Microsoft Power Platform

Microsoft Power Platform
Low Code & No Code

John Nelson
Senior Technical Specialist – State and Local Government

Stan Ray
Senior Technical Specialist - Education

Doug Bell
Senior Technical Specialist – State and Local Government

Agenda

- Why Low-code/No-Code?
- Power Platform Overview
- How can I get started on the Hack?
- Learning Resources
- Demonstration

Custom code isn't keeping up with business demand

500 million new apps will be built in the next 5 years - more than all apps built in the last 40 years.[1]

Tech talent limitations

Ground up software development takes time
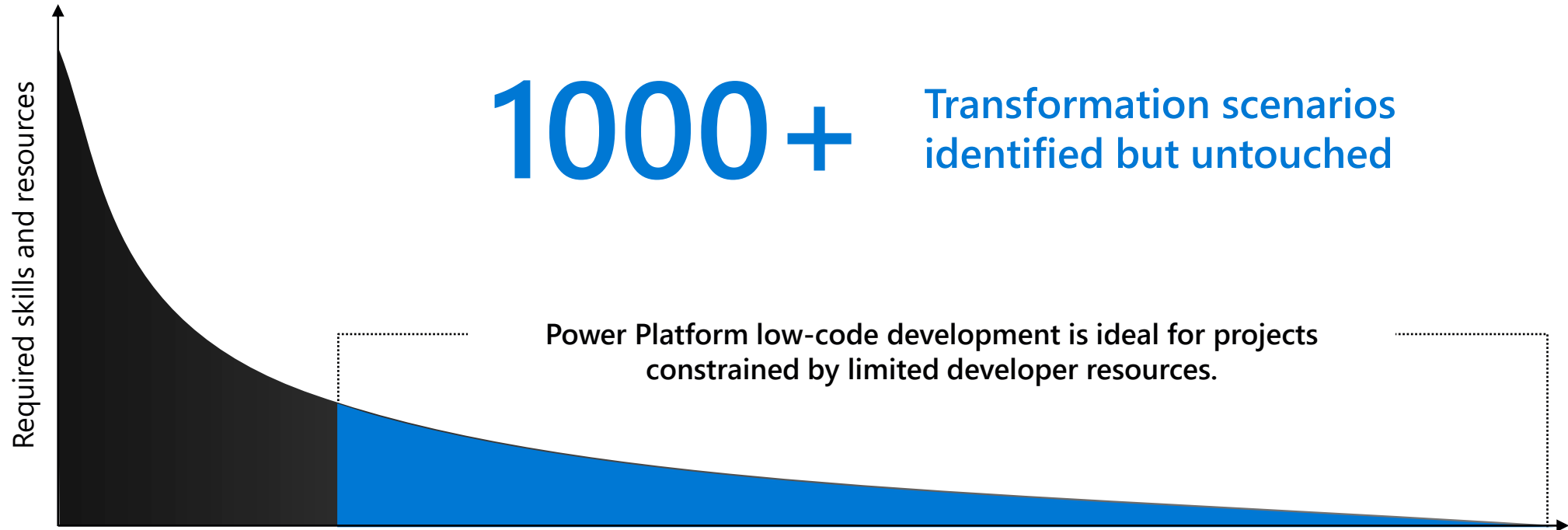
Surging digital demand

Security & compliance risks

70% of new applications developed by enterprises will use low code or no-code technologies by 2025. – Gartner[2]

1. IDC FutureScape: Worldwide IT Industry 2020 Predictions. October 2019.
2. Gartner, Forecast Analysis: Low Code development Technologies. January, 2021.

Power Platform extends your development potential

1000+ Transformation scenarios identified but untouched

Required skills and resources

Power Platform low-code development is ideal for projects constrained by limited developer resources.

The average cost to develop an app is 74% less with Power Platform than with traditional coding methods.

More businesses are choosing Microsoft Power Platform

>500K

organizations using Power Platform every month

97%

of Fortune 500 companies use Power Platform

50%

YoY growth for SMB customers using Power Platform

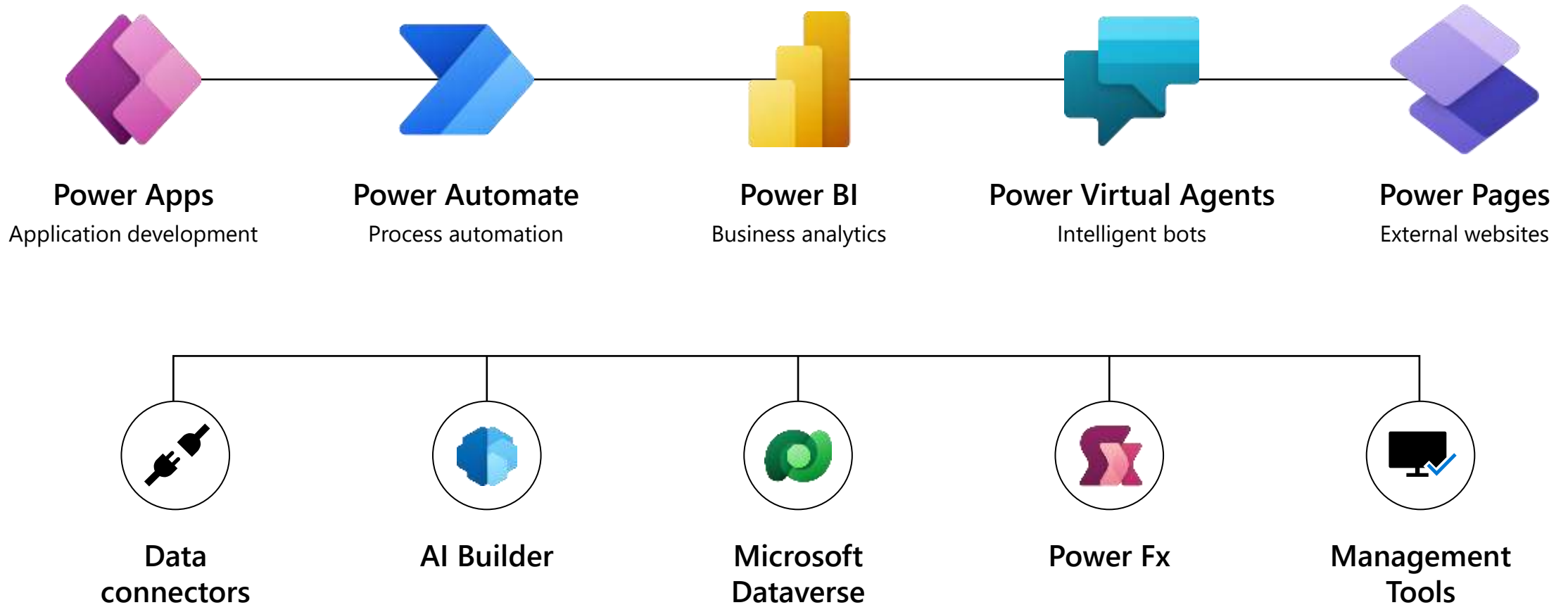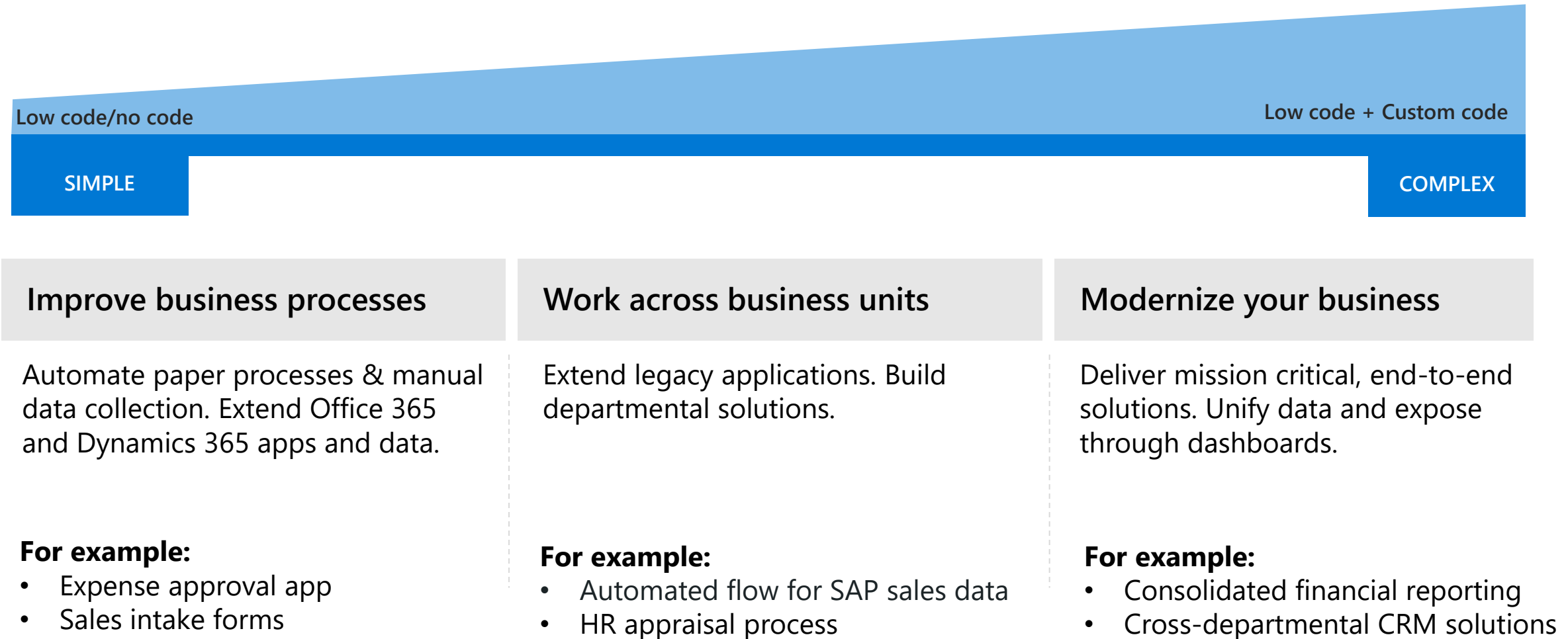| Healthcare	Finance/Banking	Manufacturing	Energy	Public sector	Technology Services	Consumer Goods
Humana	Standard Bank	TOYOTA	Schlumberger	American Red Cross	T·Mobile	Coca-Cola
gsk	Liberty Mutual INSURANCE	3M	Chevron	VA U.S. Department of Veterans Affairs	COMCAST	Nestlé
novo nordisk					Adobe	pepsi

Microsoft Power Platform

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

Power Apps
Application development

Power Automate
Process automation

Power BI
Business analytics

Power Virtual Agents
Intelligent bots

Power Pages
External websites

Data connectors

AI Builder

Microsoft Dataverse

Power Fx

Management Tools

Power Platform in action

Address a wide range of business challenges

Low code/no code

Low code + Custom code

SIMPLE

COMPLEX

Improve business processes	Work across business units	Modernize your business
Automate paper processes & manual data collection. Extend Office 365 and Dynamics 365 apps and data.	Extend legacy applications. Build departmental solutions.	Deliver mission critical, end-to-end solutions. Unify data and expose through dashboards.

