Acumatica
The Cloud ERP

# Acumatica Automated Data Capture (ADC) for Manufacturers

## A Solution Brief for Manufacturers

### ADC TECHNOLOGIES, STRATEGIES, AND CONSIDERATIONS

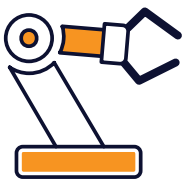
Inventory and manufacturing data entry is historically time-consuming and prone to manual data entry errors. It is imperative to promptly capture paper shop floor documents, inventory receipt documents, and other physical information.

Growing companies coming off entry-level accounting systems lack fully automated data collection. They may have a tethered barcode reader for some inventory and manufacturing transactions. A modern ERP application with native automated data capture is the next logical step to automate business processes for continued growth.

Acumatica provides embedded barcoding and mobile capabilities to streamline data capture from a wide variety of devices. Automate pick, pack, and ship transactions; use data capture for receiving and put-away; move inventory throughout your warehouse or manufacturing shop floor; and use automated technologies for labor entry and material issues to production orders.

This Solution Brief provides manufacturers with an overview of available ADC technologies and a framework for planning and executing ADC implementation projects to streamline warehouse and shop floor data collection. Discover how to boost efficiency, save money, minimize data errors, and streamline business processes with Acumatica Manufacturing Edition.

### 4 EASY STEPS TO AUTOMATED DATA CAPTURE SUCCESS



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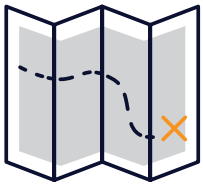

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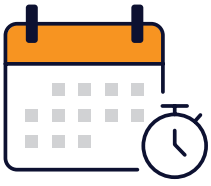

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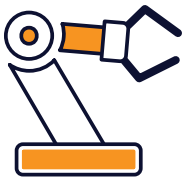

## 1. ADC TECHNOLOGIES

# Automation Options

In 1974, the first UPC scanner was used to scan a 10-pack of Wrigley's Juicy Fruit chewing gum. Since then, automated data capture technologies have matured from barcodes to radio frequency identification (RFID) to PLC machine interfaces and artificial intelligence, and machine learning to automate data capture that could only be imagined just a few decades ago.

"We're constantly trying to automate things with the goal of minimal data entry . . . We want Acumatica to be quick and help us make as few mistakes as possible along the way to keep the customer happy—that's what this business is all about."

**- PATRICK MADISON, CFO, KORPACK**

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### PAPER-BASED



Paper-based data capture is not entirely evil. It has a place in manufacturing and can be a cost-effective way to capture data for specific types of transactions.

**Acumatica provides embedded document management and manufacturing reports.**

### RFID TAGS



Radio frequency identification (RFID) provides passive data collection as tags on inventory pass near radio receivers. Capture item information or triangulate item locations.

**Acumatica's open platform facilitates fast and easy integration with RFID technologies.**

### BARCODE



Barcodes are among the most common data capture technologies. Barcodes work with mobile devices, keyboard wedge devices, ruggedized tablets, and specialized scanners.

**Acumatica WMS & Manufacturing Data Collection provides out-of-the-box automation.**

### OPTICAL CHARACTER RECOGNITION (OCR)



OCR technology recognizes letters, words, and characters, captures data, and stores it in a system. OCR is useful for external documents without barcodes.

**Acumatica includes document management. OCR is available through ISV applications.**

## ERP FEATURES



Some ERP systems can simulate automated data capture. For example, backflushing captures labor and material using pre-defined bills of material and routing standards.

**Acumatica supports backflushing and phantom bills of material.**

## VOICE RECOGNITION



Voice-directed warehousing (VDW) automates transactions, including picking, packing, and put-away. VDW enables users to search for information via chatbots and virtual assistants.

**Acumatica is designed for use with AI Chatbots & Virtual Assistant technologies.**

## TIME CAPTURE



Many time clock applications can be configured to collect data for shop floor labor reporting, and time entry for payroll and human resources.

