Transforming Construction Operations with Low-Code and Automation

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About Dale

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20+ years experience in IT Consulting and as an IT Executive

Interests:
Technology, airplanes

Fun Fact: I'm a reformed professor with a Ph.D in a non-technical discipline

What we'll do today:

- **Goal: Learn how the latest Automation trends/tools can help improve operations**
- **Dig deeper into newest trends**
  - **Low-Code Tools**
  - **Robotic Process Automation**
- **Talk about what it can do for you**
- **Review some Tools**
- **Illustrate real-life solutions**
- **Discuss practical ways of getting started**

Housekeeping

01

Be willing to share your experiences (I hate droning on)

02

Feel free to ask questions during the presentation

03

Prepare for the quiz at the end of the presentation

- Important Note: There is no Quiz

Informal POLL #1

Are you currently using any Automation Tools?

Anyone not getting the intended results from those Tools?

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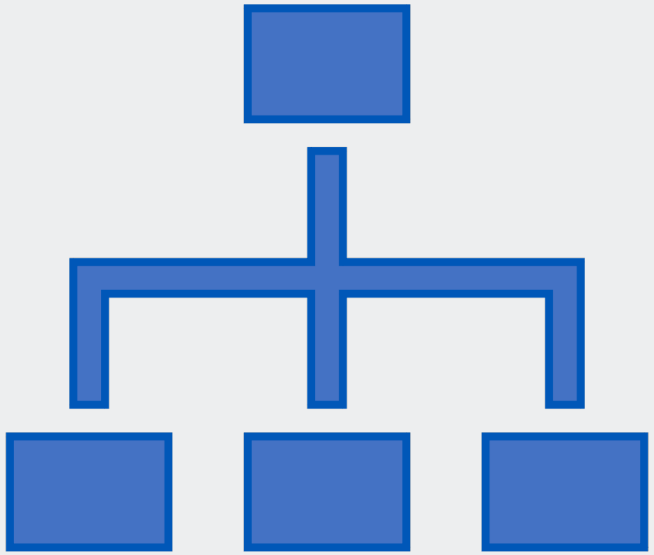


The Problem:

- Manual processes are <u>still</u> the norm despite technical advances
  - ✓ Invoicing (and general AP/AR processes)
  - ✓ Scheduling
  - ✓ Recruiting
  - ✓ Benefits/Claims Management
  - ✓ Inventory Management
  - ✓ Project Management
- Paper and emails everywhere!
- And…Information is still in silos (after over 20 years of the web/internet)
- Sharing across silos is still largely manual

Important Trends: What is Low-Code / No-Code?

Unlocking the Meaning of Low-Code

- Low-Code means what it says
- You can develop business applications/automations without knowing a development language
- Often called “Citizen Developers”
- Essentially you drag and drop pre-defined activities into a canvas and blocks of code are pre-written to enable that functionality
- Easier for business people to build their own apps
- Faster, cheaper, to have third party build custom apps

Low-Code is not a fad

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

Demand for mobile apps is growing **5x** faster than IT departments can deliver [2]

Over **85%** of surveyed organizations struggle to analyze unstructured data[3]

86% of surveyed organizations struggle to find technical talent[4]

65% of enterprise application development will be in the low-code category by 2024[5]

1. Satya Nadella, Microsoft FY19 Q4 earnings call, July 2019, 2. "Achieving business resilience with cloud application development," Microsoft Azure blog, 3. IDG: Big Data Survey 2017 , 4. "Microsoft Goes All-In On Hybrid Cloud And Edge At Ignite 2019," Forbes, 5. "Gartner Magic Quadrant for Enterprise Low-Code Application Platforms," Gartner

Why is this a Big Deal?

- Biggest current trend in software development (including automation tools)
- Truly democratizes the creation of business applications
- Large Vendors piling in
- Microsoft has built a whole suite of apps around the concept (Power Apps)
- Other specialized vendors use this approach too
- Brings app dev to SMB market
- Revives the custom app market (build a solution that works for you)

Whole Platforms around Low-Code are Already Here

Microsoft Investing Heavily (Power Apps Platform)