For example:
- Expense approval app
- Sales intake forms

For example:
- Automated flow for SAP sales data
- HR appraisal process

For example:
- Consolidated financial reporting
- Cross-departmental CRM solutions

Everyone's platform for low code transformation

CITIZEN DEVELOPERS

Build solutions fast

Unlock data, automate processes and deliver insights using a simple, drag-and-drop platform and pre-built components.

PRO DEVELOPERS

Build without limits

Customize and extend your low-code solutions using popular development platforms.
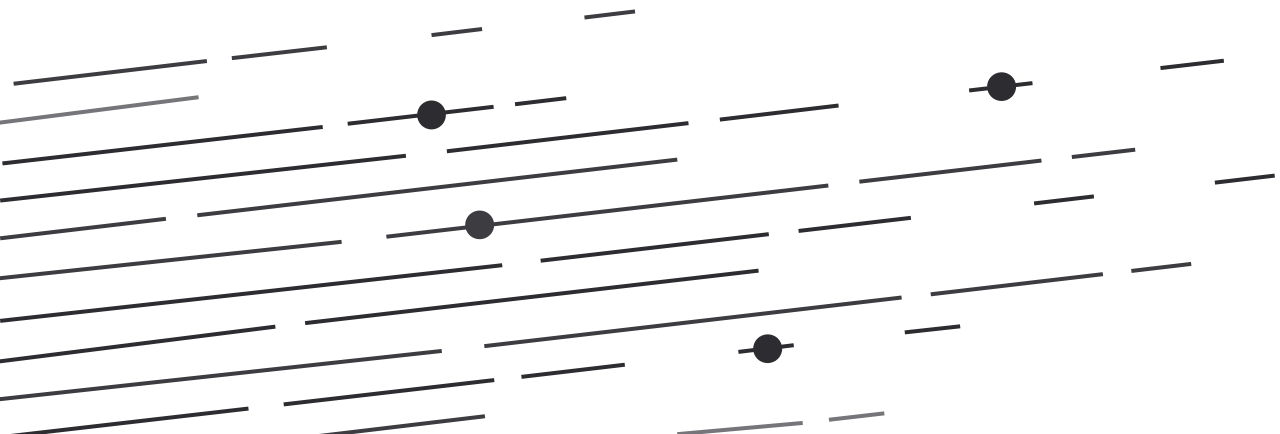
IT PROS

Maintain security and control

Add access, security and compliance guardrails to protect data, enforce standards and reduce the risk of shadow IT.

Power Platform development is a team sport

Citizen developers participate directly in development to shorten cycles.

Coders do the "hard parts", from data integration to custom UX controls.

CITIZEN DEVS

Innovation + Control

PRO DEVS

Citizens register their apps and participate in training.

Coders manage source control and app lifecycles.

IT governs citizen activity and nurtures the community

IT grants access to resources to more advanced developers.

IT PROS

CITIZEN DEVS: Build solutions fast.

Power Apps

Empower everyone to create apps to solve business challenges

- Use Power Apps to **rapidly create web and mobile** front ends using a drag and drop UI.

- **Build once** and deploy apps in one click across iOS, Android, Windows, and Web.

- Customize every detail of an app to **optimize for specific tasks, roles, and industries**.

- Enable **pro developers** to create re-usable components to share with citizen developers

- **Connect** to data using pre-built or custom connectors.
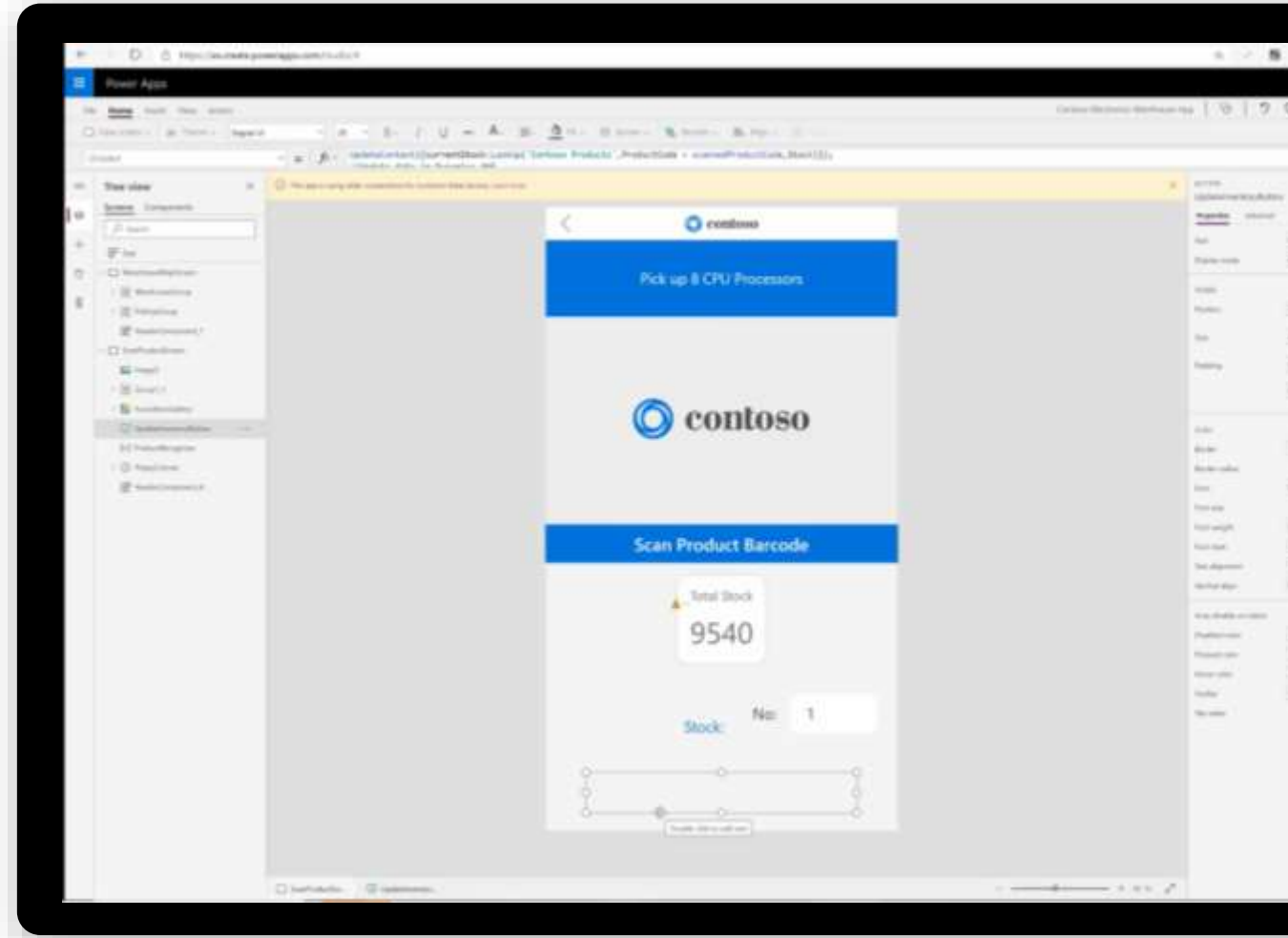
Power Automate
Business processes across Power Platform

- Expand and improve business processes with integrated **RPA workflows**.

- **Send automatic reminders** for past due tasks.

- Move business **data between systems** on a schedule.

- Create a flow once and **enable makers** to use it across the Power Platform.

- Extend the automation capabilities in Power Automate to on-premises processes and tasks with **Power Automate Desktop**.
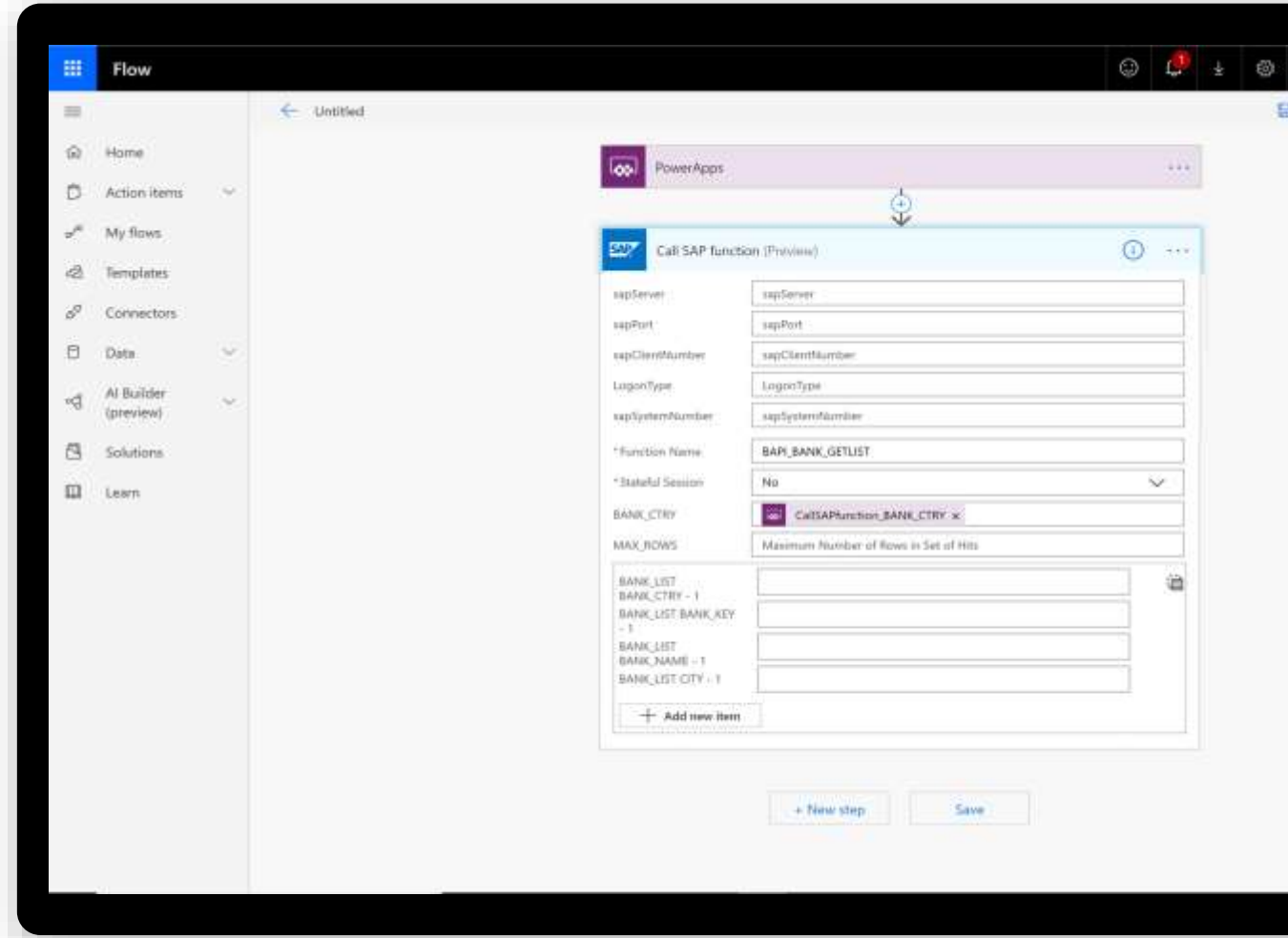
Power BI

Experience any data, anyway, anywhere

- Enable everyone to create real time dashboards & interactive reports using low-code tools and pre-built formats.

