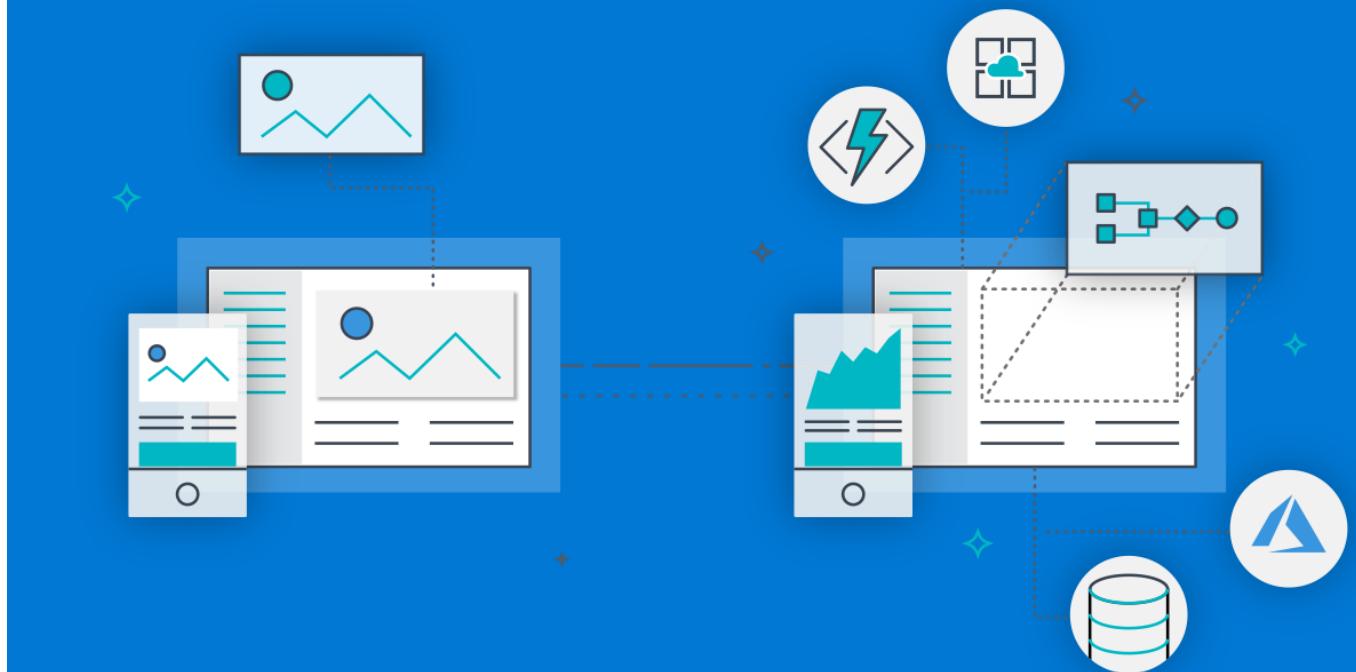


# App in a Day

## Business Application Platform

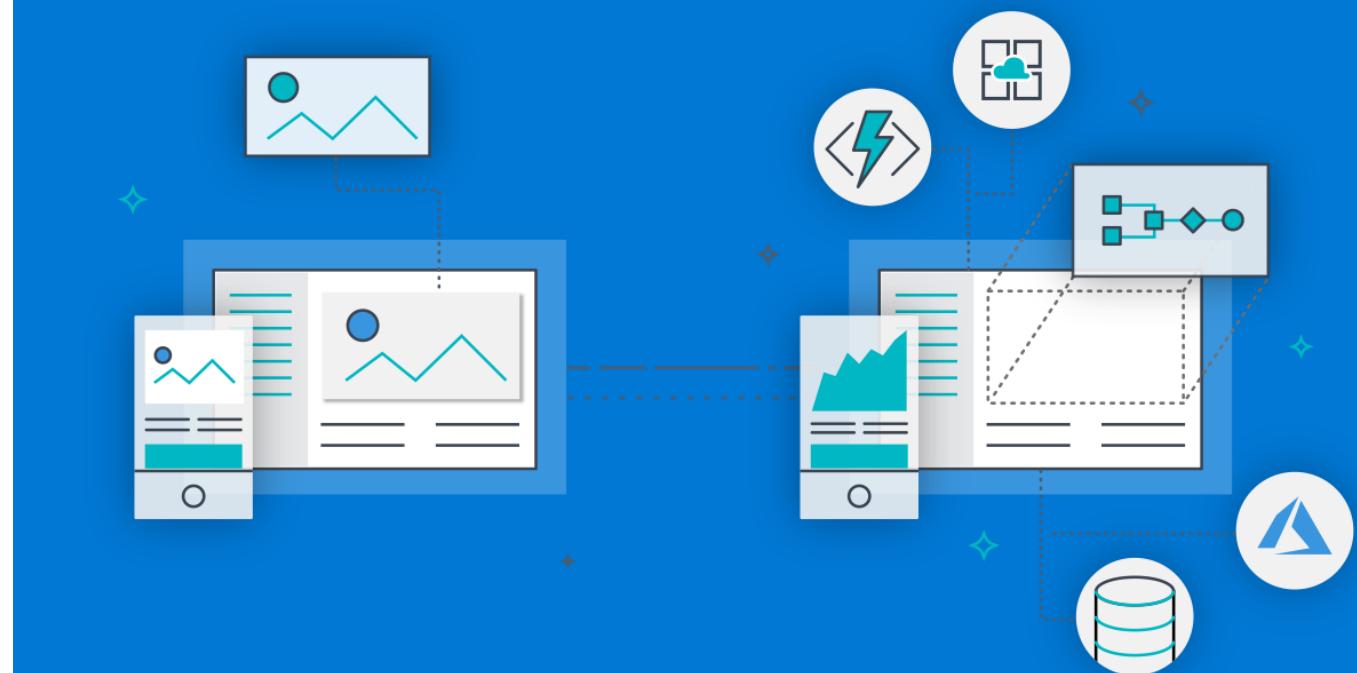
Power Apps, Power Automate  
& Common Data Service (CDS)

Eric Sauvé, XRM Vision

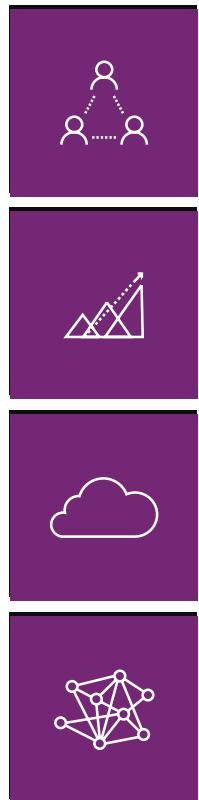


# Introduction to Business Applications

Eric Sauvé, XRM Vision



# Power Platform Enables Digital Transformation

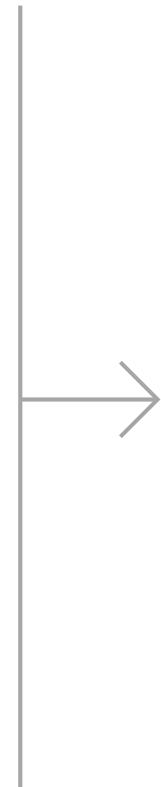


Modern workplace

Business applications

Applications & infrastructure

Data & AI



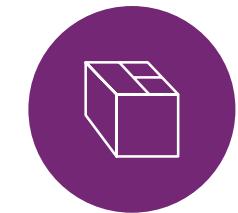
Empower employees



Engage customers



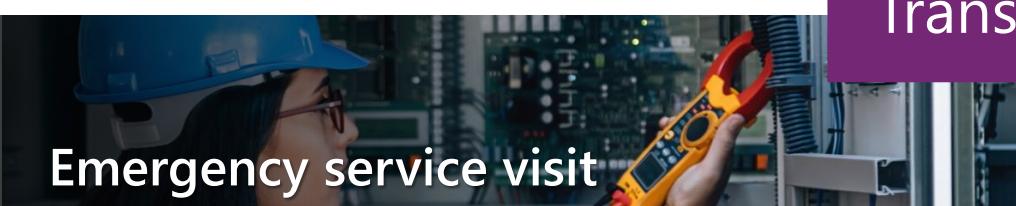
Optimize operations



Transform products

# Digital Transformation shifts processes from reactive to proactive

## Reactive



## Proactive



Transformation

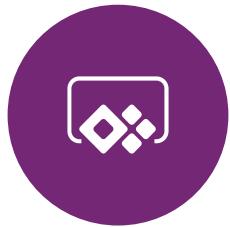
# Microsoft Power Platform

One low-code platform that spans Office 365, Dynamics 365, Azure and standalone applications



**Power BI**  
Business analytics

Analyze



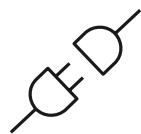
**Power Apps**  
Application development

Act

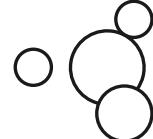


**Power Automate**  
Workflow automation

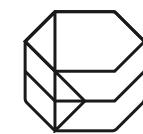
Automate



Data  
connectors



AI  
Builder



Common  
Data Service

# Microsoft Power Platform

One low-code platform that spans Office 365, Dynamics 365, Azure and standalone applications



**Power BI**  
Business analytics  
**Analyze**



**Power Apps**  
Application development  
**Act**



**Power Automate**  
Workflow automation  
**Automate**



Data  
connectors



AI  
Builder

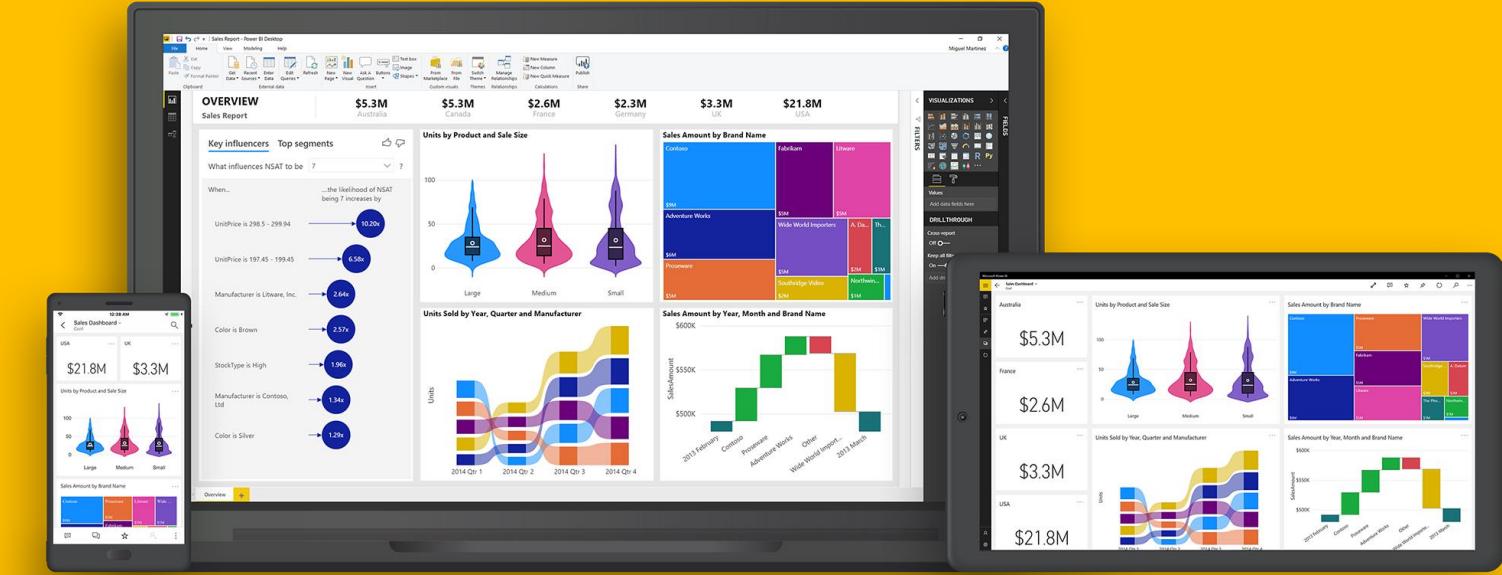


Common  
Data Service



# Experience your data with Power BI

- Make sense of your data with ease, and drive quick and confident decisions across your organization
- Reduce the amount of time spent in data prep and spend more time getting answers with AI-driven insights
- Remove the complexity of managing multiple analytics solutions with a single, unified platform that gives every employee access to insights





# Anatomy of a dashboard

## Any data

Connect to any data source to find the best insights and answer tough business questions.

