

Dashboard in a Day

Power BI

<instructor>

October 2022 version

Prerequisites and setup steps

- At minimum, a computer with 2-cores and 4GB RAM running Windows 8 / Windows Server 2008 R2, or later
- **Display:** At least 1440x900 or 1600x900 (16:9) recommended.
- **Internet connectivity:** You must have the ability to connect to the Internet outside your organization
- **Microsoft Power BI Desktop installed:** you should have downloaded and installed Power BI Desktop from the Microsoft Store <https://go.microsoft.com/fwlink/?linkid=2135345> or from the download center <https://go.microsoft.com/fwlink/?linkid=2135519>
- Microsoft Power BI Desktop requires Internet Explorer 10 or later.
- **Signup for Power BI:** Go to <http://aka.ms/pbidiadtraining> and sign up for Power BI with a business email address. If you cannot sign up for Power BI, let the instructor know.
- If you have an existing account, please go to <http://aka.ms/pbidiadtraining> and **Sign in** using your **Power BI account**
- **Attending Online session** – you must get the meeting invite and synchronize with the presenter prior to the event start for online attendance computability

Agenda (times are approximate and will be fluid with the class)

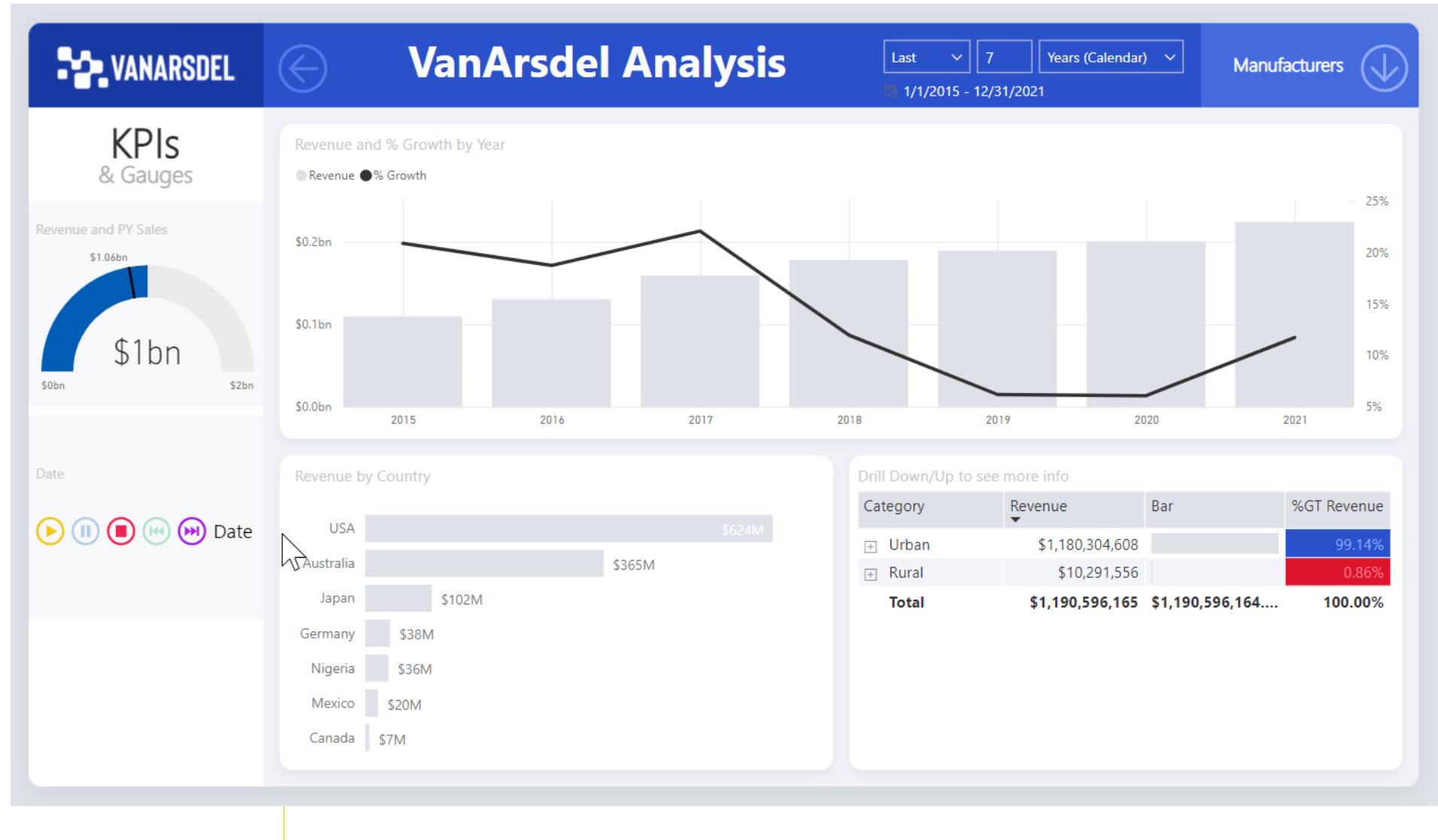
Morning

09:00 AM – 10:00 AM	Introduction to Power BI and Power BI Demo
10:00 AM – 10:30 AM	Lab 1 Accessing & Preparing the data
10:30 AM – 10:45 AM	Break
10:45 AM – 11:15 AM	Lab 1 Solution + Questions
11:15 AM – 11:45 AM	Lab 2 Data Modeling and Exploration
11:45 AM – 12:15 PM	Lab 2 Solution + Questions
12:15 PM – 01:00 PM	Break for lunch

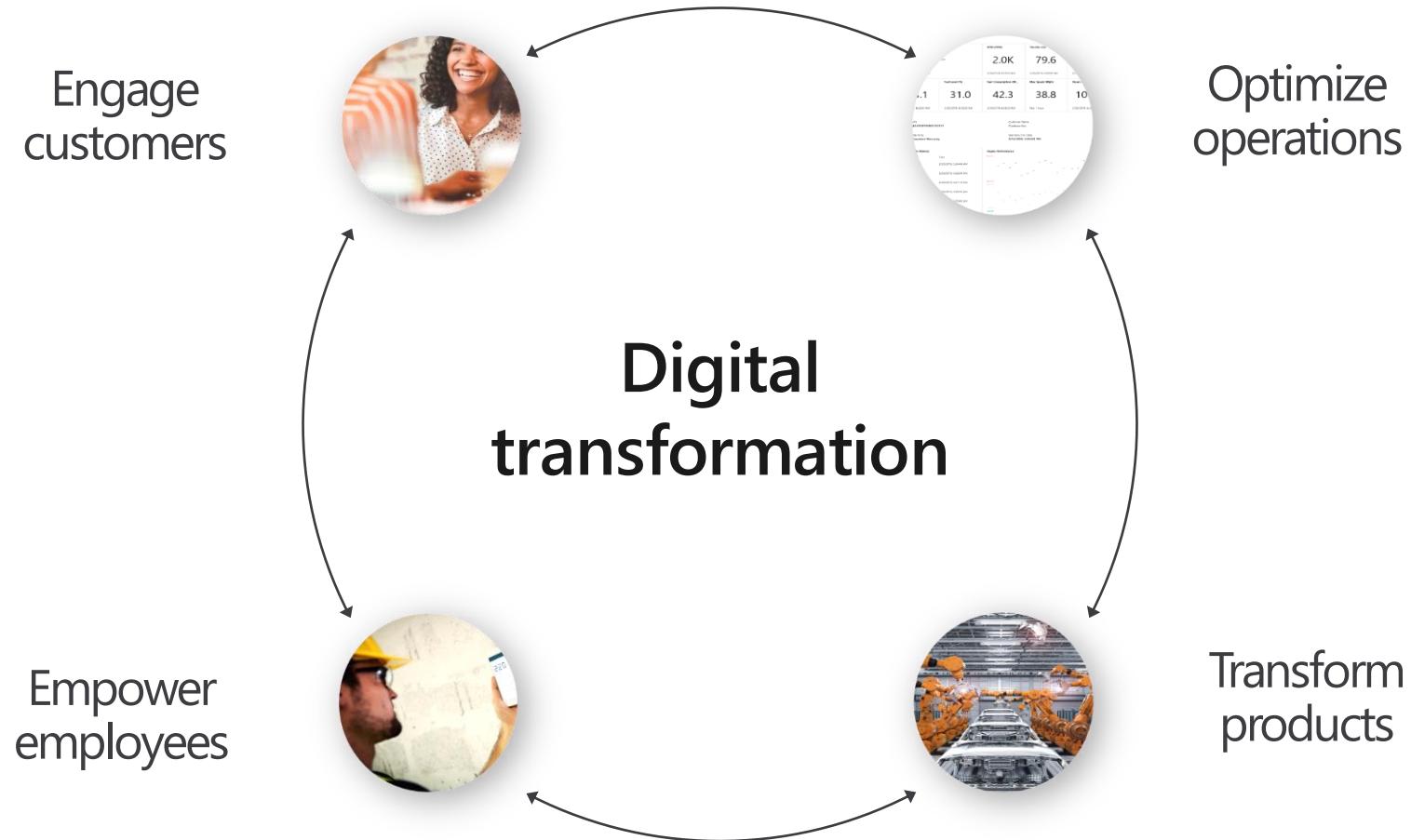
Afternoon

01:00 PM – 01:30 PM	Lab 3 Visualizations
01:30 PM – 02:00 PM	Lab 3 Solution + Questions
02:00 PM – 02:30 PM	Lab 4 Publishing and accessing Reports (optional Power BI Service demo)
02:30 PM – 02:45 PM	Break
02:45 PM – 03:15 PM	Lab 4 Solution + Questions
03:15 PM – 03:45 PM	Lab 5 Building a Dashboard and Sharing
03:45 PM – 04:15 PM	Lab 5 Solution + Questions
04:15 PM – 05:00 PM	Q&A