- Connect to hundreds of data sources from spreadsheets to on-premises data.

- Produce beautiful reports, then publish them for your organization to consume on the web and across mobile devices.

- Empower your organization with self-service analytics.
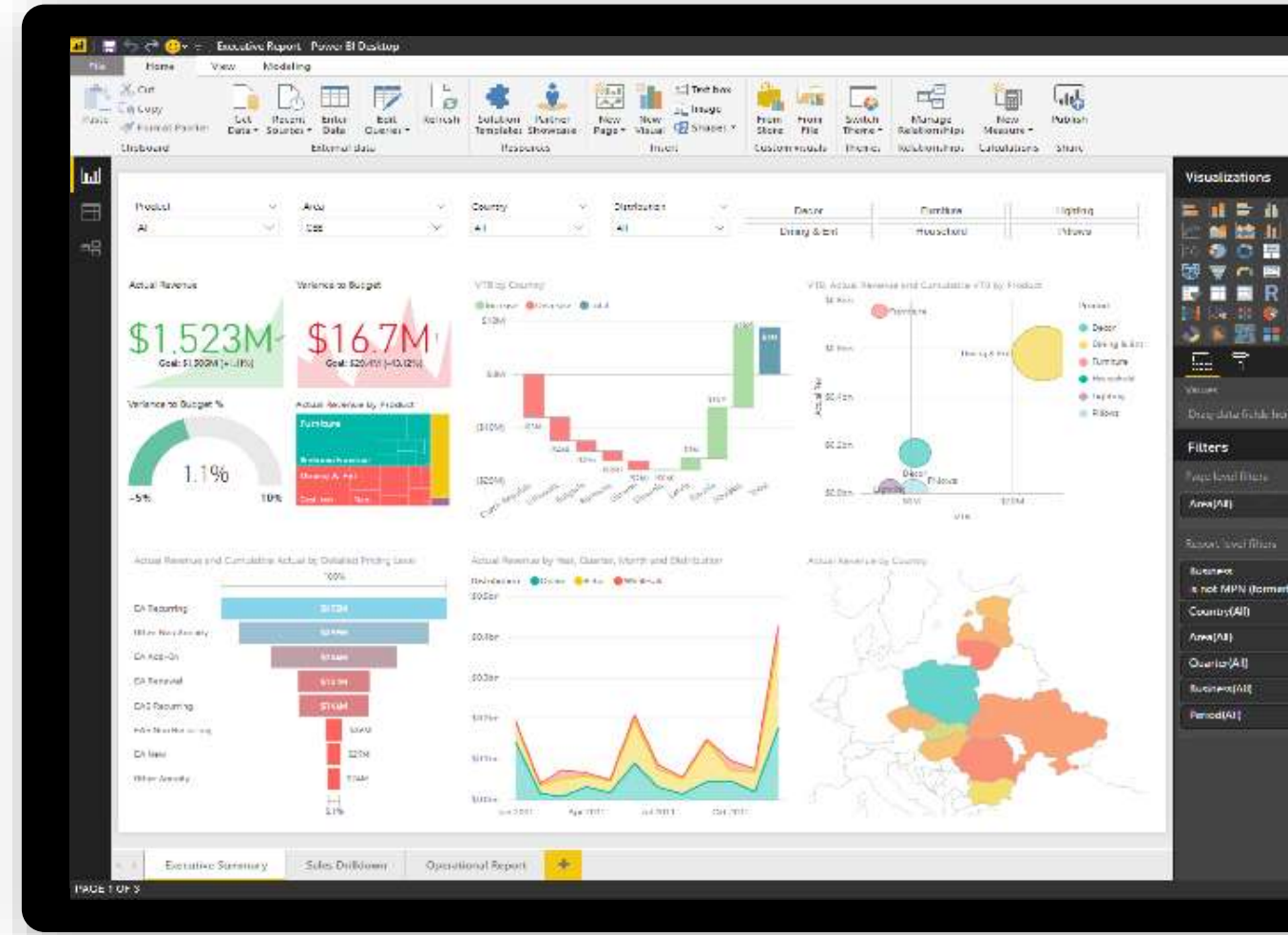
Power Virtual Agents
Build intelligent bots for customers and employees in minutes

- Create and manage **powerful chatbots** without the need for code or AI expertise.

- Easily **integrate your chatbots** with the products and services you use every day.

- Look up records, personalize conversations, hand off conversations to live agents, and **call APIs**.

- Choose from hundreds of prebuilt connectors, build **custom workflows** using Power Automate, or create complex scenarios with **Microsoft Bot Framework**.

- Monitor and **improve your chatbot's performance** using AI and data-driven insights.
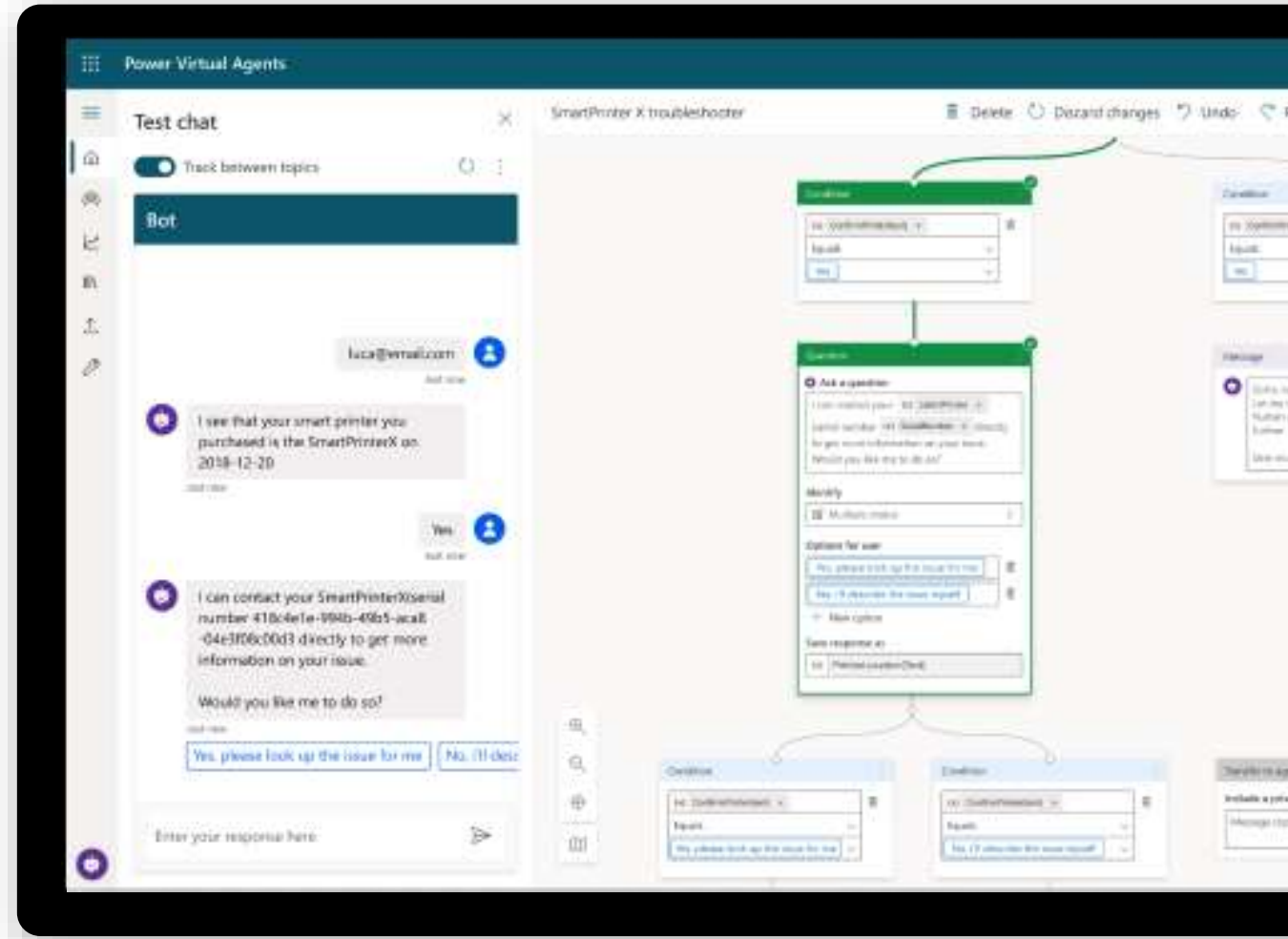
Power Pages

Create modern, secure, responsive business websites to rapidly engage your customers, partners, and communities

- **Make authoring easy for everyone**
  Enable everyone in your organization to design and launch engaging websites – no coding required.

- **Build without boundaries**
  Empower your developers with advanced, web design tools that can take your pages to a whole new level.

- **Share with confidence**
  Manage all your sites through one, convenient dashboard and meet your most demanding security and compliance requirements.