A series of low-code applications that do specialized things

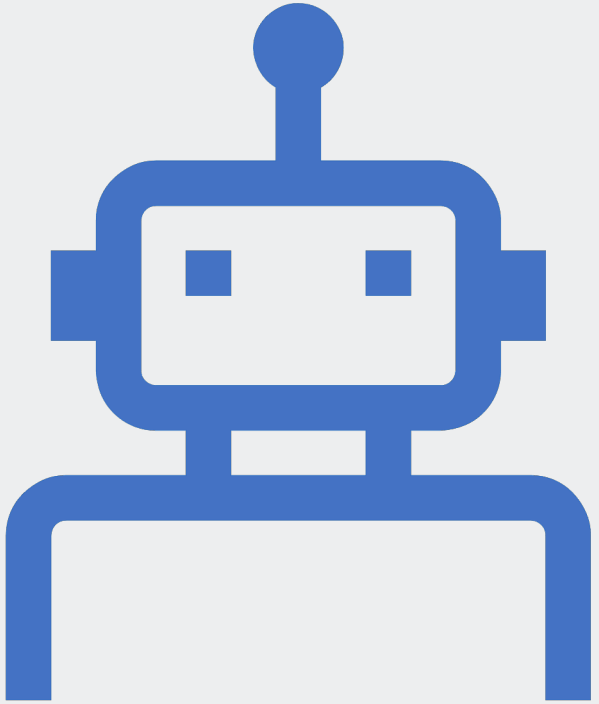
Amazon Web Services: Honeycode

Individual Vendors with purpose-built tools like RPA

Important Trends: What is RPA?

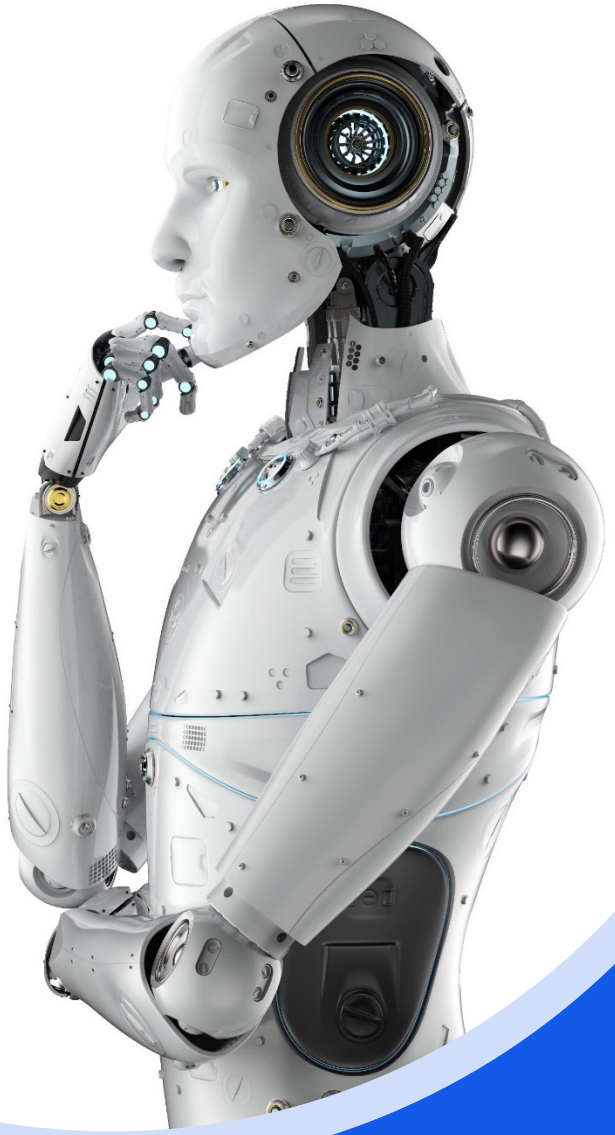
What is RPA?

- Robot Process Automation
- It is a ***type*** of automation
- Next level of business process automation
- A machine (robot) mimics the actions of a human
- Think of it as an intelligent Macro
- The trick is to know when and how to use it



Why Use RPA?

- Programming interfaces (APIs) are not always available for the systems you use
- If there are APIs, you can typically write code to “programmatically” share data between systems
- APIs often cost additional $$ (not to mention spending for development)
- If you don’t have programmers (developers) or an API is not available, then an RPA tool may make sense



How do Robots Work?

- **Highly recommended to map your process out (there are tools to do this)**
- **The RPA agent (aka your robot) watches the human perform their tasks**
- **That script is loaded into the tool and runs attended (people still in the loop) or unattended (let it rip).**
- **Usually an iterative process**

