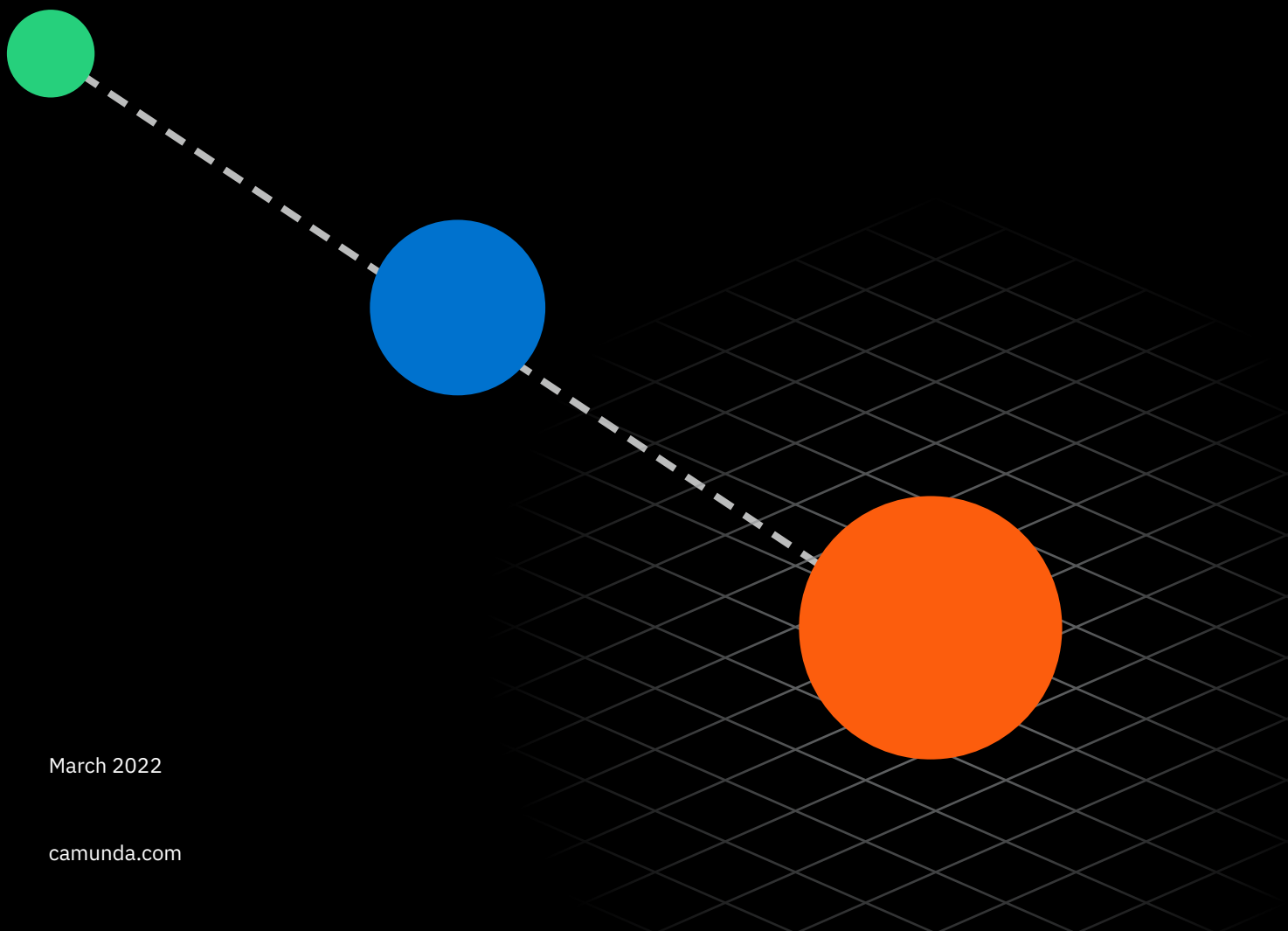
CAMUNDA

EBOOK

Scaling Process Automation at your Company



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Introduction

How do you move beyond your first project and automate not just one but hundreds of processes successfully and in a way that's agile and scalable?