- **Snap in exciting new capabilities**
  Add dashboards, document sharing, chatbots, automation, and more for a smarter experience, with seamless integration to Power Platform and other Microsoft services.
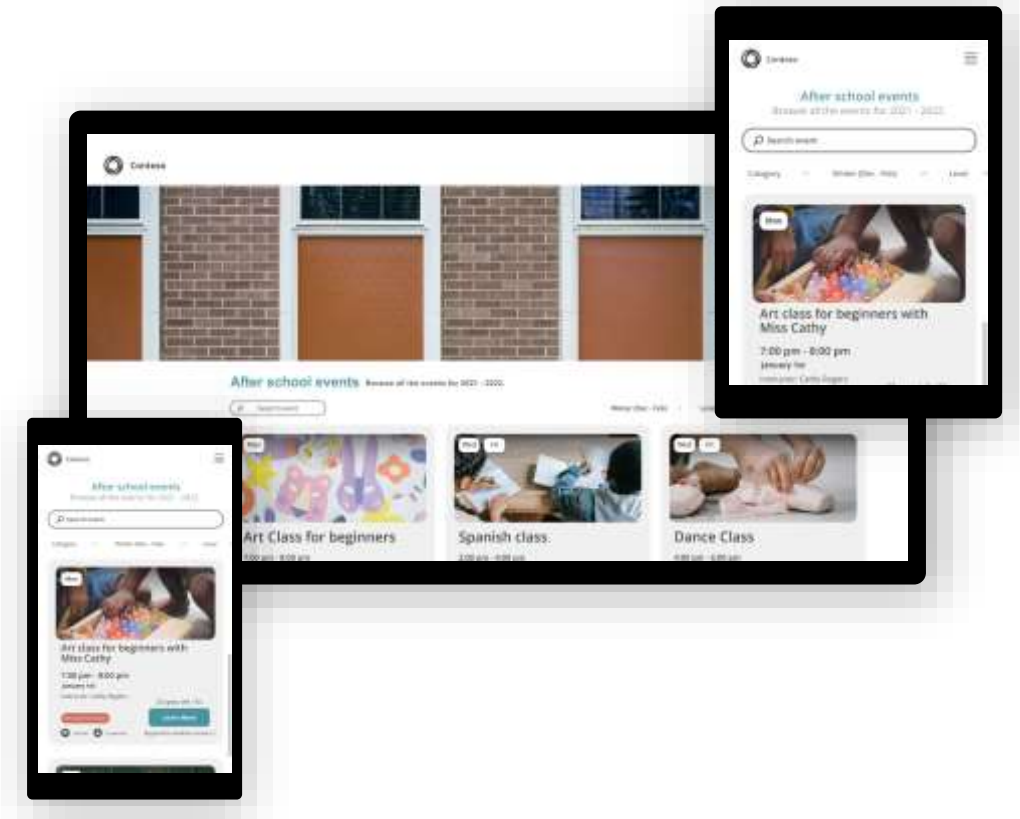
Pre-built connectors
**Connect to Microsoft and third-party data sources with ease**

- Built-in, **out-of-box connectivity** to hundreds of cloud services, content services, databases, APIs, etc.

- Seamless **hybrid connectivity** to on-premises systems via the on-premises data gateway.

- Option to develop **custom connectors** as a building block for citizen developers.

- **Connect data silos** by unifying multiple data sources in a single application.
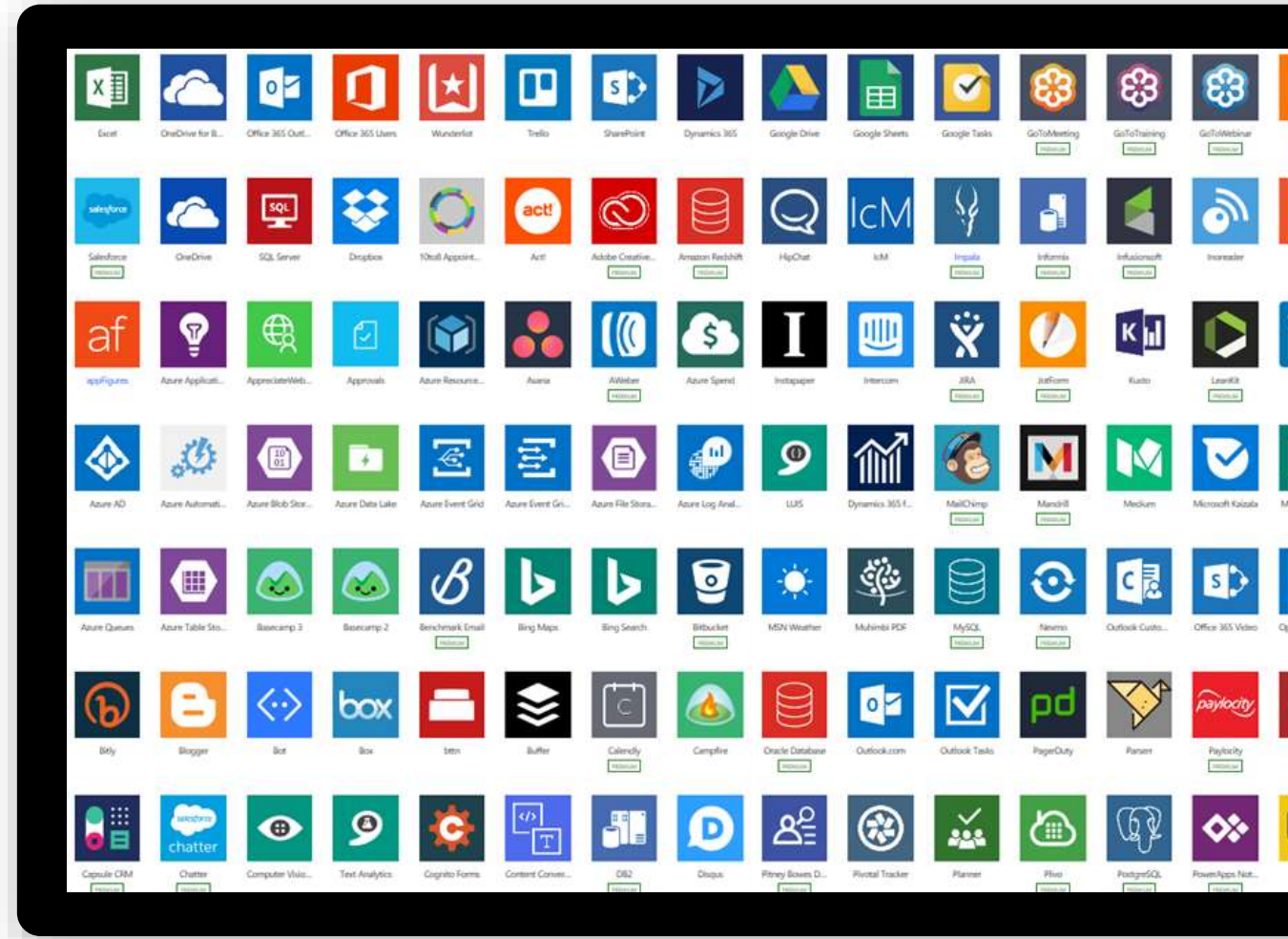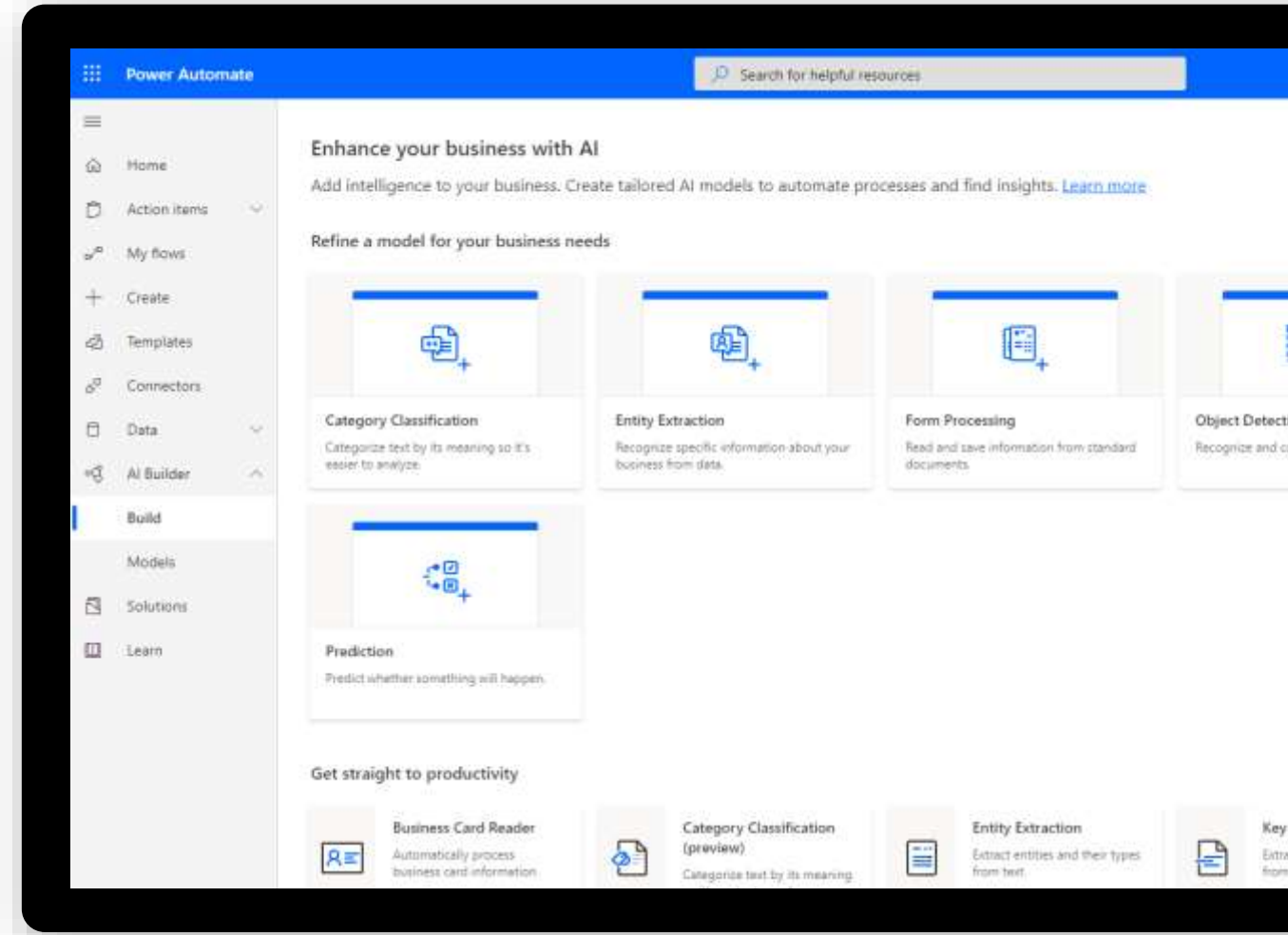
Dataverse
Put all your data to work

- Jumpstart apps using an **extensible data model** with business logic, security and integration built in.

- **Support all your data**: relational data, file and blob storage, logs and search indexing.

- Effortless Dynamics 365, Office 365 and Azure **integration**.

