## POWER BIUSER GROUP SESSION 4 MARCH 24, 2022



Facilitated by: Steve Dunlop

Angus McLeod

Roy Vasher



### Agenda

- Opening Remarks and Review of Agenda
- Introductions new attendees only
  - $\,\circ\,$  Name, Company, and level of experience with Power BI
- Presentation by Dennis Rausch, VP Information Technology, Rea Magnet Wire Company
   Enterprise Data Sources
- Presentation by Kyle Smith, IT Supervisor, Nucor
  - $\,\circ\,$  Connection to real-time data to display up-to-date information
- Presentation by DCMME, Student Project Team
  - Building Power BI Dashboard from a sketch Step by Step process
- Google File Sharing vs Teams Option
- Closing Remarks Next Meeting



**PowerBI:** Enterprise Data Sources Examples from Rea





### Microsoft PowerBI Pro - Prerequisites

**Versions** 

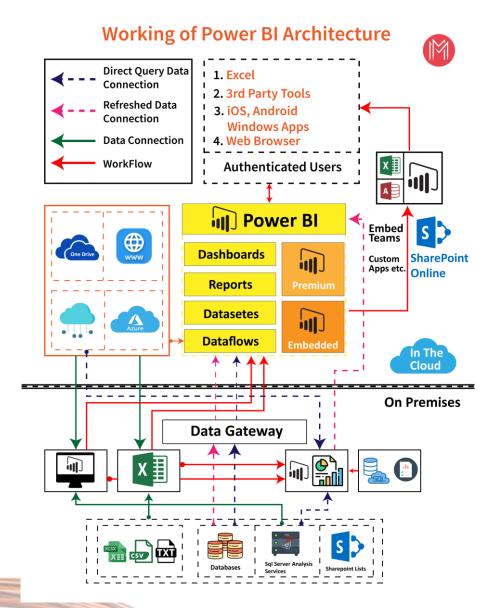
- PowerBI Desktop (Free)
- PowerBl Premium

**Prerequisites** 

- Nature AD
- Notice 365 Suite
- PowerBI Gateway Software installed (free download)



## Diagram



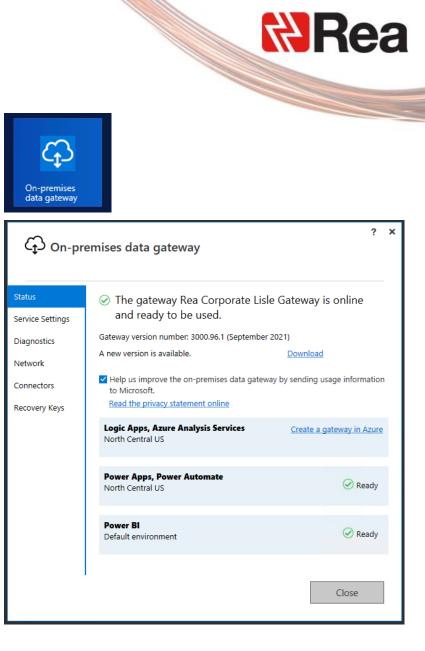
Demonstration will be focused to the data gateway:

- Setup the gateway
- How to connect to these 3 data sources:
  - Nicrosoft SQL
  - Typical ODBC Compliant Database
  - 🛚 Excel
- Publishing to the cloud (mapping the data)
- Scheduling a data refresh