For the last 20 years, the team at Camunda has been helping businesses solve this exact problem.

We have seen automation adoption scale within companies like Goldman Sachs (3,000 workflows, 8,000 daily users), Societe Generale (600 workflows, 60k human tasks completed/month, 7,500 active users) and 24Hour Fitness (800 processes, 230MM activity instances/day).

What we've discovered is simple: **you should not start** with a big bang approach — in fact, starting small is the fastest and most effective route to digital transformation. Still, the question from our customers is often the same one: how can we get **there**?

Spoiler alert:
If you want a company-wide platform, don't start with a company-wide platform!

Look for these callouts throughout this ebook. They'll contain additional insights from Camunda Co-Founder and Chief Technologist Bernd Ruecker as well as additional process automation resources.

In this ebook, we'll be taking a closer look at driving process automation program adoption. As you'll see, the programs that have the best chance at scaling begin small and don't try to do too much all at once.

You'll also learn how to identify the correct pilot or lighthouse project, keys to choosing the right architecture and technology for your use case, and how to assemble teams that are best equipped to drive transformational technologies.

From there, the skies won't even be the limit with how far you can scale.

A Real-life Success Story

Let's start with a real-life success story starring one of our customers: an insurance company with 7,000+ employees.

Back in 2014, they formed a team to automate the handling of specific claims around their car insurance products. This was a real pain as their current system and organizational configuration made existing claim handling manually driven and crossed over several siloed business units.

There was a silver lining to this struggle, though.

This difficulty made it a straightforward to build a business case for an automation project and to get buy-in from top management. Their case was further backed by the strategic initiative to intensify "process orientation", which was a hot topic for insurance organizations at the time.

As part of this project, they:

- Evaluated a workflow tool (Camunda)
- Modeled the workflow
- Implemented the whole workflow solution
- Integrated it with their existing user interface and SOA infrastructure
- Exported relevant data into their data warehouse

And then they went live and operated it.

The project went relatively smoothly and took around 12 months. Afterwards, the team responsible was formed into its own department and tasked with helping other teams design and develop workflow solutions. In the first two to three years, they did a lot of the implementation work for other teams, but over time evolved into an internal consulting task force whose sole focus was on getting other teams started with workflow automation.

This project team naturally became the go-to place for any questions or discussions around workflow tooling and thus, not only made sure experiences and learnings were documented, but also facilitated knowledge sharing across the entire organization. Meanwhile, they ran an internal BPM blog, organized their own training classes, and managed an annual internal community event where different teams shared best practices.

While they did develop some tools on top of their workflow tool of choice (Camunda), they never forced anybody in the company to use them.

By the end of 2019, they had almost 100 different workflow solutions running in production, satisfying not only the workflow team but upper management as well.

Elements of a Successful Adoption Journey

This insurance company's story contains key learnings that every automation project leader should keep in mind:

1. Start with a project, not a program.
2. Don't start big and strategic endeavors too early in your journey. Instead, go step-by-step until you are ready to scale.
3. Resist the temptation to create your own platform.
4. Get buy-in from your decision-maker. This is much easier to obtain when there is some real pain that your workflow is going to solve.
5. Let your lessons learned influence your target picture, don't just adopt some consulting company's best practices.
6. Make sure you give experienced people the opportunity to help in follow-on projects.
7. Capture best practices and ensure knowledge sharing.
8. Provide reusable components if they increase productivity, potentially as libraries that teams want to adapt.
9. Establish an internal consulting approach, probably organized as a center of excellence.
10. Define learning paths for new people or teams.
11. Make sure to let projects breathe and let project owners make their own decisions.

Charting the Path to Success

After hundreds of automation projects over the years, including the previously mentioned insurance agency, our consulting team has derived a simple pattern that has proved to be the most common path to success when introducing workflow tooling into an organization.

