Lleverage

NOVEMBER 2026 · PLAYBOOK

AI IN THE MANUFACTURING BACK OFFICE

AI Adoption Playbook for Manufacturing

A field guide drawn from more than 60 back offices that run AI agents in production: where it pays off first, what goes wrong, and how the companies that succeed roll it out.



WHERE THIS COMES FROM

Drawn from more than 60 back offices that run AI agents in production

Manufacturers, food producers and the distributors who supply them, across Europe. Every lesson in this playbook comes from one of their projects, including the ones that took longer than planned.

BOSCH · A-WARE FOOD GROUP · Nature's Pride · Royal Kaak · TPVISION · allnex · SITECH · royalhoudijk · dekker · Topa Bathroom products · Xpol · SIG · SPLTreatments · Microtechniek De partner voor hoogwaardige industrieën · OUDE REIMER · KISCH SINDS 1895 · ynvolve · GD iTS GROUP

THREE RESULTS

92%

of orders go straight into the ERP untouched at Koninklijke Dekker

90%+

of order entry handled automatically at Topa Bathroom Products

60 → 2.5

minutes per first-time part at SPL Treatments

ABOUT LLEVERAGE

Built for the companies that make, move and sell physical products

WHY WE EXIST

Almost everything people eat, wear or use was made, moved and sold by companies most of them never think about: a timber trader, a builder of bakery lines, a wholesaler of hinges and slides.

For twenty years the best software and the sharpest engineers went elsewhere, to apps, advertising and finance. The companies that make and move things were left to run their back offices on retyped orders, spreadsheets and the memory of a few long-serving people.

Lleverage exists because we think that is backwards. We build the autonomous back office for these companies: AI agents that do the routine work inside the ERP, while people keep the decisions.

OUR PURPOSE

To make sure the companies the world depends on stay competitive for the century ahead.

WHAT WE BELIEVE

Growing means hiring.	→	Growing means switching on the next process.
Exceptions are handled by hand.	→	Exceptions teach the system.
Knowledge lives in a few heads.	→	Every judgement call becomes logic the company owns.
AI is a separate project.	→	AI runs inside the ERP the company already has.

IN SHORT

More than 60 companies run our agents in production today, with seven implementation partners across Europe. The platform is EU hosted and certified for ISO 27001 and SOC 2 Type II.

Dear reader,

The factory floors we visit become more automated every year. There are robots on the line, a planning board on a screen and often a new ERP.

Then you walk into the back office, and someone is retyping a PDF.

Orders are keyed in by hand. Quotes wait for the one engineer who knows the pricing. Invoices arrive before the goods. None of this shows up in the ERP, only in the hours people spend on it.

The question we hear most is where to start, and what will go wrong along the way.

This playbook answers both, with what we have seen in more than 60 projects. It is written for owners and operations leads, and it takes about 20 minutes to read.

Lennard Kooy

CO-FOUNDER AND CEO, LLEVERAGE



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Nobody should let AI run their back office on day one.

Autonomy is earned, one step at a time.

THE BACK OFFICE IN 2026

Four shifts are changing the manufacturing back office

They come from different directions, but they point to the same place to start.

56%

DUTCH METAL FIRMS WITH AN OPEN VACANCY

You will not hire your way out

The next person on the order desk or in accounts payable is hard to find, and the one after that is harder. In the Netherlands, more than half of metal companies have an open vacancy, and labour shortage is the obstacle they name most. The United Kingdom reports around 48,000 open manufacturing vacancies.

That changes the question. The next 150 orders a week are a process to automate, not a vacancy to fill.

Koninklijke Metaalunie, Q2 2026 · ONS, July to September 2026, provisional

66%

DUTCH FIRMS WITH 250+ STAFF USING AI

At this size, AI is already normal

Most companies with more than 250 people already use AI somewhere, and among manufacturers adoption more than doubled in two years. The question is no longer whether AI belongs in the back office. It is where it pays off first.

CBS Netherlands, 2025, all sectors, provisional

80%

WANT TO CHECK AI OUTPUT FIRST

People want to check before they trust

The people who will work next to an agent want to see what it does before they rely on it. A third of operational staff in manufacturing see AI as a threat to their craft. Projects that let these people check the agent's work from day one keep them on board.

