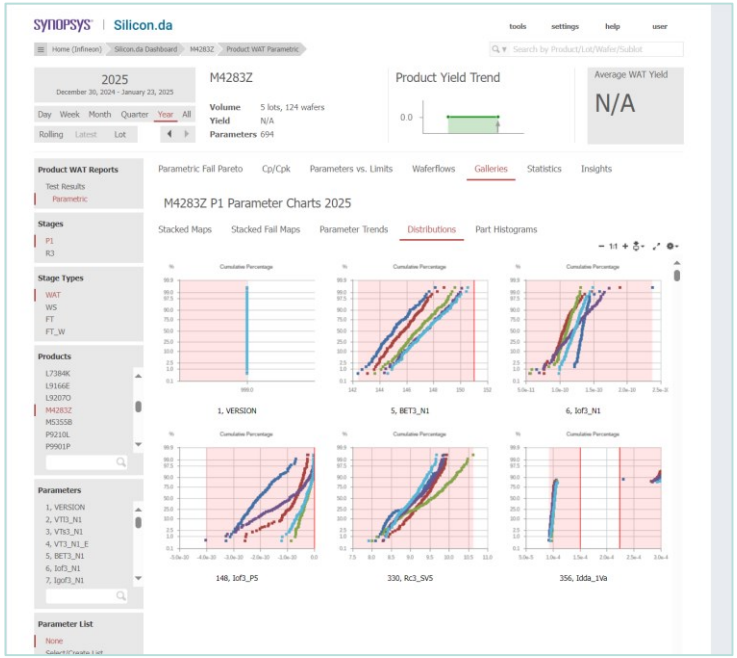


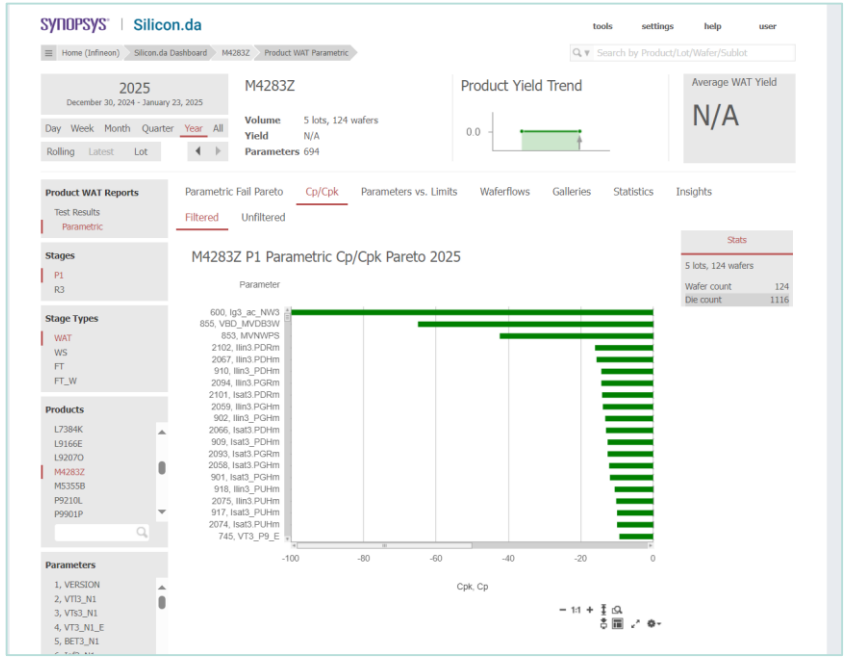
- Implement via database



- Next steps
  - Server version
  - SQL Database
  - Further automation of analysis tailored for POM needs

Silicon dash for POM





- Almost everything is pre-processed and pre-cooked including plots, yield calculations in the database.
- Possible to make own dashboards and generate with few clicks.
- Proposed as a holistic solution for IFX wide requirements

- POM data is not yet in the database
- Response to big data has to be checked
- Need to develop POM specific recipies

Relevant information

- IFX activity on data base & data analysis streamlining
  - PyAna: https://pydocs.eu-de-3.icp.infineon.com/tunnel/gen-css-eda-local/pyana/0.11.2/index.html
    - Contact: Schmidt Till (CSS OP PME DSI PAO MUC)
  - Confluence deployment templates: https://gitlab.intra.infineon.com/ifx/innersource/pyveco/examples/pyveco_examples/-/tree/main/pharaoh
  - IFXDEV cheatsheet: https://pydocs.icp.infineon.com/artifactory/gen-des-pyverify-ecosystem-docs-local/ifxdev/main/index.html
- POM confluence page
  - https://confluencewikiprod.intra.infineon.com/display/RFMTELW/RFS+D2+Product+and+Test+Engineering+Team
  - https://confluencewikiprod.intra.infineon.com/display/RFMTELW/IFXML_25
- Silicon dash
  - https://stage-silicon-da.icp.infineon.com/com.wafercloud.Application/Application.html#MainPlace:modeCode=P&pscope=PRODUCT&page=ProductWATParametric&key=PRD::Infineon::M4283Z::WAT::P1::P!!TIM::Y2025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