## Share insights with anyone

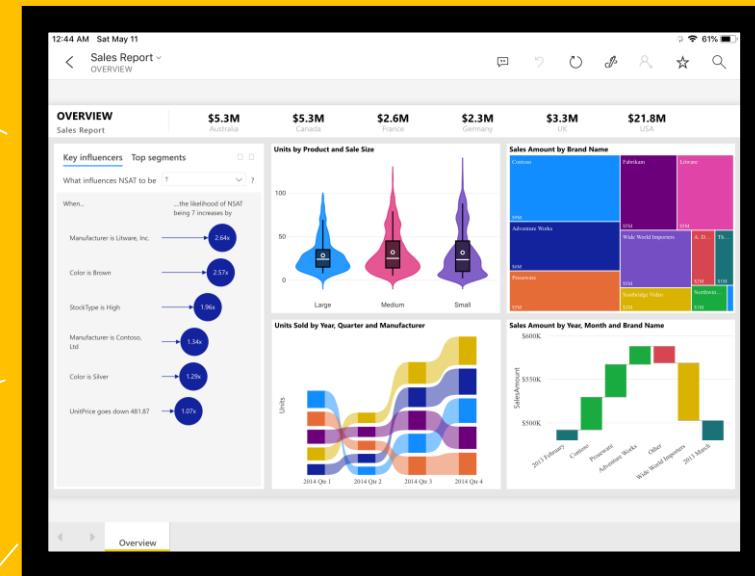
Share on prem, in the cloud, and mobile devices; even with those outside your organization

## Seamless integrations

Directly integrated with Power Automate, Power Apps, Microsoft Teams, Office 365, Dynamics 365 & Azure

## Extensibility model

No limits. Embed insights into everyday user apps to build a data culture throughout your org



## WYSIWYG design experience

PowerPoint like pixel perfect drag and drop design experience. Start from a template, report is running with live data as you build it

## Data visualizations

Select from hundreds of data visualizations or build your own to bring your data story to life

## Native intelligence

Ask questions of your data, deliver automated insights; all visualized in the context of your business

## Big data support with Azure

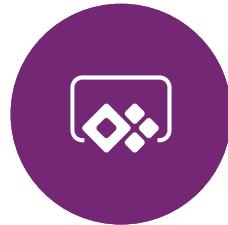
Leverage Azure Data Services like Date Lake and SQL Data Warehouse to optimize analysis big data

# Microsoft Power Platform

One low-code platform that spans Office 365, Dynamics 365, Azure and standalone applications



Power BI  
Business analytics  
**Analyze**



**Power Apps**  
Application development



Power Automate  
Workflow automation  
**Automate**



Data  
connectors



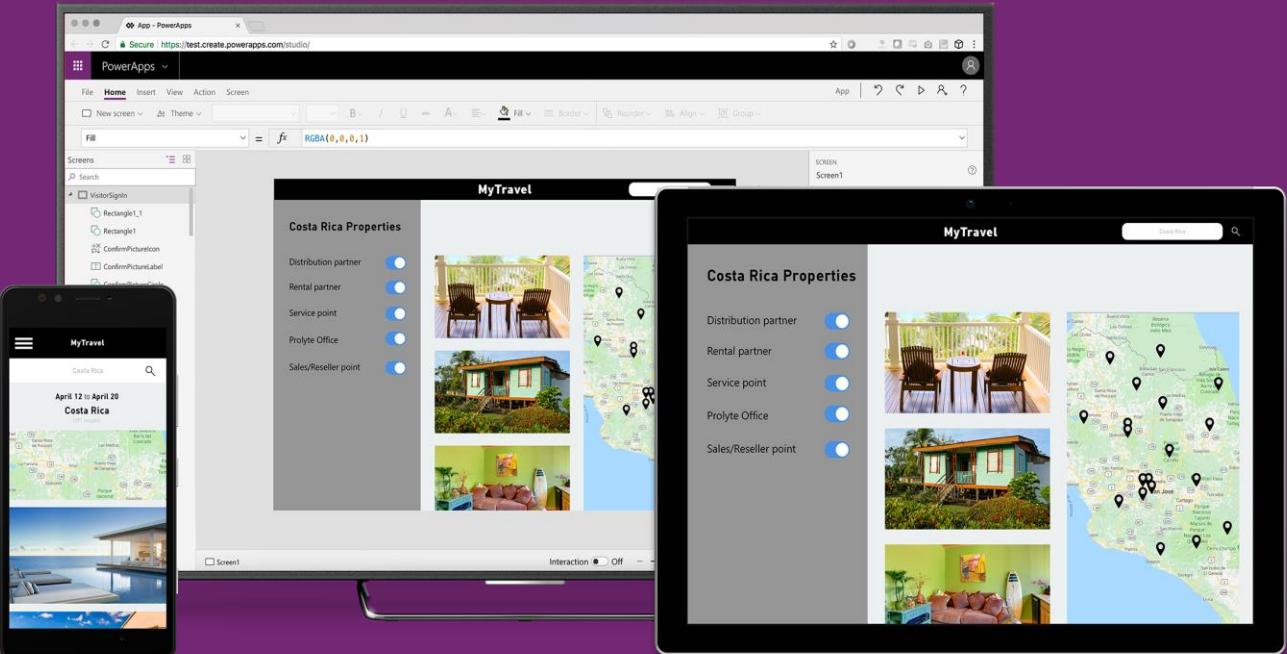
AI  
Builder



Common  
Data Service

# Build apps for web and mobile with Power Apps

- Easily build web & mobile apps with a full featured low-code/no-code development experience
- Empower business users to solve their own problems and easily share apps while maintaining security & governance
- Pro developer extensibility enables a “no limits” platform that spans business users to professional developers





# Anatomy of an app

## Any platform support

Supports all major platforms and gives native access to device capabilities like camera, GPS, pen & ink

## Share apps like documents

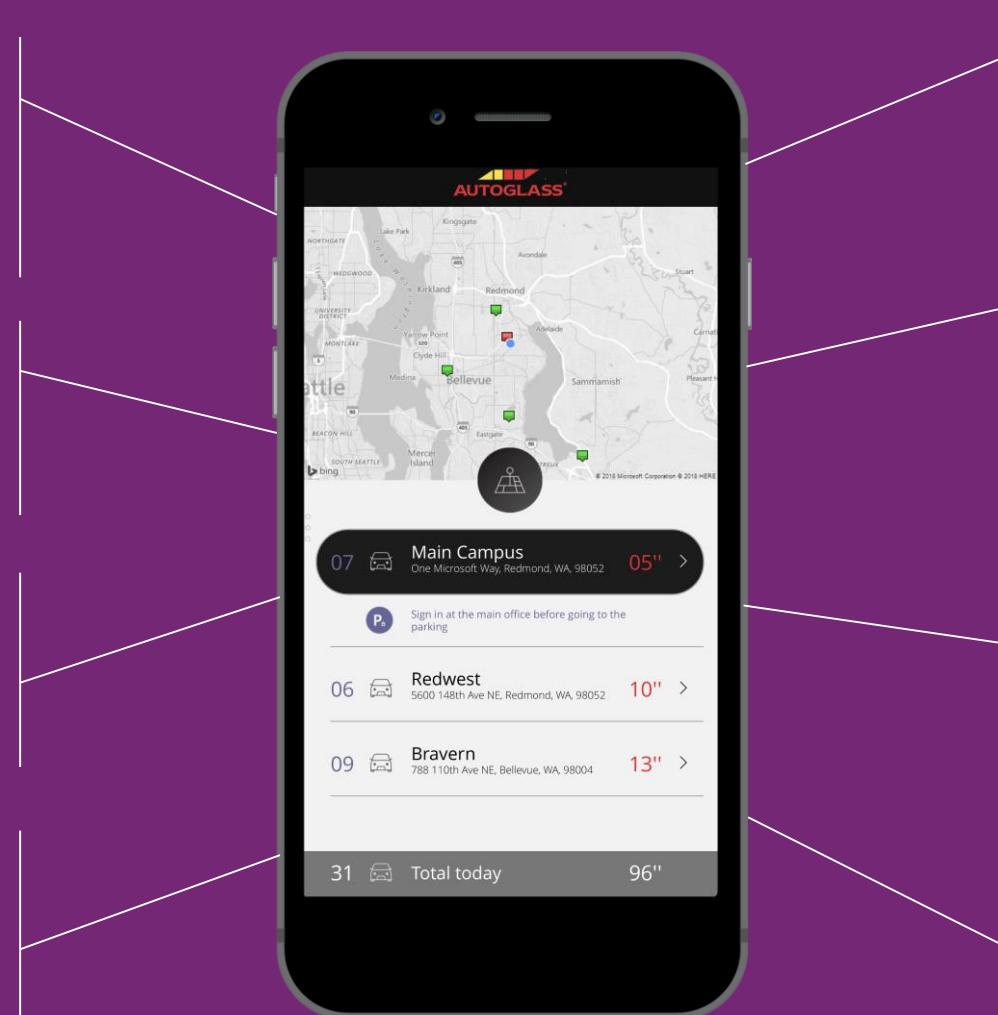
Share your app with 3 clicks and an email address. It's pushed to mobile devices in seconds

## Seamless integration

Directly integrated with Power Automate, Power BI, Microsoft Teams, Office 365, Dynamics 365 & Azure

## Extensibility model

No limits. Get a pro-dev to build you a control or connector if you need something custom



## WYSIWYG design experience

PowerPoint like pixel perfect drag and drop design experience. Start from a template, app is running with live data as you build it

## Data connectivity

Connect to over 250 services and apps with built-in connectors for everything from Adobe, to ZenDesk, to on-prem

## Built-in data platform

Use Common Data Service to store app data in a standardized Common Data Model

## App logic

If you can understand formulas in Excel you can add logic to your Power App. Leverage AI Builder to democratize AI in your org

# Microsoft Power Platform

One low-code platform that spans Office 365, Dynamics 365, Azure and standalone applications



**Power BI**  
Business analytics  
**Analyze**



**Power Apps**  
Application development  
**Act**



**Power Automate**  
Workflow automation  
**Automate**



Data  
connectors



AI  
Builder

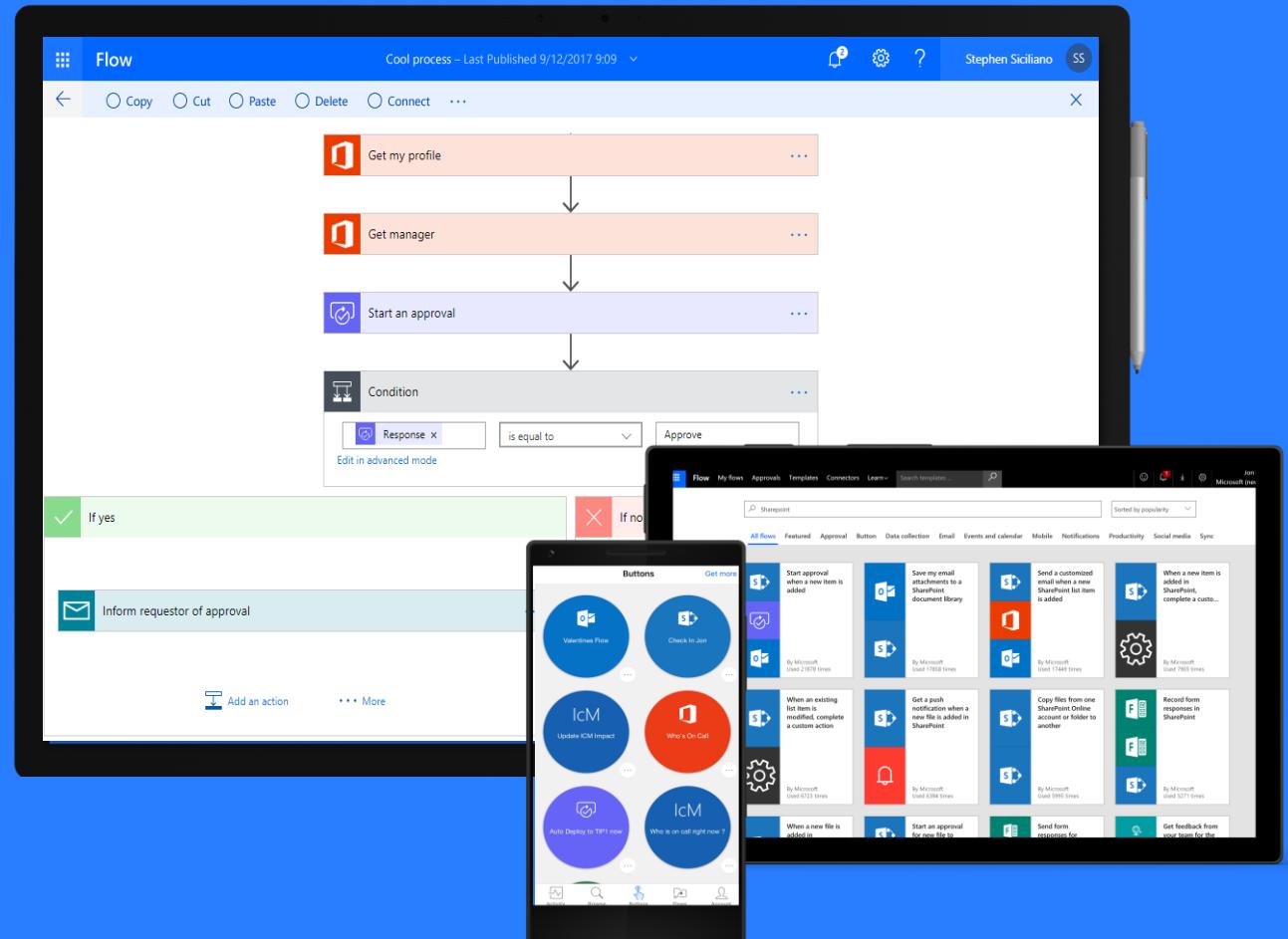


Common  
Data Service

# Automate and integrate business processes with Power Automate



- Model business processes and automate workflows and your apps and services
- Deep and broad, from simple individual automation to advanced org scenarios with branches, loops, and more
- Trigger actions, grant approvals, and get notifications right where you work