ECI, survey of manufacturing and construction firms, 2026

2030

E-INVOICING BECOMES THE EU NORM

The invoice itself is changing

Belgium has required structured e-invoices between companies since January 2026, and from July 2030 EU rules make them the norm for trade between member states. Fewer invoices will need reading. The matching, the coding and the exceptions will remain, and that is where the hours will be.

Belgian B2B e-invoicing mandate · EU ViDA package, adopted March 2025

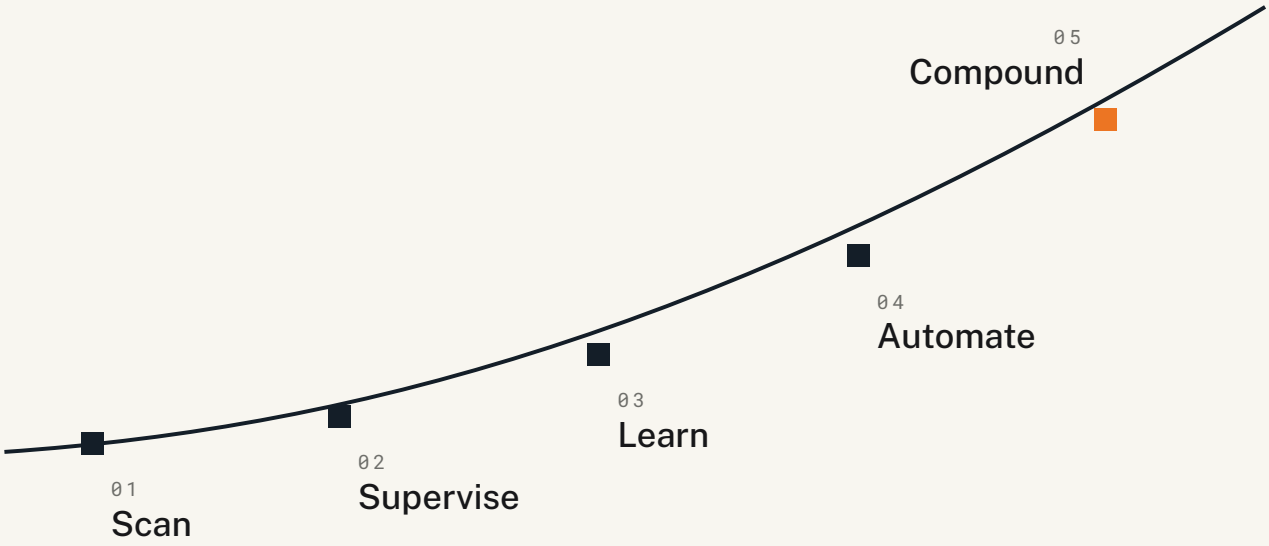
> Together they say one thing: start where people lose hours retyping, and build in the check they ask for.

BOOK A DEMO ↗

THE PATH

Five steps to an autonomous back office

Order intake, supplier invoices, quotes and customer questions all follow the same path. Trust is built first, and autonomy follows from it.

