

WHAT IS THE COST FILE?

- Machine operators at Michelin enter production information (downtime, scrap weight, etc.) after each shift in a 'cost file'.
- Industrial Engineers (IEs) use this data to create recurring reports that:
 - Troubleshoot quality issues
 - Measure operator productivity
 - Identify machine issues
 - Optimize production

PROBLEM DEFINITION

KEY PROBLEMS

- Wasted Labour Time:** IEs manually create new cost-files and summary reports every month.
- Data Errors:** Operators occasionally mistype or accidentally delete data which skews the summary reports.
- No Historical Analysis:** It is very difficult to create long-term reports.
- Creating New Reports is Time-consuming.**

SOLUTION GOALS

- Reduce or eliminate IE involvement in monthly reporting.
- Prevent operators from inputting invalid data, or manipulating with past entries.
- Increase profits in the RDH Business Unit.
- Allow for >1 month historical reporting.

BACKGROUND

- Michelin is a tire manufacturing company, but also manufactures metallic wire and cable in its MAT/RM department.
- The RDH Business Unit handles a part of the overall cable production process.

NEW COST FILE SYSTEM

KEY IMPROVEMENTS

- Automated Reporting:** All recurring reporting is completely automatic and always updated up until the previous shift.
- Interactive Analysis:** Filterable reports and dashboards with the option for IEs to create new analyses quickly with little-to-no coding.
- Improved Data Validation:** Information entered is verified against a set of conditions to identify and prevent accidental mistypes.
- Faster Data Entry:** Operators enter less data compared to the old system
- Comprehensive Documentation:** Includes instructions for using and maintaining all aspects of the system, both for IEs and operators.
- Easily Scalable:** The system is built to be copied across to other Business Units with minimal modification.