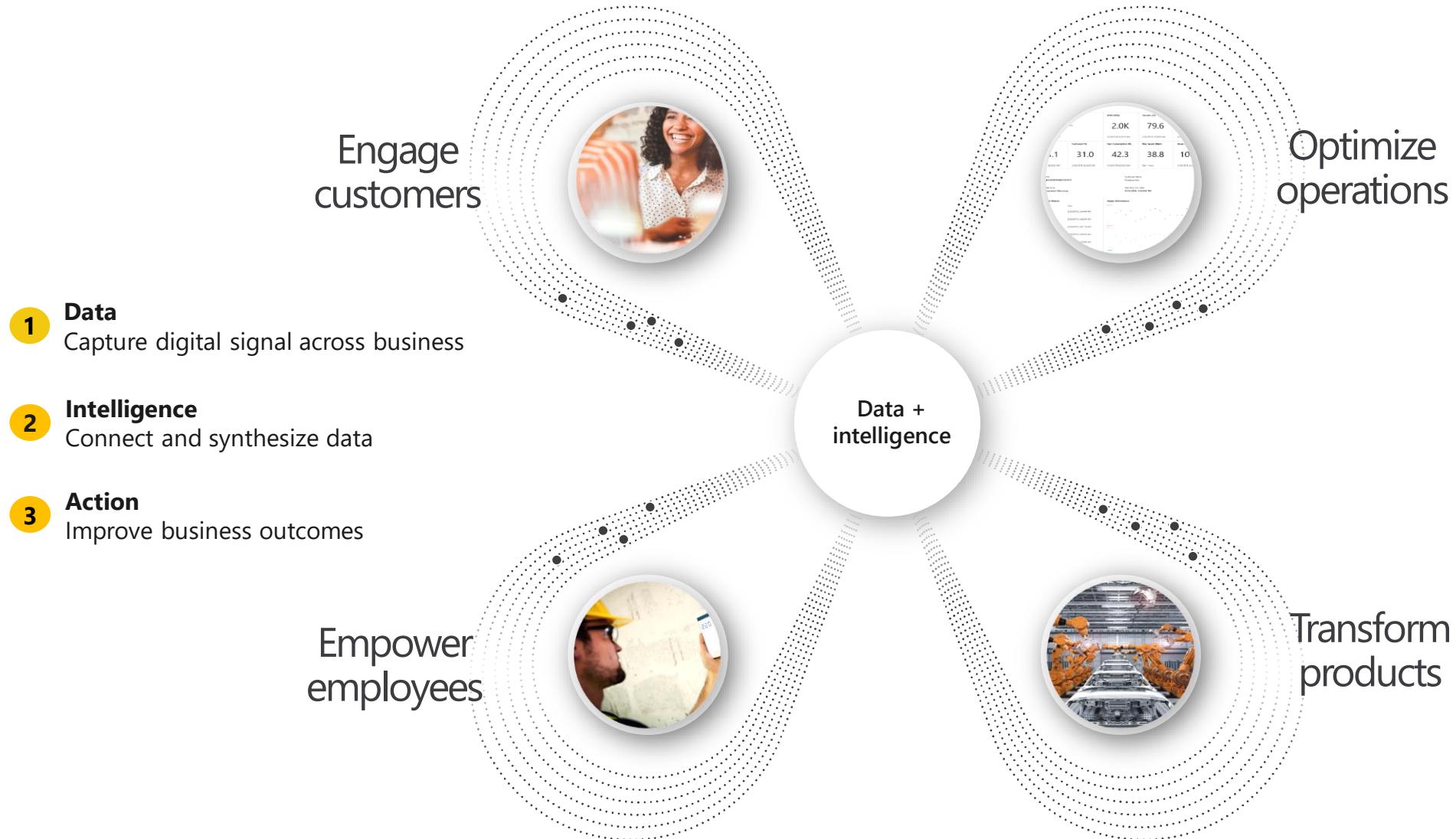
Dashboard in a Day



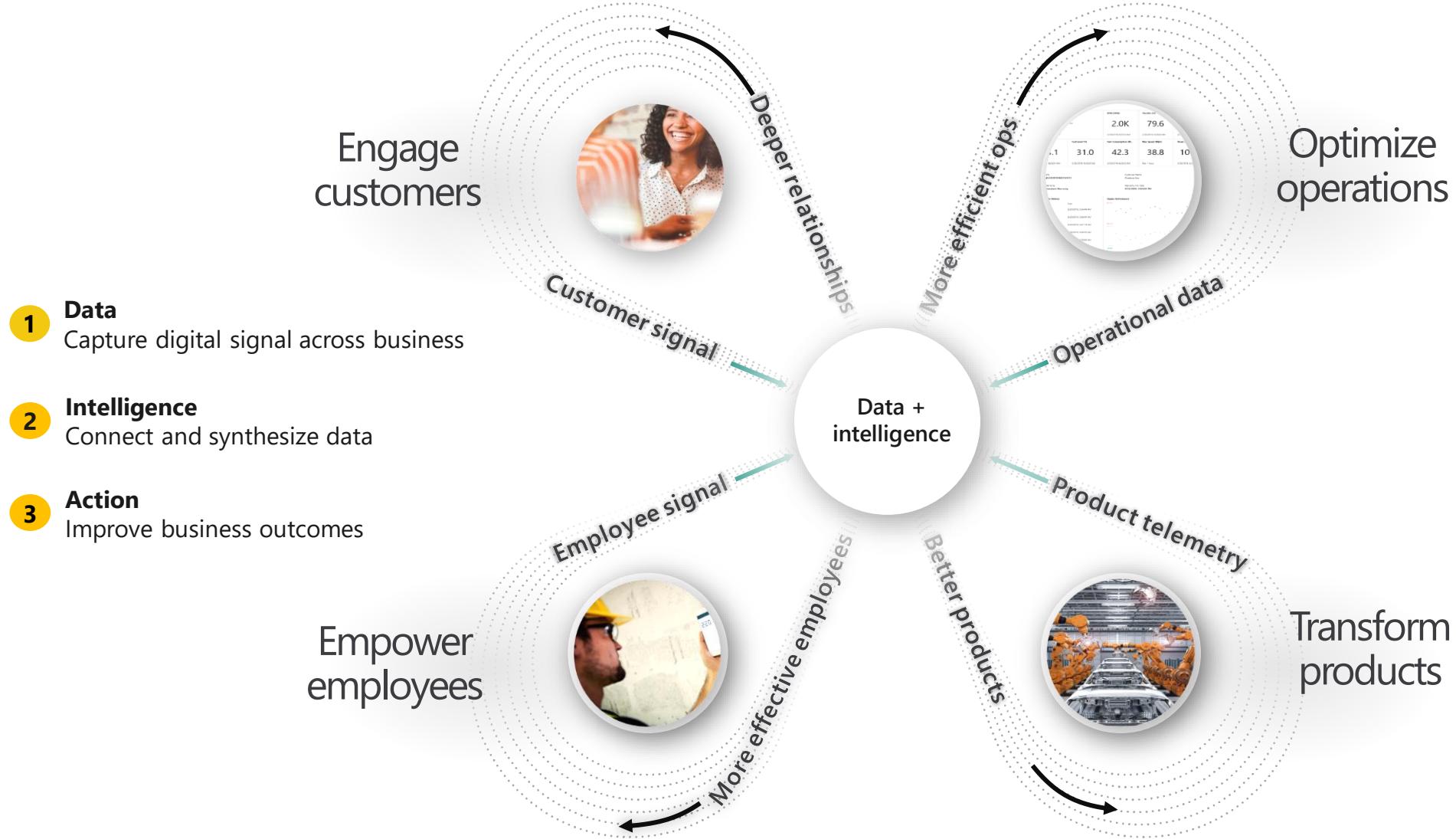
Digital Transformation



Digital Feedback Loop



Digital Feedback Loop



Microsoft Power Platform

The low-code platform that spans Office 365, Azure, Dynamics 365, and standalone applications
Innovation anywhere. Unlocks value everywhere.



Power BI
Business analytics



Power Apps
Application development

- Canvas Apps
- Model-driven Apps



Power Pages
Secure business websites



Power Automate
Process automation

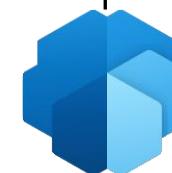
- Cloud Flows & Teams Flows
- Business Process Flows
- Desktop Flows