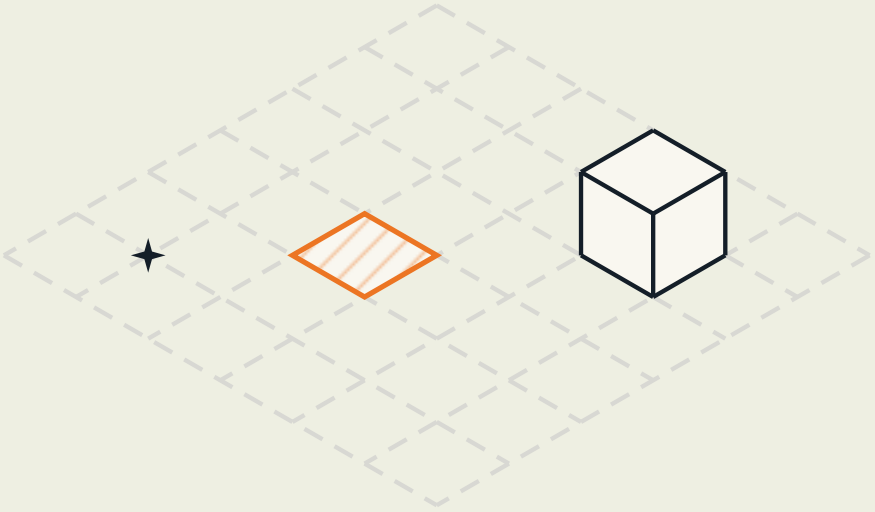


01 Scan	Find out where the hours go.	**You decide** which process comes first, who owns it and how the ERP can be reached.
02 Supervise	The agent does the work, and a person checks every case.	**You decide** what the review screen shows.
03 Learn	Every correction becomes a rule the company owns.	**You decide** which corrections become rules.
04 Automate	Steps that have proven themselves run on their own, and only exceptions reach a person.	**You decide** which steps have earned it.
05 Compound	The next process starts from what the first one learned.	**You decide** what the second process is.

STEP 01

Scan

Before anything is built, the work is mapped: which processes take the hours, who owns them, and how the ERP can be reached.



10 The scan on one page
11 Pick the process
12 Three questions before the first meeting
13 Customer story: Microtechniek

BOOK A DEMO

SCAN · ON ONE PAGE

Map where the hours go, then start with the longest bar

HOURS A WEEK, PER PROCESS

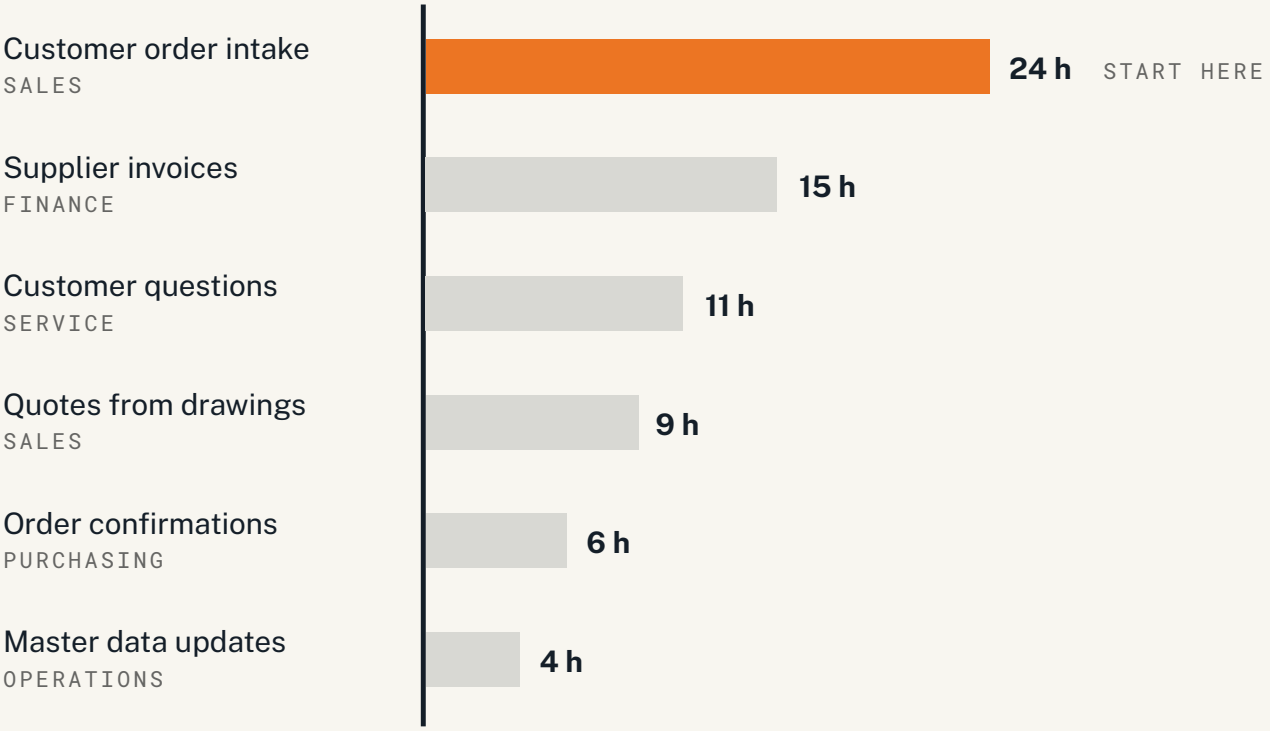


Illustration of a 300-person manufacturer. Your own scan gives your own bars.