**Acumatica Manufacturing Data Collection captures clock-in and clock-out data for jobs.**

## MOBILE DEVICES



Historically mobile devices used in industrial environments included specialized and rugged scanners or tablets affixed to forklifts or work centers.

**Acumatica's Mobile Framework supports iPhone/IOS, Android, and other mobile devices.**

## ROBOTICS, SCADA, PLC



Robotics and machines capture massive amounts of data using programmable logic controllers (PLC) and supervisory control and data acquisition (SCADA) applications.

**Acumatica's open platform provides rapid integration with external data sources.**

## WMS SYSTEMS



Warehouse Management Systems combine multiple technologies, including barcoding, mobile, and others, into a cohesive system for automating inventory transactions.

**Acumatica provides barcodes on documents and a WMS system for inventory automation.**

## MES SYSTEMS



Manufacturing Execution Systems manage production, including schedules, labor assignments, performance analysis, maintenance, quality, and other shop floor functions.

**Acumatica connects easily to external MES systems.**

## LEAN STRATEGIES



Lean manufacturing encompasses different strategies that lend themselves to automation. These include single minute exchange of dies (SMED), Kanban for pull-based material transactions, and other techniques that work well with ADC.

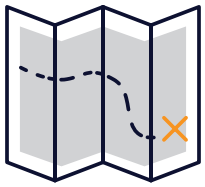
**Acumatica is an adaptable platform designed for rapid integration to external systems.**

## ARTIFICIAL INTELLIGENCE / MACHINE LEARNING



Artificial Intelligence (AI) can be used to validate manually entered data against expected standards. Machine learning can be used to improve AI and other types of data capture.

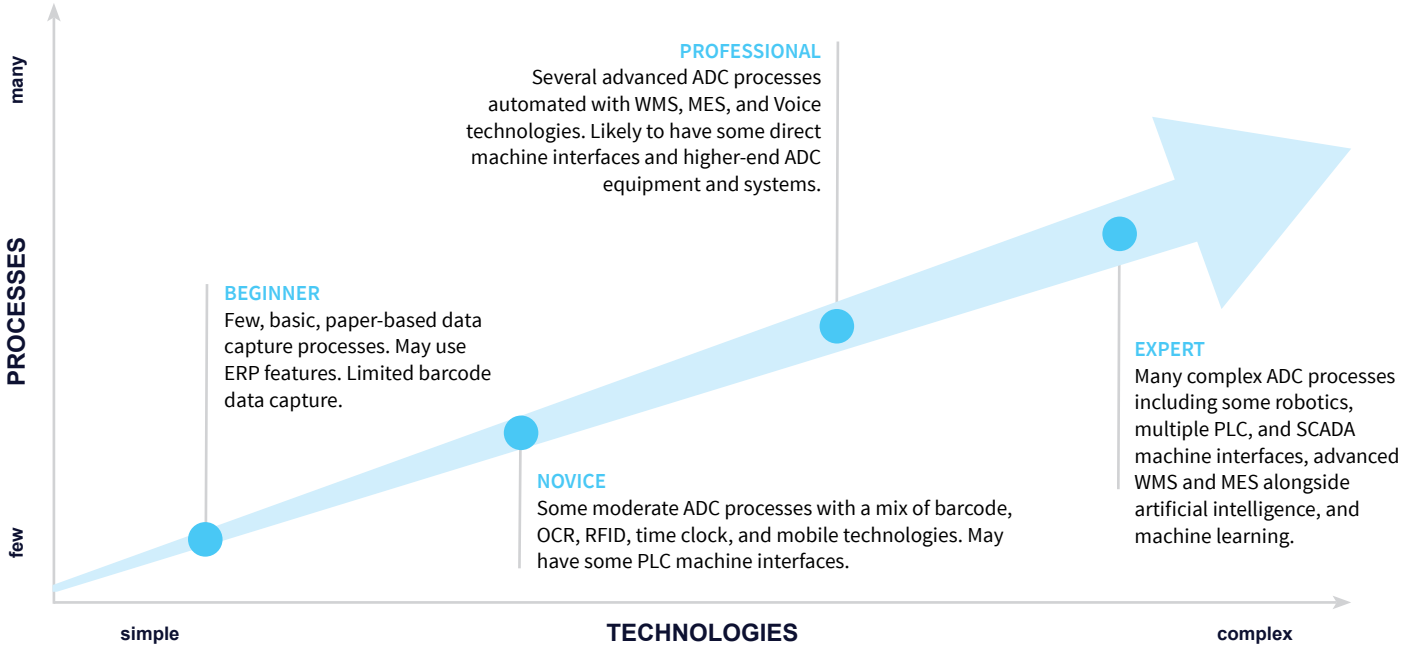
**Acumatica is built for artificial intelligence and machine learning.**