Rea

## Live demo: Setup the Gateway

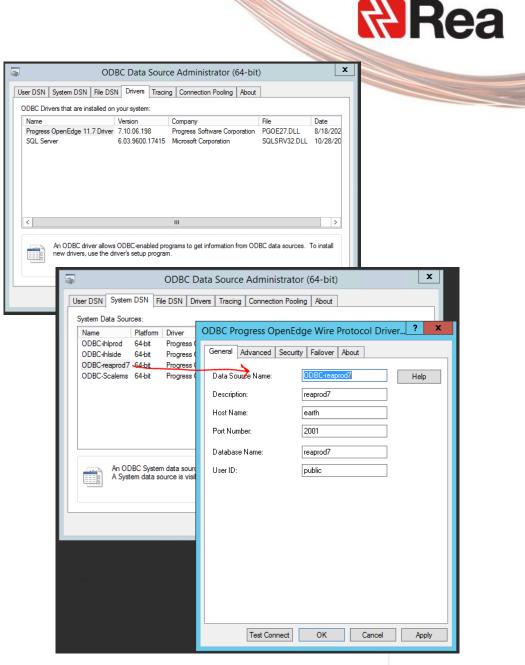
- At Rea, we have the Azure Gateway and the PowerBl Gateway running on the same server
- 。Review Installation and Configuration
- 。Regular Updates
- Gateway runs as a service consider file permissions to things like Excel files on your Enterprise Network – That service account needs to have at least read privileges



## Live demo: Setup the Gateway

Also Installed on the Gateway Server

- Install the ODBC Drivers for non-Microsoft SQL databases
- Use ODBC64 (or ODBC32) data source administrator to create a data source
- Provide connection credentials, Test Connection, Save

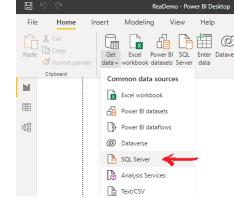




### Live Demo: How to Connect to these data sources

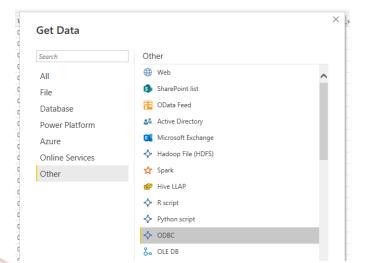
### Nicrosoft SQL Server

### Get Data → SQL Server

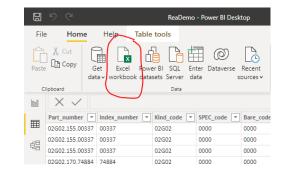


### General ODBC Data source

Get Data  $\rightarrow$  more...  $\rightarrow$  other  $\rightarrow$  odbc



### 🛚 Excel File



## Change Drive Letter Mapping to UNC Naming Convention

Example: Change this: s:\powerbi\productiondata\scrapgoals.xlsx

#### to this:

\\co-fileserver\fw\_shared\_data\powerbi\productiondata\scrapgoals.xlsx

## Rea

## Data Source Settings (summary)

Data source settings lanage settings for data sources that you have connected to using Power BI Desktop.	
Data sources in current file O Global permissions	
Gearch data source settings	2.
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odsn=ODBC-ReaProd7	

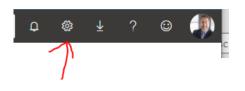
### 3 Examples Shown

- 🛚 Excel File
- ODBC Data source
- Microsoft SQL database

9

## Live Demo: Manage Gateway (in Cloud)

- Navigate to <a href="https://powerbi.com">https://powerbi.com</a>
- Authenticate (as needed)
- No to Settings



- Must be an Administrator in PowerBI Cloud
- Review Gateways Clusters
  - Rea just has one Gateway
  - Create your data sources
  - Names can be the same or different
  - Provide credentials as needed

ADD DATA SOURCE
GATEWAY CLUSTERS
💦 Rea Corporate Lisle Gateway 😱
ODBC-Scalems
IT SharePoint Site
AS_MES_DB
ODBC-reaprod7
Laf_MES_db
PDS - Plant Operations DB - Oven Utili
Production Data
CL SQL DB1 ops_reporting
PDS - OEE Database
NH_MES_DB
ODBC-ihlside
Corporate S: Drive
CL CyberQuery Server Share
Test all connections

✓ Connection Successful	
Data Source Name	
Corporate S: Drive	
Data Source Type	
Folder	~
Full path	
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Windows username Windows password Skip Test Connection	ises on the gateway server. <u>Learn mor</u>
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## Live Demo: Mapping Data sources

- Navigate to <a href="https://powerbi.com">https://powerbi.com</a>
- Authenticate (as needed)
- Go to the workspace

lew 🗸			
II Content Datasets + dataflows			
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🛢 ReaDemo Č		Dataset	Dennis Rausch
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	Cr	reate report	
	Cr	reate paginated rep	ort
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	G	et quick insights	
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	Vi	iew lineage	

