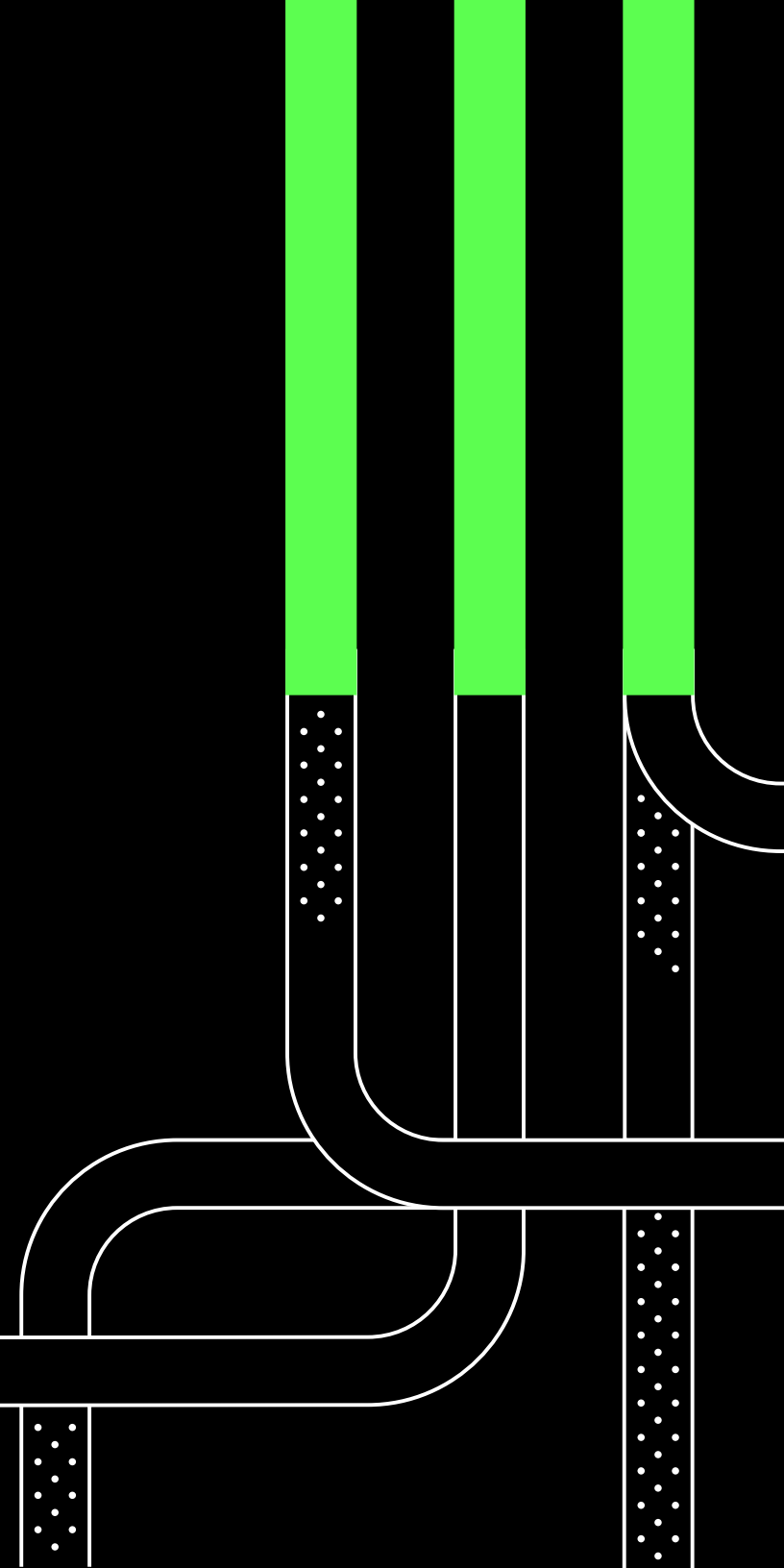# The Road to Go-Live Handbook
Running a Data-Driven System Migration

Why migrating systems is so damn hard

Have you ever tried to stream music on a cassette player?
Doesn't really work, right? The same goes for today's business execution.