# Anatomy of a workflow



## Any platform support

Supports all major platforms, available on the web or with mobile on the go

## Share flows like documents

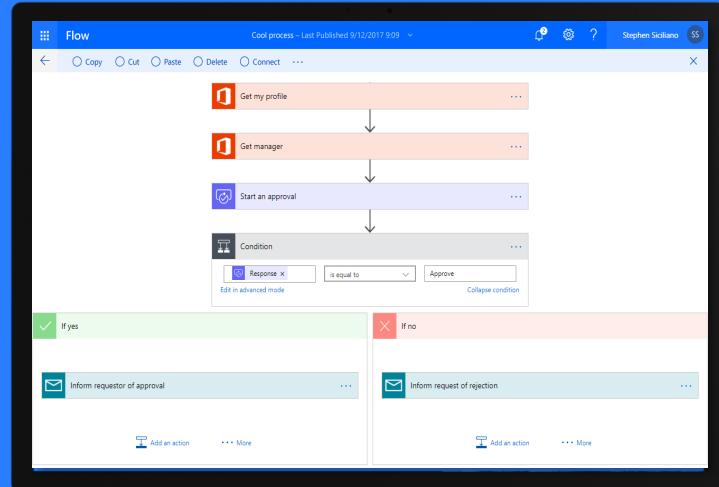
Share your flow with 3 clicks and an email address. It's pushed to users in seconds

## Seamless integration

Directly integrated with Power Apps, Power BI, Microsoft Teams, Office 365, Dynamics 365 & Azure

## Extensibility model

No limits. Automate advanced scenarios with multiple steps, branching conditions and more. Synchronize files between 1<sup>st</sup> and 3<sup>rd</sup> party systems seamlessly



## WYSIWYG design experience

PowerPoint like drag and drop design experience. Start from a template, flow is running with live data as you build it

## Data connectivity

Connect to over 250 services with built-in connectors for everything from Adobe, to ZenDesk, to on-prem

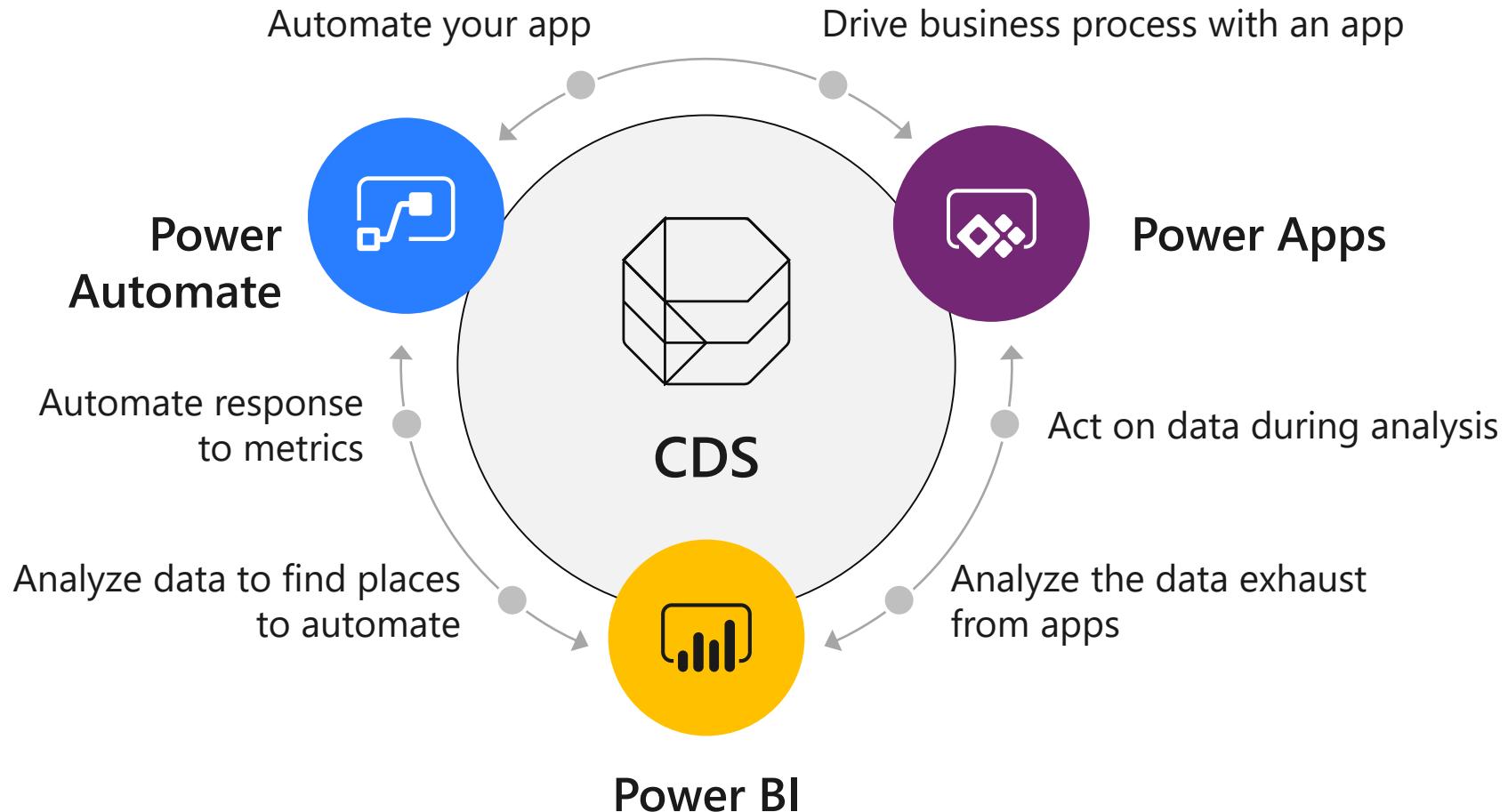
## Built-in data platform

Use the Common Data Service to store app data in a standardized Common Data Model

## Logic and automation

Build flows that monitor and execute actions, leverage AI Builder to democratize AI, send emails automatically, notify people in processes

# The total is greater than the sum of the parts...



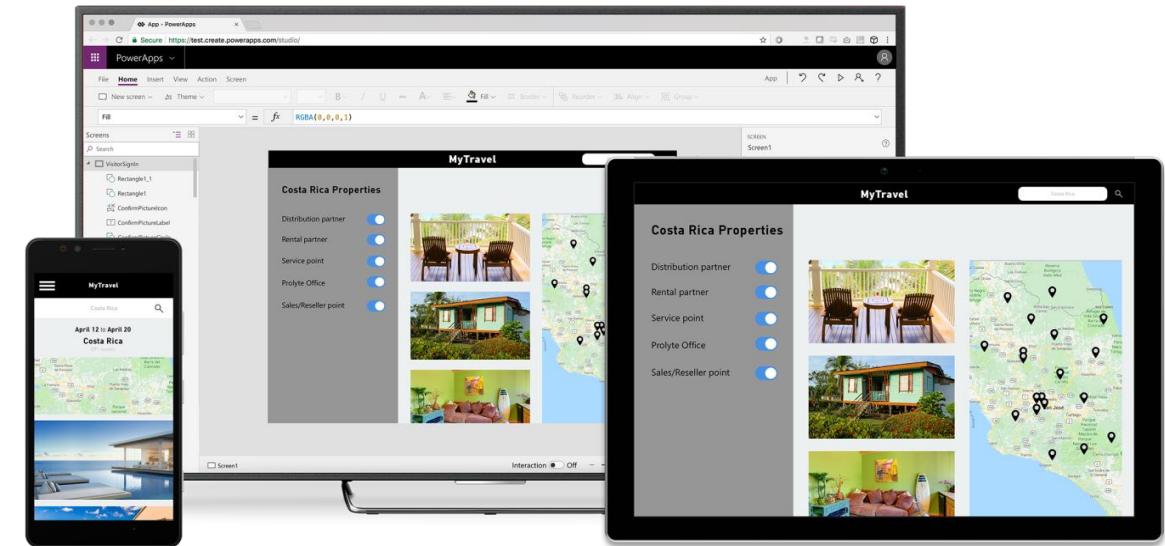
# Innovate faster with a low-code platform

Reduce time & cost building business applications

Extend your system of record to simplify processes and remove silos

Reduce errors by automating manual processes

Consolidate siloed LOB application and improve business processes



# A unique approach to building business apps



Easily build apps with a full featured low-code / no-code platform



Connect to all your data with pre-built and custom connectors



Enrich and extend your data with the Common Data Service, AI Builder, and Portals



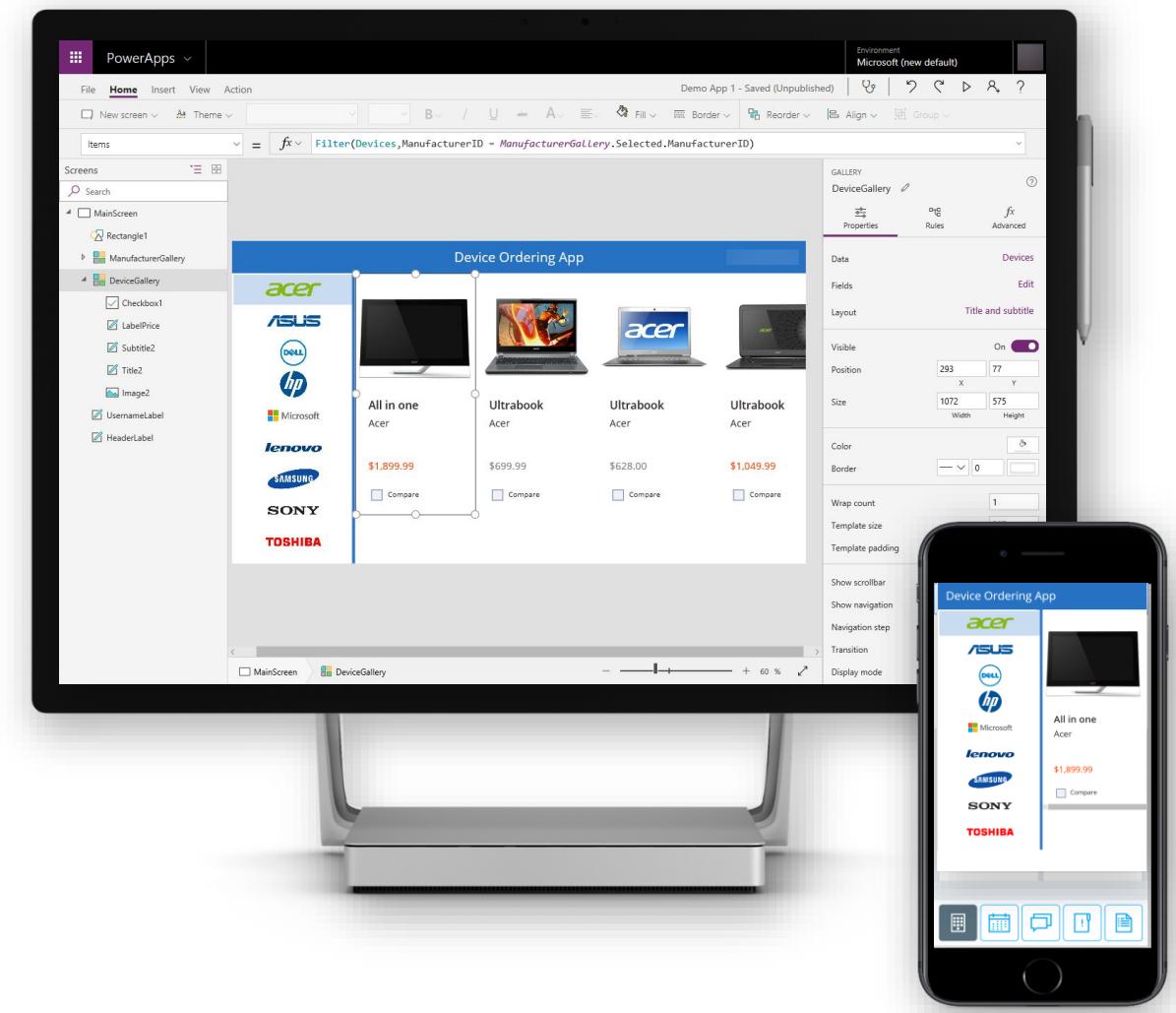
Dynamics 365, Azure, Power BI, Power Automate, and Office 365 integration