## 2. ADC ASSESSMENT

# Where Are You in Your ADC Journey?

The strategies you implement for automated data capture depend on how far you are in your ADC journey. Manufacturers who are just starting will have few ADC processes in place using basic technologies. Manufacturers further along will have more automated processes using progressively advanced technologies. The first step is to understand where you currently are before developing an ADC plan. Use the table and diagram below to chart your journey.




| | | Automated Processes | Paper Processes | ERP Features | Barcode | Mobile | Time Capture | OCR | RFID | PLC & SCADA | MES | WMS | Voice | AI / ML |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Beginner** | **0-10** | ● | ● | ◐ | ◐ | ◐ | ◐ | ○ | ○ | ○ | ○ | ○ | ○ | |
| **Novice** | **11-20** | ● | ● | ● | ● | ● | ◐ | ◐ | ◐ | ○ | ○ | ○ | ○ | |
| **Professional** | **21-30** | ● | ● | ● | ● | ● | ● | ● | ● | ◐ | ◐ | ○ | ○ | |
| **Expert** | **31+** | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ◐ | ◐ | |

● **Commonly Used** ◐ **Occasionally Used** ○ **Rarely Used**

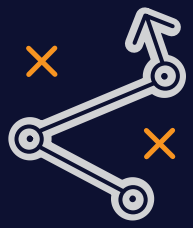


## 3. ADC STRATEGY

# 4 Steps to ADC Success

A successful ADC strategy starts with a solid foundation. Begin with a modern ERP application that provides native data capture capabilities and an open architecture to connect advanced ADC technologies as you progressively automate data capture throughout inventory and manufacturing processes. Understand available options, research potential solutions, prioritize your initiatives, and develop a detailed project plan.

Start with simple ADC projects using native ERP features or barcoding. Prioritize transactions that are easy to automate with basic technologies where there have been data entry errors.



### STEP 1
### FOUNDATION



Implementing ADC is easier when you build on a modern ERP system. It is difficult and costly if you are using basic accounting systems with few integration options and limited technology providers. **BEGINNERS** and **NOVICES** are typically moving to their first real ERP system. They should carefully consider their ERP platform. Even **PROFESSIONALS** and **EXPERTS** need to review their underlying ERP – especially if they are on an unsupported or legacy system.

### STEP 2
### RESEARCH



It is critical to research and document ADC strategies and technologies to prioritize initiatives and evaluate ADC solutions before developing a plan. Start by documenting existing ADC technologies and previous ADC projects. Next, create a list of data transactions that you could automate. Pay special attention to where you are in your ADC journey. The further along you are, the more opportunities there are to **go back to improve previous ADC initiatives**.

### STEP 3
### PRIORITIZE

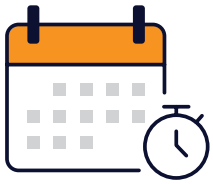


Review existing ADC initiatives. Look for ways to improve them. Rank initiatives based on cost and benefit from the list you created in Step 2. **BEGINNERS** need to start small with a few high-priority processes. **NOVICES** should look for new ways to expand on ADC technology investments. **PROFESSIONALS** and **EXPERTS** can improve existing processes with more advanced technologies. They should also tackle more complex operations with automation.

### STEP 4
### DEVELOP A PLAN



The last step in developing an ADC strategy is to document the implementation plan. The plan should include each ADC initiative's desired goal and its supporting technologies. Add a **thorough timeline** and process for conducting the implementation from start to finish. This step is crucial for every manufacturer, regardless of where they are in their ADC journey. Make sure to define a contingency plan in case you run into technical issues during the implementation.