HOW A SCAN WORKS

A scan takes two to three weeks. It starts with the inboxes, the ERP and the people who do the work. For every process it records how many documents arrive, how long each one takes, who owns the result, and how often the rules change.

The output is a short list of processes, ranked by the hours they take and by how alike their cases are. The process at the top is usually the one with the most volume and the clearest owner, and in manufacturing that is most often customer order intake or supplier invoices.

SCAN · PICK THE PROCESS

Start with one process, and keep the whole back office in view

Each process is one part of the autonomous back office. The right first one has volume, an owner who feels the pain, and a majority of cases that look alike.

CUSTOMER ORDER INTAKE

Orders arrive by email and PDF, in the customer's own article names. The largest accounts may already use EDI, so the work sits in the long tail: the PDF, the Excel sheet and the email that says "same as last time". It is the highest volume, and the owner feels it every day.

SUPPLIER INVOICES

Invoices arrive before the goods, one invoice cites three purchase orders, and approval limits are set on the total instead of the variance. E-invoicing will remove the reading, but the matching stays.

CUSTOMER QUESTIONS

In many service teams, most questions are variations of the same few. The answers sit in manuals, order history and the heads of two senior people.

QUOTES AND SPECIFICATIONS

A quote from a drawing can take thirty minutes or more, and only two or three senior people know the pricing logic. The hours are large and the people are scarce, which is why this process usually comes later, as an agent next to the engineer.

> "First just the easy 80%." That is how the accounts payable lead at one machine builder scoped their invoices. The exceptions stay with people, on purpose.

BOOK A DEMO ↗

SCAN · THREE QUESTIONS

Ask these three questions before the first meeting

In the projects behind this playbook, these three answers decided the start date more than anything else.

1 Can the ERP be reached?

Is there an API, and who controls it: your own IT, the reseller or the ERP vendor? One of our projects waited months for endpoints from a customer's IT partner.

Our ERP can be reached by _____

2 Does it run on your own servers?

An ERP on your own servers needs a service account, network access and often an extra module before anything can be written. Find this out in the first week.

Our constraint is _____

3 What does it cost to let a system post?

Some ERPs charge for documents created by an external system, or license a non-human user separately. Ask before you write the business case, not after.

Posting costs us _____

ALSO IN THE ROOM

One person who feels the pain every day, and one who can answer the API question. Projects led by IT alone tend to stall. If your company has a works council, inform it during the scan: a system that changes how work is done may need its advice.

CUSTOMER STORY · ORDER INTAKE

Microtechniek

A precision engineering company of 130 people in the Netherlands that turns, mills and welds parts for aerospace, nuclear, optical and semiconductor customers. One admin, one shared inbox, and an ERP on its own servers that nobody could reach from outside.

1 hour

A DAY OF ORDER ENTRY BEFORE

The situation

Twenty to thirty emails arrived in a shared inbox every working day: purchase orders, timesheets, quote requests and service notifications, all mixed together. One admin keyed each order into the ERP by hand, more than twenty fields and about ten minutes per order.

On-premise

RIDDER IQ, NO API MODULE

The hard part was reaching the ERP

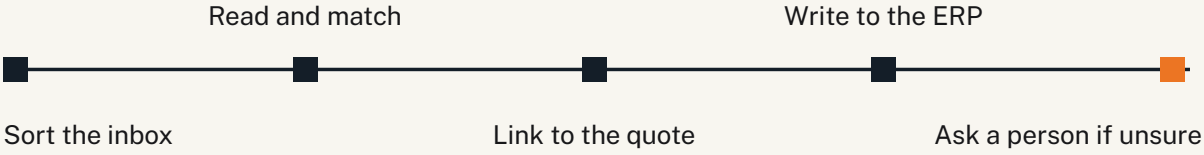
The on-premise ERP lacked the API module that the cloud version has, so anything that read from or wrote to it stayed manual. This is exactly where automation projects at similar companies had stopped before. A specialist from the ERP vendor installed the module on site, and the ERP became reachable from there.

45 to 71

ORDERS A WEEK, NO MANUAL ENTRY

Where it stands

Every email is now sorted, real orders are read and matched to the customer, linked to the quote where one exists, and written into the ERP. Anything below the confidence threshold goes to the admin, who now reviews only the flagged orders. Order entry also runs in the evening and at weekends, which is worth more than 500 hours a year at the desk.