# Rea

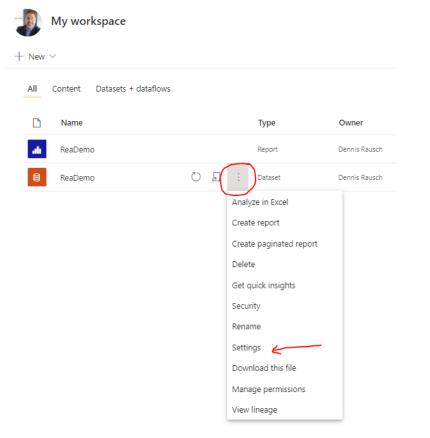
Apply	Discard				
▲ Gateway	connection				
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### Map each data source



## Live Demo: Schedule a Data Refresh

- Navigate to <a href="https://powerbi.com">https://powerbi.com</a>
- Authenticate (as needed)
- 🛚 Go to the workspace



Scheduled refresh

Keep your data up to date



#### **Refresh frequency**

Daily

#### Time zone

(UTC-05:00) Eastern Time (US and Ca 🗸

#### Time

3 **v** 00 **v** AM **v** X

#### Add another time

Send refresh failure notifications to
Dataset owner

These contacts:

Enter email addresses

Apply Discard



## Questions







KYLE M. SMITH, PMP – IT SUPERVISOR 💷 SCAN ME

## INTRODUCTION

NUCOR STEEL INDIANA NUCOR CORPORATION (NUE) CRAWFORDSVILLE, INDIANA

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### THE CHALLENGE

- $\circ$  Reactive data
- o IT produces everything
- Traditional paginated reports
- Poor user experience
- Performance issues

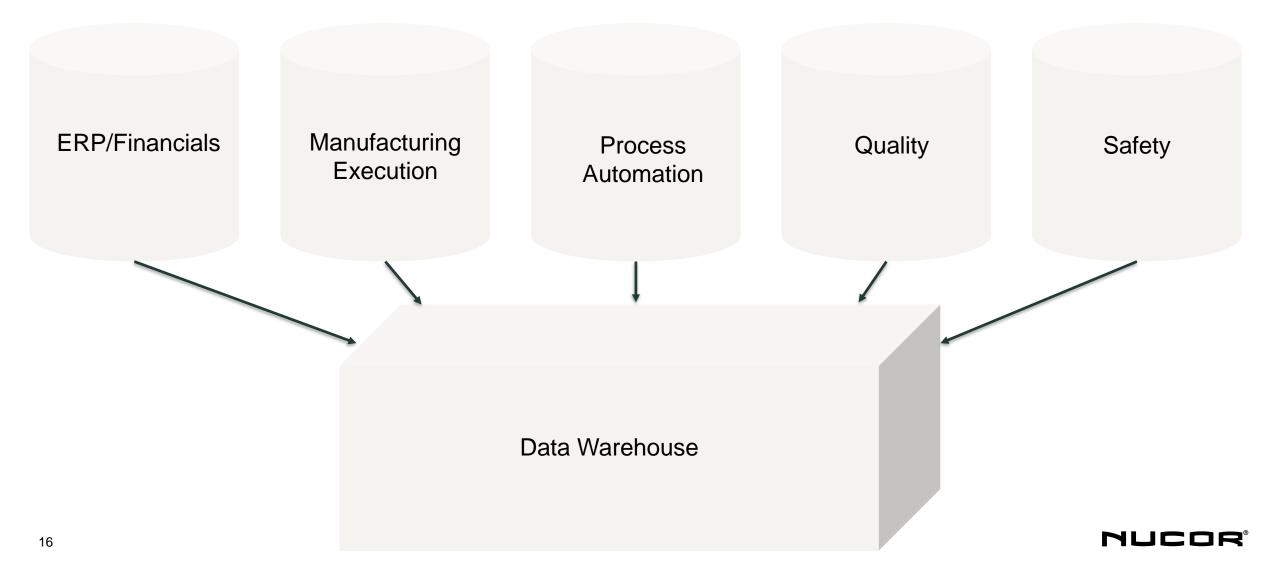


Legacy Reporting System Enterprise Resource Planning & Financials Production Database