It's aptly dubbed The Customer Success Path, an outline of which you can see below.

Now, let's take a deeper dive into each of these crucial steps along the path.

Stage 1: Start with a Pilot Project

The goal of this project is to define and validate both architecture and stack. Very often, this pilot project is set up as a proof-of-concept (PoC). However, it is important to go-live with that pilot to really learn about all aspects of the workflow solution throughout the full software development life cycle (SDLC).

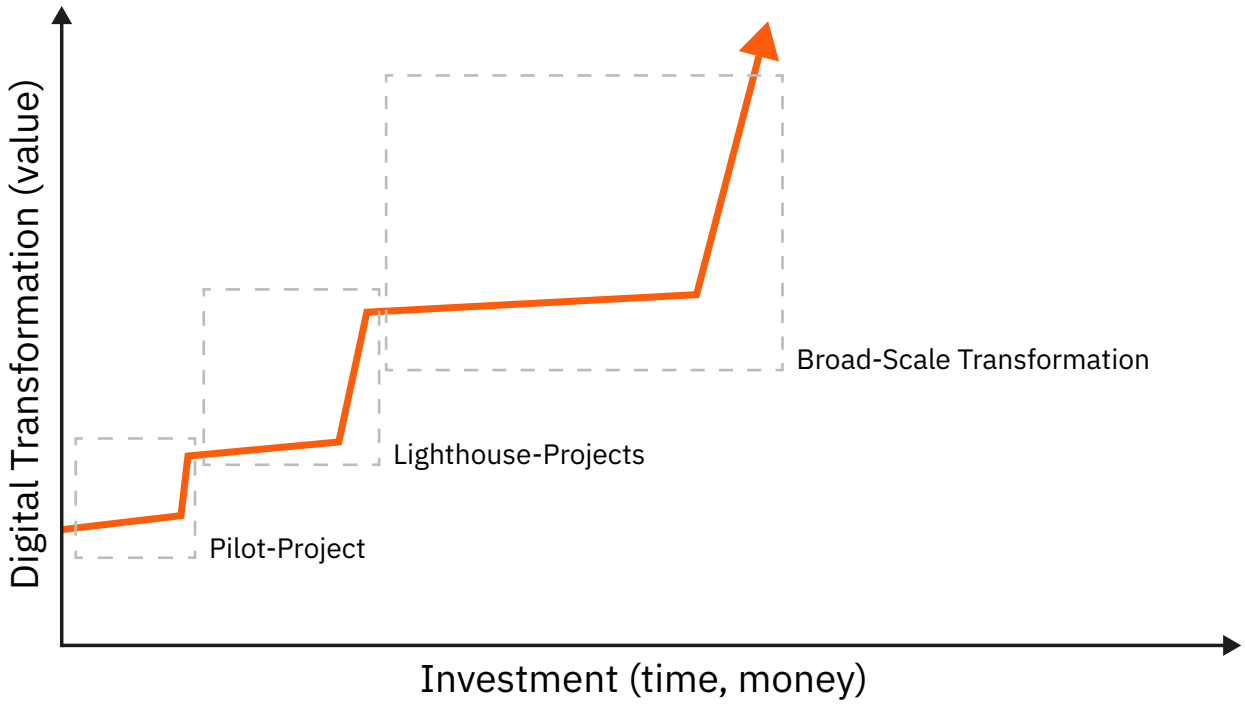
Stage 2: Lighthouse Project

Soon after running a successful pilot, you should tackle a **lighthouse project**. This project should have a broader, but still realistic scope which can be better leveraged to show off architecture, tooling, and value of workflow automation to other people and teams within your organization.

Concentrate on delivering business value with your workflow automation projects right from the start.