Trying to run 2020s business initiatives on 1980s infrastructure, companies see their most valuable resources — time and money — disappear into productivity black holes. But these rigid and fragmented IT systems don't only slow things down, they create new (often hidden) problems in your processes. Think of things like late payments affecting working capital, unnecessary credit blocks holding off deliveries, or order changes creating havoc.

You're already painfully aware that your legacy systems won't do the job. Otherwise, you wouldn't consider a system migration in the first place. But whether you're upgrading, consolidating, harmonizing, or switching vendors, these initiatives come at a cost — not only the price tag of the migration itself but also the risks to your business. In fact, Gartner estimates that 60% of ERP migrations are perceived as having failed because they've compromised the business[1].

Why?

Because they lack the data and intelligence to support
system migrations from start to finish.

Sticky notes and anecdotes can't recreate real-life process complexities.
Politics and emotions won't reveal the deltas most crucial to outcomes.
User logins alone don't tell if people really adopt new systems and workflows.

1 Gartner, Strategic Roadmap for Postmodern ERP, 2019

In a nutshell

These old-school methods are **unscalable**, **unsustainable**, and **inefficient** — and tend to add new layers of subjectivity. And before you know it, you're back at square one creating old process problems in new systems.

Thankfully, there's a new way to mitigate risks and costs across the system migration lifecycle. An **Execution Management System — or EMS — like the one from Celonis** provides solutions across the migration timeline from optimizing processes pre-migration, to automating process documentation, accelerating fit-gap analysis, and smoothing the path to user adoption. In this e-book, we'll be talking through some of the major challenges experienced by IT leaders and program managers.

Celonis has capabilities to support every step of the migration process:

1. **Real-Time Data Ingestion** - Easily extract the data from your source systems and prepare it for meaningful analysis with pre-built source system connectors.

2. **Process & Task Mining** - Get an x-ray of your existing processes based on the data in your source systems. Eliminate conjecture about how processes are currently running.

3. **Planning & Simulation** - Test hypotheses using machine learning on your actual data to ensure new bottlenecks aren't created. Develop a to-be process model that you can track against through the change management process.

4. **Visual & Daily Management** - Ensure that every user interacting with the new system has a specific interface that enables them to do their daily work optimally.

5. **Action Flows** - Leverage powerful back-end automation to eliminate manual work and free up users to focus on higher-value work.

It's never too early to start
preparing for your migration

Think about your upcoming migration like planning a big house move.

Before you hire movers or pack anything in boxes, you assess all of the **furniture**, **appliances, clothing**, and **decoration** in your old house.

You throw out items that are broken, old, or unused.
Why would you want to pay more to move them and clutter your beautiful new house? Multiple options for balancing the effort of Team management, including: **single sign-on via SAML and OpenId, SAML JIT and SCIM API.**

Similarly, the first step before migrating systems is to do an inventory. If you streamline and optimize your processes ahead of time, you can save valuable resources and focus on the most important processes during your migration. For large migrations, this process of "cleaning house" should begin a year or more before you kick off your migration.

"If you streamline and optimize your processes ahead of time, you can save valuable resources and focus on the most important processesduring your migration."

Process mapping
Understand the status quo

Before you start any migration, you need to understand what your process and system landscape actually look like. Whether this is to document the scope of your migration or to gather requirements for a net-new implementation, you need to understand what you're dealing with. To go back to our moving house analogy, before you buy a fancy new microwave for your new house, maybe you want to evaluate whether you actually use your old microwave.

However,

manual business process mapping exercises are time-consuming and resource-intensive — especially when you're leading a global migration with multiple functions, processes, and regions, all of which may have distinct processes and system landscapes. Think about the number of workshops it would take to fully map the processes for one team within your organization. Add to that the time out of each SME's day and the cost of external resources to run these workshops. Then multiply it by all the affected teams in your organization. You can see why, according to McKinsey, 75% of ERP transformations fail to stay on schedule or budget[2] .

Furthermore ...