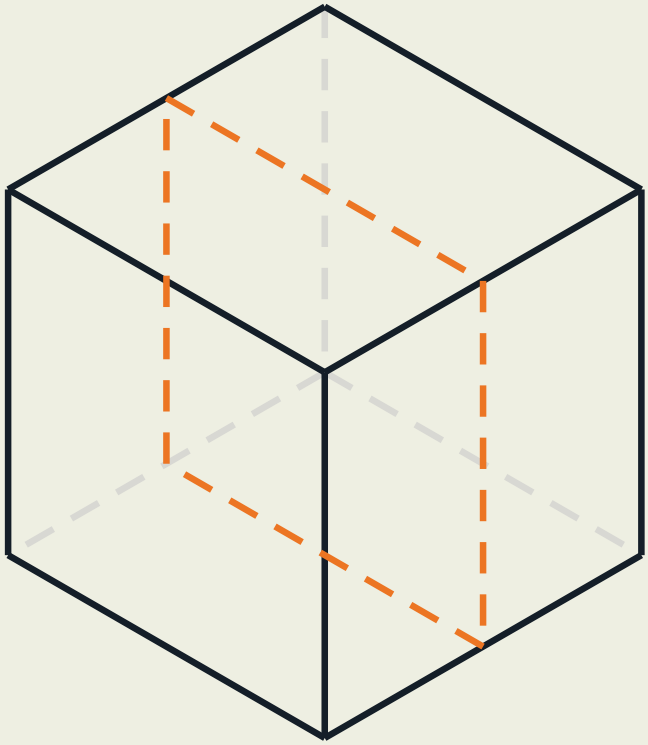
> What it teaches: make the ERP reachable first, and ask the three questions before anything else.

BOOK A DEMO

STEP 02

Supervise

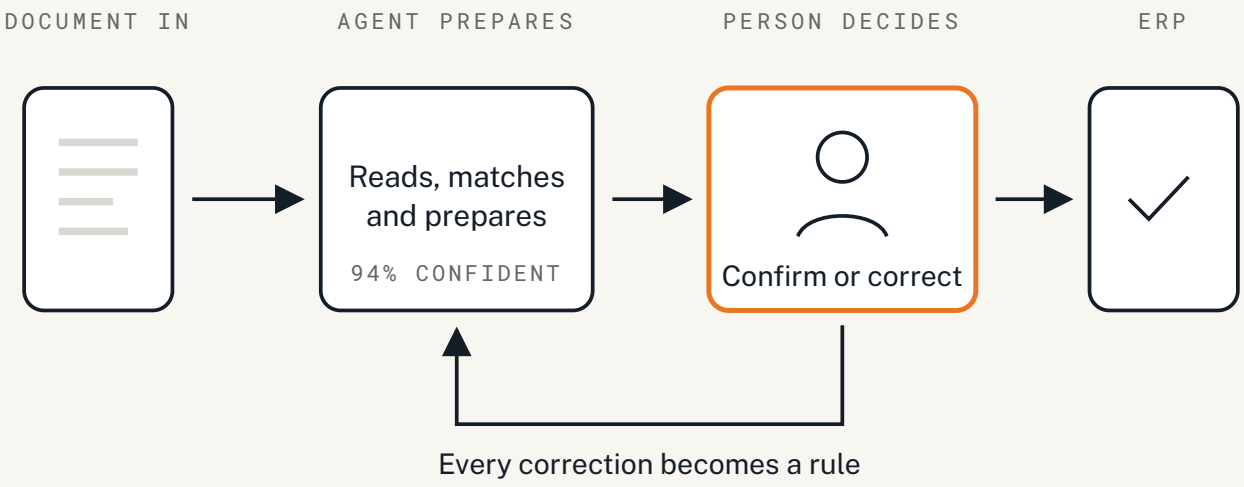
The agent does the work and shows how it got there. Nothing reaches the ERP until a person has seen it.



15 Supervision on one page
16 The review screen
17 Writing the rules down

SUPERVISE · ON ONE PAGE

The agent prepares, a person decides, and every correction is kept



WHAT HAPPENS

A document arrives by email, as a PDF, an Excel sheet or plain text. The agent reads it, matches it against the customers, articles and prices in the ERP, and prepares the result with a confidence score for every field.