- **Role-based security** allows you to control access to tables for different users within your organization.
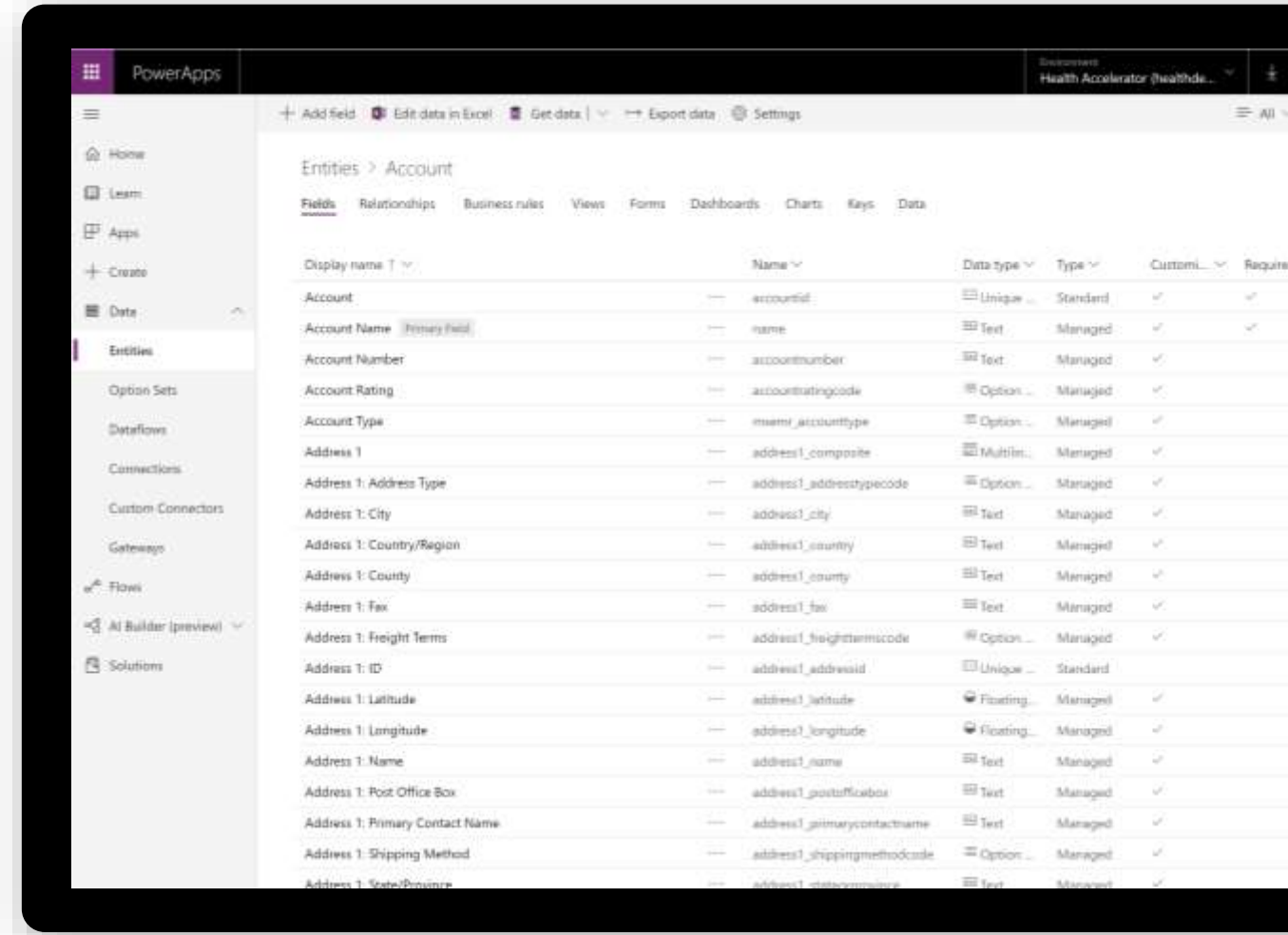
AI Builder

**Low code AI for apps and processes**

- **Low code AI solutions** for Power Platform leveraging the power of Azure AI.

- **Native integration** with Common Data Service enables data from CDS, Azure Data Lakes.

- **Leverage predictions** directly from Common Data Service across your Power Platform solutions, Dynamics 365 or Microsoft 365.
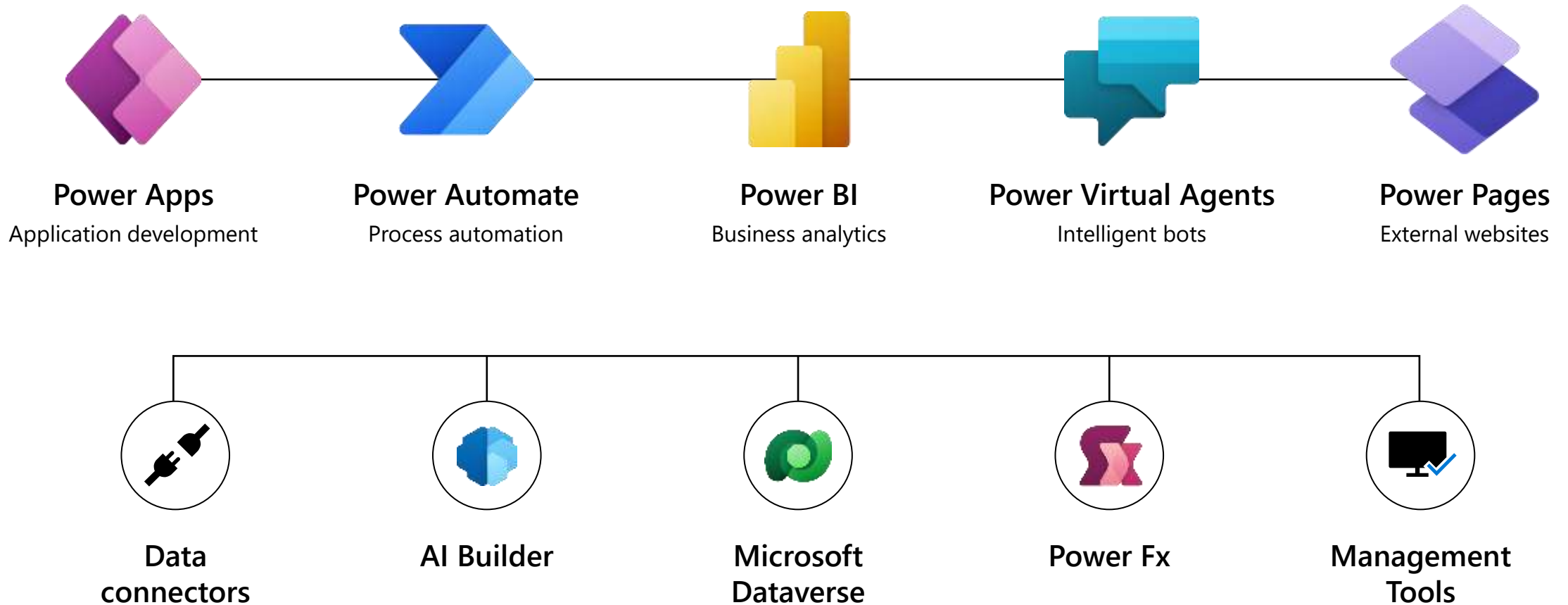
Power Platform + Microsoft Teams

Low code AI for apps and processes

- **Microsoft Dataverse for Teams** - a structured data store ideal for personal/team productivity apps used by a small groups

- **Power Platform integration** – embed and build interactive apps, reports, bots and automation directly in Microsoft Teams channels and chats.
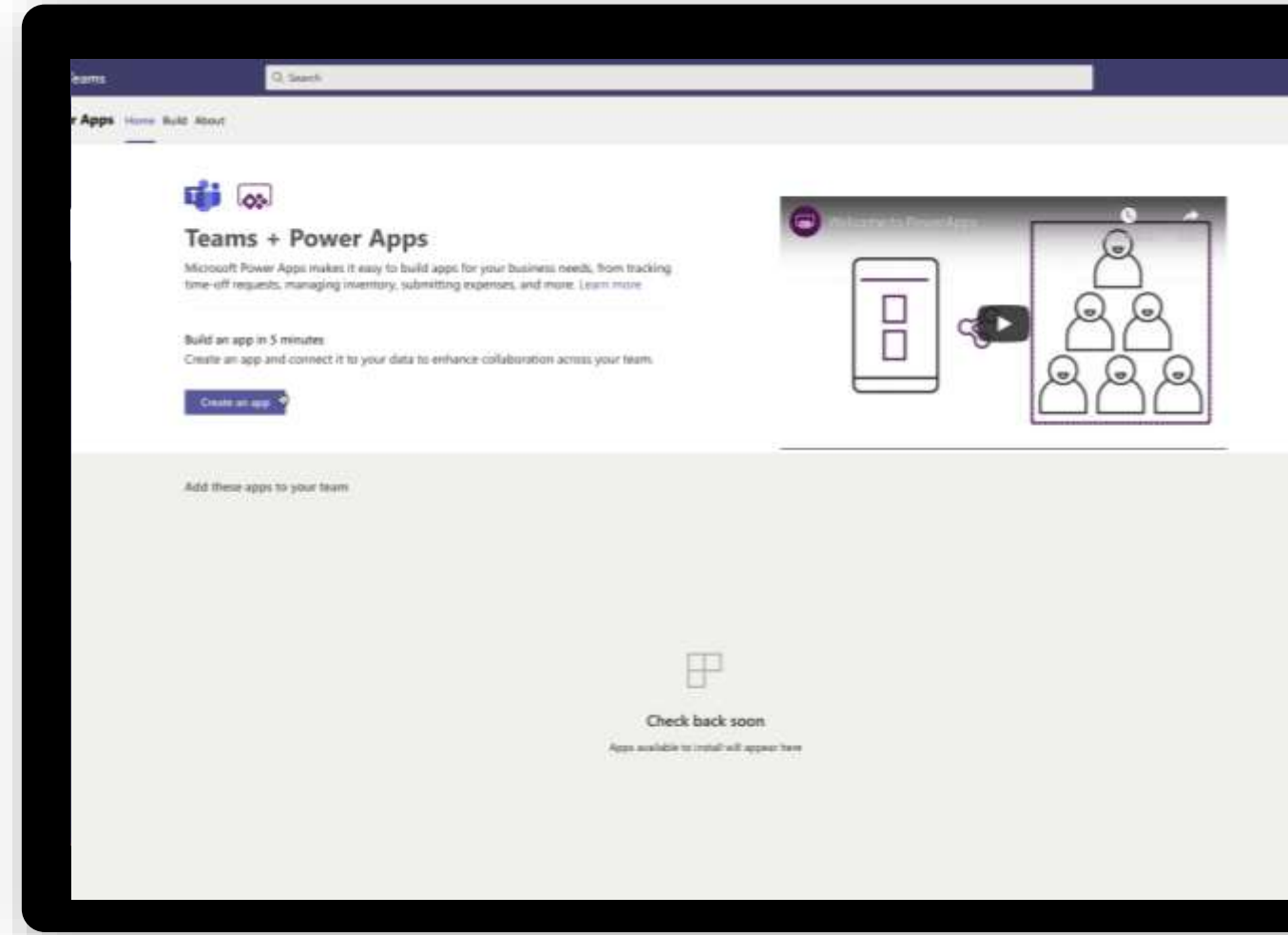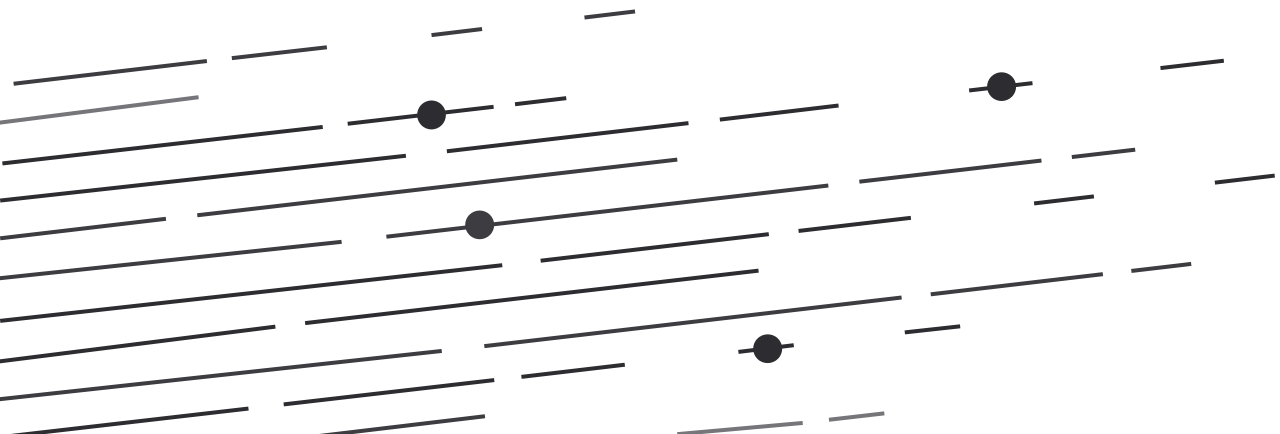
Microsoft Power Platform