This means two things:

1. First – Focus on a concrete project. Avoid strategic platform initiatives for as long as possible. Doing too much strategic work, too early, runs a high risk that you don't deliver any business value for a long time and probably get completely stuck in shaping a complex platform without understanding its use case.
2. Second – Favor agile development approaches that develop workflow solutions iteratively and incrementally. This allows you to learn fast and let these learnings correct your course. This inevitably forms a very



The Customer Success Path from pilot project to broad-scale transformation

positive and motivating spiral that we have seen work successfully for many customers.

This is so important that it bears repeating: Start with a project, not a program!

Then, and only then, should you consider the next step — scaling automation adoption across your enterprise. Still, you should enter this phase carefully.

Make sure to not go too broad before you have experienced enough relevant learnings in at least a handful of projects.

Stage 3: Broad-Scale Transformation

Congratulations are in order if you've made it this far! Your first automation projects are up and running.

Read: Getting Started with Camunda

New to using Camunda? Check out our guide which walks you through modeling and implementing your first workflow.

Read the Guide

Bernd's Insights:

"Make sure to select a relevant use case for your pilot and lighthouse projects – use caution and avoid political workplace suicide missions!"

Now what?

If you had one team working on the pilot (probably also the lighthouse project) they'll not only be very familiar with the technology and architecture and will undoubtedly have learned a couple of valuable lessons the hard way. These are incredibly valuable experiences and you should make sure they can be leveraged in future projects.

What's next for the team involved in these projects is an important decision to be made.

One option is that the team members simply continue building workflow solutions. While this is efficient, it does not scale.

The other option is to split up the team and send its members to different projects. We have seen this turn of events work out well, but means you need to have some flexibility in team assignments.

There is a third option: transform the project team into a Process Automation Center of Excellence (CoE) to share best practices and drive organization-wide digital transformation.

Many organizations are able to complete pilot and lighthouse projects but struggle to evolve to a full process automation program. Further adoption is often blocked by two factors: organizational silos and resistance to change.

An effective CoE can be the remedy to avoiding both scenario.

We'll cover what to do about setting up a CoE in a moment, but first, let's take a look at some of the most common sticking points organizations will hit while on the Success Path.

Do's and Don'ts on The Success Path

Don't Get Stuck in Big Platform Initiatives

We often get questions like:

"We want to build a company-wide BPM (or process automation) platform on top of Camunda — how can we do this"?

This is a risky endeavor for many reasons:

1. It is quite hard to set up a bespoke platform and it will distract you from delivering business value.
2. It makes it hard to take learnings to later projects, as you settle on certain architecture primitives very early in your journey.
3. Keeping such a platform up-to-date and fixing bugs is both complicated and time consuming.

4. Making all features of the underlying products available (including new features of new versions) can prove a massive challenge.

5. You can't Google for problems about your own bespoke platform like you can for well-known, open-source products.

That said, you might still do some work in the initial projects to help out your architects or engineers. For example, you might integrate into your authentication and authorization infrastructure or make sure the workflow tooling adds its logs into your central logging facility.

Instead of building a bespoke platform, another pattern can turn out to be really successful. Think of leveraging reusable components or libraries as internal open-source projects of a sort. You offer these resources to your company and provide some resources and documentation.

If they work out, great! You'll find most people will happily apply them.
But nobody has to, probably with the exception of the very first projects where you evolve these libraries hand-in-hand.

If projects need some additional feature, they are not locked out, but can always provide pull requests — or fork the project. This model of thinking scales much better and does not block any team from being productive.

Do Properly Manage Architecture Decisions

Project teams need some freedom to choose the right tools. In many situations it is best if the team can, for example, decide if they need a workflow engine at all.

That said, it is risky to let every team choose whatever they fancy at the moment, as this quickly becomes bogged down by trends, hypes, personal preferences, or simply the fact that people have "wanted to try this out for ages". It is important for everybody involved to understand that certain technology decisions are a commitment for years and sometimes even decades. These decisions and the resulting maintenance affect more than just the current team.