Power Virtual Agents
Intelligent virtual agents



Data connectors

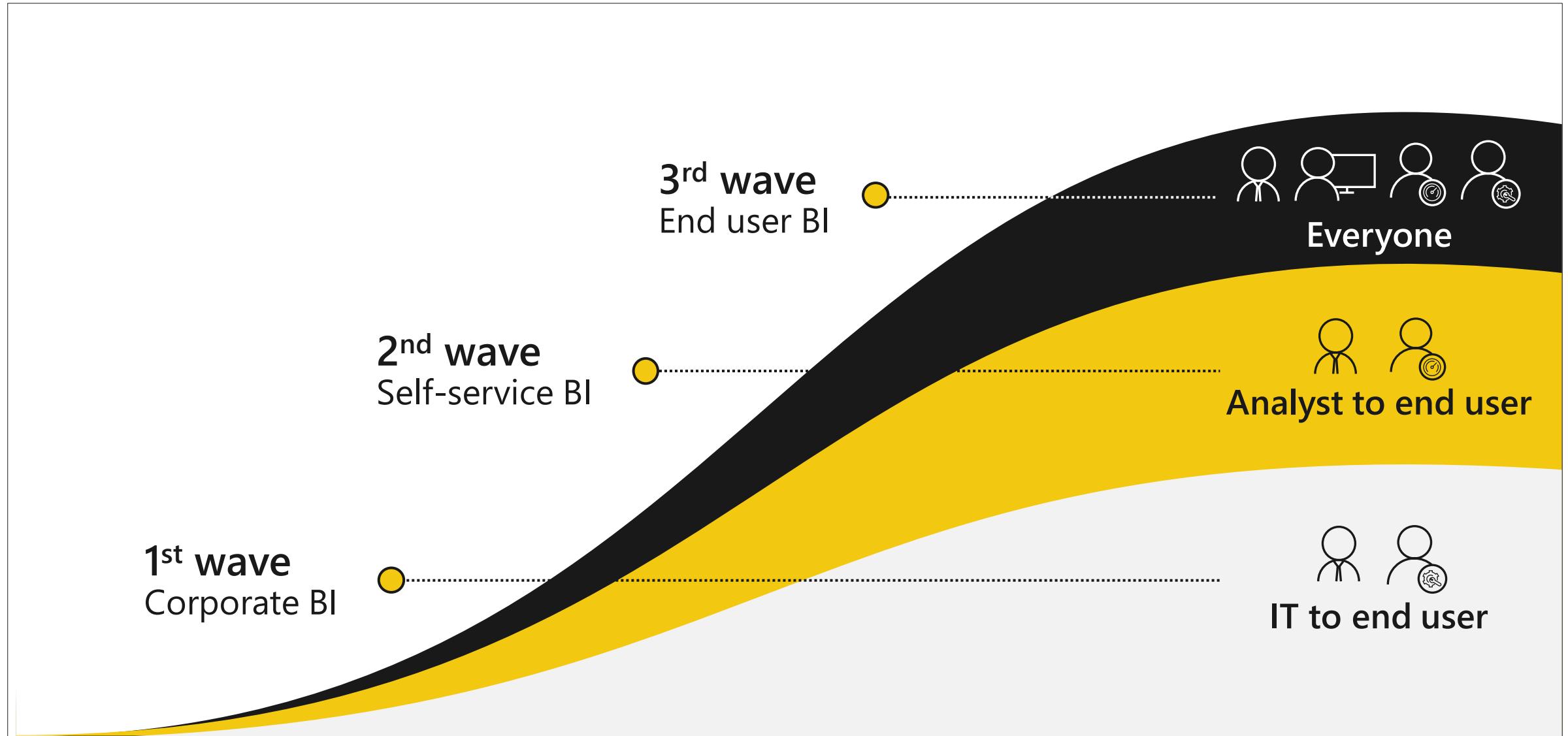


AI Builder

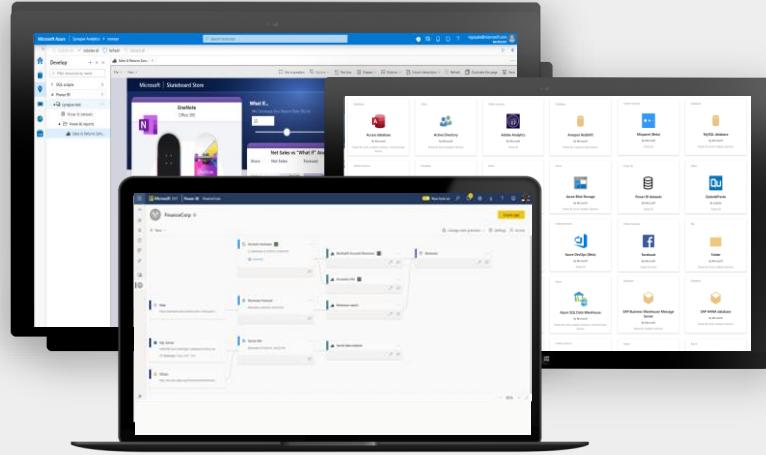


Dataverse

The Evolution of BI



Power BI



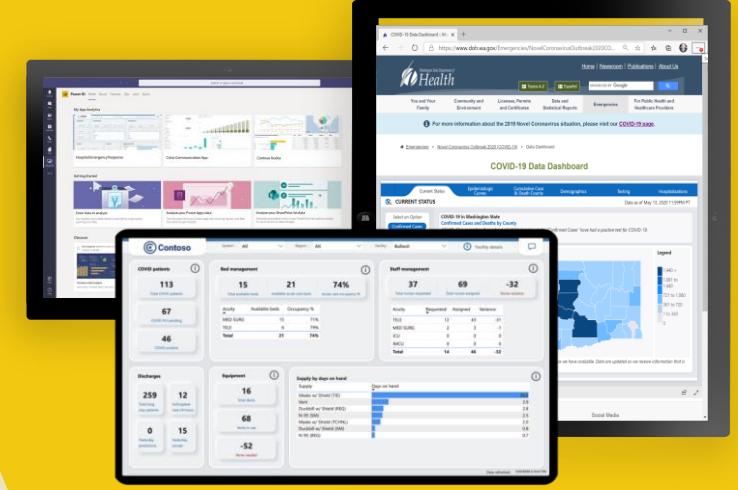
All Data

Break down data silos and enrich your data with intelligence



For Everyone

Create rich-interactive data experiences with AI infused insights



For Every Decision

Integrate trusted and secure BI into the fabric of your organization and apps

Power BI drives a data culture for everyone and every decision

Why Power BI?



Power BI Desktop is free



Real time dashboards and interactive reports



Natural Language query & AI insights



Custom visualizations and custom connectors

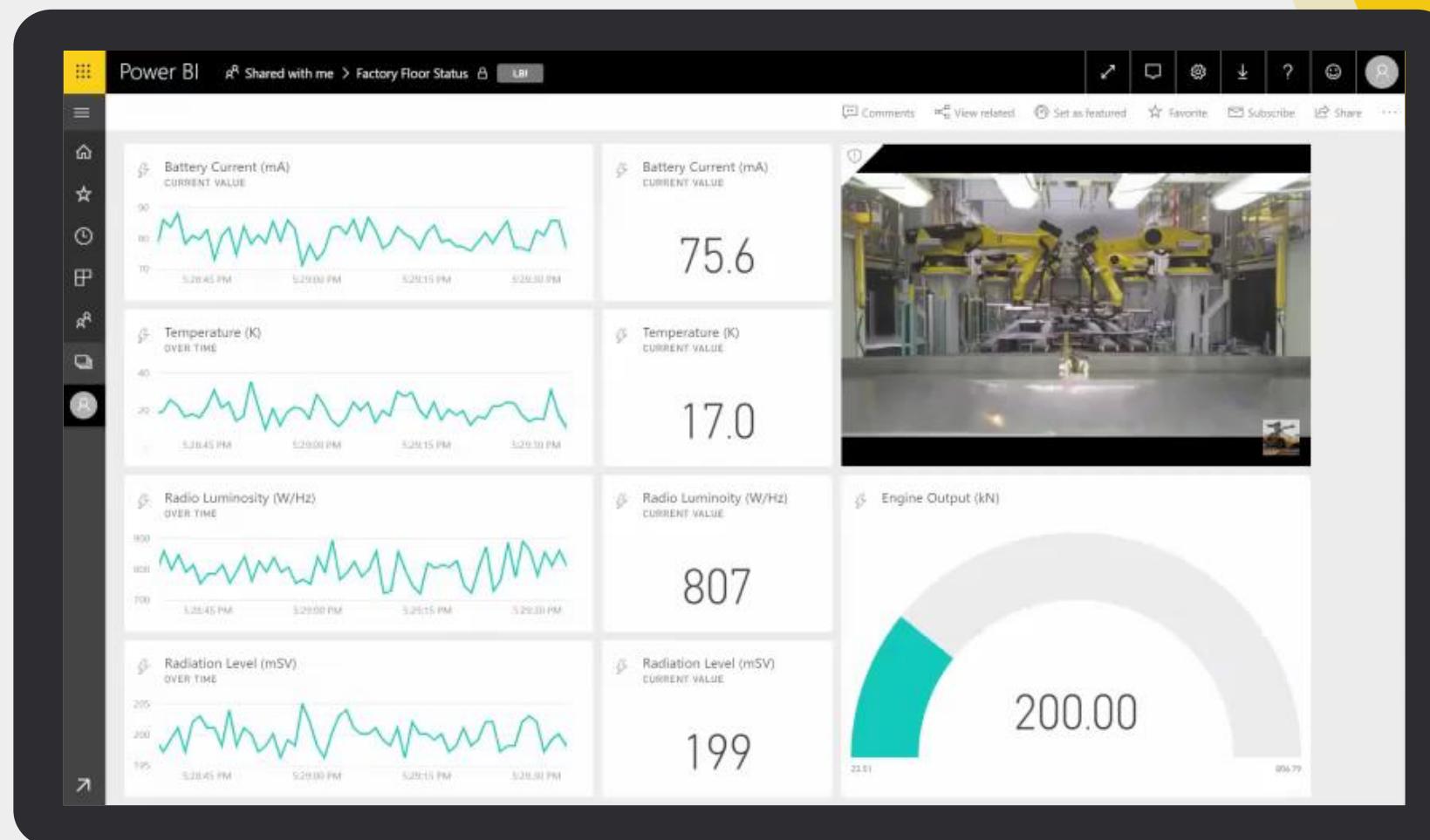


Integration with Excel, Power Point, SharePoint and Teams

Power BI Desktop is free

The screenshot displays a Microsoft Power BI Desktop interface. The ribbon at the top includes File, Home, Insert, Modeling, View, Help, External Tools, and Table tools. The Home tab is selected, indicated by a yellow bar. The main area shows a dashboard titled "Microsoft | Skateboard Store". The dashboard features a "What If..." section where users can decrease the return rate from 25% to 0%. It also includes a table comparing Net Sales and Forecast across various stores, and a line chart showing the forecasted trend over time. A sidebar on the right lists various visualizations and fields, with "Analysis DAX" selected. The bottom of the screen shows navigation buttons and a footer with copyright information.

Real time dashboards and interactive reports



Natural Language query & AI insights

The screenshot displays the Microsoft Power BI desktop application. On the left, the 'Ask a question with Q&A' pane shows a query: 'show total global sales by genre'. Below it is a horizontal bar chart titled 'Genre' with 'Global_Sales' on the x-axis, ranging from 0 to 2,000. The genres listed on the y-axis are Action, Sports, Shooter, Role-Playing, Platform, Misc, Racing, Fighting, Simulation, Adventure, Puzzle, Strategy, Action-Adventure, Music, Sandbox, Party, MMO, Visual Novel, and Board Game. The bars show sales values: Action (~1800), Sports (~1400), Shooter (~1200), Role-Playing (~1000), Platform (~800), Misc (~700), Racing (~600), Fighting (~500), Simulation (~400), Adventure (~300), Puzzle (~200), Strategy (~150), Action-Adventure (~100), Music (~50), Sandbox (~20), Party (~10), MMO (~10), Visual Novel (~10), and Board Game (~10). In the center, there are two visualizations: a donut chart titled 'Number of games by publisher' showing percentages for four publishers, and a bar chart titled 'Sentiment by platform' showing sentiment scores for five platforms. On the right, the 'Visualizations' pane lists various chart types, and the 'Filters' pane contains settings for the current visualization.

Ask a question with Q&A

show total global sales by genre

Genre

Global_Sales

Number of games by publisher

Sentiment by platform

Visualizations

Filters



Microsoft | Skateboard Store

Last Refresh: Jun 30th, 2019 / Chicago, IL, USA

Key Influencers
Analyzes your data, ranks the factors that matter, and displays them as key influencers.

Decomposition Tree
Enables users to drill into any dimension to understand what is driving a key metric.