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

Power Apps

Application development

Power Automate

Process automation

Power BI

Business analytics

Power Virtual Agents

Intelligent bots

Power Pages

External websites

Data connectors

AI Builder

Microsoft Dataverse

**Power Fx**

Management Tools

DEVELOPERS: Build without limits

Amplify professional developer productivity

- **Extend applications using custom code** while leveraging Azure functions and services

- Write **advanced client or server-side logic** leveraging Azure Machine Learning, Cognitive Services, Bing APIs, custom code, or any service of your choice

- **Leverage solutions** for seamless deployments and error-free apps
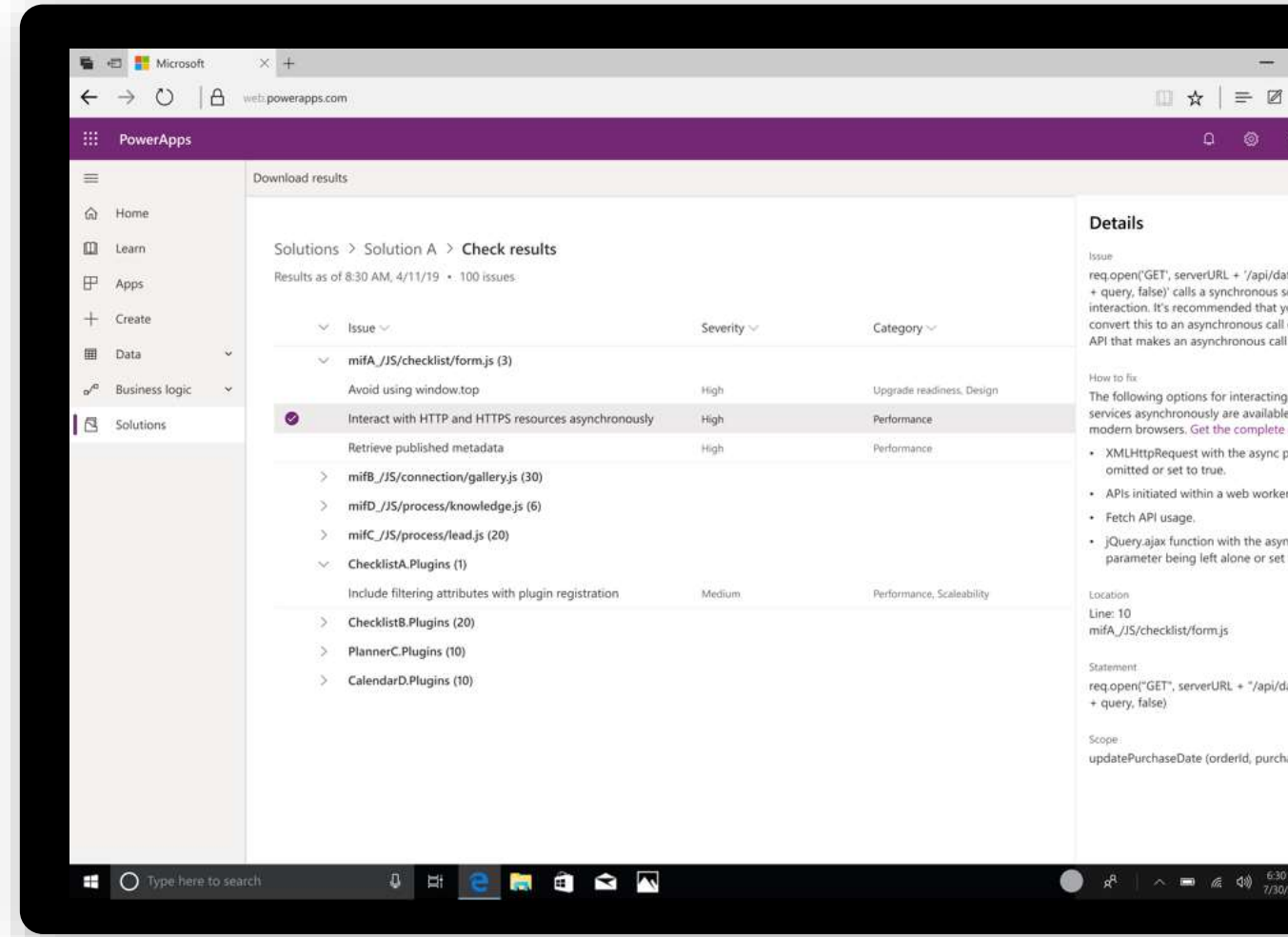
Build custom components with the Power Apps component framework

- Developers can **build compelling visual components** for Power Apps.

- **Custom components** are responsive, reusable and support multiple form factors.

- **Reuse your current IP** or build using Visual Studio or Visual Studio Code

- Use **common frameworks** like React and command-line tools for building and testing.
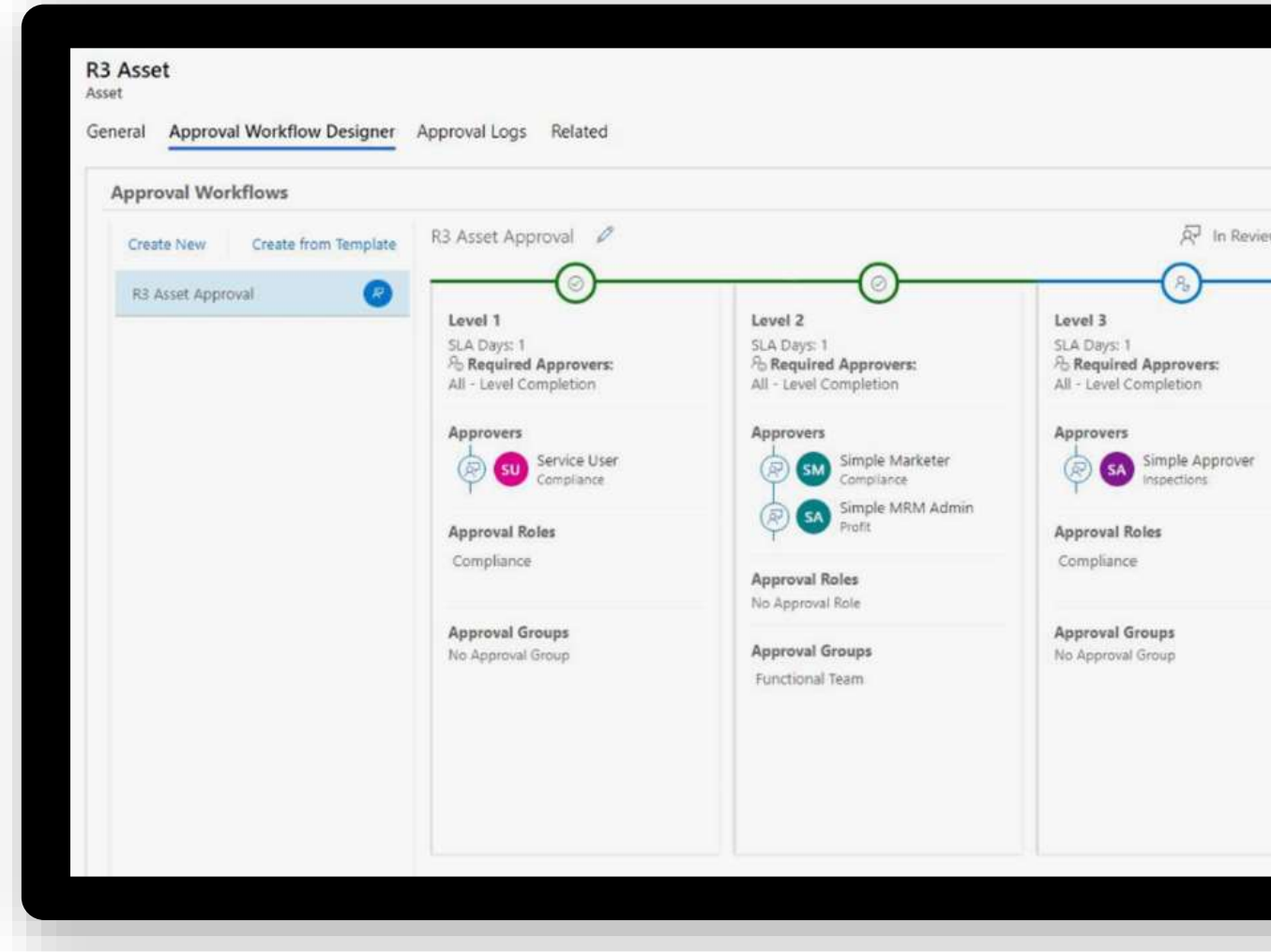
Unlock access to any data source with custom connectors

- Communicate with services that are not available as prebuilt connectors.

- Create connector using our in-product wizards in Power Platform

- Connectors in Power Automate can include your own triggers and actions.

- Connectors in Power BI can include your own logic and credential options.

BUILD API
Start with API for data source or builds new API.

BUILD CONNECTOR
Define connector using custom connector wizard or Power Query SDK.

BUILD SOLUTION
Citizen developer selects custom connector to build app, dashboard, etc.

SHARE CONNECTOR
Add connector to Power Platform or share directly with citizen developers.