... even if you do invest the time and resources into diligently mapping every process in the organization, typical methods of process mapping like workshops, surveys, time studies, and KPI reporting are far from infallible. Ultimately, your IT team and external consultants aren't experts on your business processes, and your business users and SMEs don't understand everything about your system landscape. This leaves you trying to stitch together the pieces from subjective and incomplete sources, plaguing this crucial phase of the migration with bias, feelings, and politics. Even worse, process mapping is outdated as soon as it's completed.

What if there was a better way?
A way to instantly map all processes running through your organization using objective data rather than subjective anecdotes and assumptions? A way that matches your exact process in real time. Celonis automates the process mapping phase and provides not just visibility but insights into your as-is process to drive efficiency and create value throughout your migration.

Let's see how easy it is.

"Typical methods of process mapping like workshops, surveys,
time studies, and KPI reporting are far from infallible."
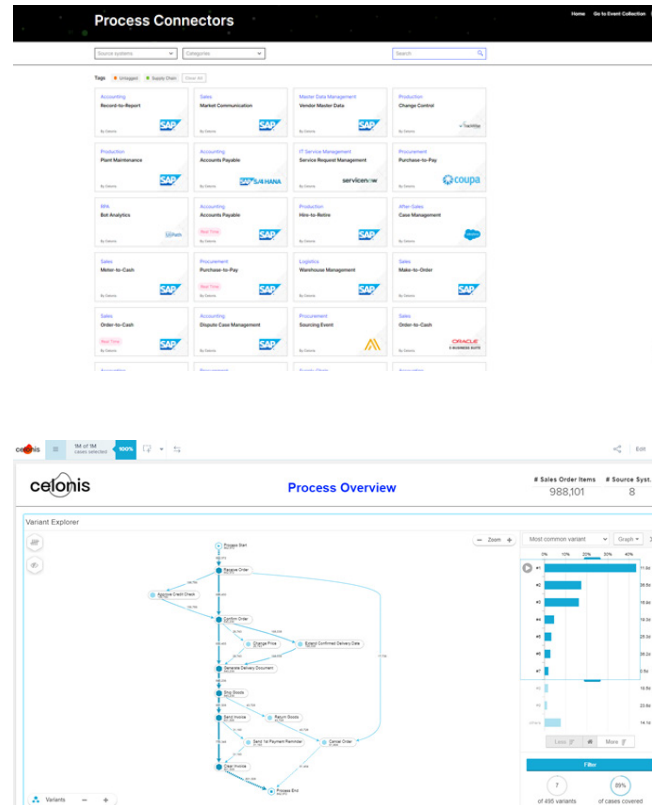
Connect to your entire system landscape
Celonis connects to your source systems either through 100+ pre-built connections to major systems like SAP, Oracle, and Salesforce or to your homegrown and legacy systems. The EMS automatically combines all this data into a unified model of your end-to-end process complete with contextual information.

See your process truly as-is
Visualize and explore every variant of your process as it is actually executed in your IT systems. This saves all of the time and energy traditionally put into documentation workshops, and is 100% objective.
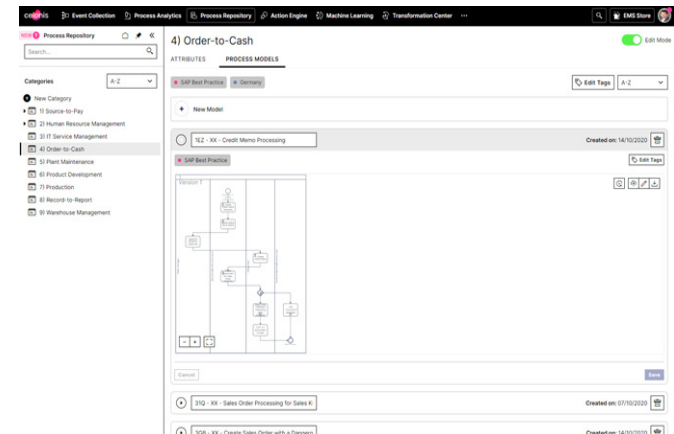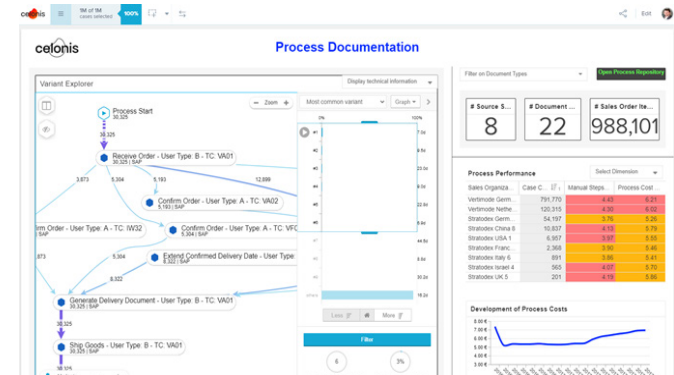
Drill down on best practices
Explore your processes and evaluate objectively which variants are driving business results, which are most frequently used, and which are efficient or low cost.