Net Sales
\$387.1K
+72.7% m/m

Units Sold
7,868
+71.4% m/m

Category Breakdown

Product	Value
Power BI	\$52K
Word	\$36K
OneNote	\$31K
PowerPoint	\$30K
XBOX	\$27K
PowerApps	\$23K
Excel	\$21K
Skype	\$20K
Publisher	\$19K
XBOX ONE	\$18K

Store Breakdown

Store	Value
Fama	\$40K
Contoso	\$39K
VanArnsdel	\$34K
Aliqui	\$34K
Abbas	\$32K
Barba	\$30K
Leo	\$30K
Pomum	\$30K
Salvus	\$27K
Natura	\$26K

Visualizations

Filters

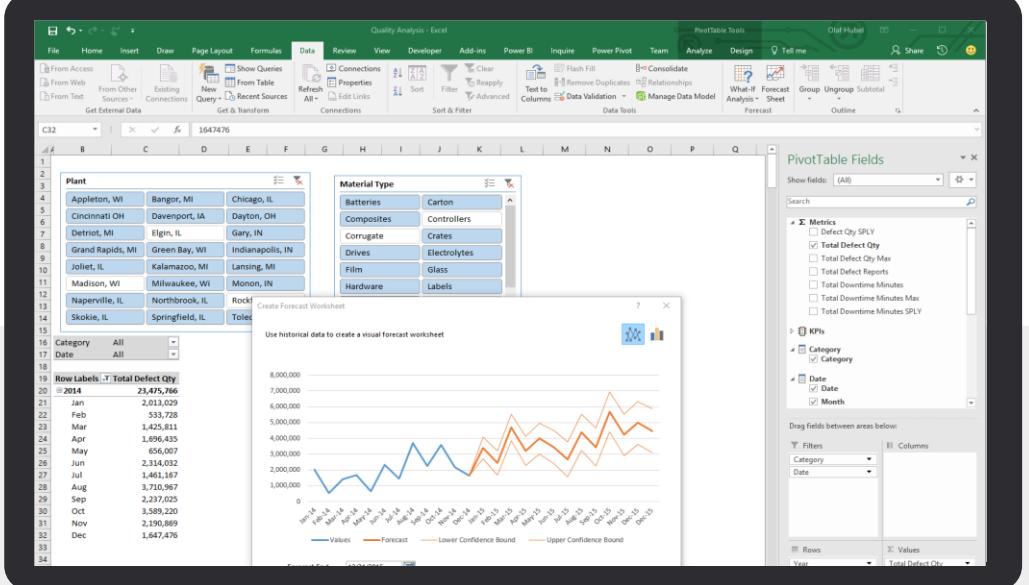
Net Sales vs net sales PM by date as stacked column chart

Net Sales and Net Sales PM

Date: May 05, Jun 02, Jun 30

Net Sales: ● Net Sales PM: □

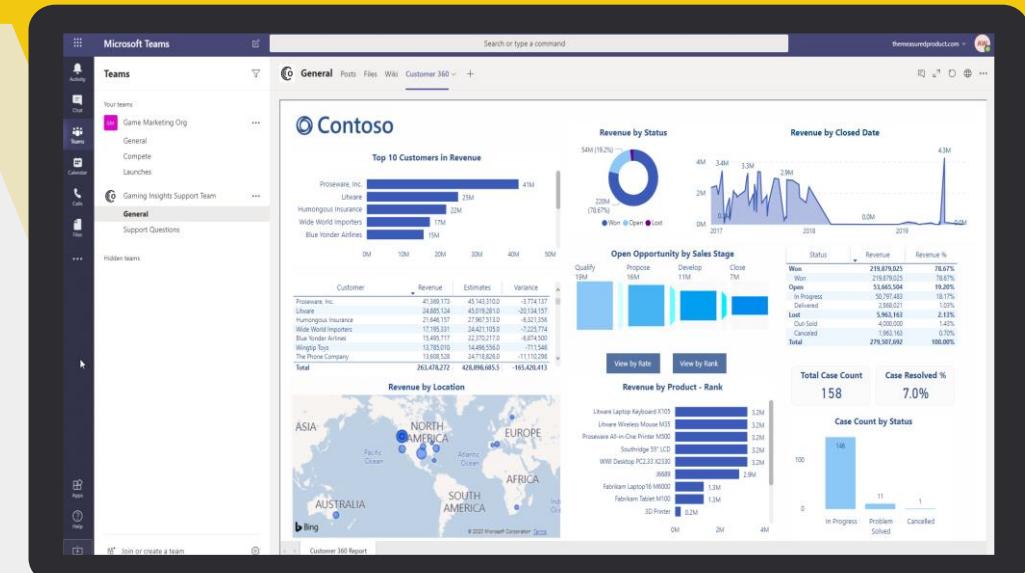
250+ Custom visuals



This screenshot shows a SharePoint site named "Sales and Returns" under a "Private group". The dashboard includes a "Microsoft Skateboard Store" section with a bar chart of Net Sales (\$387.1K) and Units Sold (7,868), a map of Chicago showing Net Sales by location, and a timeline chart of Net Sales vs Net Sales PM. The left sidebar shows navigation links like Home, Conversations, Documents, Notebook, Pages, Site contents, Recycle bin, and Edit.

This screenshot shows a Microsoft Teams channel named "General" with a "Customer 360" tab selected. It displays a Power BI dashboard for the "Microsoft Skateboard Store" with sections for Net Sales (\$387.1K), Units Sold (7,868), Key Influencers, Decomposition Tree, Category Breakdown, and Store Breakdown. The dashboard is presented in both Visual and Tabular formats.

