

# CITIZEN DEVELOPER: OVERCOME CODING CHALLENGES TO BOOST COMPANY-WIDE PROCESS AUTOMATION



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## INTRODUCTION

Employees in many companies still perform a large part of their tasks manually. The consequences are not only an enormous waste of time and money, but also a high error rate during processing. In order to replace manual and sometimes even paper-based processes with automated workflows and thus drive the digital transformation forward, companies often resort to a variety of different applications. However, numerous application requests and changing requirements are putting IT departments under increasing pressure - and they often lack the necessary staff. This is where Citizen Developers come in: With the help of no-code and low-code automation, they create digital workflows in the shortest possible time and therefore play an increasingly important role in the digital transformation of companies. Especially when professional software developers are in short supply, Citizen Developers can relieve the burden on IT. But what is behind the terms citizen developer, no-code and low-code? What advantages do they bring in the long term? In this whitepaper, we provide answers to these questions, highlight the challenges and benefits of citizen development, and conclude by clarifying three frequently asked questions from companies on this topic.

## WHAT ARE CITIZEN DEVELOPERS AND WHY ARE THEY IMPORTANT FOR THE DIGITALIZATION OF BPM?

Citizen developers are technically skilled employees who create software-based applications for their respective departments outside the IT department. Unlike professional software developers, Citizen Developers have little or no programming knowledge and are therefore dependent on supporting tools. The big advantage is that the business users know the processes in their departments very well and are ideally suited to independently develop solutions and applications for the daily business processes in their company with the help of intuitive no-code and low-code platforms for Business Process Management (BPM). In this way, organizations not only save time and money, but also counteract the lack of professional developers. The IT department is relieved and can focus on projects that require more expertise. By implementing no-code and low-code functionalities, companies also expand the number of people who help accelerate digital transformation.

## VIVID EXAMPLE

To better understand the differences between the key roles in the changing IT landscape through Citizen Development, the activities of developers, IT Professionals, and Citizen Developers are briefly exemplified here in the context of construction:



**Developers** are the main contractors and prepare a vacant space for construction. Throughout the construction process, they are responsible for the basic tasks.



**IT professionals act** as architects to design the structure and layout of the building. They ensure that all permits are in place, the construction process runs according to plan and everything is always up to date.



**Citizen Developer** are responsible for the finishing touches. As designers and decorators, they adapt the finished building to the individual needs and wishes of the residents.

## CITIZEN DEVELOPER

**60%**

of all custom apps are now built outside the IT department. Of those, 30% are built by employees with either limited or no technical development skills.

Source: 451 Research

**4x**

Active Citizen Developers will be at least four times the number of professional developers at large enterprises by 2023.

Source: Gartner

**68%**

of users said the main reason they create no-code apps is because they fit their organization's needs better than other solutions, and 61% said it was so that they can make changes more quickly to apps as their workloads and requirements change.

Source: Quick Base

# NO-CODE AND LOW-CODE – THAT’S THE DIFFERENCE

**No-code platforms** usually have a simple visual user interface. This means that even technically less experienced users can create their own applications and processes - often using the drag-and-drop function - without writing a single line of code. The clearer the user interface, the easier and faster it is for business users to find their way around.

**Low-code platforms** go beyond the pure no-code approach and are intended for more complex applications that require manual input and - at least minor - IT skills. Scripting functions allow individual workflow solutions for demanding digitalization projects to be quickly put into practice. A combination of visual interfaces and coding sections nevertheless provides developers with good guidance and keeps the programming effort small.



**„By 2024, 80% of technology products and services will be built by those who are not technology professionals.“**

*- Gartner Inc., Press Release June 2021*

## ADVANTAGES OF CITIZEN DEVELOPMENT

- ✓ **Increased flexibility:** Despite having no or minimal programming skills, Citizen Developers are able to administer and use software solutions independently. To do this, they are no longer dependent on the help of the IT department and can accordingly act more independently and flexibly.
- ✓ **Relieving the burden on IT:** The fact that Citizen Developers can act independently relieves the already overburdened IT department to a large extent. It can concentrate on more complex IT issues that require relevant programming skills.
- ✓ **Simplified IT architecture:** With no-code/low-code platforms, users can create processes of any complexity with the ease of building with Lego bricks: With this building block principle, workflows can be created and automated very easily.
- ✓ **Increased agility:** Due to the independence from the IT department, Citizen Developers can implement, maintain and adapt software solutions as needed without long waiting times.
- ✓ **Higher productivity:** Citizen Developers originate directly from the relevant specialist department and have the necessary knowledge of their industry. Consequently, they know the requirements for the software to be developed as well as workflows best.
- ✓ **Effective governance:** No-code and low-code platforms are an effective way to avoid shadow IT because they offer a standardized approach and are embedded in a predefined IT framework. Thus, IT can be confident that all platforms are running within a secure, approved environment.