What works well is to combine the freedom of choice with the reliability to operate and support the software solution in production, which is known as "you build it, you run it". This important axiom makes the team aware that they are held accountable for their decisions. Whenever this in place and reinforced, teams usually make more sensible decisions (and are more likely to choose "boring" technology).

Another common approach is to establish an architecture board that defines some guardrails. Ideally, this group does not dictate arbitrary standards, but maintains a list of approved tools and frameworks. Whenever a team wants to use something that is not (yet) on the list, they have to discuss it with that board. Teams would need to present the framework and the reasons why they

Bernd's Insights:

"Every one of these initiatives we've seen has struggled, especially if they started too early in the journey. You should not think about creating a bespoke platform before you have a couple of projects live, so that you can really understand the common characteristics and double-check the value and applicability with each project."

need exactly this tool. This can even lead to a fruitful conversation around the tool. Teams might learn about alternatives that are better suited, or they might get questions around maintenance they have not thought of, or they could make a convincing argument to the board and get a green light.

Don't Try to Automate Everything at Once

Another question we hear during projects quite often goes something like this:

> "Before we can even decide on a process for the PoC, we need to capture all business processes in the firm and put them on a process landscape. Otherwise we don't understand the full picture and are not able to prioritize correctly!"

We are too often confronted with this mindset. It's extremely dangerous and counterproductive.

Not only is the effort of capturing these processes likely to exponentially grow, with too many people being pulled into the initiative, but more importantly, you have not yet gained enough experience with workflow automation methodology and BPMN to produce models in the right quality. This leads to process models that are useless in the best case, or even models that become obstacles.

Sometimes companies want to safeguard past investments: "Hey, we analyzed this process already three years ago for our quality and compliance program. We still have the model around, let's just use it for this automation project". We can't understate what a bad idea this is.

Process architectures and landscape have their place, but they have a more high-level view on processes and are only loosely connected to executable BPMN workflow. When you start your journey, you should decouple the first projects from any of these initiatives to make sure the project can breathe, learn, and make its own decisions, without getting sucked into endless political or methodology discussions. Once you have more than a handful of projects live and have gained experience with BPMN, you can start aligning the different streams within your company.

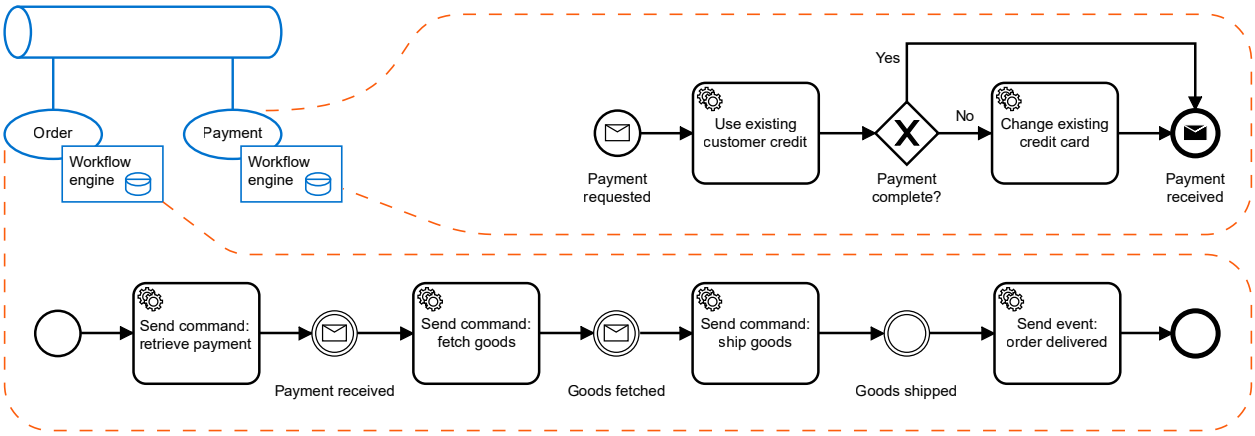
We have seen lean approaches work best, so for example, a simple wiki can serve as an entry point into the process landscape, showing a basic structure that links to high-level process descriptions. From there, you can directly navigate into executable process models, either in the development source control or within a BPMN and DMN collaboration solution like our own Cawemo.