Integration with Excel, Power Point, SharePoint and TEAMS



The **LARGEST GLOBAL FOOTPRINT**

43

Languages

40

Primary and backup
datacenters worldwide

**National
Clouds**

US Government,
China & Germany



China GB 18030



Security
Standards
Council



FedRAMP





March 2022

Gartner Magic Quadrant for Analytics and Business Intelligence Platforms*

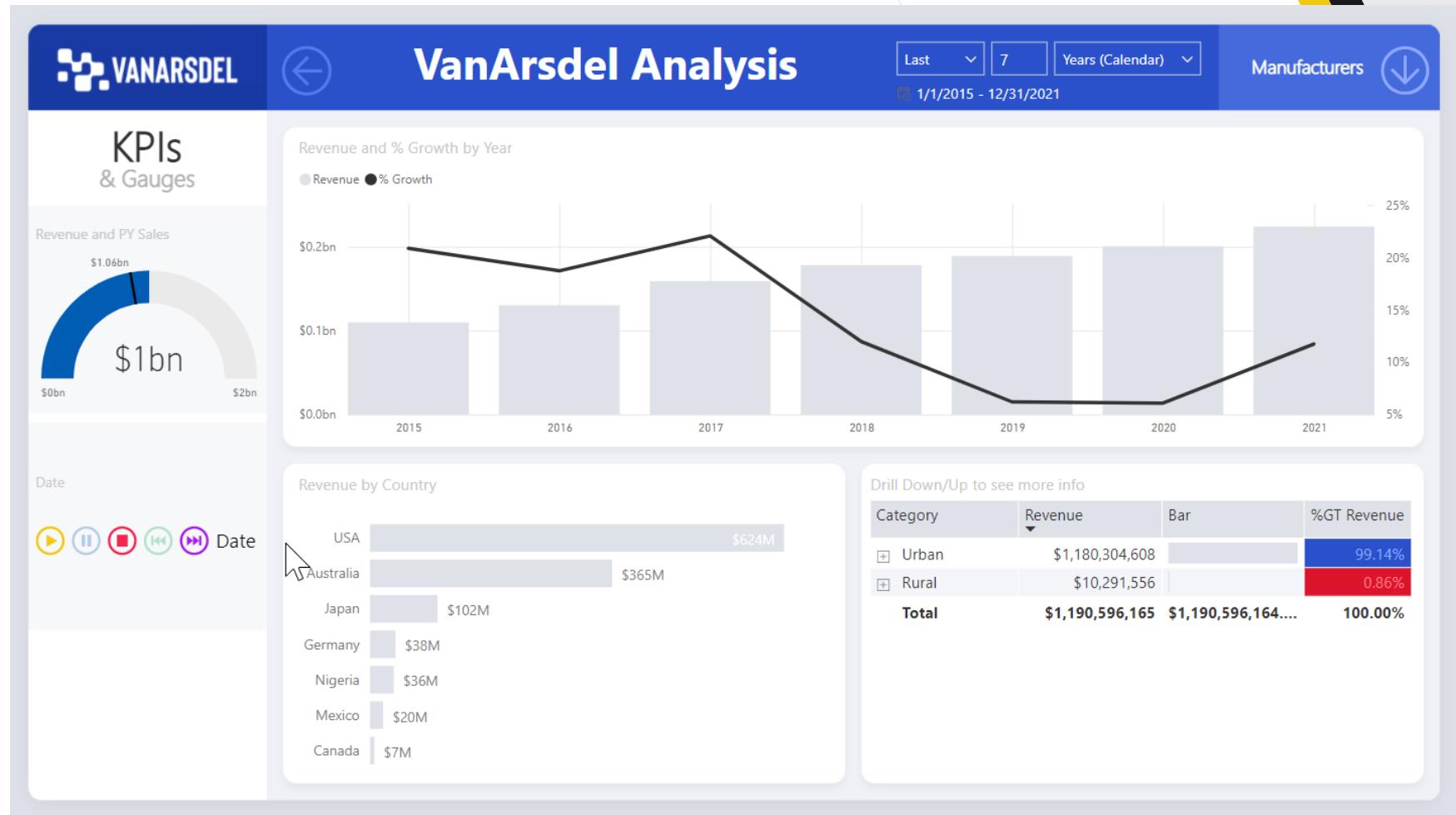


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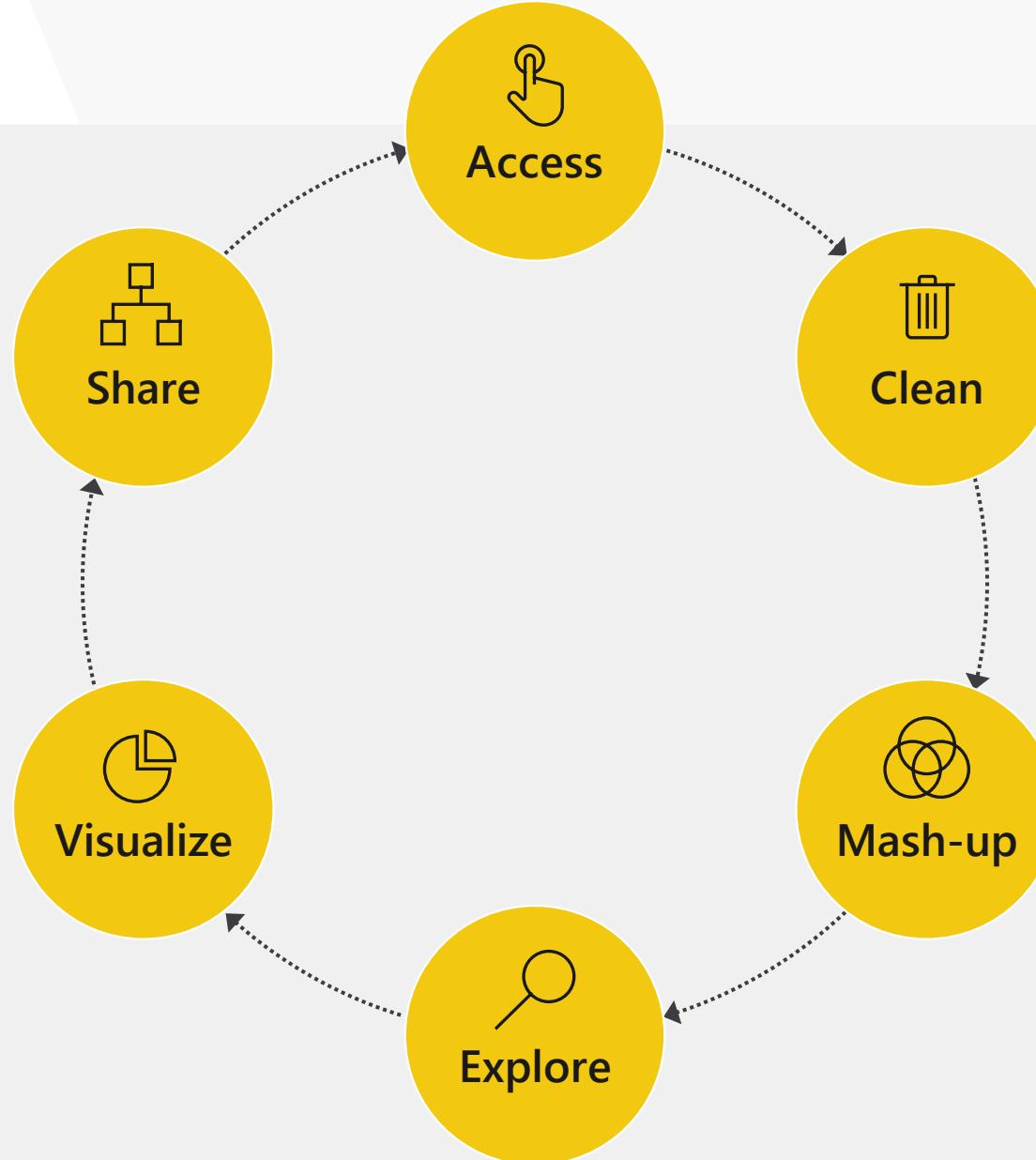
2021 Gartner Magic Quadrant for Analytics and Business Intelligence Platforms, Analyst(s): James Richardson, Kurt Schlegel, Rita Sallam, Austin Kronz, Julian Sun

Power BI

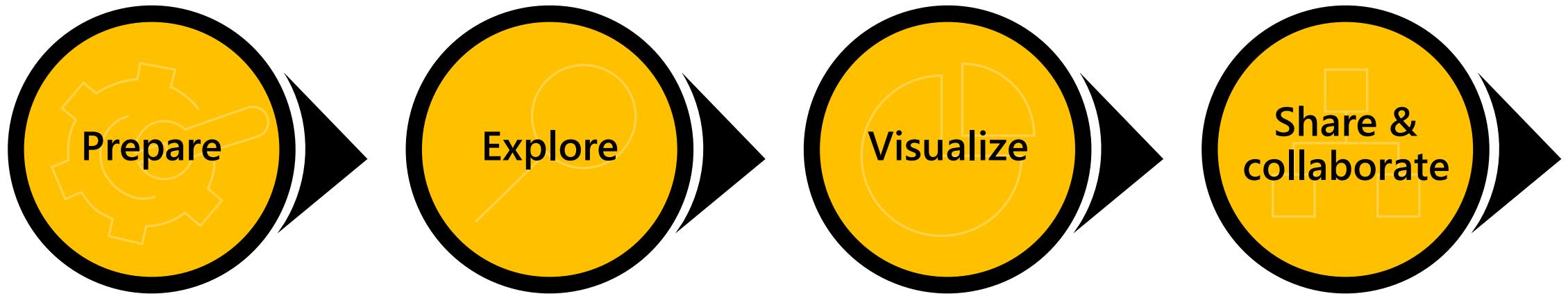
Demo



End User Needs



Lab overview



Access all your DATA



Data sources



SaaS solutions

e.g. Marketo, Salesforce, GitHub, Google Analytics



Organizational

Corporate data sources or external data services



On-premises Data



Azure services

Azure SQL, Stream Analytics...



Excel files



Power BI Desktop files

Data from files, databases, Azure, and other sources

Connect to 135 + data sources, both on-premises and cloud

Data from Applications

- SaaS services that you already use

Data from your organization

- Content published by others in your org (Datasets and Dataflows)

Big data and more

- Azure data services, e.g. SQL DW, ADLS.
- On-premises data sources, e.g. Oracle & SSAS

Data from files

- Import data from Text, CSV, Excel and Power BI Desktop files

The screenshot shows the 'Get Data' interface in Power BI. It has two main sections: 'Discover content' and 'Create new content'. Under 'Discover content', there are four cards: 'My organization' (Discover apps published by other people in your organization), 'Services' (Choose apps from online services that you use), 'Files' (Bring in your reports, workbooks, or data from Excel, Power BI Desktop or CSV files), and 'Databases' (Use Power BI Desktop to connect to data in Azure SQL Database and more). Each card has a 'Get' button. Below these cards, there are links for 'Samples', 'Organizational Content Packs', 'Partner Showcase', and 'Service Content Packs'. Under 'Create new content', there is a link to 'More ways to create your own content'. Above the 'Discover content' section, there is a note: 'Need more guidance? Try this tutorial or watch a video'. To the right of the 'Get Data' interface, there is a separate window showing a grid of 'Power BI apps'. The grid includes various apps such as Microsoft Sample, COVID-19 Track, Analyze COVID-19, Microsoft 365, Microsoft Project, NFL Analytics by P3, Dynamics 365 Business Central, Azure DevOps Data, QuickBooks Online, Microsoft Sustainability, Sales Analytics for LinkedIn Sales Navigator, Microsoft Forms Pro, Google Analytics Reporting, and Covid-19 Daily Update. Each app has a thumbnail, a name, and a rating.

Clean and mash-up your DATA



Consolidate data from a broad range of sources

- Merge or append queries to combine data from multiple queries into a single query

Transform data to fit your needs using intuitive UI

- Select data for inclusion
- Cleanse data and remove errors

Define calculations to generate new fields for use in reports

Develop advanced analytics using a combination of measures and relationships

- Uncover correlations, highlight exceptions and understand business outcomes

The screenshot displays two main windows of the Microsoft Power BI desktop application.

Data Editor Window: This window shows a table titled "ProductID" with columns "Date", "Zip", and "Custom". The "Date" column has 9 distinct values, 432 unique values, and a total count of 72638. The "Zip" column has 907 distinct values, 827 unique values, and a total count of 47577. The "Custom" column is highlighted in yellow. The ribbon menu at the top includes "File", "Home", "Help", "External Tools", "Clipboard", "Get data ->", "Excel", "Power BI", "SQL Server", "Enter data sources->", "Data", "Queries", "Transform Refresh data->", "Relationships", "Manage roles", "Security", "Q&A", "Language", "Unpivot", "Publish", "Share". The "Properties" pane on the right shows the "Sales" table with various properties like "Name", "Description", "Synonyms", "Row label", "Key column", and "Is hidden".

Data Model View: This window shows the data relationships between tables: "Geography" (City, Country, District, Region, State, Zip) is connected to "Sales" (Country, Date, Currency, ProductID, Revenue, Units, Zip); "Sales" is connected to "Product" (Category, Currency, ManufacturerID, MSRP, Product, ProductID, Segment); and "Product" is connected to "Manufacturer" (Logo, Manufacturer, Manufacturer (group)). The "Data" table is also present. The ribbon menu at the top includes "File", "Home", "Help", "External Tools", "Clipboard", "Get data ->", "Excel", "Power BI", "SQL Server", "Enter data sources->", "Data", "Relationships", "Manage roles", "Security", "Q&A", "Language", "Unpivot", "Publish", "Share". The "Properties" pane on the right shows the "Sales" table with properties like "Name", "Description", "Synonyms", "Row label", "Key column", and "Is hidden".

Lab 01 -

Accessing & Preparing the data

Explore your DATA

Explore data in a variety of ways and across multiple visualizations using drag and drop canvas

Dig deeper into your reports

- Drill-down in your hierarchical data
- Filter, sort, hover over and highlight data

Leverage Quick Insights to find insights in your data

Ask questions of your data in natural language with Q&A

- Type questions in plain language
- Q&A intelligently filters, sorts, aggregates, groups and displays data based on the question