Implementing Automation: A Look at the Power Platform

Transform Operations with Power Platform

No code

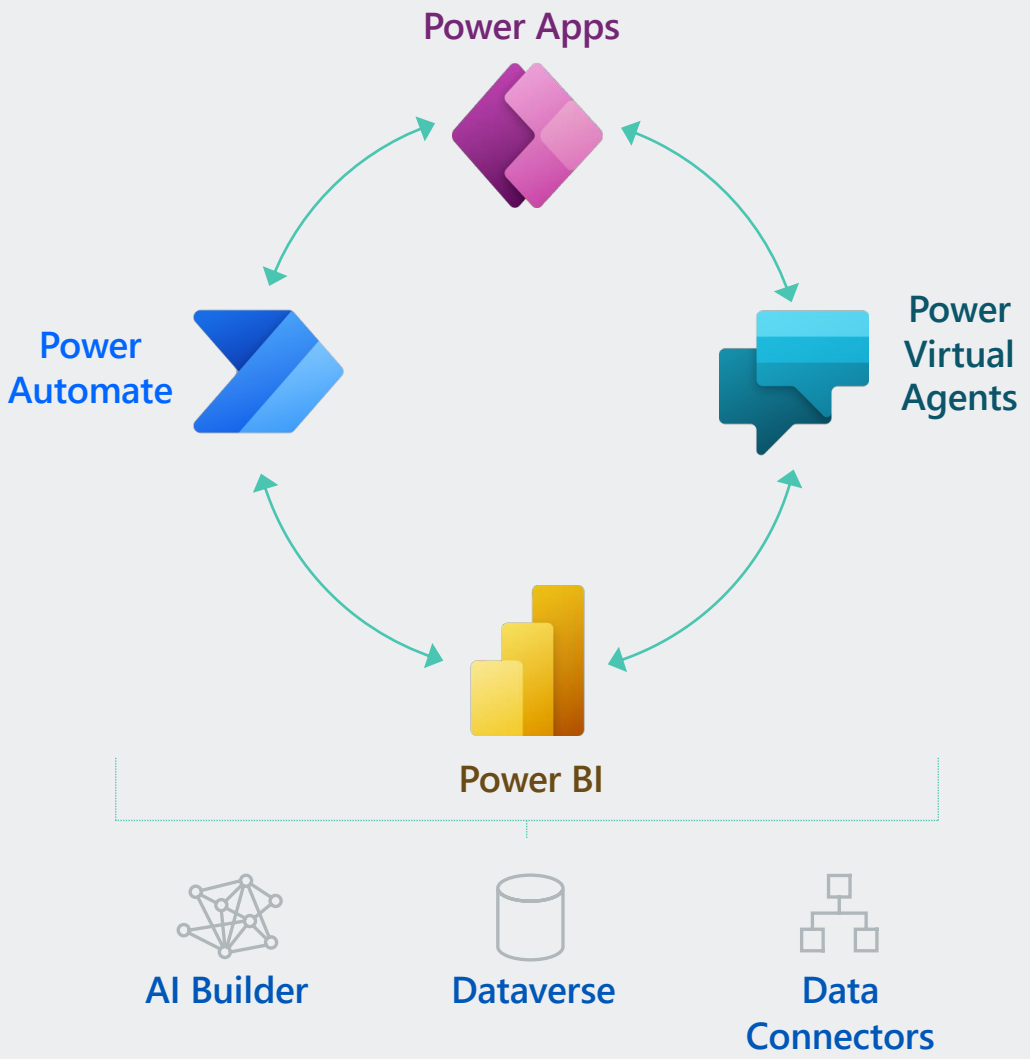
Drag and drop experiences that are like PowerPoint