## CHALLENGES OF CITIZEN DEVELOPMENT

In order for Citizen Development to function properly, the following questions must be answered, responsibilities distributed, and any uncertainties that may arise must be resolved in advance:

- How high is the quality of the implemented software solution, e.g. with regard to documentation?
- How well and extensively is the developed software tested, how secure are the applications and who has the rights and the capabilities?
- How well is the process for eliciting the necessary requirements going?
- How will stakeholders be involved in detail and how will the possible scenarios be considered in practice?
- Who is responsible for the maintenance and support of the developed software?
- Who carries out any necessary code restructuring in the company?
- Who is the contact person when problems arise?

## CUSTOMER EXAMPLE ARVATO SYSTEMS CREATES SIMPLE PROCESS AUTOMATION IN A SHORT TIME WITH BIC PROCESS EXECUTION

The international IT company Arvato Systems, headquartered in Gütersloh, has been using GBTEC's BIC Platform for several years and has established a successful process management system with the help of the BPM solution. With the BIC Process Execution automation tool, the process management division of the company, which is part of the Bertelsmann Group, is now also putting its first automation projects into practice without having to do much programming work.

### THE START: IDENTIFYING OPPORTUNITIES, FOSTERING CREATIVITY, EXPERIENCING FIRST SUCCESSES

The biggest challenge for Arvato Systems was initially to sensitize employees to the tool's functions and to identify automation opportunities in everyday processes. When getting started, the process management team tried out the tool a lot and thus gradually approached the various automation functions. „Once users look at processes that have already been modeled and recognize which (sub) processes can be automated, they have an almost infinite number of ways to automate cleverly and, above all, easily with BIC Process Execution,“ says Witali Glazyrin, process manager at Arvato Systems. Process consultant Erdem Budak adds: „This approach in the tool is really intuitive, it's like playing with Lego. Within two to three hours, I was able to create a process framework, including executable elements, as I had it in my head, and without much programming effort - that felt very good.“ The IT specialist's process management team therefore sees the modular principle with the no-code/low-code automation in BIC Process Execution in particular as a great enrichment. This makes everyday work much easier, as employees can carry out automation independently without the need for a large number of contributors.



## THE ADDED VALUE: IMPLEMENT AUTOMATIONS, REDUCE ERRORS, SAVE TIME

The first process that Arvato Systems is currently automating with BIC Process Execution is a survey on employee satisfaction. In the past, the survey was conducted via Microsoft Forms. In addition to unnecessary loading times of Excel lists, there was also an increased error rate due to many manual activities and media breaks in the transfer of information. With BIC Process Execution, employees will instead receive regular personalized tasks that they can conveniently fill out in forms and of which they will be automatically reminded by e-mail. The data is then automatically transferred to Arvato Systems' process monitoring software BIC Monitor via an integrated REST interface, where it is clearly presented in the form of a dashboard. This not only facilitates the evaluation of the results, but also serves as a basis for audits. The IT company sees a major advantage here in saving time and reducing errors: „By digitalizing and automating the process with the tool, we want to eliminate weak points because the data no longer has to be processed manually. We can thus reduce additional sources of error and save a lot of time, because we get to the analysis results much faster and the survey is not forgotten,“ explains Dr. André Lougear, Head of Process Management at Arvato Systems.



## AUTOMATION MADE EASY - WITHOUT IT

The biggest advantage for the company is the no-code/low-code automation itself: „With BIC Process Execution, I simply take automation into my own hands - and the emphasis here is really on simple. I immediately have the results of my ideas in front of my eyes and can execute them directly with just one click,“ says Erdem Budak. Arvato Systems also uses the automation tool for processes to assign user rights and roles in order to provide employees with a central entry point and create transparency.

**„With BIC, I have a motivating “wow” moment after just a few clicks, which makes the barrier to automating other processes as well much lower.“**

*- Erdem Budak, Process Consultant at Arvato Systems*

## CITIZEN DEVELOPERS DRIVE DIGITAL TRANSFORMATION

Citizen Developer is more than a buzzword, as it enables a tangible increase in organizational efficiency and productivity. After all, IT has limited resources and often a long list of unimplemented solution requests. But in today's world of SaaS, cloud, no-code and low-code tools, anyone can co-develop. For example, before the invention of PowerPoint, who would have thought that non-graphic artists could create visually appealing presentations? The fact that Citizen Developers can operate independently of the capacities of the IT department means that they accelerate digital transformation enormously.