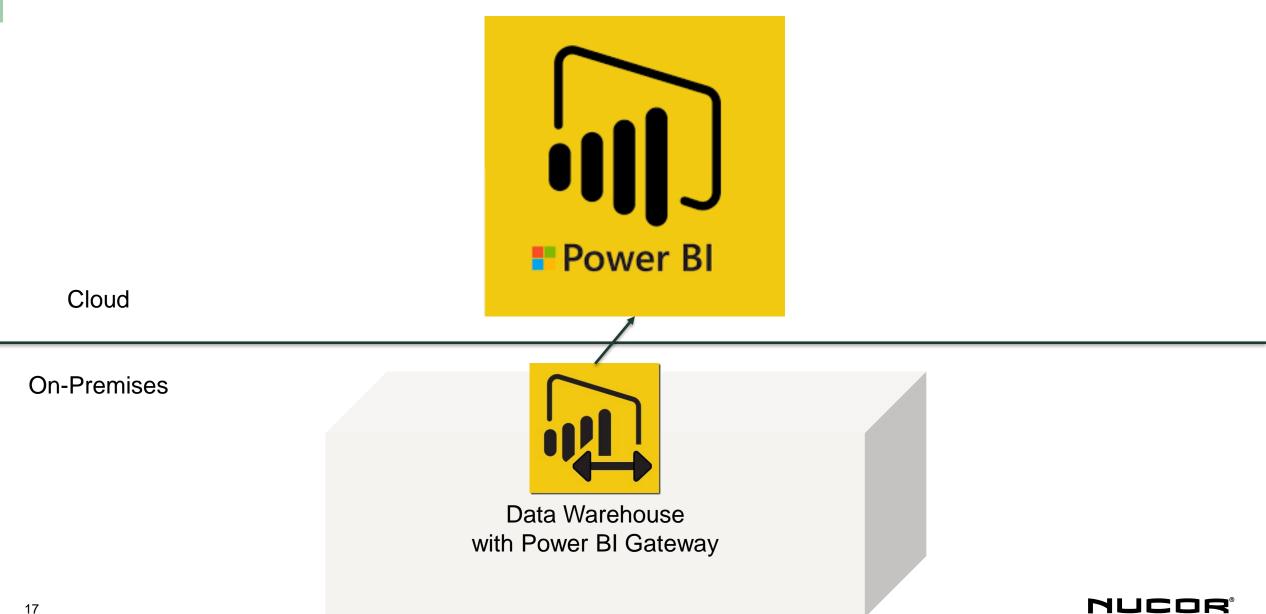
Manufacturing Execution System Production Database