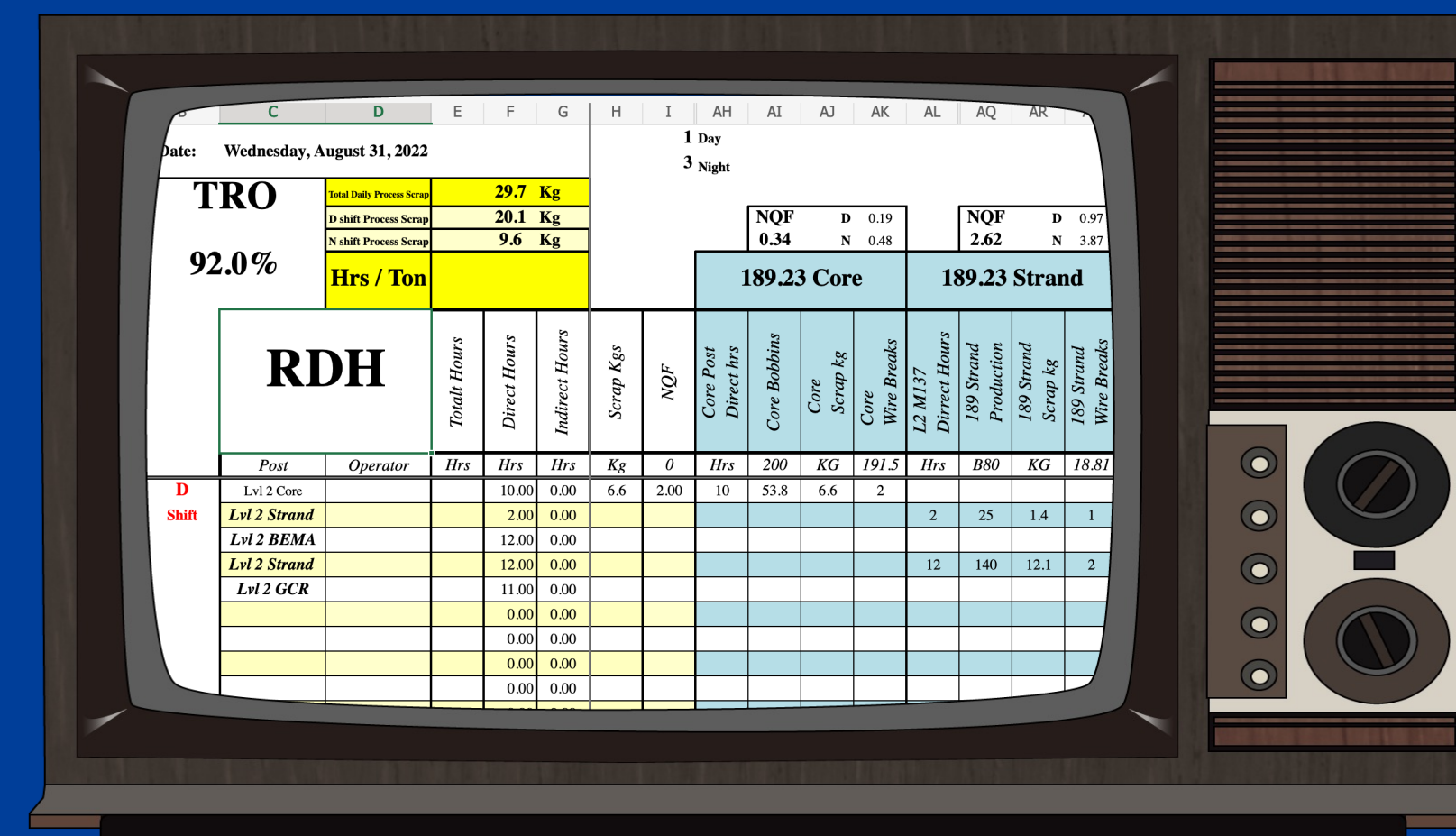
\$26

ADDED COST PER MONTH



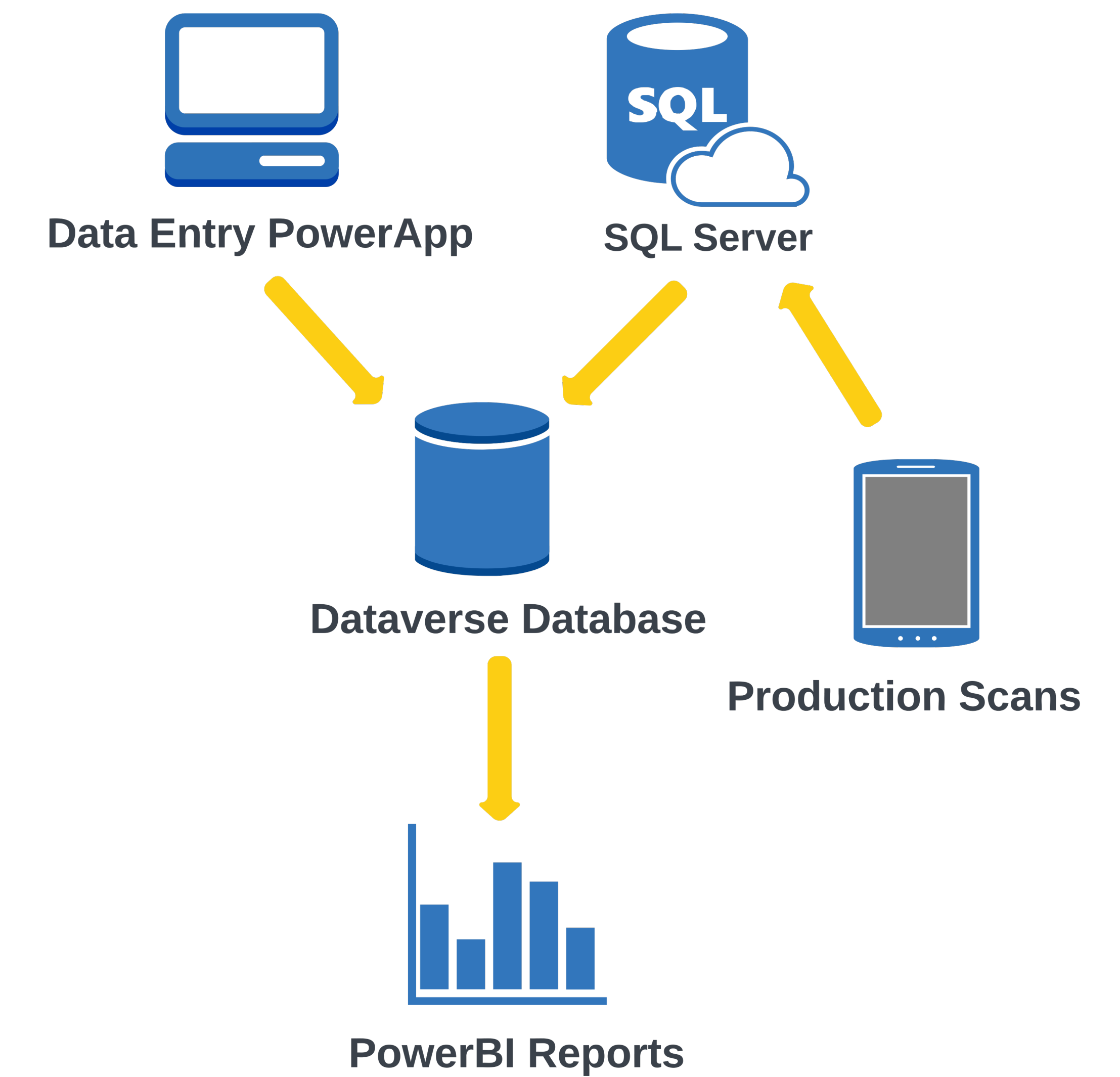
CURRENT SYSTEM SUMMARY

- Excel workbook with a new sheet for each day.
- No protection against mistaken or invalid entries.
- RDH IE creates monthly summaries manually
- No long-term (>1 month) analysis or reporting possible.



TECHNICAL DETAILS

OVERALL DATA FLOW CHART



The new RDH Cost File system relies heavily on the Microsoft Power Platform suite:

- PowerApps:** Hosts an app used by operators to enter shift information, and by IEs to manage the system (edit users, products, etc.).
- Dataverse:** Contains a relational database that stores all data generated by the system.
- PowerAutomate:** Imports production scan data to Dataverse from an existing SQL server using 'flows' (customized scripts/sets of instructions).
- PowerBI:** Used by IEs to make live, interactive reports and dashboards using the Dataverse data.