Lab 02 -

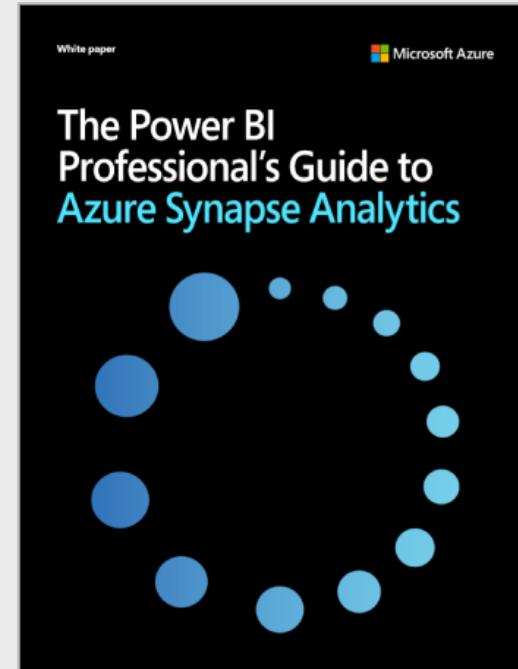
Data Modelling and Exploration

Community

Maximize your BI investments with Azure Synapse Analytics



Free Infographic



Free Whitepaper



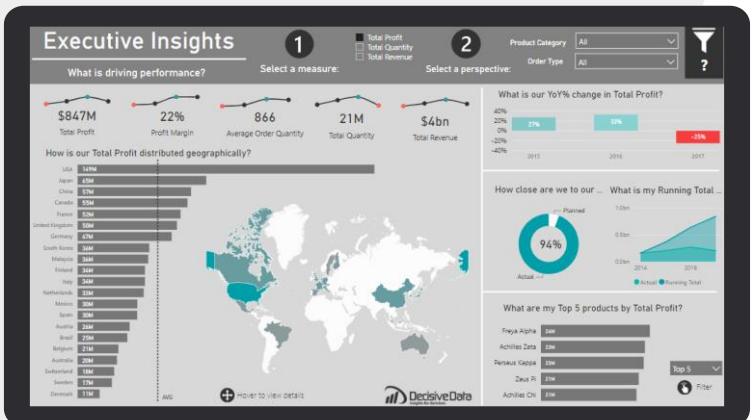
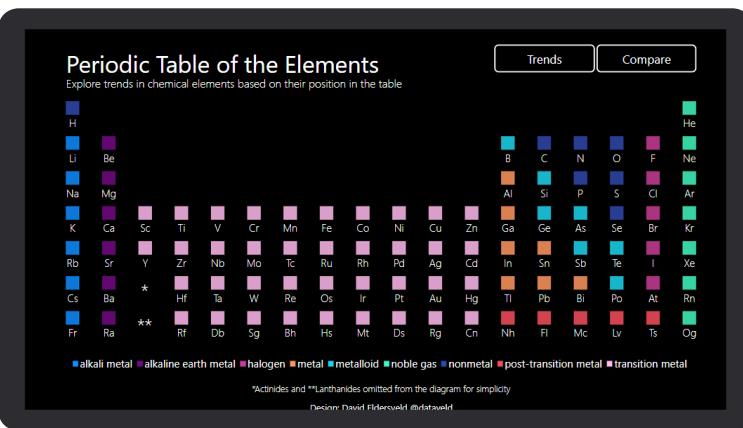
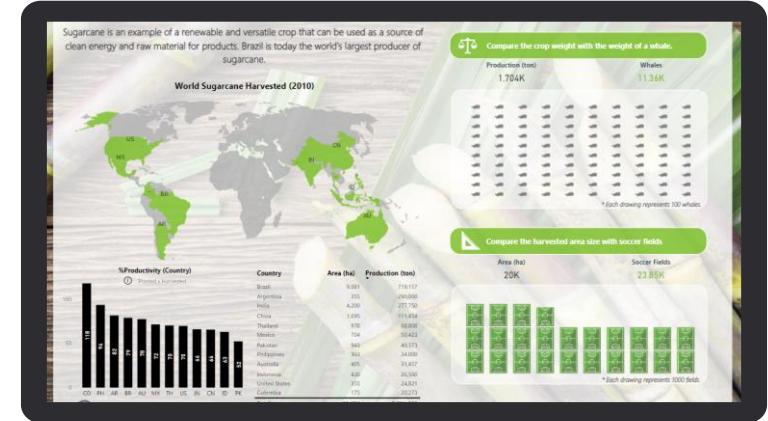
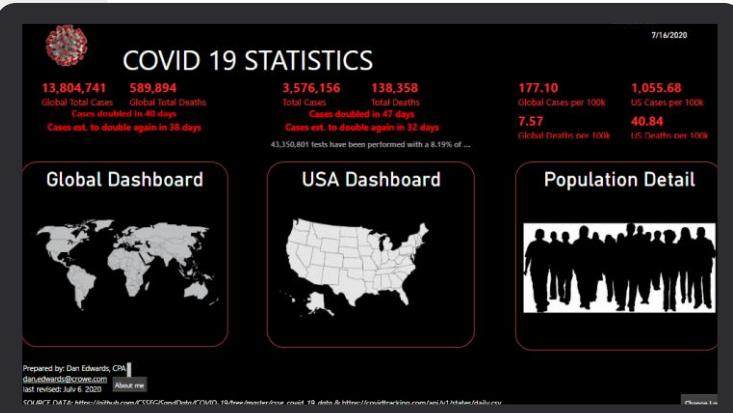
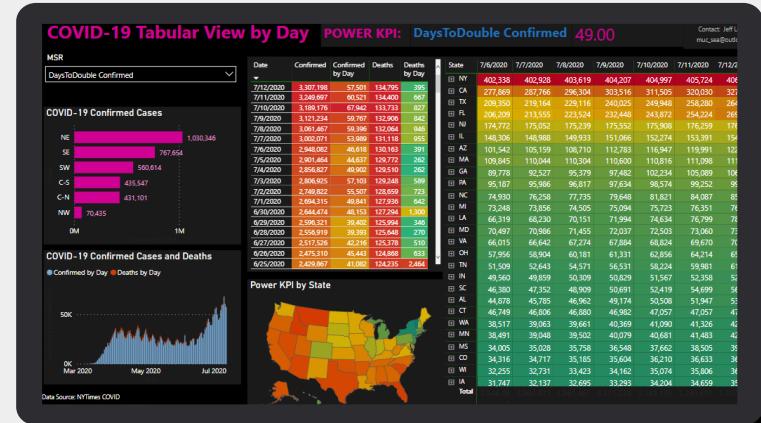
Free eBook



Free eBook

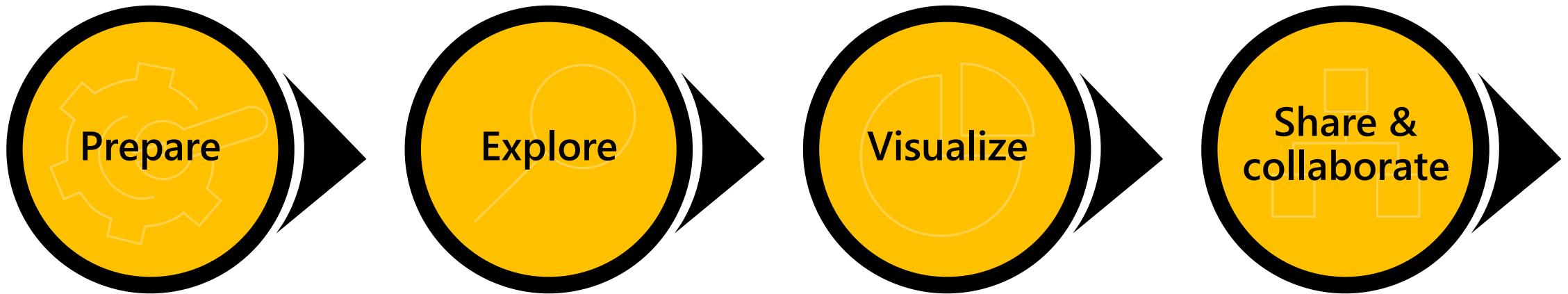
[Get Started Today with a Free Azure Synapse Analytics Trial](#)

Explore and share your data stories

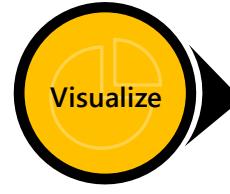


In the Data Stories Gallery
And
COVID-19 Data Stories Gallery

Lab overview



Visualize your DATA



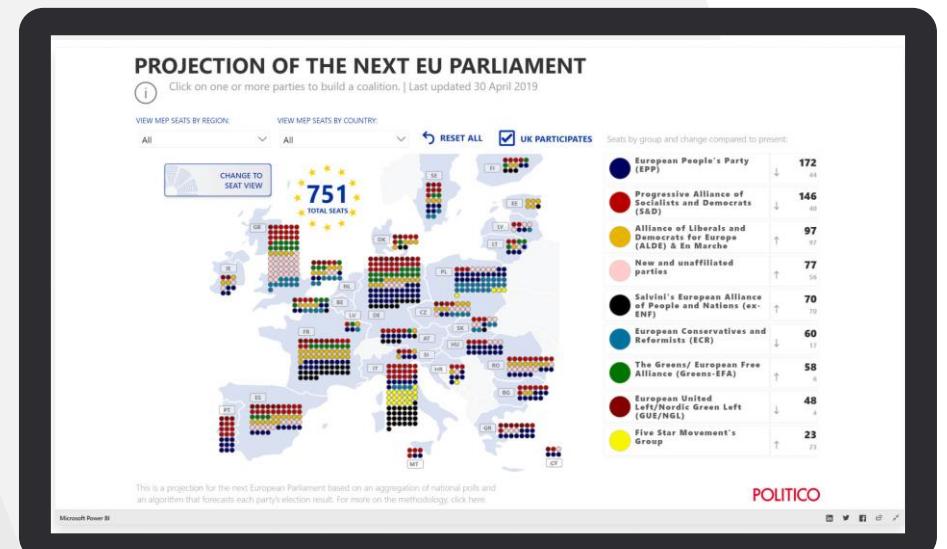
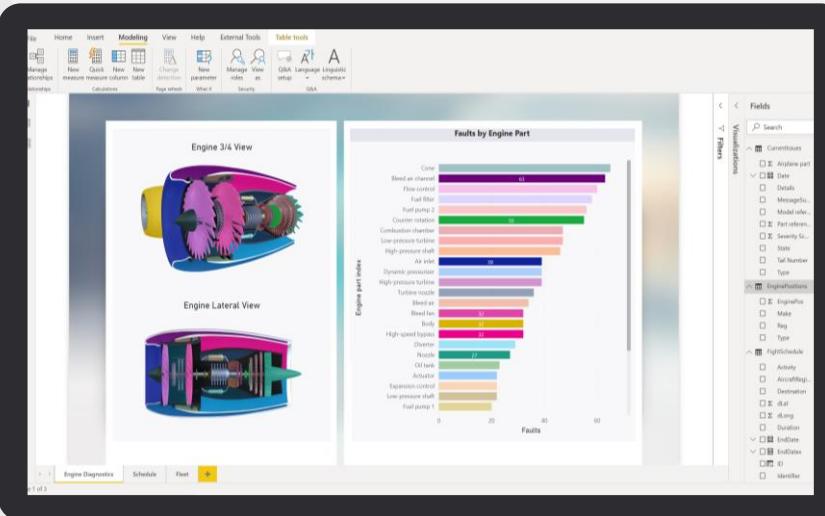
Visualize data in a variety of ways

Growing number of visualization types

- Donuts, basic area, waterfall, filled maps, tree maps, funnel, gauges combo charts and more
- Custom visuals available from Power BI Visuals Marketplace
- Tools to develop, test, package new custom visuals

Visualizations on report page are connected – select value in one visualization to change other visualizations