Celonis also brings in technical information about how process steps are executed within IT systems like which user types, documents, and applications are being used when.

Identify business improvement goals and barriers to goal achievement for each process that you map — this will serve as your guide for future design and keep your efforts focused on business outcomes. Use our template to map these requirements for your processes.

Organize and manage all your process models
Celonis converts mining process models into standard BPMN notation and allows you to store, edit, version, and manage these models in a native process repository. This way it's easy to keep track of all the processes you've mapped and make tweaks and adjustments as needed.

How Sysmex used Celonis to migrate to S/4HANA

Sysmex initially brought in Celonis to gain better visibility into their requirements for S/4HANA. "Customer satisfaction is the most important thing for us and that was one risk we did not know how to mitigate," said Kris Cherukuri, Director of Enterprise Systems at Sysmex America.

Celonis was the ideal complement to their migration efforts with a third-party consultant — the process explorer could shed light on any opportunities or requirements they might be missing. "Initially, we were thinking of Celonis as an insurance policy, but we've already identified process variants that didn't come up in the discovery workshops with the consulting team."

Through root cause analysis, the EMS also enables them to identify the process variations that were having the biggest impact on their outcomes, making it easy to prioritize initiatives — and quantify their effects. Armed with accurate, up-to-date knowledge of how their processes actually work, Sysmex can move forward with their next phase more confidently: "Celonis will help us focus on the test cases and scenarios that are critical for us as an organization."

See the full Story here

"Initially, we were thinking of Celonis as an insurancepolicy, but we've already identified process variants that didn't come up in the discovery workshops with the consulting team."

With all process variants documented …

… existing best practices captured and optimization opportunities cataloged, it's time to figure out what the to-be solution should look like.

Typically …

… you'd achieve this through a series of workshops, which start from a standard model or an internal best practice model — which serves as a blueprint of what your to-be solution will look like. The proposed solution is then demonstrated to key stakeholders from across the organization who validate its overall viability for their areas of responsibility and expertise. For example, if the new solution primarily impacts Procurement and Accounts Payable, you would show a demo of the solution to a selection of AP managers and category managers to get their feedback. Could this solution work for their team? Are there areas or processes that are not supported?

Next, you'd hold additional workshops to identify specific deltas — gaps in the blueprint — that impact the solution from the perspective of the included stakeholders. A delta could be as small as a custom field or activity that's missing in the new system or as large as a custom application that needs to be built to bolster out-of-box functionality.

Then, you organize your gaps into a backlog, which is prioritized based on input from stakeholders — if people in the organization believe that a gap is a requirement, it will be prioritized in the backlog. Solutions for the prioritized gaps are then designed and more workshops are scheduled to validate the solution to the gap and identify further gaps. This iterative process continues until stakeholders are satisfied with the solution.

"It's difficult to keep politics, feelings and biases out of the equation, data-driven decisions are crucial in this phase."

Ultimately, fit-gap is an iterative process in which you are trying to answer five key questions

1. **Is the standard viable for us?**

2. **What are the gaps that might make it not work for us?**

3. **Which gaps are the most important to fill?**

4. **How can we fill a particular gap?**

5. **Are the solutions to our gaps viable?**

The challenge is that this process depends entirely on who is included in these workshops — which functions are represented, how knowledgeable SMEs are about day-to-day operations, how outspoken they are about potential issues, and the social dynamics of the workshop itself. In fact, research shows that group decision-making is subject to many biases (i.e. groupthink, group polarization, etc) that could negatively impact which opinions are voiced and what decisions are ultimately made.