Strong enterprise governance and security



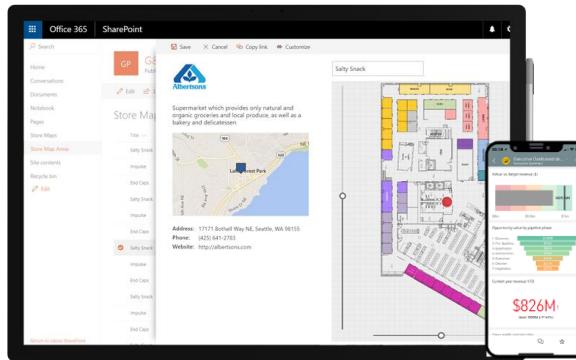
Pro developer extensibility and ALM



# Customize, extend, and build all the apps you need

Seamless Dynamics 365, Office 365, and Azure integration along with connectors to more than 250 data sources

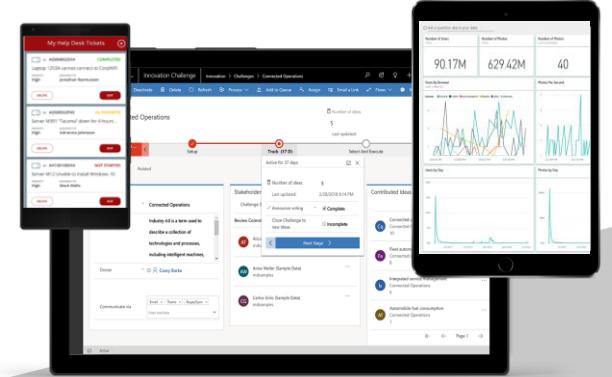
Tailor out-of-the-box solutions, embedded forms and dashboards



Highly customized task- and role-based apps



Immersive, end-to-end solutions



SOPHISTICATION

# Customer momentum: Power BI



Retail and consumer goods



Discrete manufacturing



Government and education



Healthcare



Elizabeth Glaser  
Pediatric AIDS  
Foundation

Until no child has AIDS.



Banking and financial services



Professional services

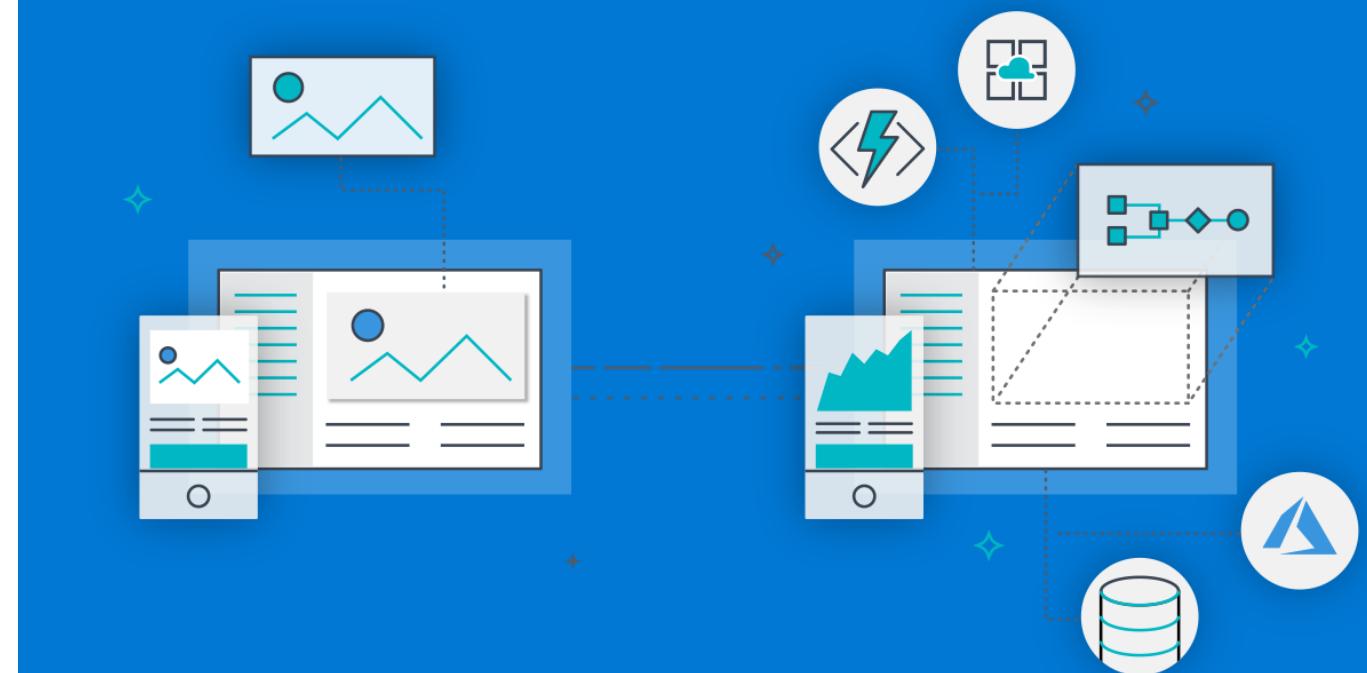


Technology systems and services

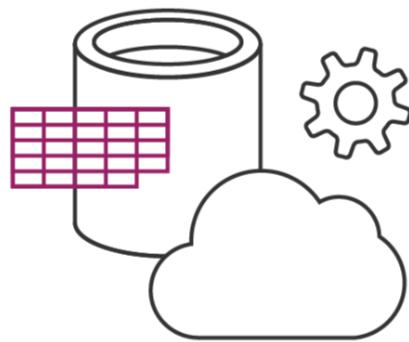




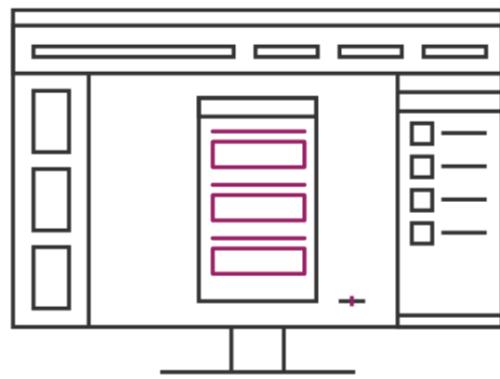
# Introduction to Canvas apps



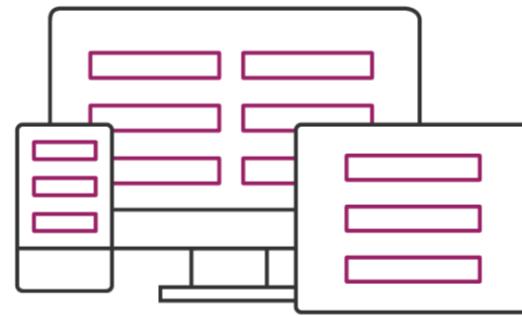
# Canvas Apps help business-power-users to create and use custom business apps across platforms using Excel and PowerPoint skills



Connect to data & systems you're already using *easily*

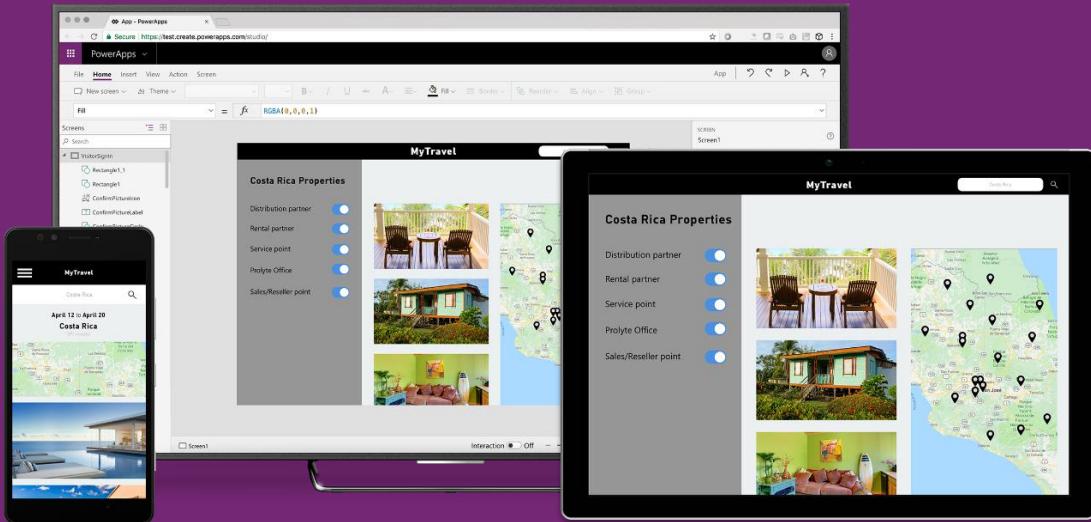


Create apps, forms, and workflows *without writing code*



Use apps *on any device* – both web and mobile

# Apps for web and mobile



Build **standalone** web and mobile apps, or **customize** existing apps in Office 365 and Dynamics 365 to deliver a seamless experience **across channels**

Craft **pixel-perfect experiences** from a blank canvas for highly customized, task and role-based apps

Generate immersive, **declarative, responsive apps** from a rich data model and workflow engine

Connect to **250+ data sources** for events and actions, from Microsoft and other vendors

Leverage native mobile capabilities like **camera, GPS, push notifications, add custom** components and more to build consumer grade applications

Build with intelligence including **Natural Language Processing**, image detection, and other built-in cognitive services powered by Azure

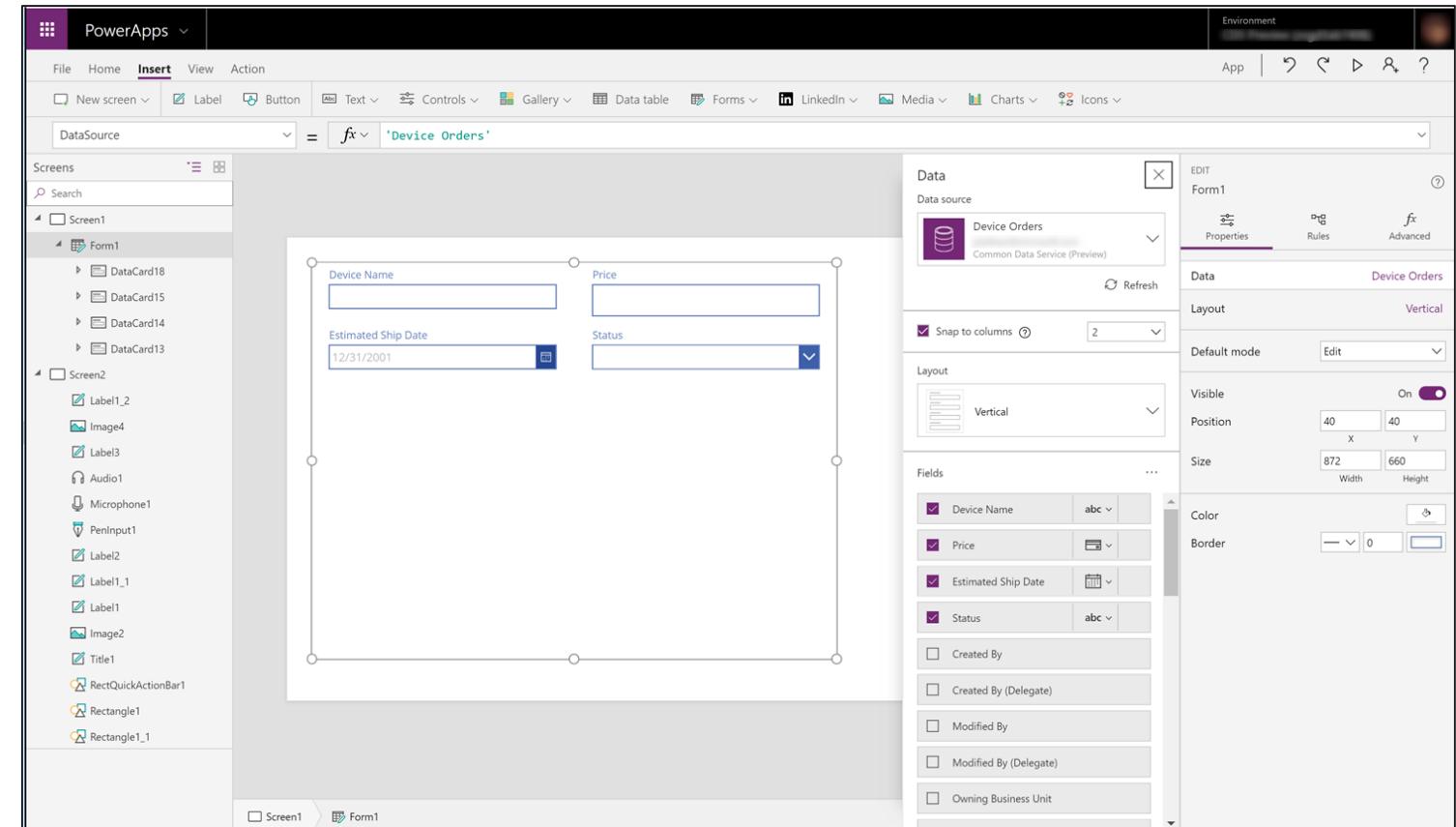
# Starting with Power Apps

**Canvas apps**  
Start with user experience  
WYSIWYG designer  
Task-based & role-based apps  
Mash-up data from 250+ sources