Full screen pop out mode for report visuals to show additional details



Lab 03 -

Visualizations

Bring your story to life with DATA



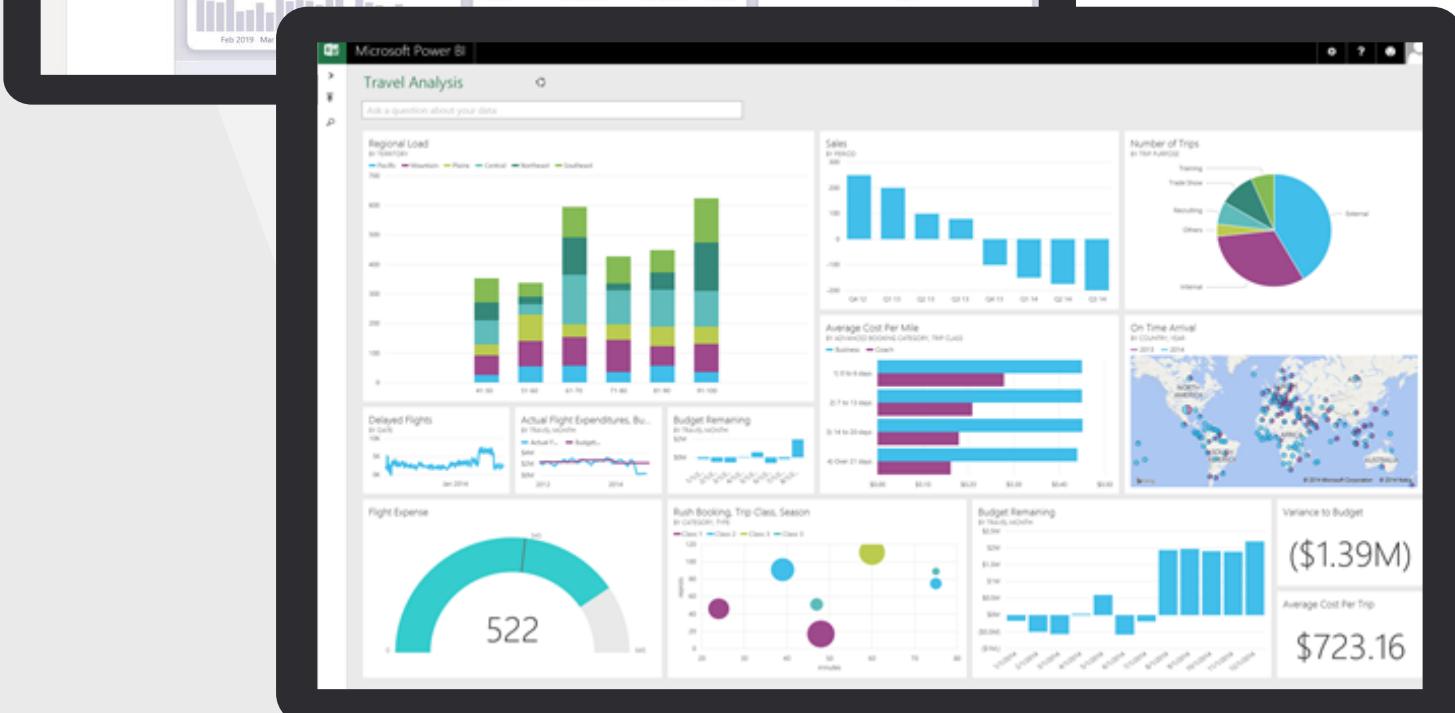
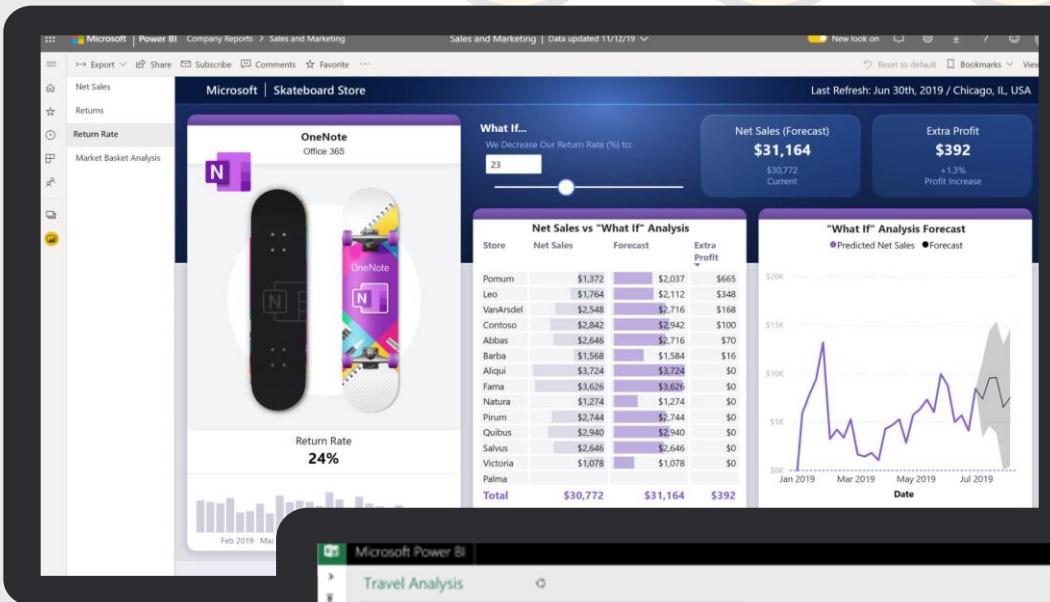
Save Power BI Desktop report files and easily publish them to powerbi.com

Access dashboards using native mobile apps for Windows, iOS and Android

Share as appropriate with other Power BI users in your organization

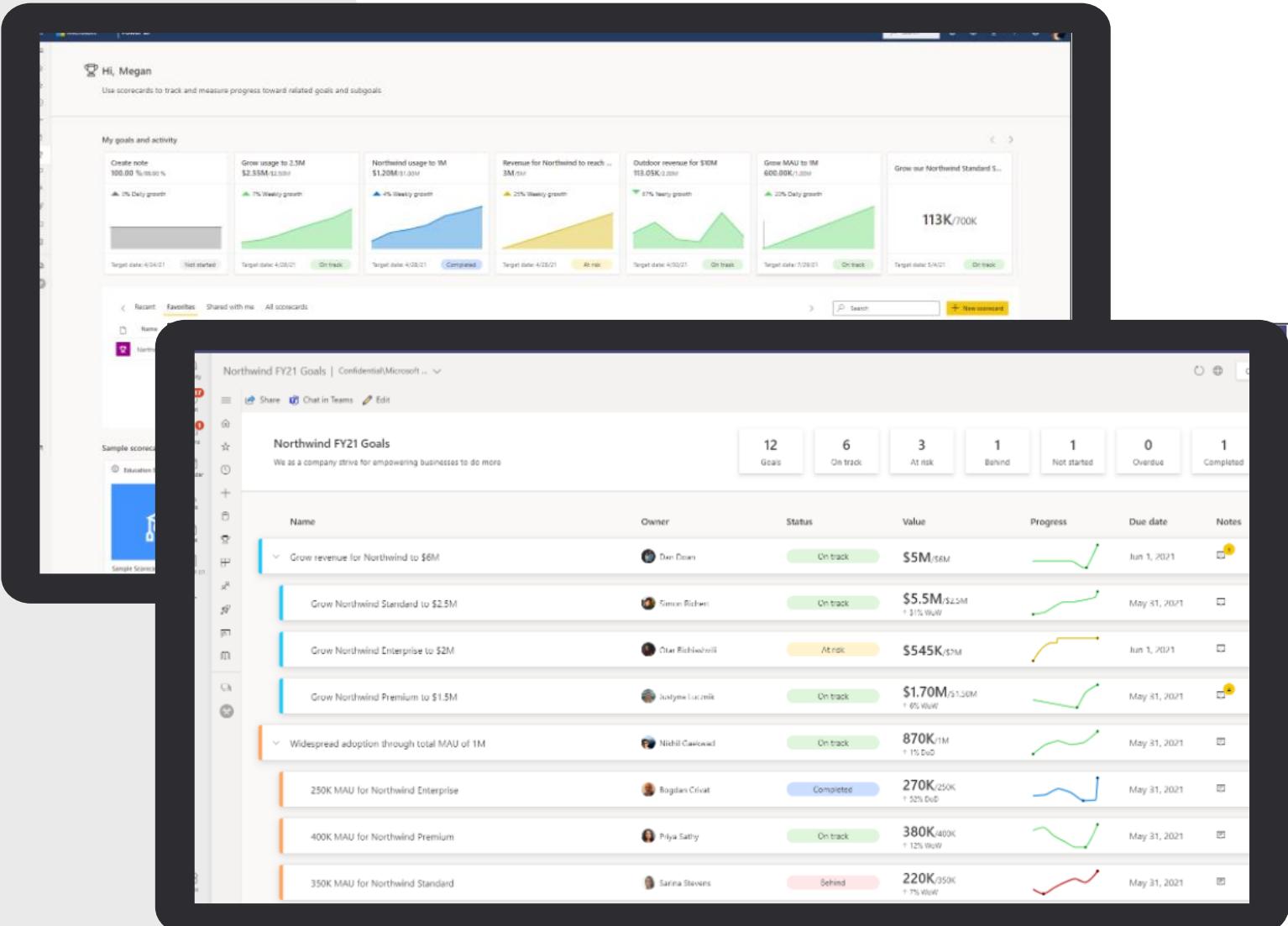
Package your reports in apps for easy consumption and control

Easily embed interactive Power BI visualizations in blog posts, websites, through emails or social media With Power BI Publish to web



Track business metrics with Goals

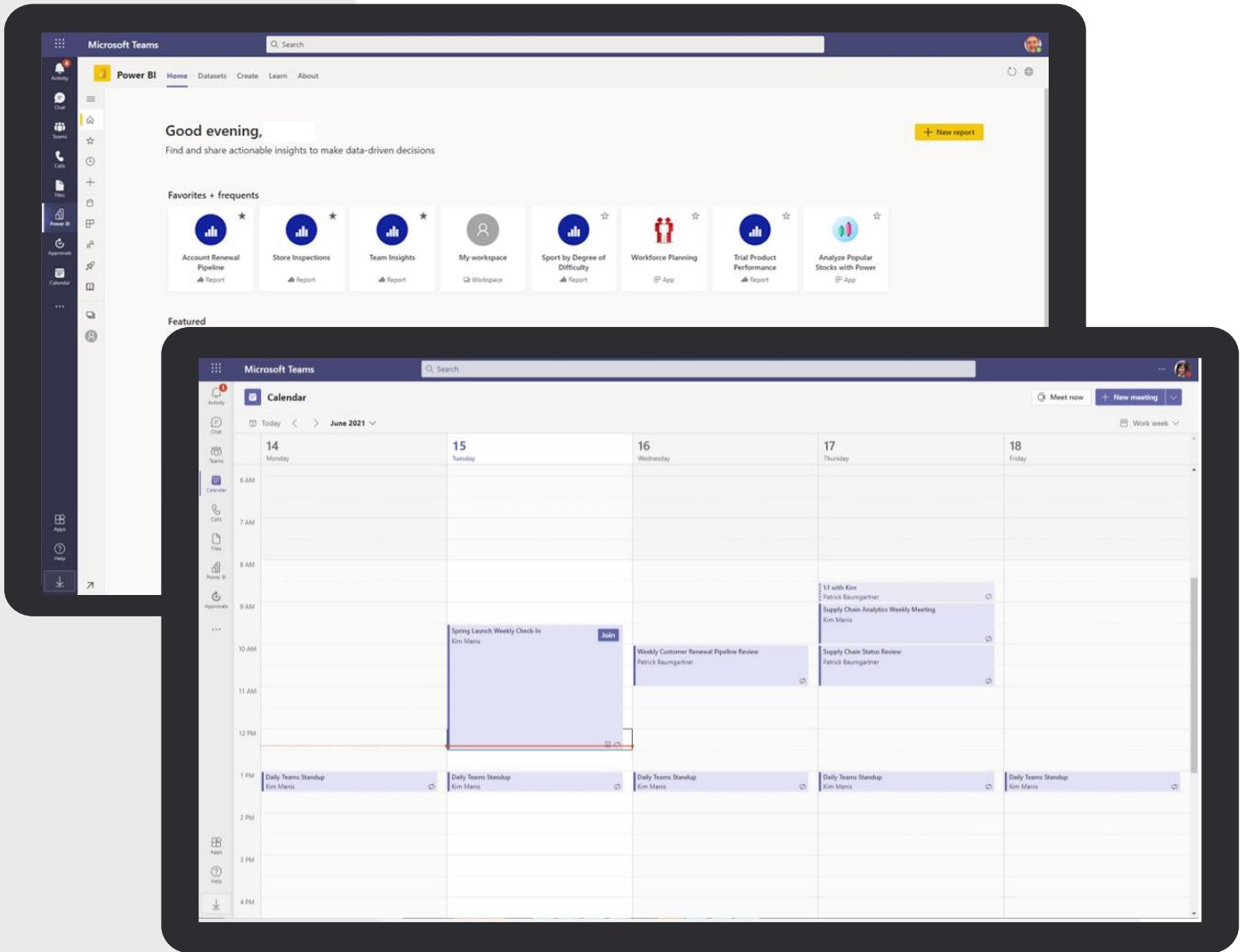
- Create scorecards
- Measure key business metrics
- Track goals in a single source
- Measure progress
- Share updates with the team
- Monitor the health of the business
- View on mobile