Having a process architect who has an overview on this process architecture makes sense as soon as you scale adoption, but not before.

Do Decentralize Your Architecture

Instead of central platforms we advocate for an approach that every team runs its own engine, especially in a microservices context. The main advantage is to allow for scale by isolating teams.

Let's look at an example of this in Camunda.



Typically, it is not a problem a team to set up their own instance of Camunda, as they will simply leverage the Camunda documentation, in addition to your own best practices or samples.

Provisioning and governance is also much easier with managed services. So running multiple engines becomes super easy with Camunda, as it already has a control plane built-in.

Likewise, as you scale usage, an organization's entire end-to-end process typically exceeds the boundary of one workflow engine. Maybe the process is spread across different microservices using different Camunda engines or third-party workflow engines. Or some steps are executed by legacy software.

Either way, you will still need visibility into the end-to-end process. Trying to force everybody into the same workflow engine has not proven to be a good approach, as this would limit the independence of different teams. The solution that works for most organizations is to rely on business intelligence (BI) or data warehousing solutions to gain that overview. While this is a valid approach, our customers report that this is not easy to set up and typically misses the business process perspective.

Other tools around observability or distributed tracing are typically too technical. This is why we introduced "process events monitoring" into our reporting tool, Optimize. Take a step-by-step approach and avoid falling into analysis paralysis just because you want to discuss the end-to-end monitoring upfront with all stakeholders involved.

Scalable Automation Programs Start with Communication

As we mentioned earlier, establishing a Process Automation Center of Excellence (CoE) can often be the difference between success and failure.

A recent survey of IT executives shows that an increasing number of teams are establishing CoE as a go-to resource for automation expertise.

Your CoE can be set up as a dedicated Camunda CoE, but more often we've seen them operate as more of a general process automation CoE.

This means its responsibilities are extended to evaluate workflow technology and to help decide the right tool for the job at hand. Typically these CoEs also manage technologies around Robotic Process Automation (RPA) or skill-based routing for human tasks.

What Should a CoE Do?

The CoE creates and maintains internal best practices. If you happen to be using Camunda, your team can lean on the Camunda Docs and Camunda Best Practices to start. Either way, your team must be sure to further document decisions, constraints, or additions that apply to your company.

Another example using Camunda: you might want projects to always use the standalone Camunda Run distro, do external tasks via REST, and add forms as HTML snippets. You can describe how Camunda is easily hooked into your central Active Directory. You can further link a couple of internal projects that provide integration into RabbitMQ, SOAP Web Services, and FTP.

One customer in the financial services industry told us that they developed a "self-service portal" within the CoE over the course of two years. This portal contains getting started guides, Maven project templates, and some reusable components as maintained libraries. This setup allows most projects to get going

Read: Building a Superior Automation Center of Excellence – Meeting Digital Transformation Demand with Process Automation

For more information on building a Center of Excellence, check out this ebook.

It has been designed to help enterprises establish (or improve upon) your organization's CoE by exploring the driving forces behind the practice as well as digging into the roles and activities of best-in-class Automation CoEs.

Read Now

on their own, including projects staffed by big offshore IT integrators. In the beginning, they had to develop the first six workflow solutions themselves, but now have seven additional projects already completed via self-service which proves the direction they are heading.

The CoE can also foster a community, whether that‘s through a forum, a Slack channel or regular face-to-face / web meetings. The right tool choice depends heavily on your company’s culture.

It is also worth investing in internal marketing as it is important that other projects know about the CoE. You might even want to talk publicly about your use case and serve as a reference for Camunda, as we often hear of customers searching for information on a process automation use case, only to find others within their company already using Camunda.