**Model-driven apps**  
Built on the Common Data Service for Apps  
Start with a data model, relationships, and business processes  
Build End-to-End business applications

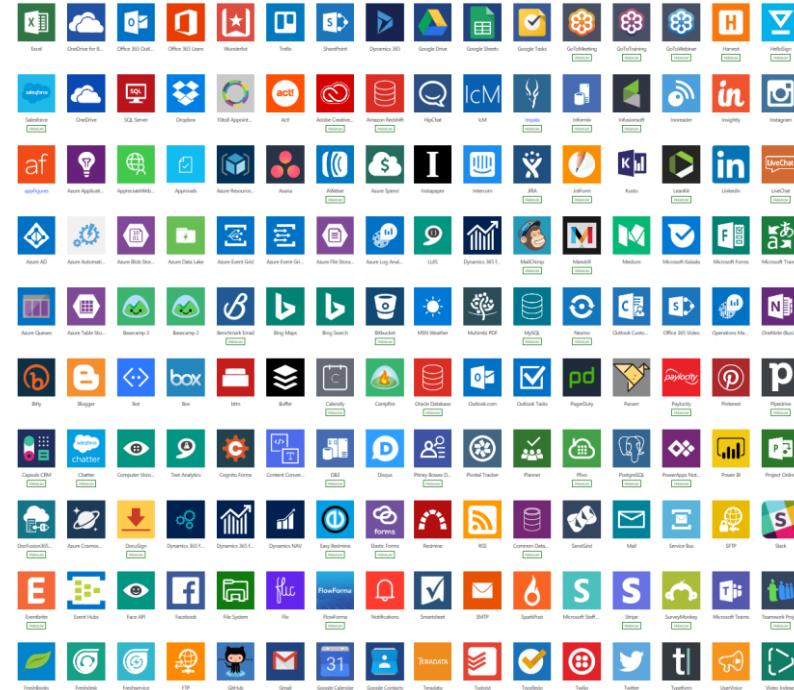
# Easy Authoring

- Truly WYSIWYG – full control over user experience, use it as you build it
- Create app logic with familiar Excel-like expressions
- Mash up data from multiple sources right at the app level



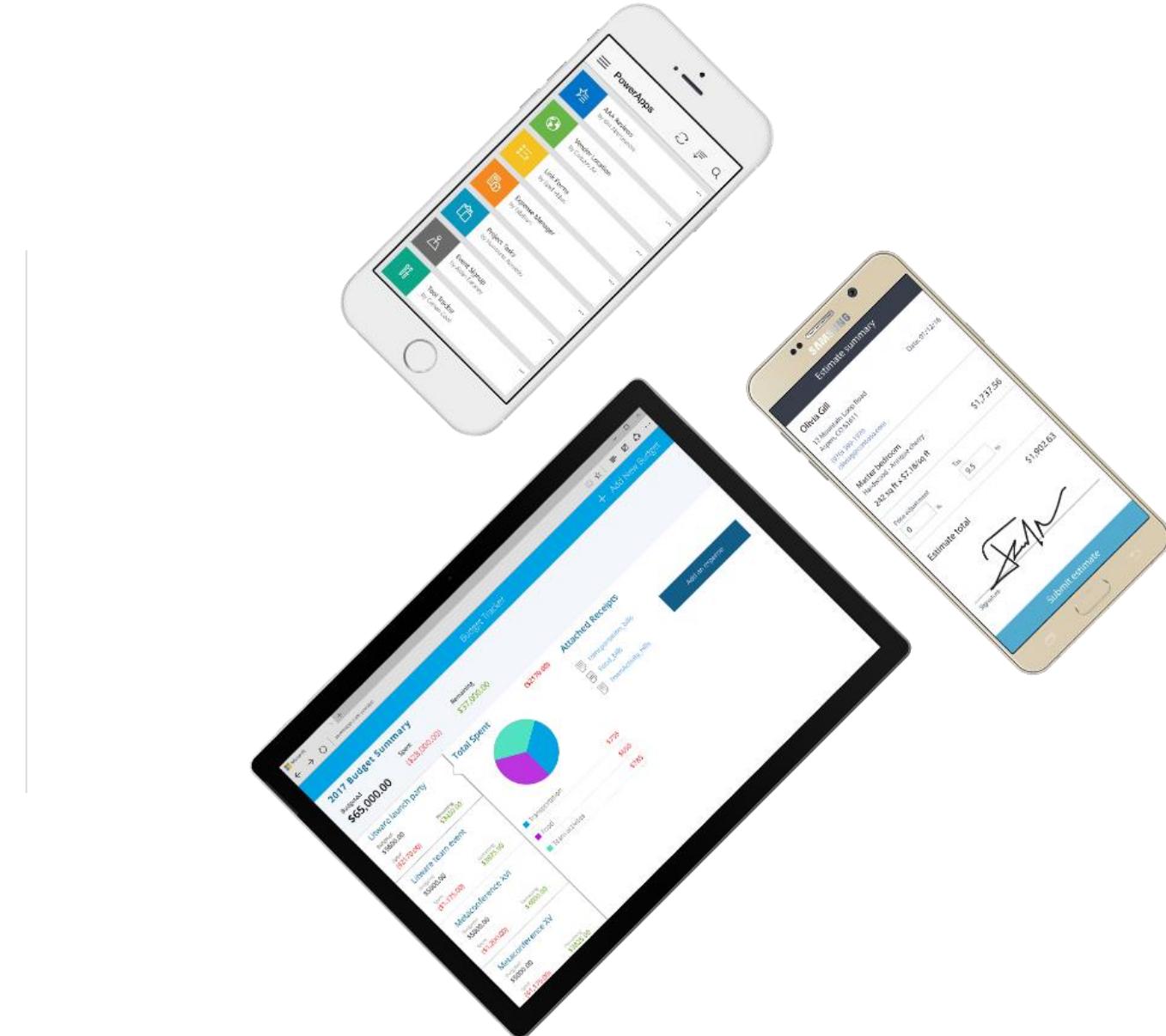
# Cloud and on-premises connectivity

- Built-in connectivity to 250+ cloud services, files, databases, web APIs, etc.
- Seamless hybrid connectivity to on-premises systems via the On-Premises Data Gateway
- Build custom connectors for everyone to leverage



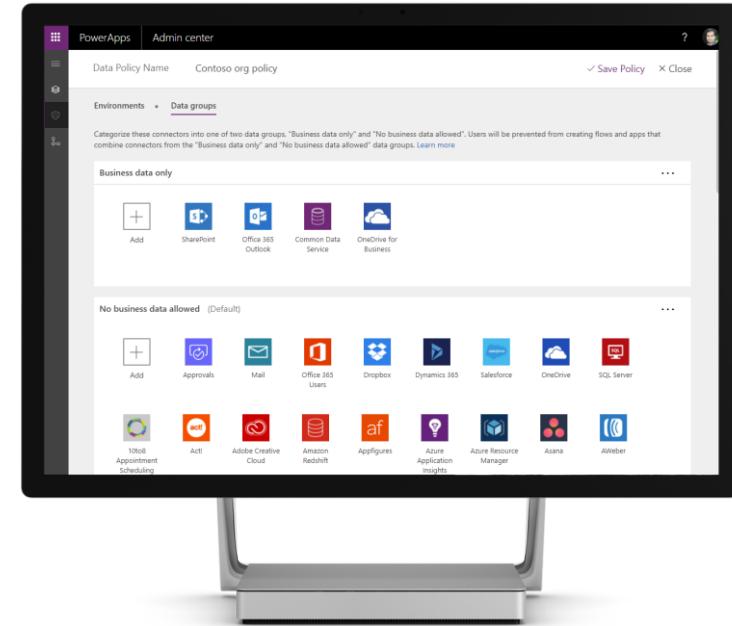
# Cross-platform

- Publish instantly to iOS, Android, Windows, and the web
- Sharing apps is like sharing documents
- Manage across environments



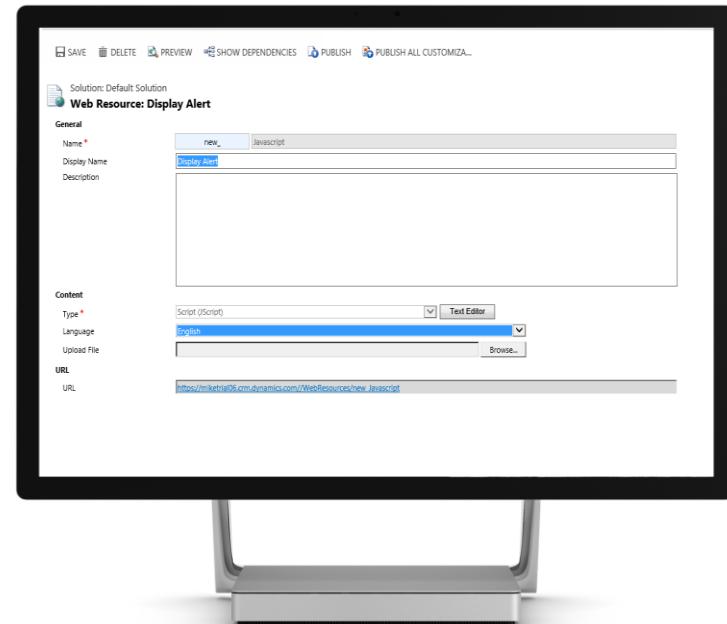
# Enterprise-grade management and control

- All identity is managed through Azure Active Directory, enabling rich policies and multi-factor authentication
- Admin Center providing full audit logs, usage analytics, data loss prevention, security and data management
- Centrally manage all your apps, first and third party, deployed across your organization



# Amplify traditional developer productivity

- Extend applications using custom code
- Build custom connectors that everyone can use
- Write advanced client or server-side logic leveraging Azure Machine Learning, Cognitive Services, Bing APIs, custom code, or any service of your choice



# Better together!

Embed canvas apps

- In websites
- In SharePoint
- In Power BI
- In model-driven

Home EDIT LINKS

## Settings > Form Settings

**Form Options**

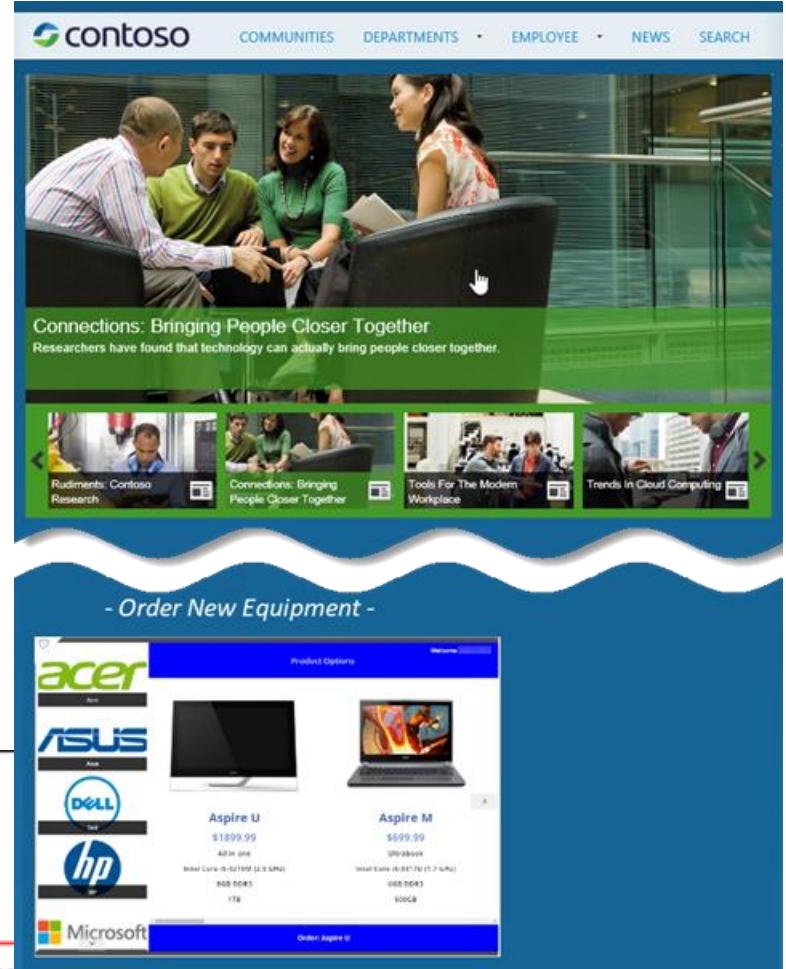
Use Microsoft PowerApps to customize the forms for this list. You can modify the form layout, add pictures and formatted text, add custom data validation, create additional views, and add rules.