Add even more power to the Power Platform

Pro Developers + Power Platform = No Limits

Power Platform

Power Apps Power Automate Power Virtual Agents Power BI

Every Developer (Low Code)

Azure services

Analysis Services API Management Azure Functions Kubernetes Service Logic Apps Cognitive Services Bot Services

Pro Developer (Code First)

Azure / Office Data Services

Microsoft Graph Dataverse Azure Synapse Analytics Cosmos DB
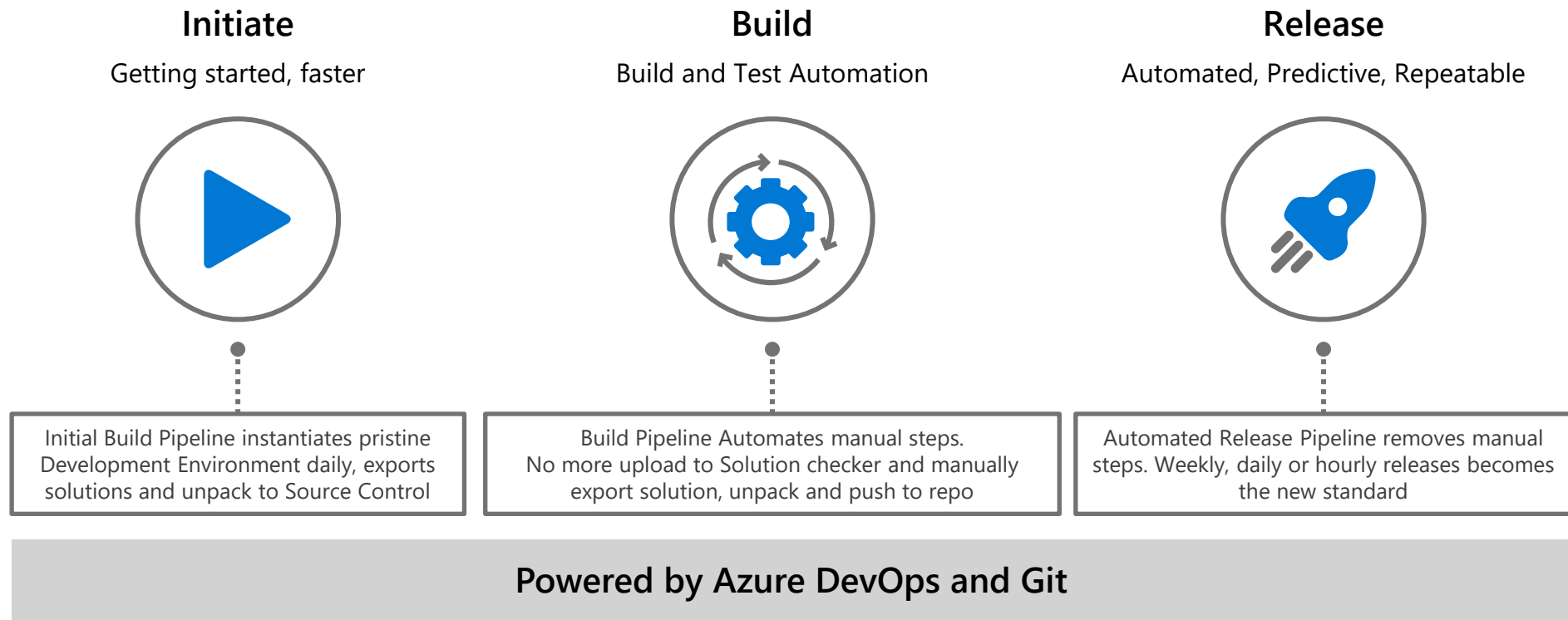
Visual Studio VS Code

Automate the build process with DevOps

The Microsoft Power Platform Build Tools allows anyone to setup DevOps for low-code and pro-code application development for Power Apps, Power Automate, Power Virtual Agents

Initiate
Getting started, faster

Build
Build and Test Automation

Release
Automated, Predictive, Repeatable

Initial Build Pipeline instantiates pristine Development Environment daily, exports solutions and unpack to Source Control

Build Pipeline Automates manual steps.
No more upload to Solution checker and manually export solution, unpack and push to repo

Automated Release Pipeline removes manual steps. Weekly, daily or hourly releases becomes the new standard

Powered by Azure DevOps and Git

Power Platform + GitHub

Develop, test, and deliver applications with GitHub Actions for Power Platform

John Nelson
Senior Technical Specialist
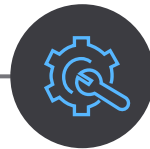
Seamlessly manage solutions and environments
Empower developers to work within the tool of their choice by creating their own software development life cycle (SDLC) workflows or use pre-configured templates with GitHub actions for Power Platform.
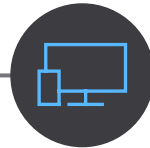
Enable everyone to contribute to CI/CD
Empower citizen developers to perform self-service continuous integration/ continuous delivery (CI/CD) to free up time for DevOps engineers and IT admins. With a full line of sight for IT admins and professional developers, users no longer need to worry about disconnected environments.
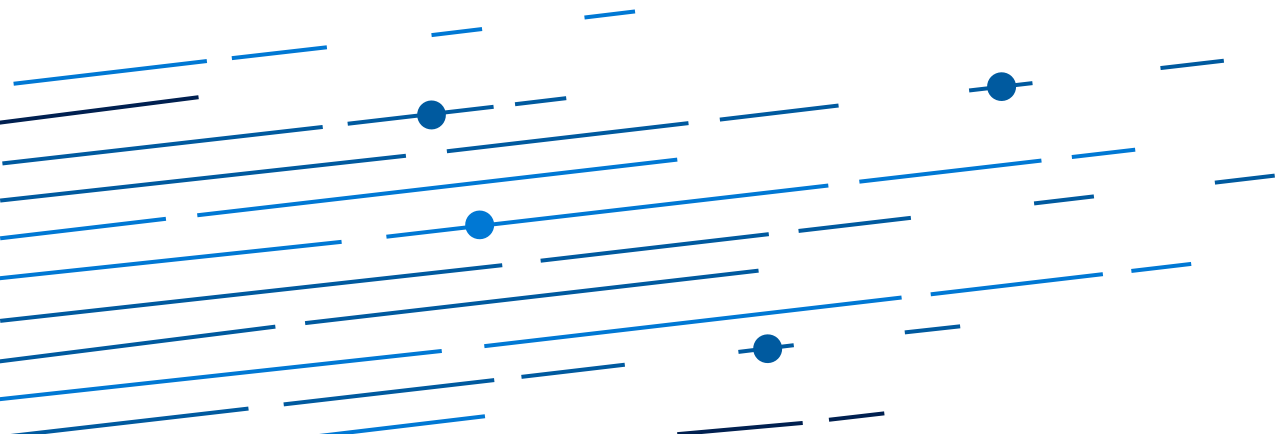
Seamless Fusion teams with coders and citizen devs
Create seamless Center of Excellence (CoE) team interactions by empowering citizen developers to trigger GitHub actions for Power Platform such as using Power Automate to construct CI/CD or build UX for self-service CI/CD.

Getting Started!!

Getting Access to the Power Platform

1. Sign up for an Office 365 trial: Office 365 E3 - Sign up (microsoft.com). Use a personal email account and follow the prompts...
2. Once the sign-up process is complete, go to "Manage Subscription" (or https://portal.office.com/adminportal)
3. Go to Billing > Purchase Services and search for "Power Apps"
4. Select "Power Apps per user plan" -> Details
5. Select "Start Free Trial"
6. At this point you may get a message about adding a billing address. Follow the prompts to add an address.
7. After saving the billing address, a Registration section will appear. Open that section and say, I don't have a registration number.
8. Return to Step 3 and add the Power Apps trial.
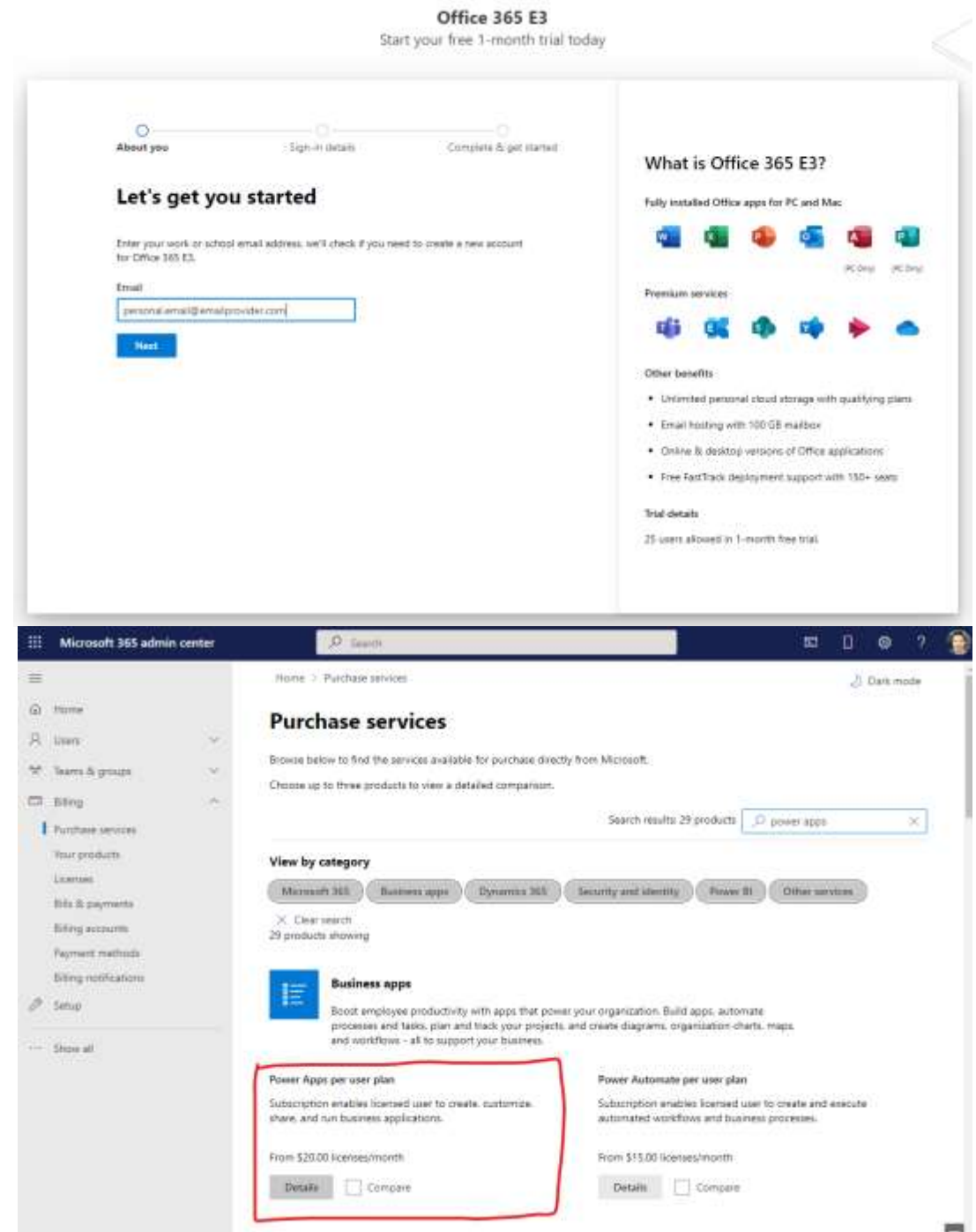
Assign Licensing and Create an Environment