Input from your subject matter experts across the company is still an important source of validation during this cycle. But wouldn't it be better (and faster) to show up to a validation meeting knowing objectively that what you are presenting works for the majority of the business needs? You could then use that face time much more efficiently to confirm what the data told you and incorporate qualitative feedback into your design.This is exactly what Celonis allows teams to do.

The EMS can automatically compare as-is and to-be processes, highlighting deltas and revealing their root causes. It then provides the ability to simulate closing those deltas using machine learning, to ensure that no new bottlenecks or gaps will be created from the proposed solution. This not only helps IT leaders accelerate this process and include more objective sources of information into their designs, but also enables them to keep the business value and impact in mind throughout the process.

QUESTION	CHALLENGE	SOLUTION
Is the standard viable for us?	Viability is based on conference room demos to SMEs, who determine fit based on their experience and perception.	Celonis enables teams to measure quantitatively how well a proposed solution fits the way users actually work.
What are the gaps that might make it not work for us?	Rely on people catching small details live in a workshop.	Celonis automatically generates a ranked list of deltas based on how the business actually uses the system.
Which gaps are the most important to fill?	Based on perception and discussions of importance not data about frequency or outcomes.	Celonis reveals the relationship between deltas and KPIs that your business users care about.
How can we fill a particular gap?	No objective root cause analysis.	Celonis automatically performs root cause analysis, revealing where a gap is occurring and how it could be addressed.
Are the solutions to our gaps themselves viable?	Adds additional layers of subjective information.	New or amended designs can be analyzed to identify further gaps and iterate on solutions.

How a Global Aerospace and Defense leader infused data into Fit-Gap

During their migration to S/4HANA, the customer used the Celonis EMS to measure how well SAP best practices fit their needs and as-is process. They were able to identify specific activities that presented risks to the overall rollout and opportunities to increase process standardization. With these quantitative insights, they were able to proactively mitigate these risks prior to rollout and capture additional optimization opportunities.

Deploying Celonis opened up many opportunities for process improvement. The solution really fits with every aspect of the customer's business process portfolio – from purchasing to operations to finance and human resources. The EMS helped them identify value realization potential and accelerated their preparation phase for S/4 HANA.

"Celonis provides an effective way for manufacturing to capture several critical relationships between production order cycle times (days/months) and our production order processes."

Change Management & Hypercare:
Winning hearts and minds

There's nothing worse than getting to the end of a long implementation project only to struggle with user adoption.

If users are employing workarounds, covertly using legacy tools, or just struggling to follow processes in an unfamiliar system, there's little to no chance your investment will generate ROI. In fact, two thirds of ERP transformations don't achieve ROI[3]. However, research shows that a properly managed hypercare and go-live can accelerate value realization by 70%[4].

Many leaders think about adoption as whether or not the new system is being used. During change management and hypercare, this means tracking metrics such as how many users log in every day or what percentage of orders are entered in the new system.

The problem is that system adoption is only half of the story — traditional KPIs don't help you understand how processes are performing, not to mention the drivers behind low or high adoption. Additionally, if you are able to identify a block to adoption, it's difficult to take actions that impact user behavior besides sending angry emails and offering additional training resources.

"A properly managed hypercare and go-live can accelerate value realization by 70%."

3 McKinsey 2019, Agile in enterprise resource planning: A myth no more
4 Gartner, Strategic Roadmap for Postmodern ERP, 2019

Celonis enables leaders to understand user adoption in a new way and answer critical questions about user behavior

The EMS provides business users and management with interfaces and recommendations that fit into their daily work and automatically trigger actions across systems when necessary.

_____ Conformance: How often are users conforming to the intended process models?

_____ Workarounds: How often are users skipping critical steps in a process? For instance, creating POs without first creating a PR.

_____ Rework: How often are users performing the same steps multiple times in a process?

_____ Lag time: Are there long gaps between steps that should normally be performed in quick succession?

_____ User satisfaction: Are there activities, subprocesses, or variants that are highly correlated with low user satisfaction scores?