Microsoft InfoPath is also provided as an option for backwards compatibility. Using PowerApps is recommended over using InfoPath.

Use the default SharePoint form

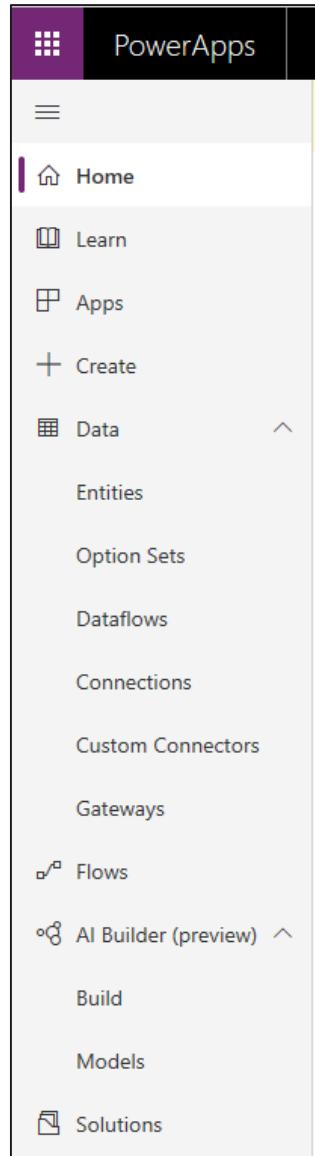
Use a custom form created in PowerApps  
[Modify form in PowerApps](#)

Use a custom form created in InfoPath  
[Customize in InfoPath](#)



# Key concepts

# Power Apps Maker Portal [<https://make.powerapps.com/>]

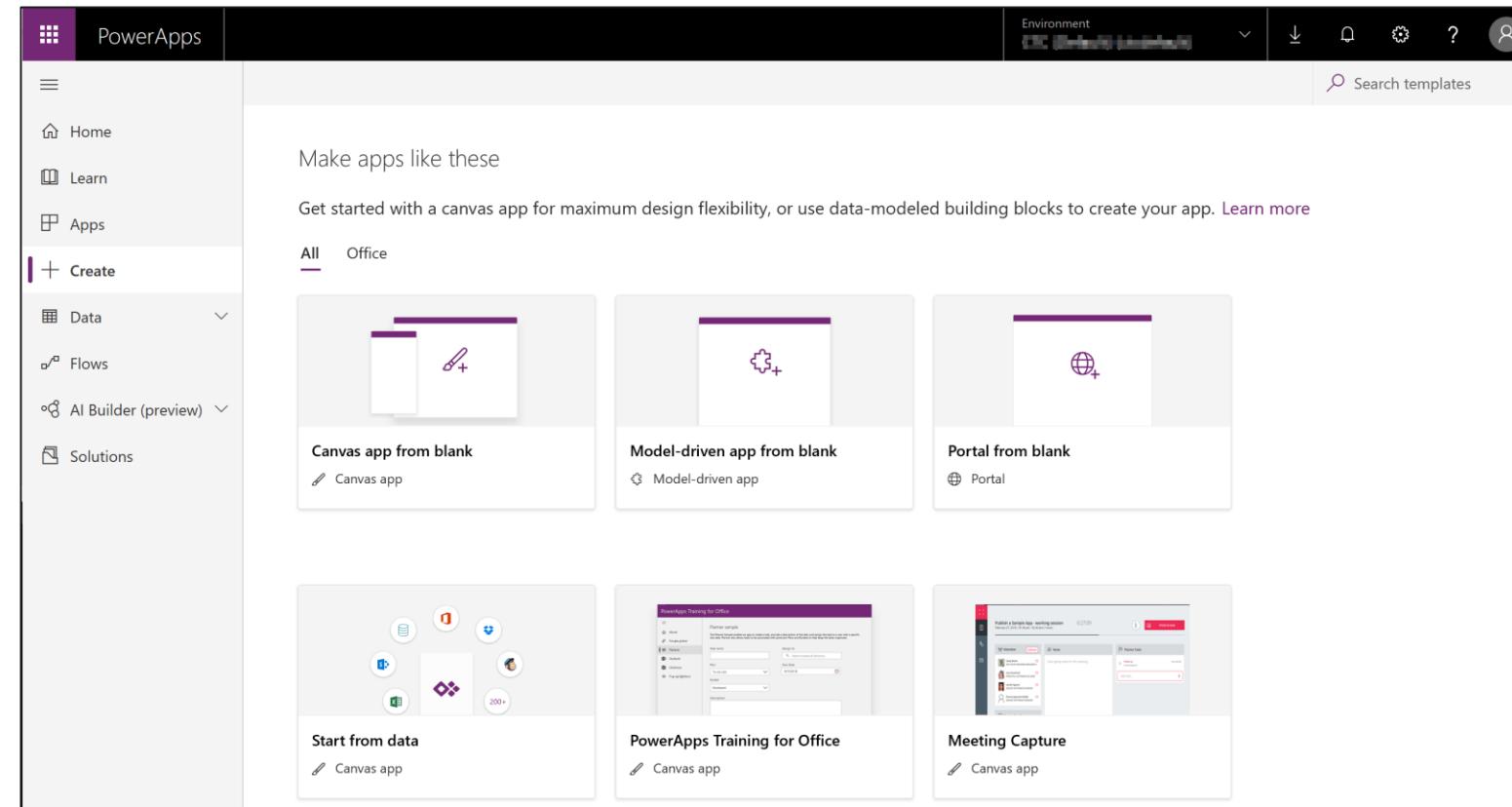


Home page for Makers

- Learn
  - Guided learning, documentation, community, what's new
- Manage Apps
  - View apps, open apps, create new apps, run sample apps, create apps from sample apps
- Data
  - Manage entities, option sets, data integration, connections, custom connections & gateways
- Business Logic: Add flows to your apps
- AI Builder: Democratized artificial intelligence for all
- Solutions: They hold and transport customizations and apps

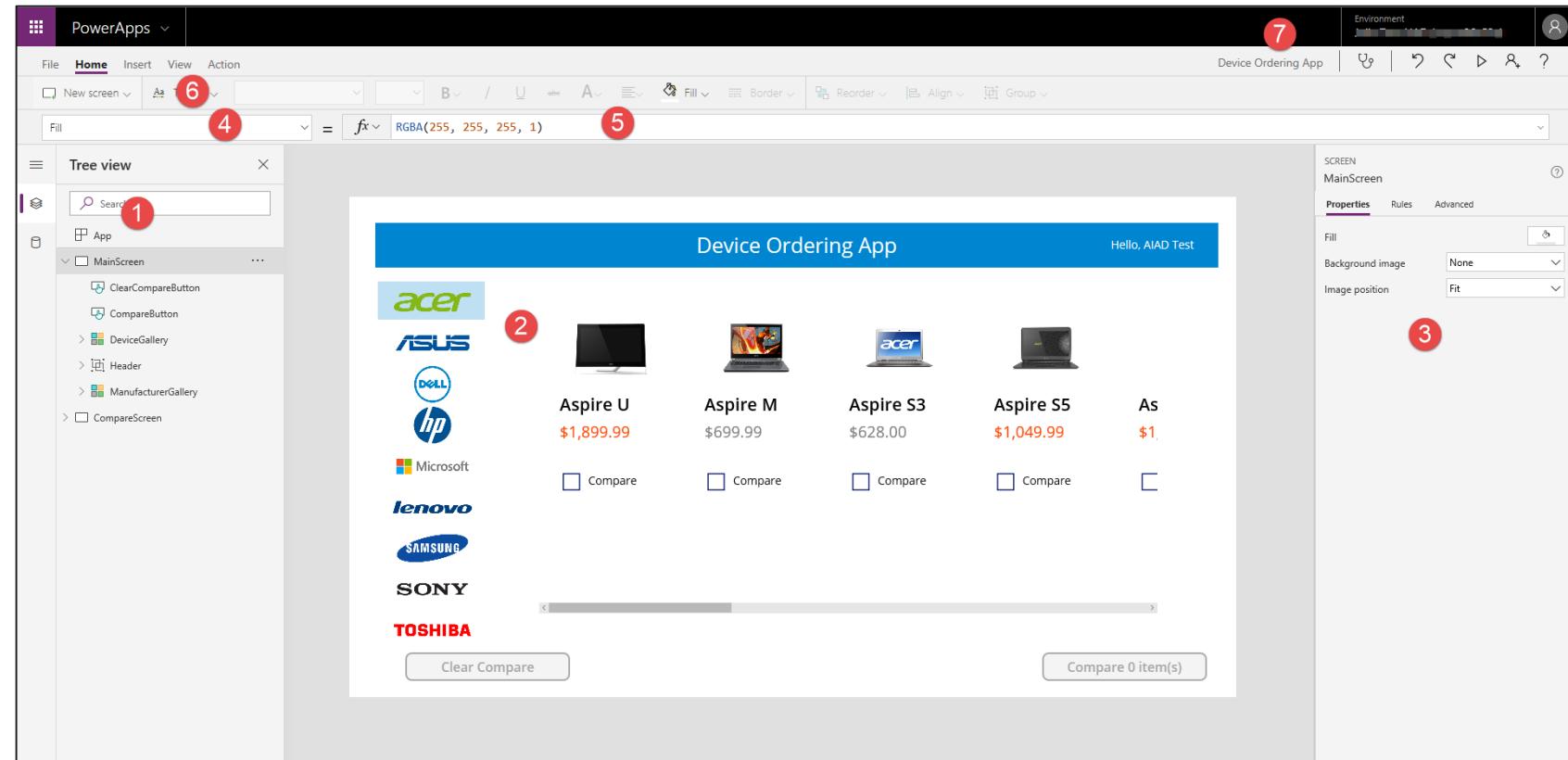
# Power Apps Studio for the Web

- Canvas apps authoring experience
- Start with your data
- Start with a blank canvas
- Start with a template



# Explore the app designer experience

1. Left navigation bar
2. Middle pane
3. Right-hand pane
4. Property
5. Formula bar
6. Ribbon
7. Additional items



# Power Apps Mobile (Player)

## Power Apps Mobile for Windows, iOS, and Android

- Available from respective app-stores as a free app
- Sign-in using your work account (Office 365 / Dynamics 365 / Azure AD credentials)
- Access all your apps or apps shared with you across environments



**Google Play:** <https://aka.ms/powerappsandroid>

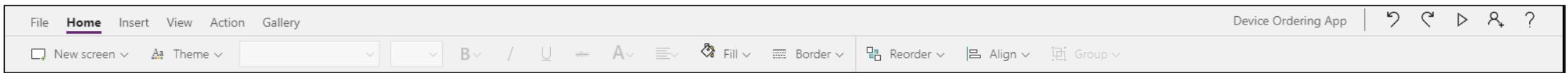
**Apple App Store:** <https://aka.ms/powerappsiOS>

**Microsoft Store:** <https://aka.ms/powerappswin>

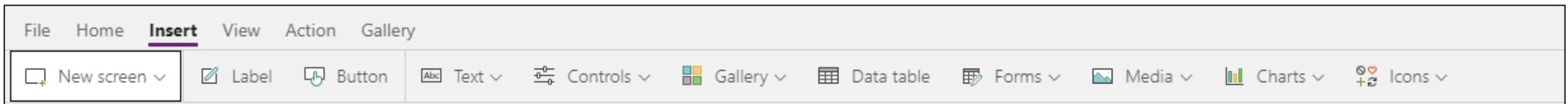


# Power Apps Studio

## Common Properties



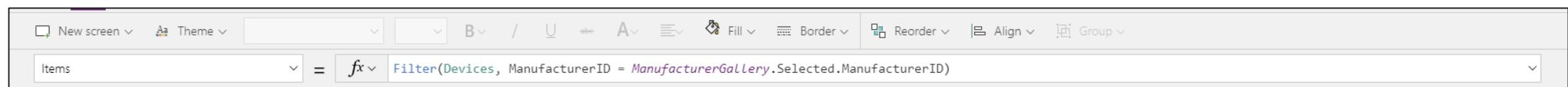
## UI: Controls



## View: Data



## UI-Data Binding: Properties & Formula bar



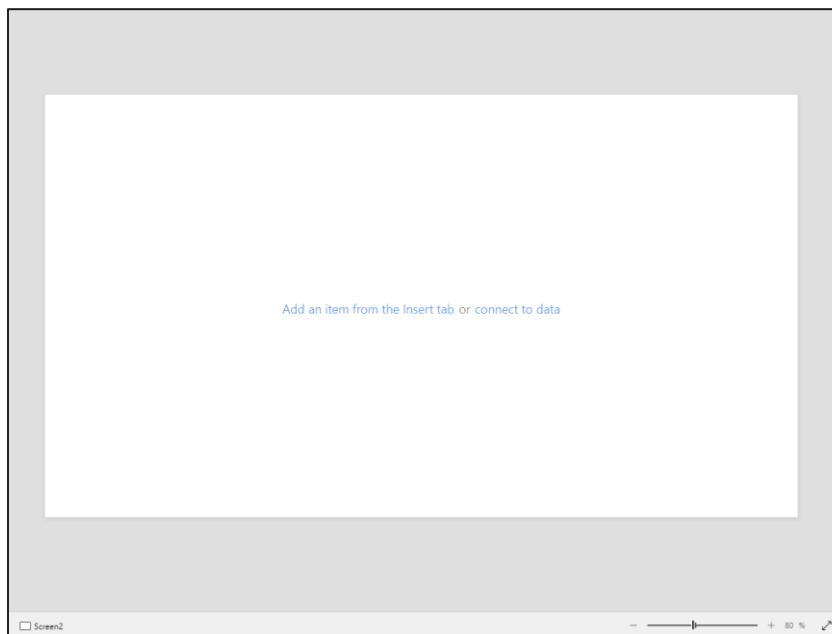
## Screens & Controls View

Screens

Search

- MainScreen
  - Button2\_1
  - Button2
  - ManufacturerGallery
    - Image3
  - DeviceGallery
    - Checkbox1
    - Subtitle1
    - Title1
    - Image1
    - Label3
    - HeaderLabel
- CompareScreen
  - icon1
  - CompareListGallery
    - Title1\_6
    - Title1\_5
    - Title1\_4
    - Title1\_3
    - Title1\_2
    - Subtitle1\_1
    - Title1\_1
    - Image1\_1
    - Label3\_1
    - HeaderLabel\_1