## 4. ADC EXECUTION

# ADC Implementation Phases

Now that you have a clear-cut, prioritized ADC plan in place – it is time to execute the plan. Execution covers four phases: Preparation, Go-Live, Review, and Continuous Improvement. Each phase is essential for the successful roll-out of new ADC strategies and the on-going maintenance and support required to ensure their long-term success.

Acumatica includes a Project Accounting application to plan for ADC projects with integrated Case Management to manage support activities. Document procedures with wikis and use field service for technology activities.



PHASE 1

### PREPARATION



The time it takes to prepare for an ADC implementation depends on the project's complexity, including the technologies used and the number of transactions you plan to automate. For example, it may only take a few days to prepare for a barcoding project with a few transactions. Conversely, implementing WMS, MES, or artificial intelligence and machine learning may require weeks or months of preparation. Start well before your desired go-live date and review the plan with everyone involved.

PHASE 2

### GO-LIVE DAY



The plan has been set, it has been reviewed, the team is assembled and trained, and it is time to execute on the ADC implementation project. Successful go-live activities are well-organized. One person should be identified as the project lead. Everyone else should be working with the project lead who orchestrates the steps in the project. The project lead delegates tasks, makes last-minute decisions, and charts the project's progress as tasks are completed. Take notes on last-minute changes to review after you go live.

PHASE 3

### REVIEW



It may take a few days or even a few weeks for things to settle into place after you complete the ADC project. Make sure to wait at least a week (preferably a month or longer) before reviewing the project. This will give users time to get used to the new processes while providing time to collect data to determine if the project was a success. The review process should include notes from the go-live event, feedback from users, and early analytical results.

PHASE 4

### CONTINUOUS IMPROVEMENT



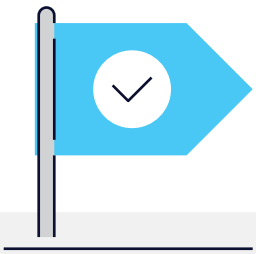
An ADC project is never finished. You must continually monitor the results to ensure that employees do not slip back to previous processes. Technology upgrades and other issues can also change the effectiveness of the original ADC project. Every ADC project must be maintained. There is always room for process improvements, and new versions of the software or hardware that can provide more value while ensuring the technologies continue to function as expected.

# Automated Efficiency with Acumatica

We are on the precipice of a new era in automated data capture. While many companies are just starting with barcoding, RFID, and basic automation available in their ERP systems, others are implementing sophisticated technologies, including PLC/SCADA, WMS, MES, artificial intelligence, and machine learning.

ADC drives efficiency throughout manufacturing and inventory processes making data entry faster and more accurate. Manufacturers in every stage of their ADC journey can improve operations by setting a solid ERP foundation, researching available technologies, prioritizing ADC initiatives, and developing a detailed project plan. ADC project success is dependent on preparation, systematic go-live activities, on-going reviews, and continuous improvement of both processes and technologies.

Acumatica Manufacturing Edition is a future-proof, cloud ERP application built on a modular and adaptable platform with native automated data capture and open APIs for rapid integration to external systems to help manufactures thrive in the new digital economy. Acumatica is designed for midmarket manufacturers that struggle with disparate, siloed systems providing end-to-end business management solutions that can be accessed in the cloud using a standard web browser or mobile application with built-in barcode scanning.



"Carrying a multi-million-dollar inventory, you've got to have good controls for that . . . With the new controls that Acumatica has in place, our inventory is much more accurate."

– ROGER COLLINS, CFO
DEMTECH

Acumatica
The Cloud ERP

**Acumatica Cloud ERP is a comprehensive business management solution that was born in the cloud and built for more connected, collaborative ways of working. Designed explicitly to enable small and mid-market companies to thrive in today's digital economy, Acumatica's flexible solution, customer-friendly business practices, and industry-specific functionality help growing businesses adapt to fast-moving markets and take control of their future.**

**For more information on Acumatica, visit www.acumatica.com or follow us on LinkedIn.**