Low-code

Drag and drop plus Excel-like formulas for functionality

Code first

Professional development & extensibility across Microsoft



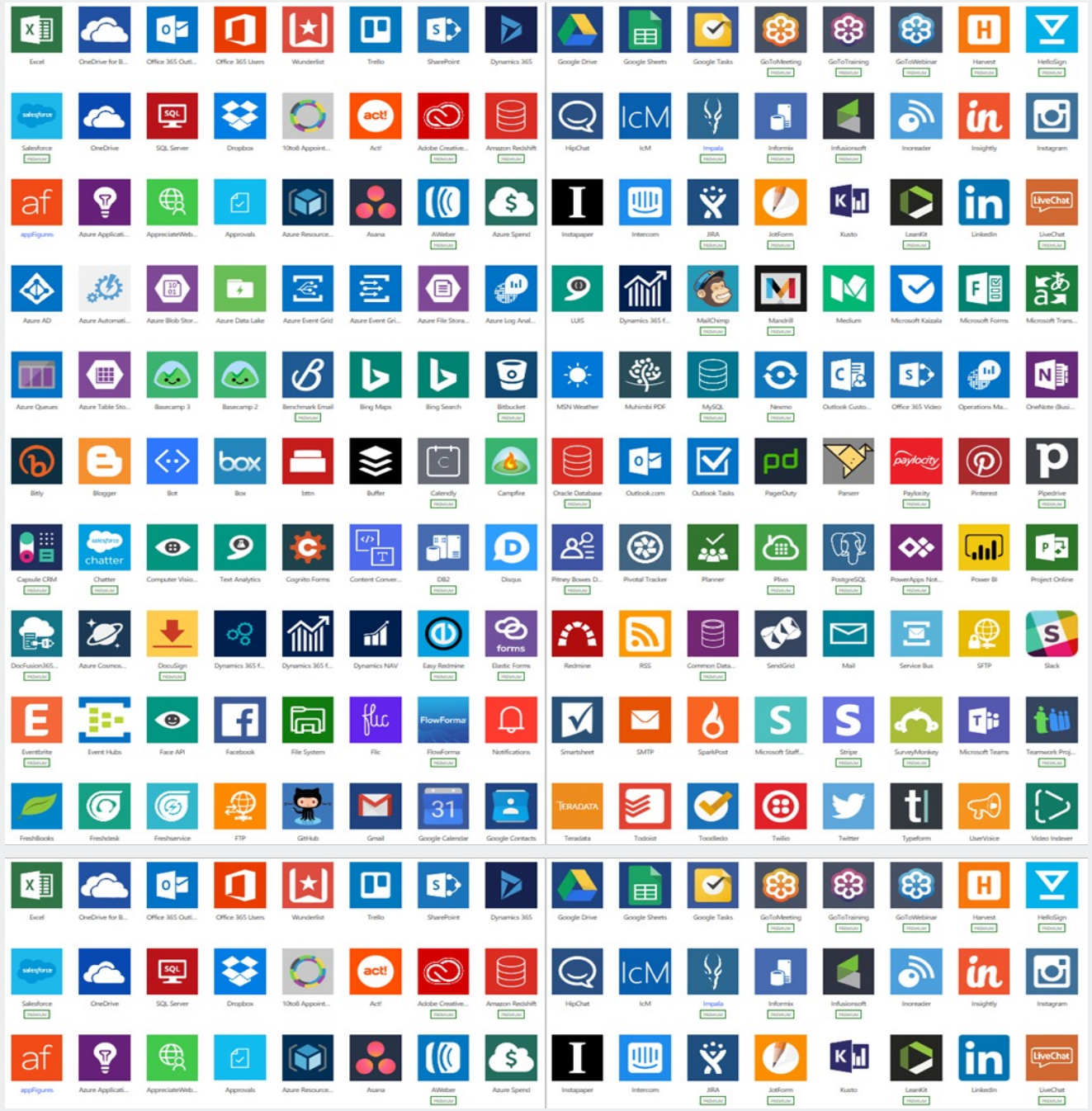
500+ built-in connectors

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

Use multiple data sources in a single application for processes that span systems

Develop and register custom connectors as a building block for citizen developers

Connect to cloud services, content services, databases, and APIs



Automation and Application Examples

Common Power Apps examples are listed below.

Approvals
Collect approval from one or more sources
- Automated granting of permissions
- Employee travel request
- Overtime request
- Timesheet submission

Asset Management
Manage inventory or other assets
- Asset check-out
- Asset rollout
- Inventory management
- Supply order management

Scheduling
Assign resources based on calendar availability
- Book a meeting room, tool or vehicle
- Find an available sales associate
- Find rooms for employee touchdown space
- Schedule customer appointment, crew members

Lifecycle and Workflow Management
Track, move records through a well-defined process
- Contract lifecycle tracker
- Employee onboarding
- Employee promotion evaluation
- Expense reporting process
- Request management
- Service desk tickets

Inspection and Audits
Create standardized questionnaires and forms
- Collection of customer data
- Daily job-site inspection, store audits
- Incident reporting
- IoT-based monitoring
- Quality control checklist, Safety, compliance audits
- Supply tracking

Calculate or Transform Data
- Cost or project estimation
- Decision support
- Field technician app
- Generating a work order or estimate
- Tracking monthly sales goals
- Translation of common phrases

Communication and Announcements
Publish news and info to employees, customers
- Announcement viewer
- Company-wide communications
- Corporate news management
- Learning or Product catalogs

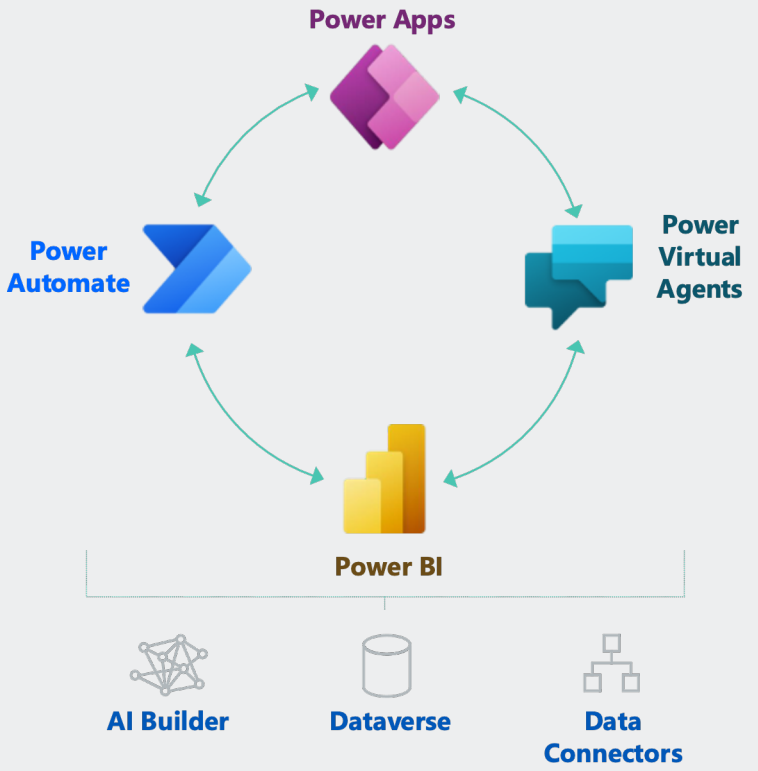
Event management
Manage registration, planning, executing events
- Attendance
- Attendee bios
- Registration
- Session scheduling