## Canvas



## Properties Panel

New screen

Items =  Filter(Devices, ManufacturerID = ManufacturerGallery.Selected.ManufacturerID)

GALLERY DeviceGallery

Data Devices

Layout Title and subtitle

Visible On

Position 204 80  
X Y

Size 1162 621  
Width Height

Color

Border  0

Wrap count 1

Template size 175

Template padding 0

Show scrollbar On

Snap Off

Show navigation Off

Navigation step 1

Transition None

Display mode Edit

SCREEN MainScreen

Action

OnVisible

```
Collect(CompareList, {Pressed: Button2_1.Pressed})
```

OnHidden

OnStart

Data

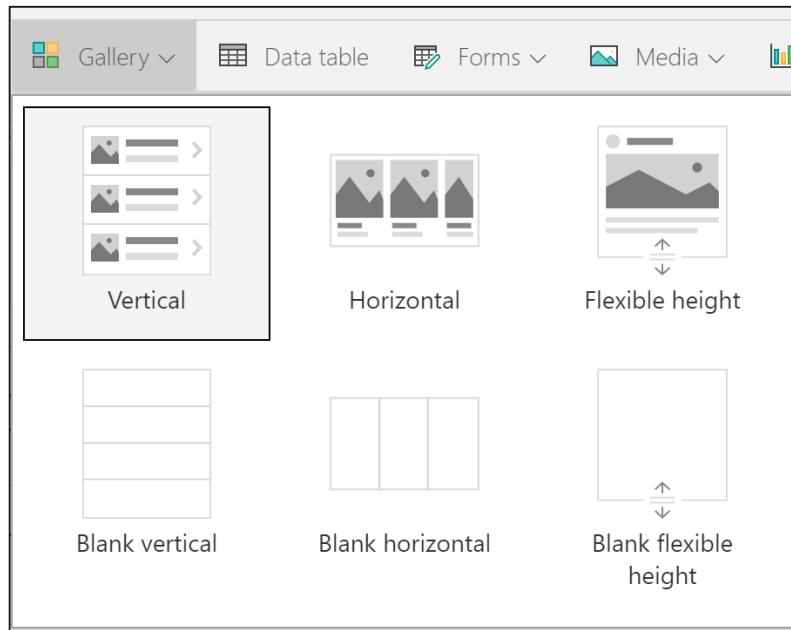
BackgroundImage

Design

Fill  RGBA(255, 255, 255, 1)

ImagePosition  ImagePosition.Fit

# Galleries



The screenshot shows the Power BI visual editor interface. In the center, a gallery control is displayed with four items. The first item is highlighted with a yellow background and has a blue arrow pointing to its edit icon. The items are:

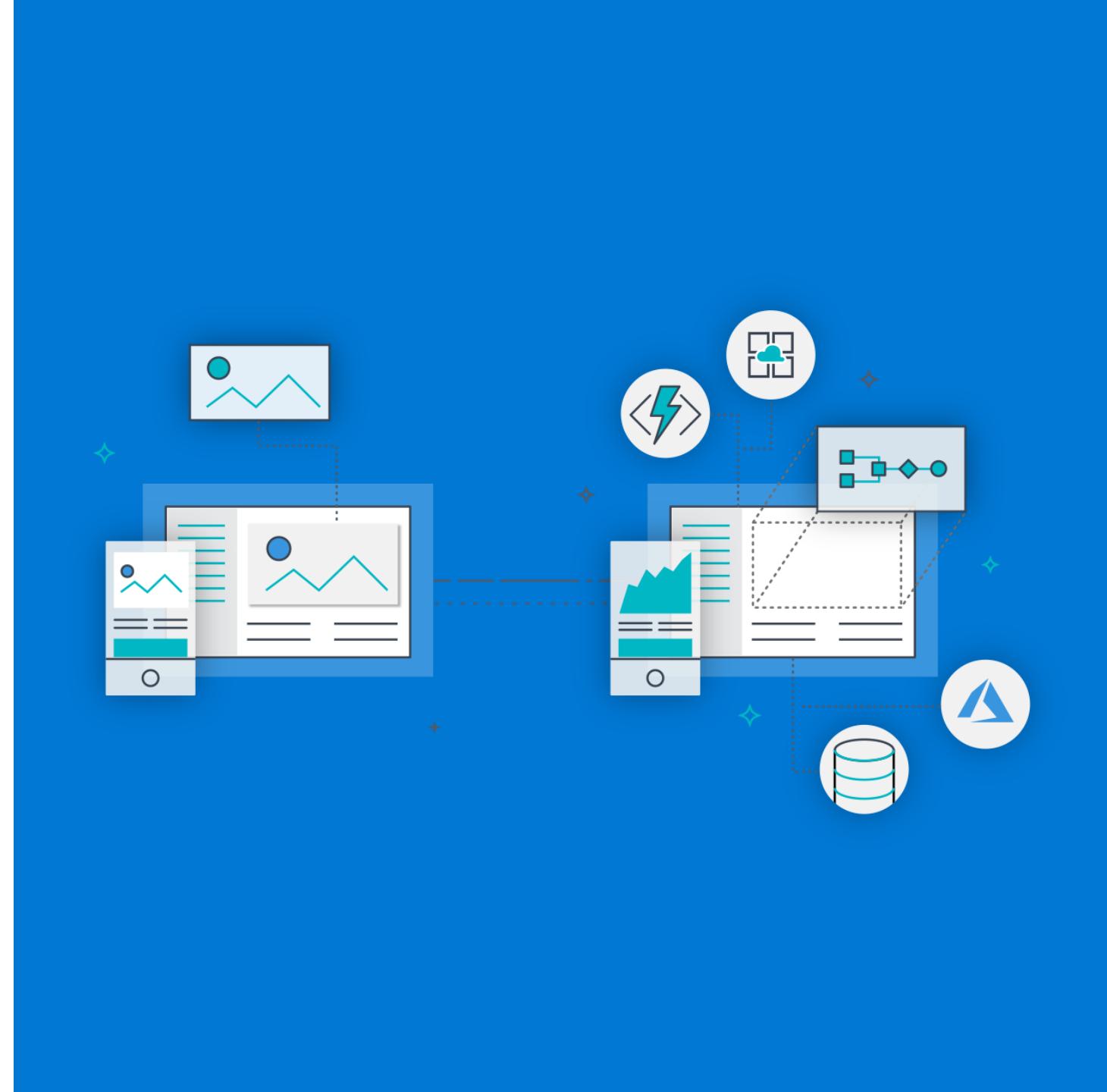
- Item 1:** Placeholder text 'Lorem ipsum 1' and sample text 'Lorem ipsum dolor sit amet,'.
- Item 2:** Placeholder text 'Lorem ipsum 2' and sample text 'Suspendisse enim metus, tincidunt'.
- Item 3:** Placeholder text 'Lorem ipsum 3' and sample text 'Ut pharetra a dolor ac vehicula.'.
- Item 4:** Placeholder text 'Lorem ipsum 4' and sample text 'Vestibulum dui felis, fringilla nec mi'.

On the right side, the 'Data' pane is open, showing the data source and layout settings:

- Data source:** 'CustomGallerySample' (Sample data).
- Layout:** 'Image, title, and subtitle'.
- Image2:** 'SampleImage'.
- Subtitle2:** 'SampleText'.
- Title2:** 'SampleHeading'.



# Hands-on-Lab introduction



# Business scenario

- Imagine an organization where every three years employees go through a hardware refresh cycle.
- They would like to streamline the device order, procurement and approval process.
- The app needs to run in a web browser and on mobile devices.

The screenshot displays a hybrid application interface for device ordering. On the left, a modal window titled "DEVICE ORDER" shows a "Device Requested (15 D)" card with details: "Requested Date: 04/09/2018", "Approval Status: ---", and "Price: \$899.990". Below this is a table with columns "Primary Name", "Owner", and "Approver", and a "Next Stage >" button. On the right, the main "Device Ordering App" interface shows a grid of four laptop models from various brands: Acer, ASUS, Dell, and HP. The Acer model is highlighted. Below the grid, there are "Compare" buttons for each row. A large modal window titled "Device Requested (15 D)" is open, showing the same information as the card in the sidebar. To the right of the main content, a "Flowchart" tool is visible, showing a workflow with steps like "Update flow" and "Test Flow".

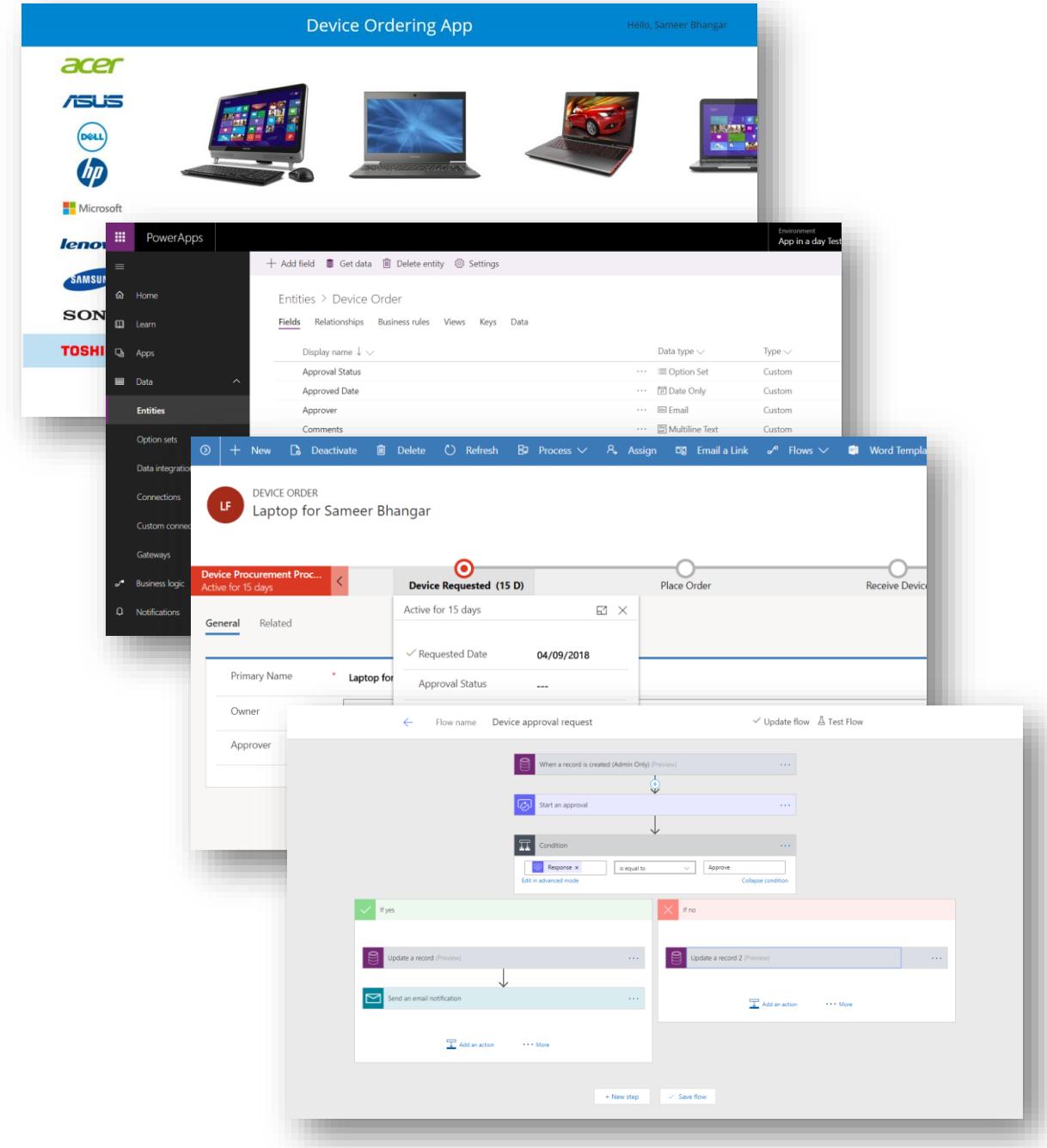
# Lab objectives

Build a **Power Apps Canvas App** for employee facing device ordering experience

Use the **Common Data Service (CDS)** to store the device orders in the cloud

Build a **Power Apps Model-driven App** to complete the procurement process

Use **Power Automate** to build an approval workflow for device approval



# Lab content

Download package – <http://aka.ms/appinaday>

Unzip the package on your local machine

Follow instructions: “**00-AppInaDay Lab Overview.pdf**”