### **CHANGING THE MODEL: DATA REPLICATION**

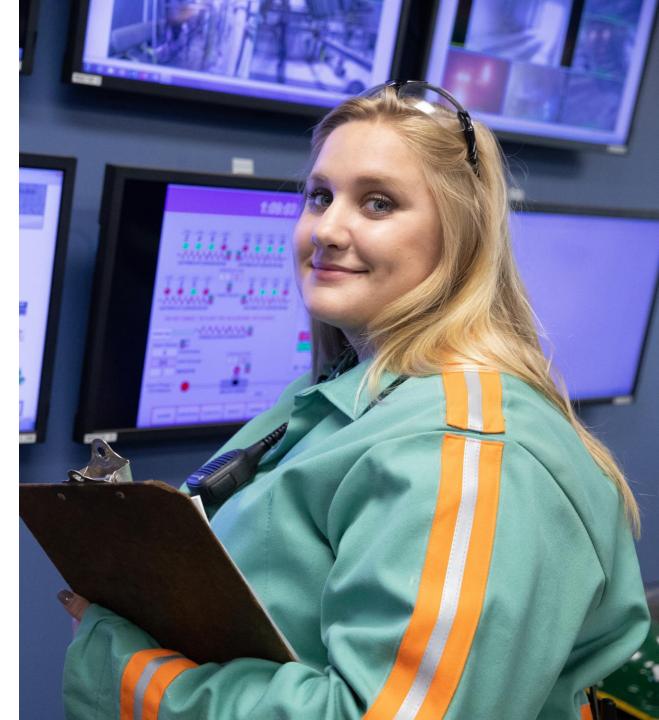


### **CHANGING THE MODEL: NEW REPORTING TOOL**

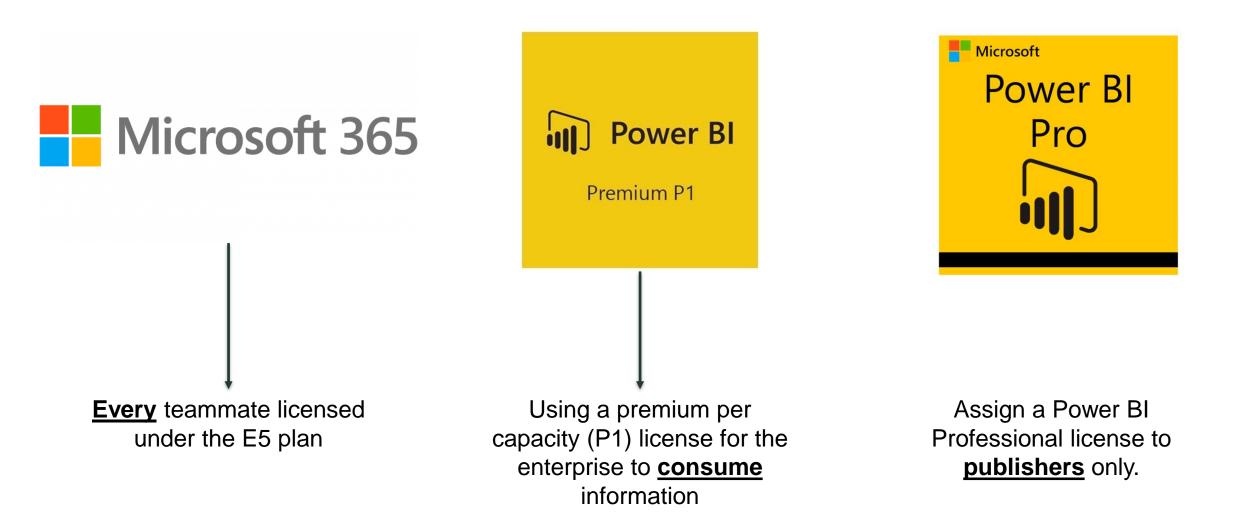


### **BUILDING THE TEAM – IDENTIFYING NEEDS**

- Database Administrator
- Developer focus on ETL (extract, transform, load)
   development
- Developer focus on BI development in Power BI
   Desktop and Power BI Paginated Report Builder
- Data replication tool
- Data warehouse infrastructure
- Power BI gateway
- Office 365 licensing



### **MICROSOFT LICENSING FOCUS**



### NUCOR

### PREPARING AND CREATING WORKSPACES

- Ask questions
  - Who will consume this data?
  - Who should not see the data?
  - $\circ~$  Who will need to publish updates?
- Create workspaces with deployment pipelines (Dev, Test, QA, Prod)
- Set permissions with Active Directory accounts and security groups
- Convert workspace to Premium Per Capacity