Project Management
Track a project from inception to completion
- Project management

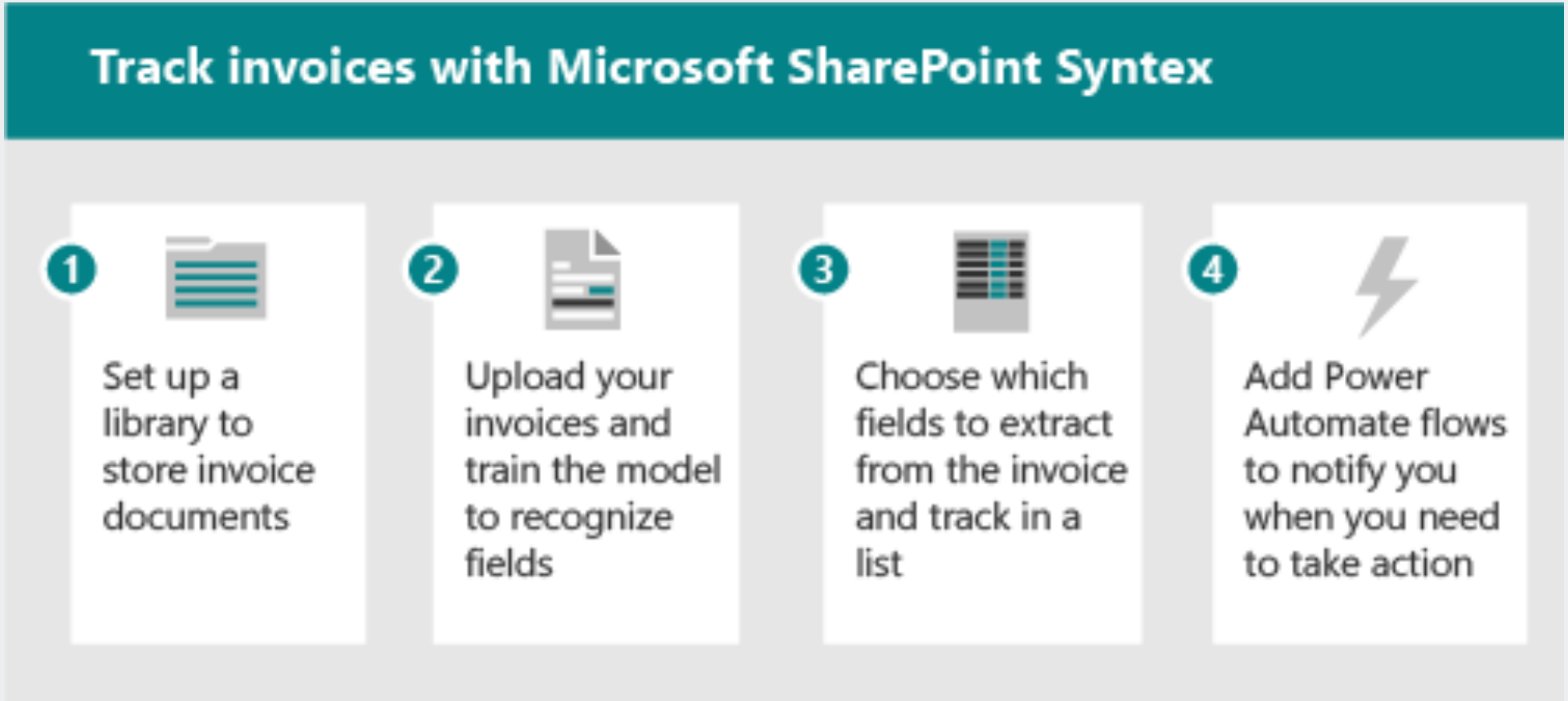
Power Platform Examples

Recent Low Code Solutions We Have Built on the Power Platform

- ✓ Corporate Credit Card Request Form – Power Apps Canvas App
- ✓ Monthly Closing Checklist – Power Automate Workflow
- ✓ Expense Reimbursement Request – Power Apps Model Driven App + Dataverse
- ✓ Revenue Recognition – Power Apps Model Driven App + Dataverse + Azure Logic Apps + Azure Data Pipeline + Azure Data Warehouse
- ✓ Invoice Data Extraction – AI Builder + Power Automate