Contains 4 modules with a lab doc for each:

- 01-Power Apps Canvas App
- 02-Common Data Service for Apps
- 03-Power Apps Model-driven App
- 04-Power Automate

Completed Modules:

The **\Completed folder** contains solution packages that you can import

e.g. To work on Module 2 without completing Module 1 -> see \Completed\Module1

Lab docs:

| Name                                       |
|--|
| Completed                                  |
| 00-AppInADay Lab Overview                  |
| 01-PowerApps Canvas App Lab Manual         |
| 02-Common Data Service for Apps Lab Manual |
| 03-PowerApps Model-driven App Lab Manual   |
| 04-Microsoft Flow Lab Manual               |

Completed modules:

| Name     |
|----------|
| Module 1 |
| Module 2 |
| Module 3 |

# Pre-requisites

## Valid Power Apps Plan 2 license:

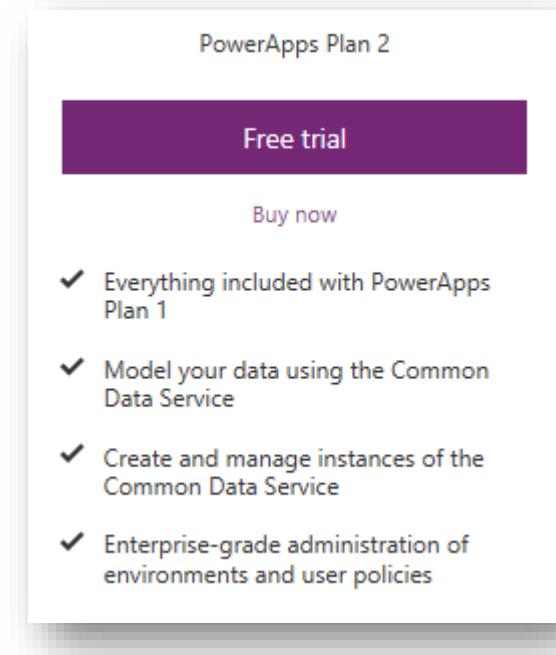
- Common Data Service usage requires a Power Apps Plan 2 license
- Visit <https://powerapps.microsoft.com/pricing/> and click Free Trial
- If you are unable to acquire a trial license:
  - Ask the instructor for a trial user account that you may use for this session OR
  - Create your own Office 365 trial tenant – <http://aka.ms/Office365ETrial>

## Power Apps authoring environment:

- Launch <https://make.powerapps.com> using any modern browser

## Power Apps mobile apps (Optional):

- Power Apps – iOS : <https://aka.ms/PowerAppsiOS>
- Power Apps – Android : <https://aka.ms/PowerAppsAndroid>



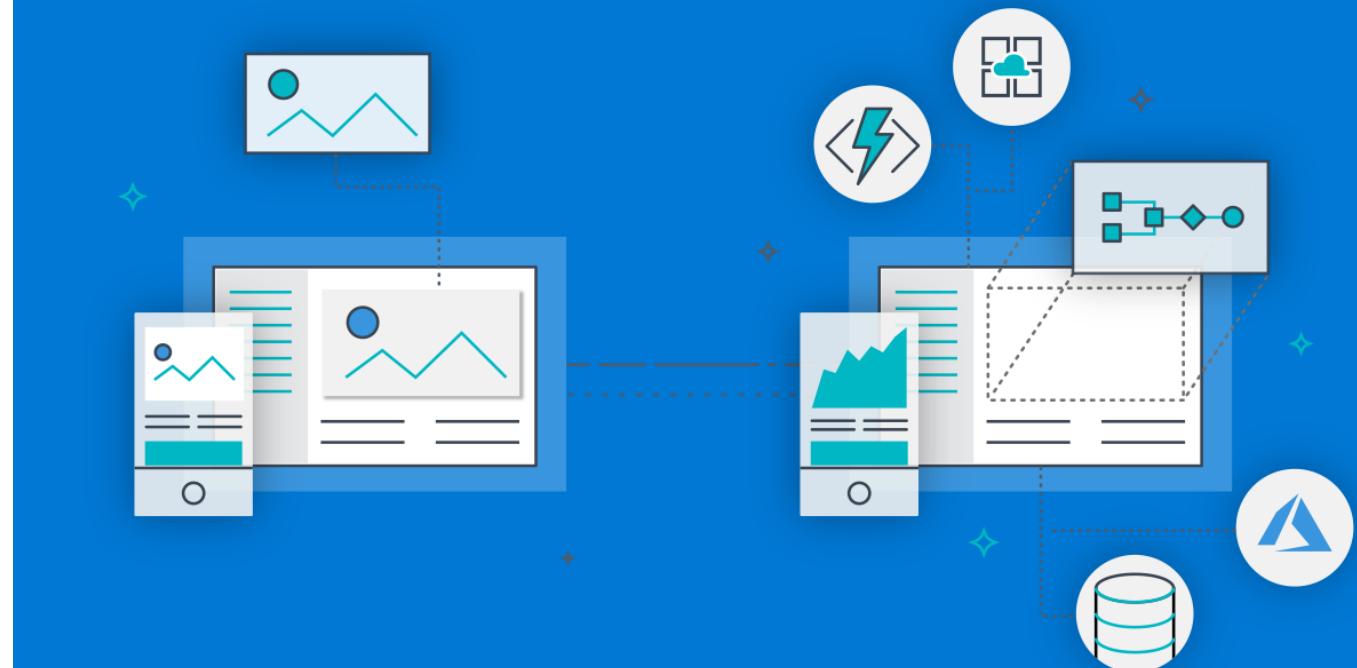
# Provision an environment and CDS database

This lab requires a new Power Apps environment and CDS database that was provisioned for this class

- Go to the Power Apps Admin center – <http://admin.powerapps.com>
- Select +New environment, fill out the form and select Create
- Select the Create database option
- Fill out the form and select Create database
- You will be taken to a screen that shows the newly created environment
- **IMPORTANT:** At this stage the database has not yet been provisioned
- Select the environment you just created
- Wait for the “Provisioning database...” message to go away
- You may need to refresh the screen every couple of minutes
- Once the provisioning is complete, then proceed to create apps in the environment

# Hands-on-lab

## Module 1: Power Apps Canvas App



# Lab objectives

- Signing in and creating a new Canvas App
- Connecting to data sources
- Filtering data
- Working with multiple screens and navigation
- Customizing the user experience – galleries and controls

Device Ordering App

Hello, Sameer Bhangar

The screenshot shows a user interface for a 'Device Ordering App'. At the top, there's a blue header bar with the app name and a user greeting ('Hello, Sameer Bhangar'). Below the header, there's a sidebar on the left containing logos for various brands: acer, ASUS, DELL, hp, Microsoft, lenovo, SAMSUNG, and SONY. The main content area displays a grid of devices. In the first row, there are four items: 'All-in-One LX835-D3380' (by Portege Z935-ST4N02) at \$1,399.99, 'Portege Z935-ST4N02' at \$979.99, 'Qosmio X870-ST3NX1' at \$1,899.99, and 'Satellite C87' at \$479.99. Each item has a 'Compare' checkbox below it. In the second row, there's one item: 'TOSHIBA' with a 'Compare' checkbox. At the bottom right of the main content area are two buttons: 'Clear' and 'Compare 6 item(s)'.

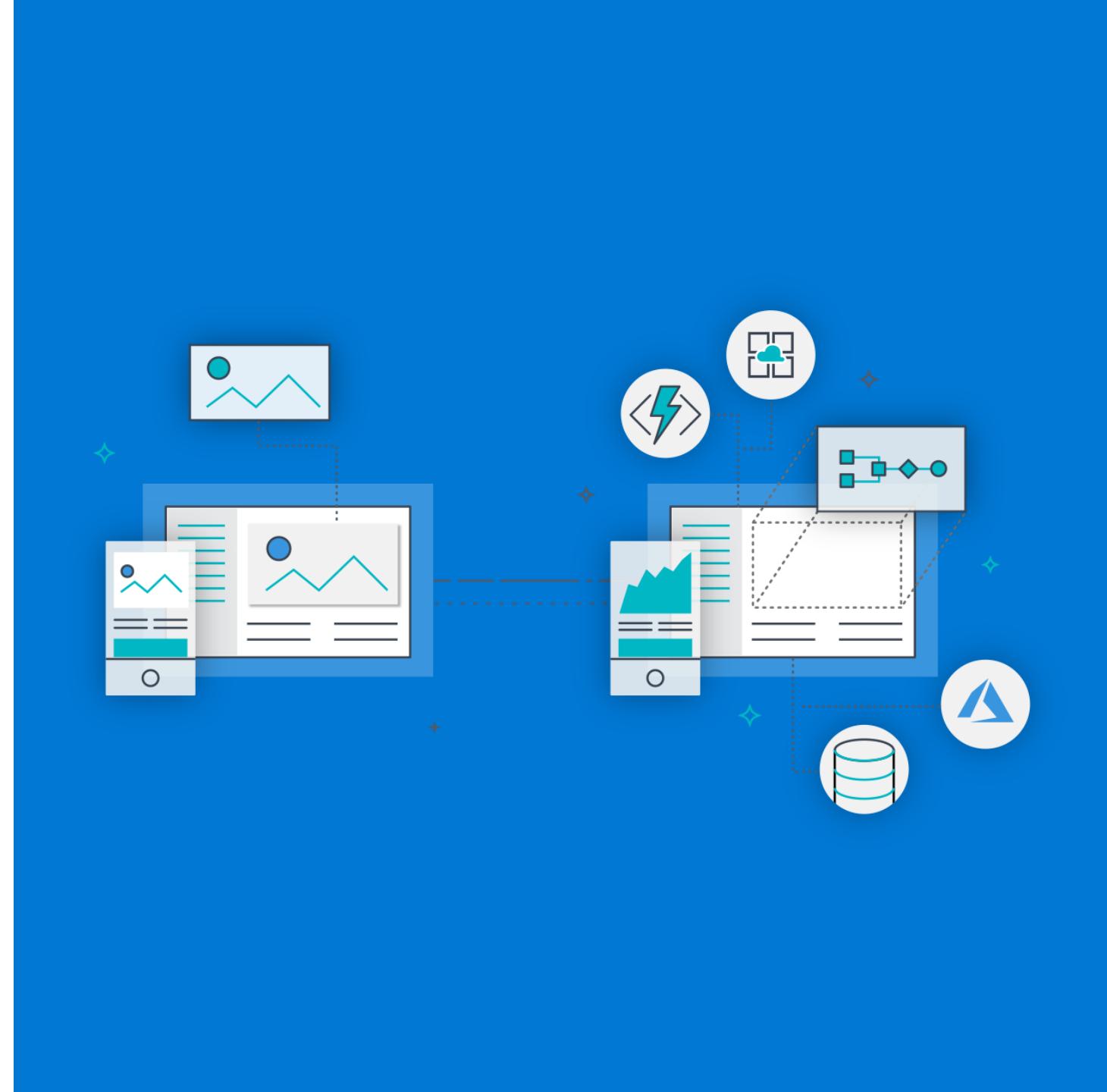
Device Ordering App

Hello, Sameer Bhangar

This screenshot shows a different view of the 'Device Ordering App'. It features a blue header bar with the app name and a user greeting ('Hello, Sameer Bhangar'). Below the header, there's a back arrow icon on the left. The main content area displays a grid of devices. In the first row, there are three items: 'Portege Z935-ST4N02' (by Toshiba), 'Surface Pro' (by Microsoft), and 'Series 7' (by Samsung). Each item has its price (\$979.99, \$999.00, and \$1,099.00 respectively) and some technical specifications listed below it. A horizontal scrollbar is visible at the bottom of the main content area.



# Hands-on-Lab Demo





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