Understanding the Players

Achieving true end-to-end orchestration of business processes can‘t be accomplished by siloed teams or created in a vacuum. Depending on the process that is being automated, stakeholders from all parts of an organization may be involved, even if tangentially. It’s important to have a basic understanding of roles and required skills is important to scale process automation adoption in your organization.

Please note that these profiles are just guidelines, as there are traditional “business folks” that program their smart home themselves and can definitely think like a developer. Likewise, we have seen developers that are communication geniuses and thus could easily do business analysis without problems.

Here are the players you should know:

Rockstar Developers are the early-adopter developers that can sometimes perform miracles. They are highly motivated and passionate. You simply give them the Camunda ‘Get Started Guide’ and get out of their way. They will most likely Google their way along.

These folks are probably best placed in the early projects and the center of the Center of Excellence (CoE). But these developers also come with the challenge that they always want the latest and greatest technology and sometimes tend to overengineer.

Professional Developers are trained software engineers. They are productive in their environment of choice with a very individual selection of tools (programming language, IDE, CI/CD, etc.). It is important to give them the freedom they need to be productive. To start using Camunda, they should learn the basics of BPMN and get a solid foundation of Camunda concepts and API.

Low-code Developers are not trained software engineers, but often have a business background. They slipped into development using Microsoft Office tools, macros, or RPA. They often dedicate their full working time to developing solutions in these environments. For many companies, the key to scaling their process automation efforts is to enable these developers to model executable workflows. Some companies (e.g. Goldman Sachs) invested themselves in supporting low-code developers to work with Camunda. Low-code developers often need a customized training course in the exact environment they will be working in.

Citizen Developers are typically end-users with some IT affinity that want to solve an active pain with a technology they can master. You might enable them to use Camunda with the platform you build for low-code developers, but we typically see customers focusing more on the low-code developers than citizen developers with their initiatives.

But, of course, it is not all about developers:

Business Analysts need to learn to model BPMN. While they might use different techniques (e.g. around creativity methods) to discover and discuss workflow models, they should be able to create a BPMN model as input for development, as well as understand all models made by developers. We recommend them taking the BPMN 2.0 Training Course.

Operations teams need to understand how they can monitor process instances in production environments, how to set up alerts for failure situations, and how to troubleshoot and resolve incidents that occur without interrupting the customer experience.

Enterprise Architects need to understand the role of Camunda in the bigger picture and architecture. While we advocated against too much architecture upfront, it is still important to include enterprise architects early in your journey to make sure they are on board.

Some customers also report that they have additional workflow methodology experts that are really good at checking if a certain workflow design is the most reasonable one at hand. They constantly try to get at the bottom of design decisions striving to simplify workflows. These people are typically organized within the CoE.

Note that a good training course can only be effective if you start using the knowledge for a real-life project right afterwards. Try to have the training coincide with the start of your project.

Additionally, you should organize some coaching on the job. This can be delivered by Camunda, a partner or probably your own CoE. Very often, a remote consulting offering works well for this kind of assignment.

Fostering Collaboration

More important than a shiny process architecture is a practical procedure that allows collaboration on workflow design with all important stakeholders. Tooling-wise, this can be as simple as Confluence pages with the BPMN plugin or as customized as bespoke tools leveraging Git and bpmn.io to allow joined modeling.

More often, we see models on shared file systems opened with the Camunda Modeler or, of course, Cawemo, our collaborative process modeling tool. All of this can work if the stakeholders involved have clarity on how this is envisioned. Ideally, your CoE can help with this.

Try to avoid rolling out tools just because they are already established in business departments. Very often they don't support BPMN or cannot be used to collaborate on executable models at all.

You also need to create a culture that fosters collaboration and open discussion. It will never work to throw models from business analysts "over the fence" to IT to implement them.

Part of this is to make sure that all important stakeholders have access to the process models and respective tooling. Far too often we see companies that don't want to provide a license to every developer, which will result in a broken process. If license costs are a show stopper, consider a different solution.