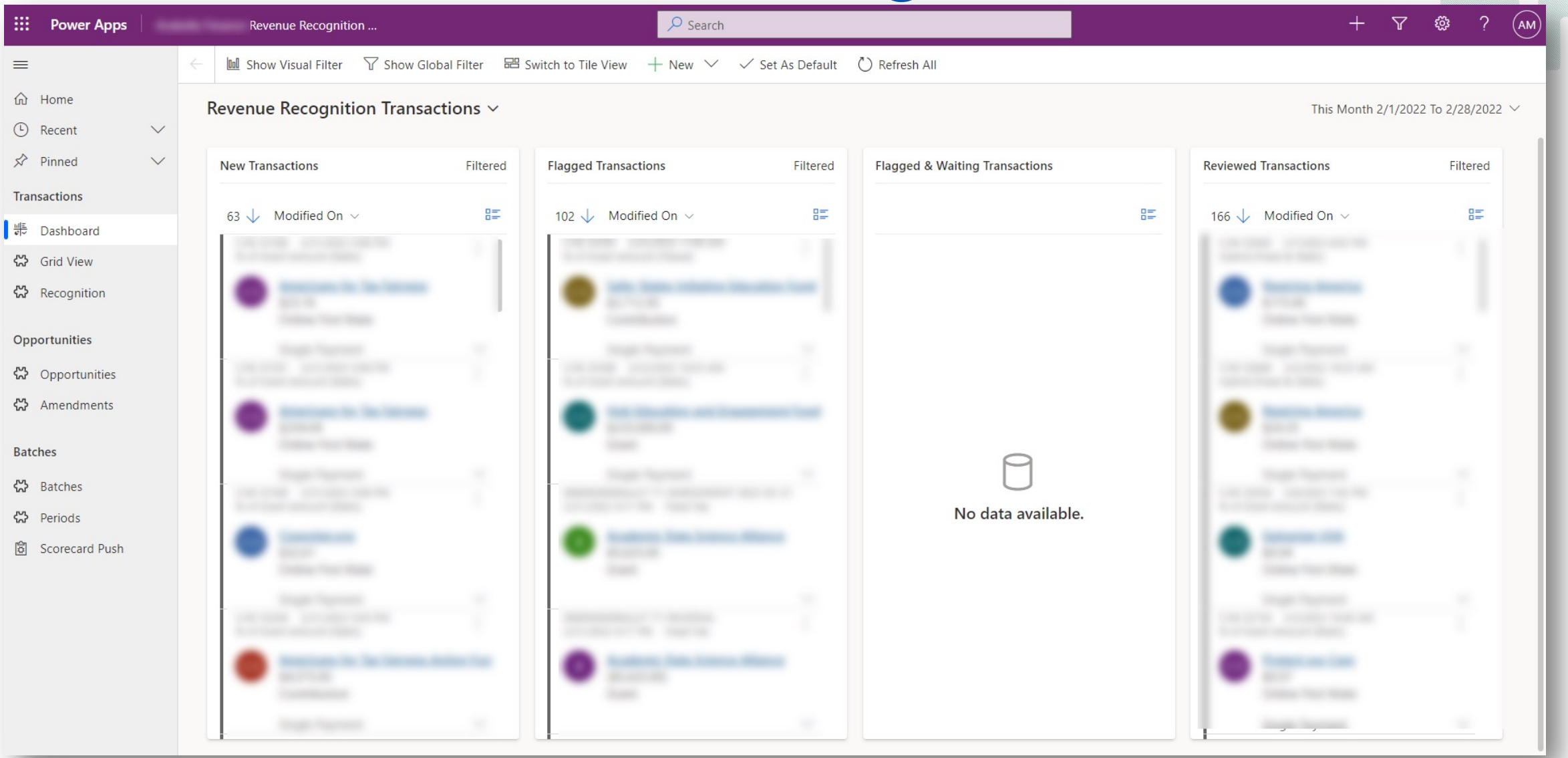
Example: Invoice Processing Automation



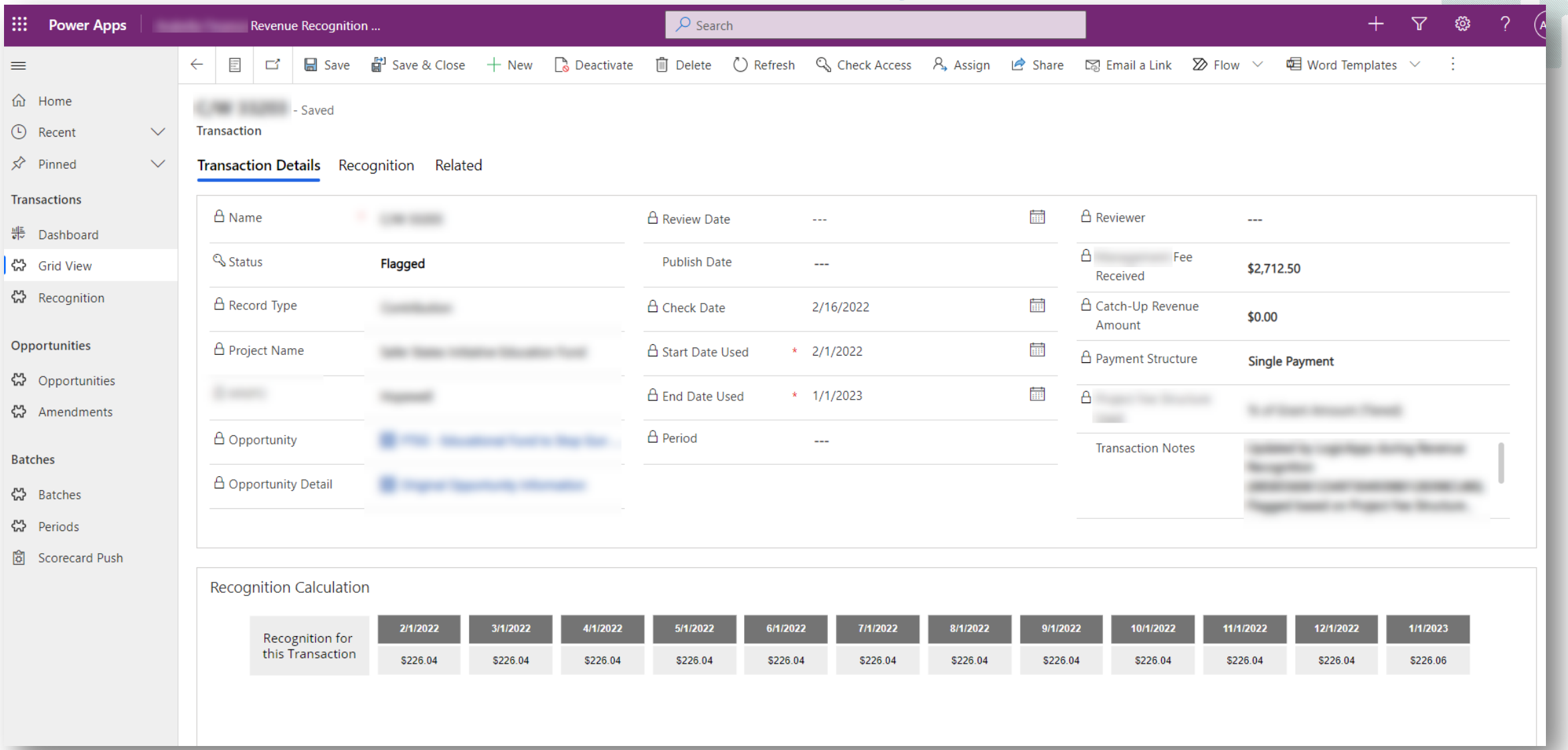
Featured Example: Revenue Recognition

- Power Apps Model Driven App
- Dataverse
- Azure Logic Apps
- Azure Data Pipeline
- Azure Data Warehouse