Take collaboration to the next level in Teams



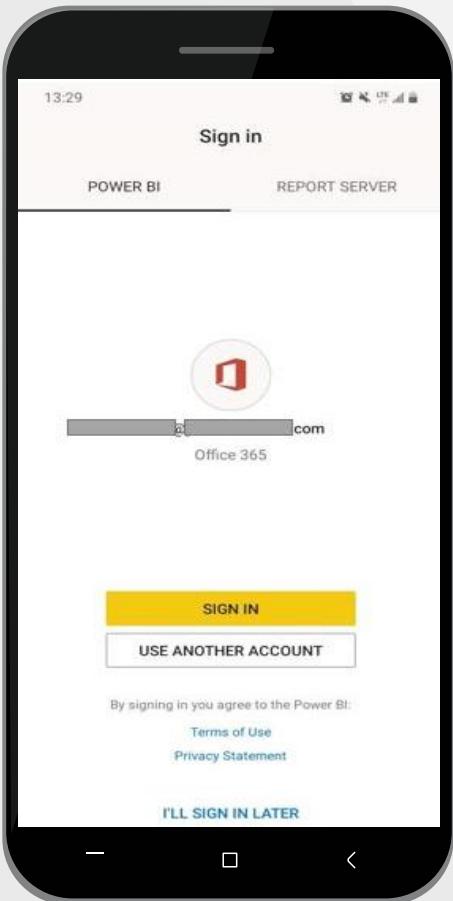
- Meet users where they are with the Power BI app in Teams.
- Keep everyone aligned with data-driven meetings.
- Use data to inform discussions in teams, chats, and meetings.
- Find data and insights to drive better decision-making with the Power BI search extension
- Learn more here:
<https://aka.ms/LearnPBInTeams>



Access your story everywhere with Mobile



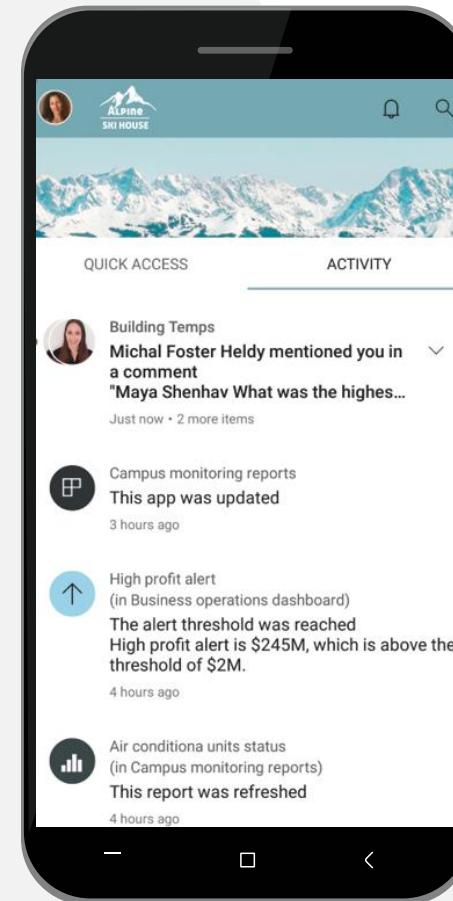
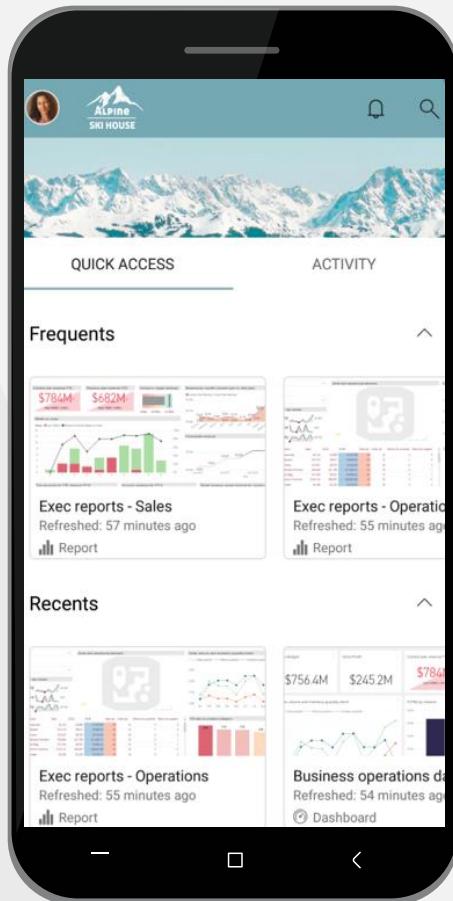
Access dashboards using native mobile apps for Windows, iOS and Android



Easy sign in page

Quick Access reports

Your personal Recent Activity feed

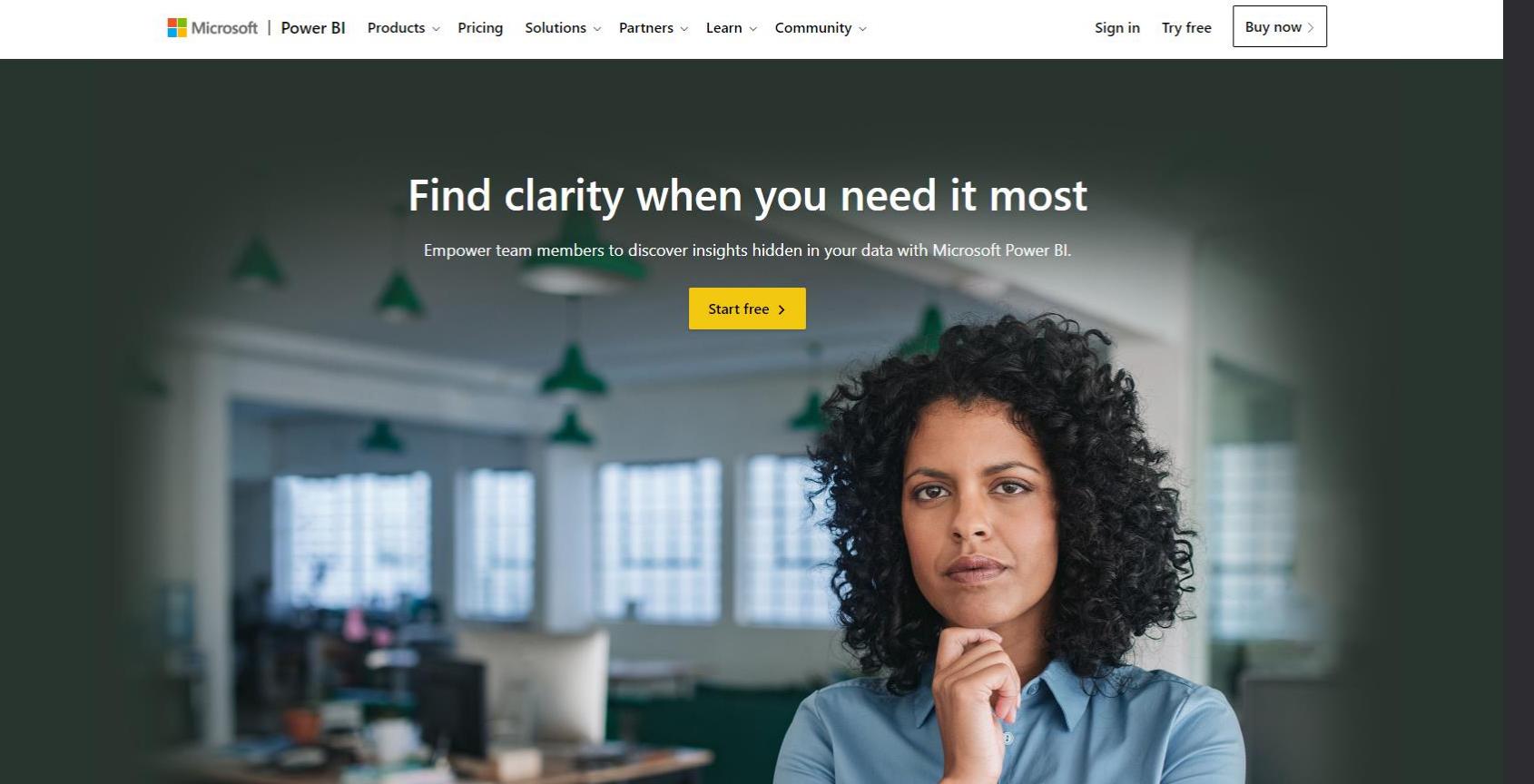


Lab 04 -

Publishing and accessing Reports

Lab 05 -

Building a Dashboard and Sharing



Find clarity when you need it most

Empower team members to discover insights hidden in your data with Microsoft Power BI.

[Start free >](#)

Learn about the latest Power BI innovations announced at Microsoft Business Applications Summit.

[Read the blog >](#)

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PowerBI.com

Q&A