Celonis can easily answer these questions and track them over time

More importantly, it uncovers the root causes behind low adoption and satisfaction and executes automated actions or alerts the right people to act at the right time. This flexible capability can be used in a variety of ways to support users including

Alerts: Send alerts to IT or management when priority or systemic adoption issues occur

User reinforcement: When users make mistakes (i.e. expense report created in the legacy tool) automatically send users reminder emails about the new process

Recommended next-best actions:
Let AI guide users through new processes and ways of working with recommended actions supported by one-click automations

Automation: Automatically course correct user actions with full backend automations to any major source system

And while all of this user support is being dished out, the team running the migration can track change management progress. Celonis automatically highlights the barriers to change, and uses AI to dive deep into the root causes behind those barriers. This allows for a data-driven conversation with the teams that are being asked to make the changes.

With the right insight and the right tools to support your users, you'll be setting your organization up for value realization and ROI.

Beyond migration
Unlock your full capacity

System migrations are an opportunity to gain new operational agility and visibility into your operations. **But migrating to a new system shouldn't be the end game of your transformation efforts.**

It's rather the beginning of a new era of optimization and intelligent execution management. This is what an Execution Management System does. It acts as an intelligent layer on top of your underlying systems, leveraging data and intelligence at every process step, every time. The EMS:

- **Measures** execution capacity in real time and identifies process gaps.

- **Knows** the best course of action to close these gaps.

- **Acts** by taking automated, intelligent action to solve inefficiencies and prevent them from happening in the future.

For example, when you're maximizing the execution capacity of your Accounts Payable process, the EMS might identify early payments as one of your biggest execution gaps, impacting your working capital. Celonis might reveal that this has its root cause further upstream in Procurement, whenever vendors delivered goods early. Celonis can then automatically update the invoice when this occurs — every time it happens.

This is how you drive immediate, long-lasting impact on your Days Payable Outstanding and working capital, and ultimately execute at your full potential. To understand how Celonis helps maximize business execution across all kinds of use cases, watch our demo or read the Big Book of EMS Use Cases.

"To achieve real performance breakthroughs, we need to shift our mindset: from simply understanding what goes wrong in a process to maximizing its capacity to execute."

Business breakthroughs across industries and processes

Manufacturing
$15M saved
SIEMENS　　　　　　**Learn more**

Telecommunications
+$70M saved
Learn more

Oil & Gas
+$40M saved
Schlumberger　　　　**Learn more**

Technology
+52M Service tickets optimized
Uber　　　　　　**Learn more**

Chemicals
44% Reduction in manual credit holds
Chemours　　　　　**Learn more**

CPG
15% Increase in Perfect Orders
L'ORÉAL　　　　　**Learn more**

Pharmaceuticals
500K Reduction in working capital costs
FRESENIUS　　　　**Learn more**

Financial Services
200K Account openings optimized annually
PostFinance　　　　**Learn more**

How to get started

System migrations are nerve-wracking initiatives for any IT leader — the risks, costs, and efforts are high and the pay-off may be uncertain. But system migrations are also huge opportunities for IT to drive the business forward, to facilitate game-changing innovation, and to demonstrate their value as a strategic force in the enterprise.

The good news is that Celonis can help you along every step of the journey.

JOIN THE CELONIS COMMUNITY	JOIN THE S/4HANA LUNCH & LEARN	SPEAK TO OUR TEAM OF EXPERTS
The Celonis Community is a vibrant forum for sharing knowledge, experiences, questions and challenges with other Celonis experts and users.	Starting your S/4HANA-migration on the right foot is key to delivering real business outcomes. Learn from seasoned IT professionals and discuss how they strategize for and execute their system migrations.	If you'd like to speak to an EMS expert in person — either to learn more about Celonis, or just for an open conversation about where to go next, we're always happy to talk.
Join the discussion now	Join our next Lunch & Learn	Get in touch

celonis.com

"Celonis can support a SAP S/4HANA migration in all phases - in preparation, during the rollout and with continuous improvement in operation. The use of the technology enables bottlenecks to be identified in advance and optimal use of internal and external resources. This reduces the risk of the project. Process mining also helps us to recognize and realize business value."

- Michael Huemer, Head of the Business Analytics & Operational Excellence Competence Center, BDO