## FAQS

Despite the great advantages offered by Citizen Development, many companies are still hesitant to exploit this potential. But what are their main concerns? We clarify three frequently asked questions:

### 1. HOW RELEVANT ARE CITIZEN DEVELOPERS?

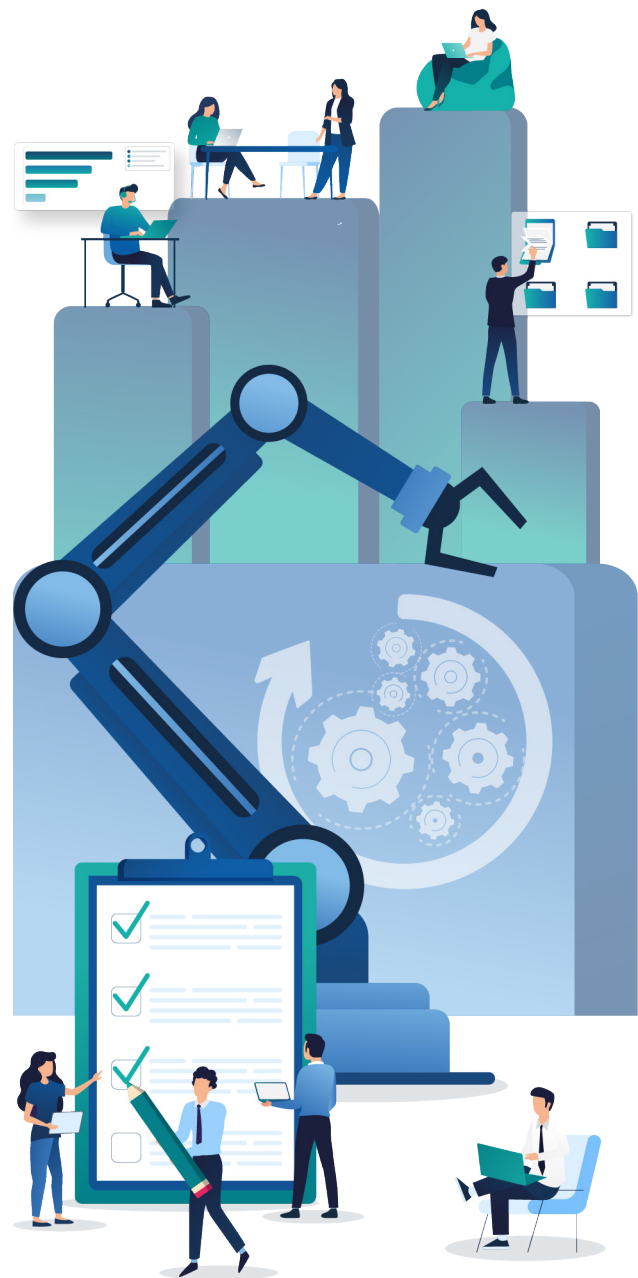
Nowadays, almost every company faces the problem of acquiring sufficient IT personnel. As a result, IT departments are heavily overloaded and process managers have to join the long queue of to-dos to be processed. Citizen developers can provide independence from IT with no-code and low-code platforms. According to Gartner, anyone can become a citizen developer these days, as long as the platforms are sufficiently intuitive. The analyst estimates that 41 percent of employees already work as citizen developers in various areas, and the trend is still rising.

### 2. WILL THIS DEVELOPMENT MAKE PROFESSIONAL PROGRAMMERS OBSOLETE?

Some IT specialists fear that Citizen Developers can replace professional programmers. But this fear is based on false assumptions. The concept of Citizen Development is rather intended as a complementary approach. Citizen developers should therefore not be seen as competition for programmers, but rather as a relief so that they can concentrate on what they do best - developing complex applications.

### 3. HOW DO CITIZEN DEVELOPER AND IT COMPLIANCE FIT TOGETHER?

The fact that Citizen Developers work with the knowledge of the IT department means that IT compliance can be ensured and regulations adhered to. The IT department often supports the implementation of no-code and low-code platforms and can ensure that the Citizen Developers continue to work in compliance. However, should problems arise, the IT department can still intervene to provide support.