Don't Forget About Project Economics

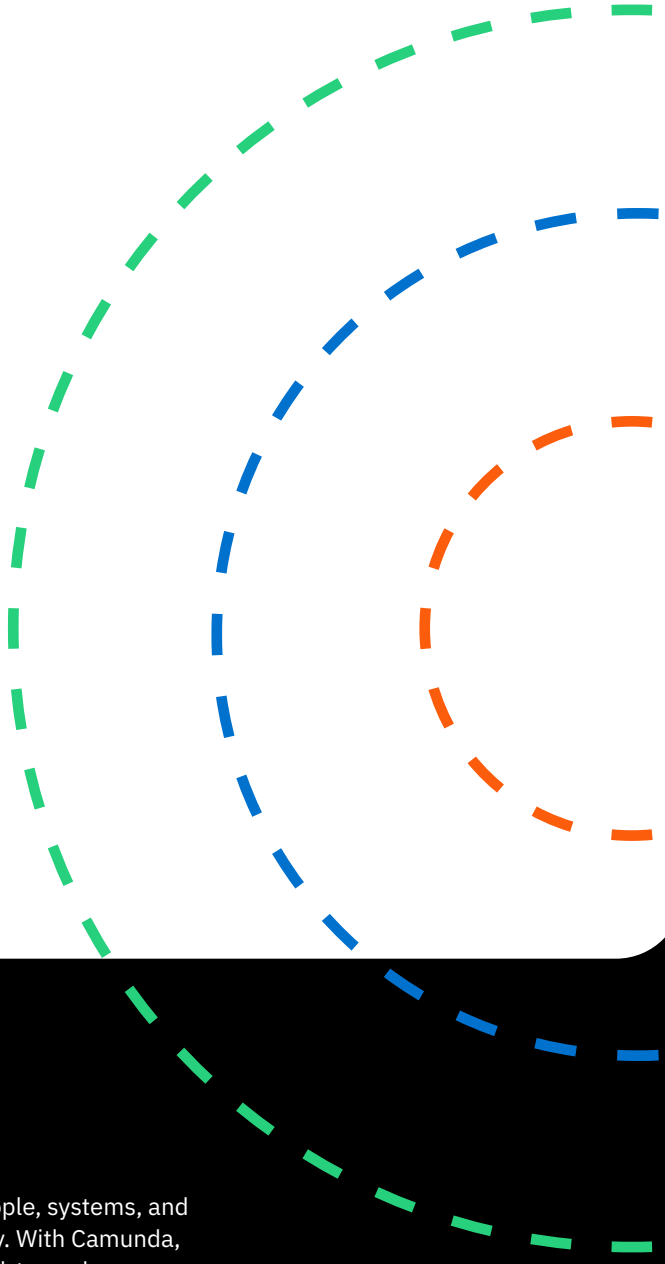
It is important to focus on delivering business value with workflow projects.

Additionally, you need some mechanisms to prioritize automation candidates as a basis to decide what to tackle next.

Note that you might not need strict rules to select your PoC or lighthouse project, as this might be driven more by technical matters. But soon after this is completed, every project should be justified by numbers and business value, not only by technical enthusiasm.

Conclusion

We hope you've enjoyed this guide and that you've found practical and useful advice that you can apply to your Camunda projects. As a rule of thumb you should decentralize as much as possible and favor an agile step-by-step approach that allows you to learn on the way. Remember, the devil is always in the details and every situation has its unique challenges.



About Camunda

Camunda enables organizations to orchestrate processes across people, systems, and devices to continuously overcome complexity and increase efficiency. With Camunda, business users and developers collaborate using BPMN to model end-to-end processes and run sophisticated automation with the speed, scale, and resilience required to stay competitive. Hundreds of enterprises such as Atlassian, ING, and Vodafone design, orchestrate, and improve business-critical processes with Camunda to accelerate digital transformation. To learn more visit **camunda.com**.