1. Once the Trial is Added, stay in the Admin Portal https://portal.office.com/adminportal
2. Open User and select your user to assign the needed licensing
3. Assign Office 365 Licenses and the Power Apps Per User License
4. Navigate to https://admin.powerplatform.microsoft.com
5. Create New Environment
   a. Assign it a name
   b. Choose "Trial" Type for environment
   c. Choose "Yes" for "Create a database for this environment"
   d. Click Save; the environment will take a few minutes to prepare
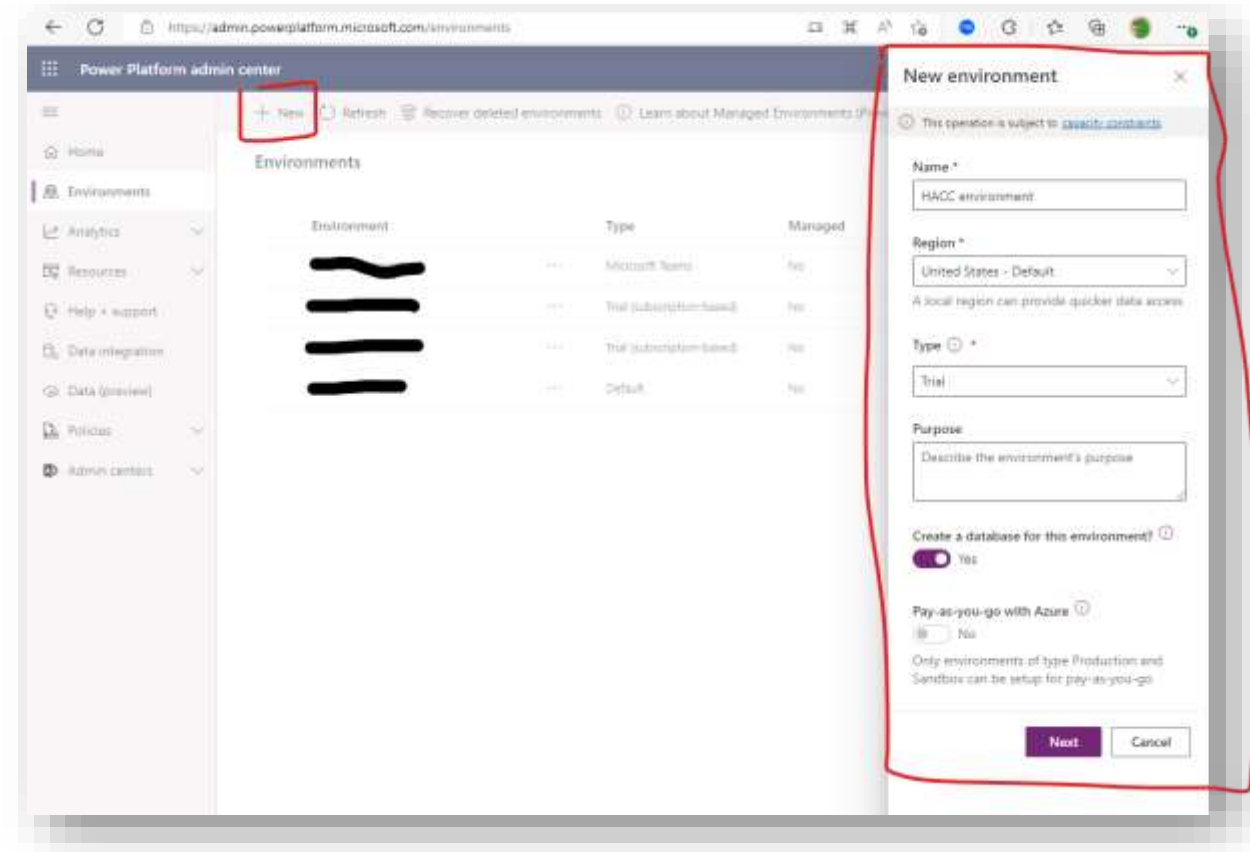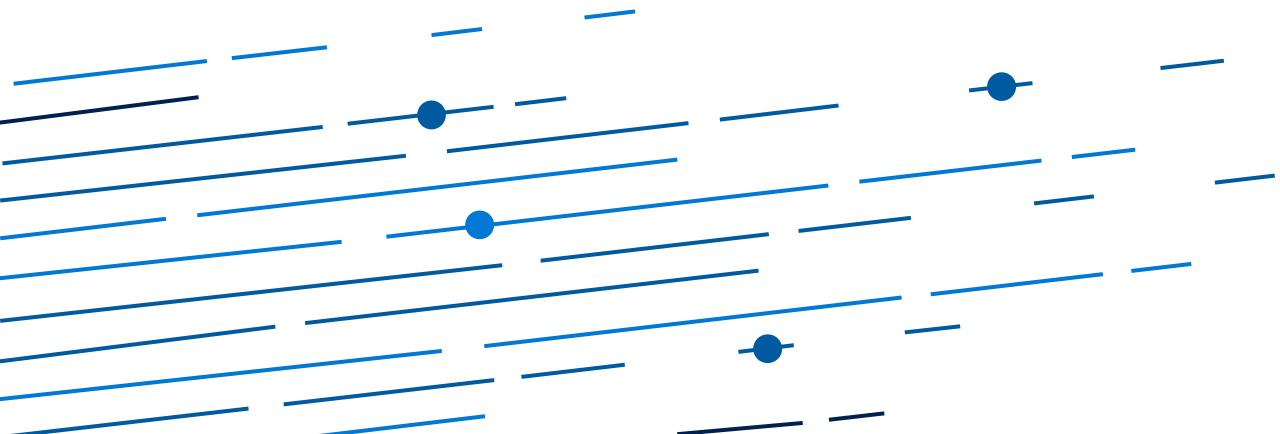
Go to the Maker Portal and Start Building!

1. Navigate to https://make.powerapps.com
2. Select the environment you just created in the upper right-hand corner
3. You now have a full tenant with trial licenses to build in!

And for a more in-depth lab head to:
https://aka.ms/appinaday
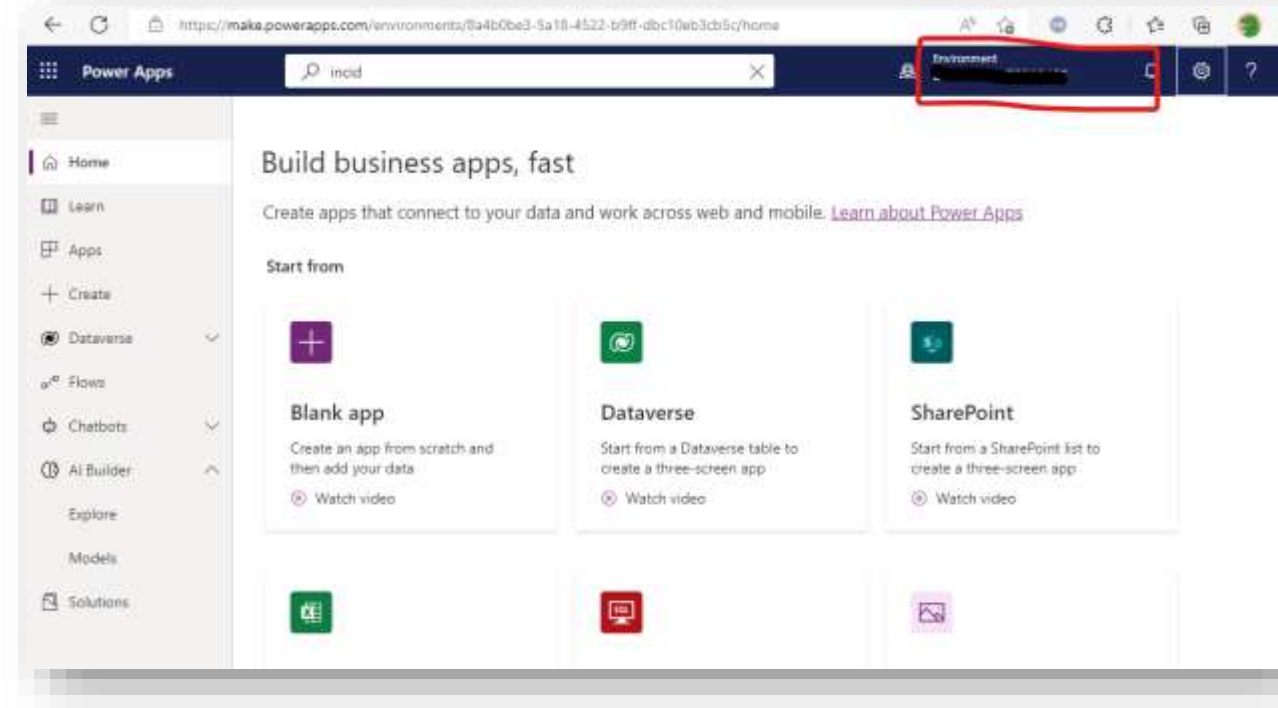
Leaning Resources

Microsoft Learn - [Training | Microsoft Learn](#)

- Model Driven Apps
  [Create a model-driven application in Power Apps - Learn | Microsoft Docs](#)
- Canvas Apps
  [Create a canvas app in Power Apps - Learn | Microsoft Docs](#)
- Power Automate Flows working with Dataverse
  [Integrate Power Automate flows and Dataverse - Learn | Microsoft Docs](#)
- Dataverse
  [Get started using Microsoft Dataverse - Training | Microsoft Learn](#)
- Power Virtual Agents
  [Create bots with Power Virtual Agents - Training | Microsoft Learn](#)
- AI Builder
  [Bring AI to your business with AI Builder - Training | Microsoft Learn](#)
- Power Pages (Power Apps Portals)
  [Get Started with Power Apps portals - Training | Microsoft Learn](#)

Get Certified!!

PL-900: Microsoft Power Platform Fundamentals

[PL-900: Microsoft Power Platform Fundamentals - Training | Microsoft Learn](#)

PL-200 Microsoft Certified: Power Platform Functional Consultant Associate

[Microsoft Certified: Power Platform Functional Consultant Associate - Certifications | Microsoft Learn](#)

Solution Architecting