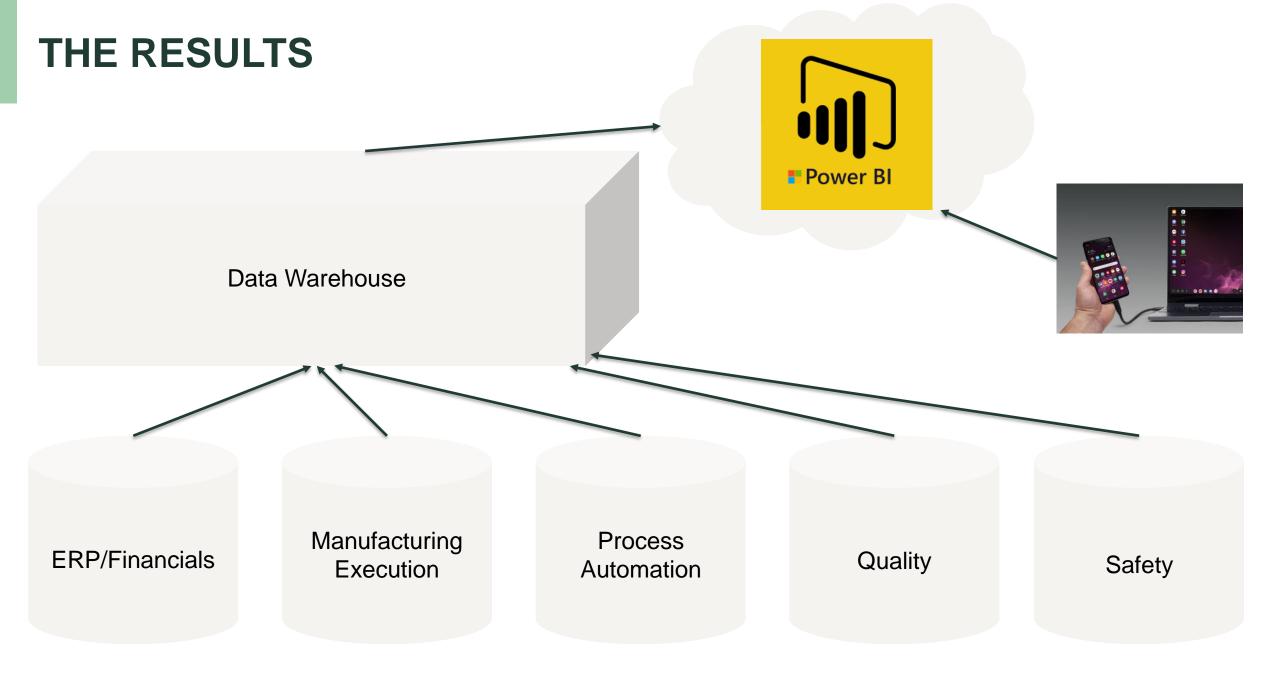


### PUBLISHING

- $\circ~$  Publish to production workspace
- Use a Power BI Published App
- Setup e-mail notifications to alert consumers

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### NUCOR®

### THE RESULTS



- Proactive data
- Publishers build and produce reports
- Real-time visual reports or paginated reports
- AMAZING user experience
- No performance issues
- IT empowering business process experts

## POWER BI FOR DATA VISUAL DASHBOARDS

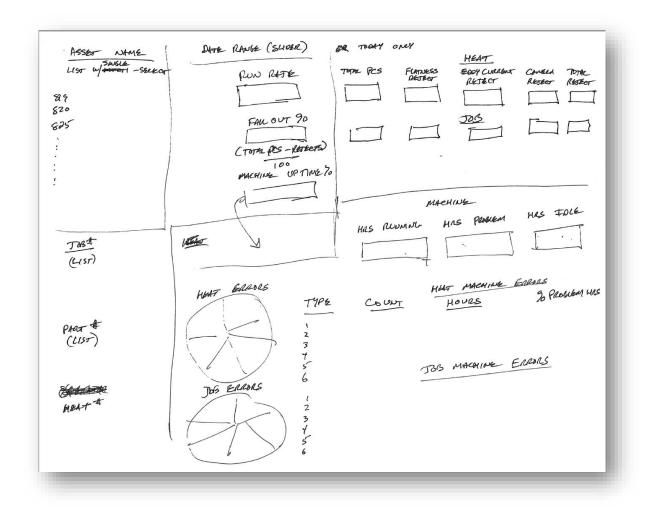
**Project: Power BI IIoT Analytics Dashboard** 



## Purdue Student Presentation for MPI

### The start

- Data coming from different databases, over 15 tables each running into multiple thousands of rows
- How data from multiple sources is related
- A paper sketch of data visuals expected from this data
- A meeting with the client to understand data and expectations