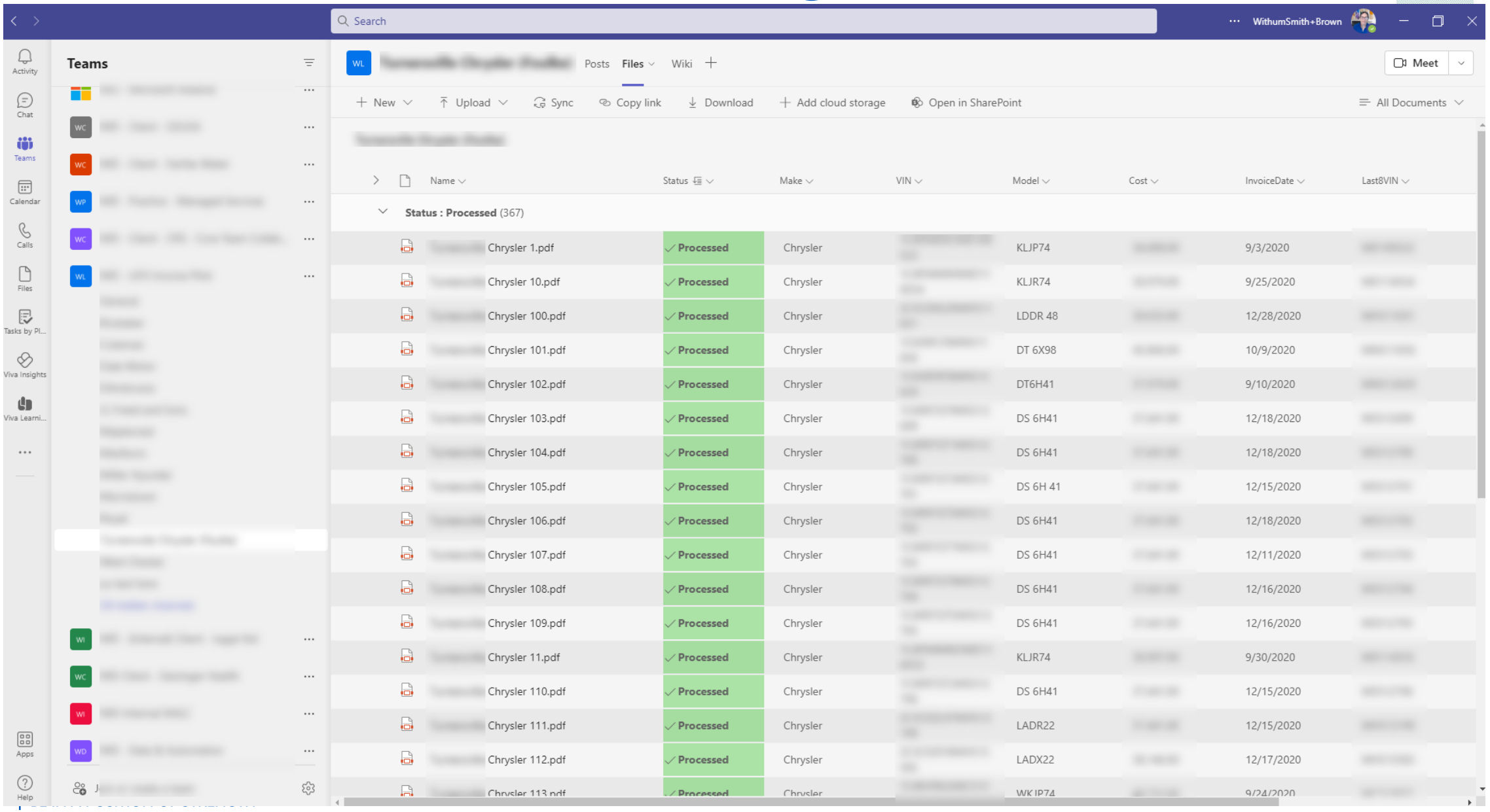
Revenue Recognition



Revenue Recognition



Invoice Processing Automation



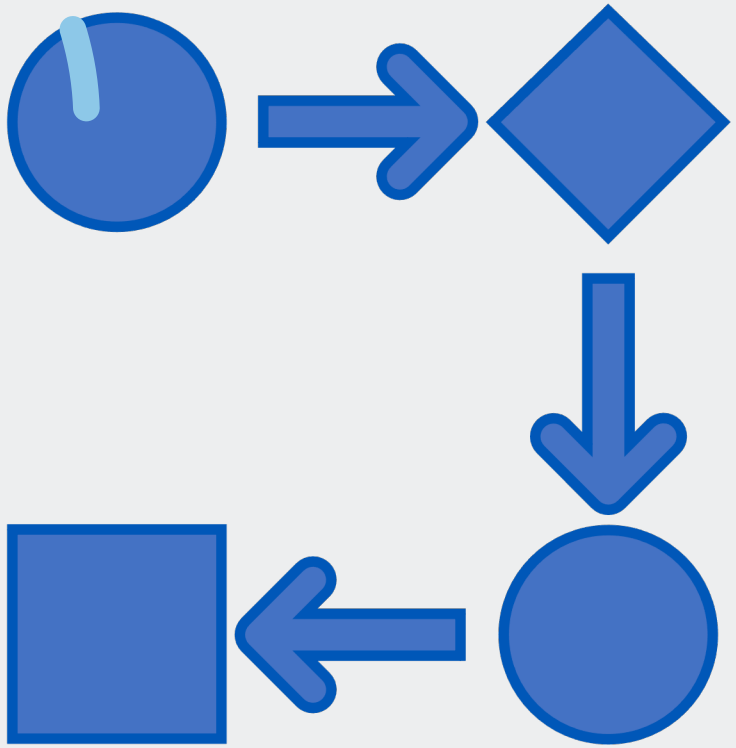
How to Get Started and Wrap Up

Start with an Assessment

- Review your most important processes
- Document the issues they typically have
- If they have significant number of manual steps or paper based, those are good candidates
- Prioritize based on ROI
- Optimize (don’t just automate the steps in an existing process…review them first)
- Do a POC on your top candidate(s)

Tool Evaluation Criteria

- Know your IT Platform/Backbone and strategic direction
- Development Capabilities
- Who needs to use it?
- Determine ROI (it’s pretty simple for manual processes)
- Understand how automation can make your staff more productive



Key Takeaways

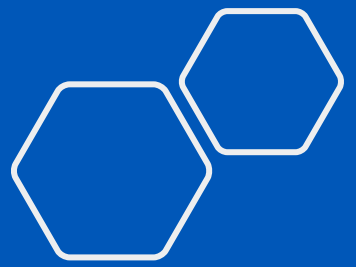
Low-Code / No-Code is here to stay

RPA and Automation is within reach of most firms (via Low-Code tools)

The Power Platform is secure, proven, and can scale to fit your needs over time

If you have M365 you may have what you need to get started

Questions?



Deeper Questions?

- Contact us to discuss the opportunities
- Email me at: dtuttle@withum.com

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No Junk - Just What Matters Most to You