## WITH BIC PLATFORM TO DIGITAL TRANSFORMATION

The digital transformation is becoming increasingly relevant in organizations of all kinds. With BIC you decide for an innovative process management, intelligent process automation, first-class process mining and thus secure a decisive competitive advantage.

### ALL BIC MODULES AT A GLANCE



#### MODELING & ANALYSIS

BIC Process Design

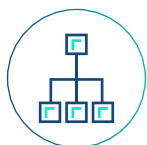
#### EXECUTION & AUTOMATION

BIC Process Execution  
BIC GRC

#### MEASURING & MONITORING

BIC Process Mining

With BIC Platform you can rely on the most advanced technology, modern design, high usability and powerful features. Get the best out of your processes.



#### BIC PROCESS DESIGN

Simple process modeling, comprehensive process analysis and publication within seconds with BIC Process Design.



#### BIC PROCESS EXECUTION

Based on a strong zero code workflow engine, processes are automated directly from simple process maps.



#### BIC GRC

With BIC GRC you successfully automate your governance, risk, and compliance management.



#### BIC PROCESS MINING

With BIC Process Mining, you visualize, measure, and analyze your real business processes using real process data.



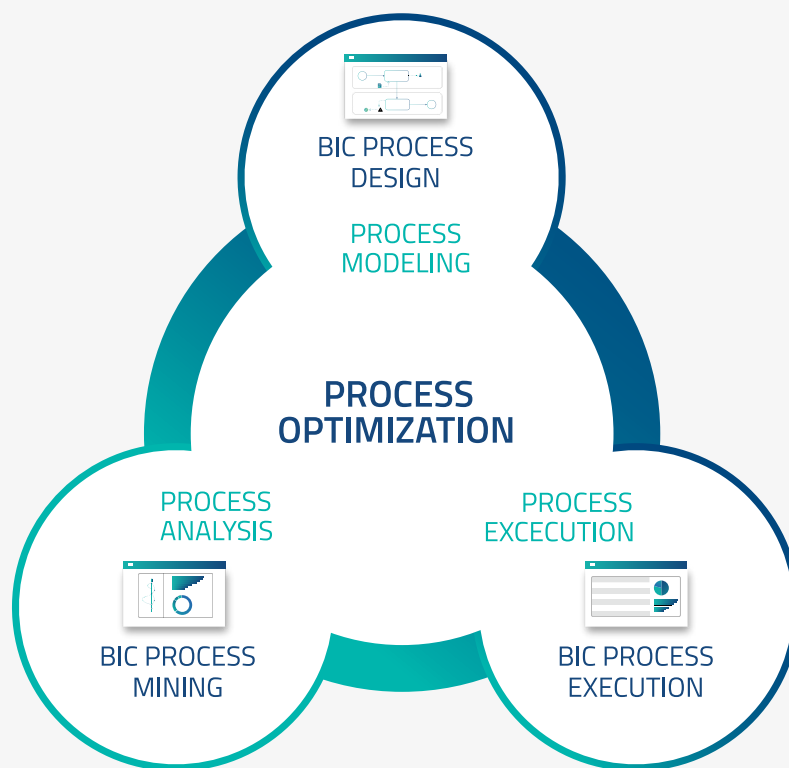
## MAXIMUM EFFICIENCY THANKS TO SIMPLE PROCESS AUTOMATION

From process modeling to automation and monitoring - with BIC you choose an innovative all-in-one suite for your entire business. Rely on best-of-breed technologies, state-of-the-art design and powerful features and transform your business processes directly into executable processes without programming. Uncover the full potential of your optimized process models and achieve significant progress

for the digital transformation in your company. Get the most out of your processes with the BIC Platform and stay successful in the long term.

**Bring more speed into your business processes with BIC today and use your valuable time for the really important tasks instead of manual processes.**

### DIGITAL TRANSFORMATION LIFECYCLE



# YOU WANT TO LEARN MORE?

Want to learn more about BPM with BIC Platform? Contact us by phone or email or simply participate in one of our numerous and [free webinars!](#)

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DISCOVER BIC PROCESS EXECUTION

## GBTEC GROUP

GBTEC Software AG is a specialist for business process management, digital transformation, business intelligence and integrated risk management. The company successfully combines consulting and software development in a single source. With BIC Platform, a suite for digitalization in companies, GBTEC offers innovative, fully comprehensive and powerful software for optimizing processes and IT systems. Its customers include numerous DAX corporations as well as large medium-sized companies and public administration.