### Power BI vs. Excel

### **Key Differences**

- Visualizations
- Data Discovery:
  - Excel stores data in tabular form
  - Power BI store data in tables
- Automation: ETL (Extract, Transform, Load)

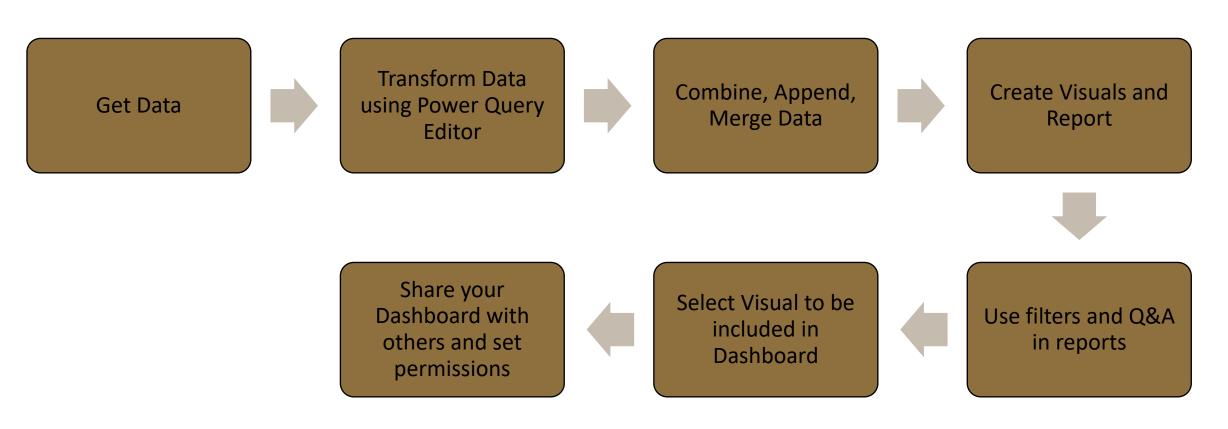
Power BI query editor lets your record each step used to manipulate your data set

Excel is a powerful tool, but Power BI is superior for data visualization and discovery





### Steps followed





### The dashboard

	Cut Copy Format painter Clipboard	Excel Power BI SQL Enter workbook datasets Server data	Dataverse Recent sources v	visual box visuals	New Quick Sensitivity	Publish	
	Asset 805 Washer Sorter 806 Winged Washer S	Running	10/24/2021 10/29/2021	HEAT	JOB	Visualizations >	Fields
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### Weekly Meeting towards MPI Power BI Project - Zoom

## THANK YOU

Vikram Narendra



Rajinder Budhiraja



MS GLOBAL SUPPLY CHAIN MANAGEMENT, PURDUE UNIVERSITY, 2021

MICRO MASTERS IN SUPPLY CHAIN, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, (MIT) 2010

6+ YEARS OF EXPERIENCE IN DEMAND PLANNING AND NETWORK OPTIMIZATION MS GLOBAL SUPPLY CHAIN MANAGEMENT, PURDUE UNIVERSITY, 2021

MBA (FINANCE), INSTITUTE OF CHARTERED FINANCIAL ANALYSTS OF INDIA (ICFAI UNIVERSITY), 2009

10+ YEARS OF EXPERIENCE ACROSS IT, RETAIL, DISTRIBUTION AND HOSPITALITY



### Power BI Group – Shared 'DRIVE' Resources

- Idea: Provide a file sharing option for Power BI Users to share resources
  - Option 1: Teams shared folders
  - Option 2: Google Drive see example below

When invited to Join this group (Google DRIVE email) you will be linked to:

https://drive.google.com/drive/folders/12qs80WnuIq7VedGehch1dcNEDZITAhSB?usp=sharing

- You will see a number of named folders that include information files, links, videos, white papers etc., for example:
  - Use Applications (Cases)
  - Starter Resources
  - Intermediate Resources
  - Advanced Skills Resources
  - Glossary of Terms...



### Wrap Up

- Open Discussion
- Volunteers for Presenting at next meeting
- Next Meeting June-July?

## POWER BIUSER GROUP SESSION 4 MARCH 24, 2022



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Roy Vasher