A person sees the prepared result next to the original document and confirms, corrects or rejects it. Only then does anything reach the ERP.

WHY IT MATTERS

During supervision the company finds out what its own rules are, and every correction becomes one of them. The hours come back later, in the next steps.

BOOK A DEMO ↗

SUPERVISE · THE REVIEW SCREEN

A person watches, and the agent shows its work

REVIEW · ORDER FROM BRAKVELD TECHNIEK · 14 LINES · PDF — WAITING

Line	Read from the PDF	ERP match	Status
1	Profile 40x40 anod., 12 boxes	Article 40401-A, sold per piece	CHECK UNIT
2	"Same as last time", 30 pcs	Article 61120, from order of 9 Oct	CHECK
3	Bracket type K, 200 pcs at 2.10	Article 71003, contract price 2.35	PRICE DIFFERS
4	Delivery: Sunday 16 Nov	No delivery on Sundays	CHECK

CONFIRM CORRECT REJECT

Illustration. Articles and prices are examples.

WHAT THE SCREEN SHOWS

The lines read from the document, the source and the ERP match sit side by side. The four lines above are the ones that matter in practice: a unit the ERP does not sell, a repeat order without an article number, a price that is not the contract price, and a delivery date that cannot be met.

CONFIDENCE DECIDES WHO LOOKS

Every field the agent reads carries a confidence score. Above the threshold, the field is prepared for confirmation. Below it, the field is left blank or flagged rather than guessed. A blank field usually points at a customer code, a price list or a contract that needs cleaning up.

SUPERVISE · WRITING THE RULES DOWN

Supervision is when the rules get written down

Supervision catches mistakes, and it also writes down the rules that today live in one or two people's heads.

ACCOUNT RULES	Which of a customer's three accounts an order goes to, and when the honest answer is to ask.
PRICE RULES	The framework contract comes first, then the price list, then the order history. Someone decides who may accept a different price.
UNITS	The customer orders boxes, while the ERP sells pieces, metres or kilos. After customer article names, this is the most common reason a line does not match.
DELIVERY AND EXCEPTIONS	Sundays, partial deliveries and unknown articles. Someone decides who handles them, within what limit and by when.

25

CUSTOMER RULE SETS

Xpol

Why it matters

A flower wholesaler wrote down 25 customer-specific rule sets in working sessions with its specialists, before one of them retired. The desk no longer depends on one person, and the knowledge stays with the company.

"It's a matter of building trust in the organisation with these kinds of initiatives. You can't just throw something like this over the fence."

CEES MAASKANT, GENERAL MANAGER, XPOL

QUESTIONS TO ASK YOURSELF

The rules that live in one person's head are _____

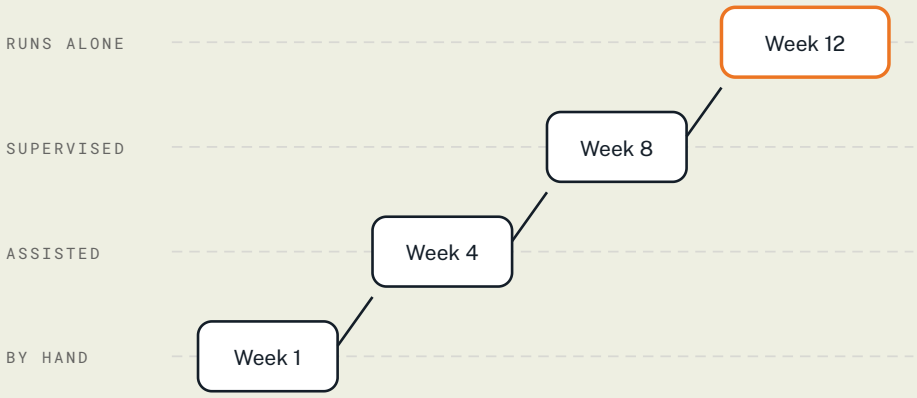
If that person is away for a month, _____

BOOK A DEMO ↗

STEPS 03 AND 04

Learn, then automate

Corrections become rules, and rules that hold let a step run on its own. Each step earns its level on evidence.

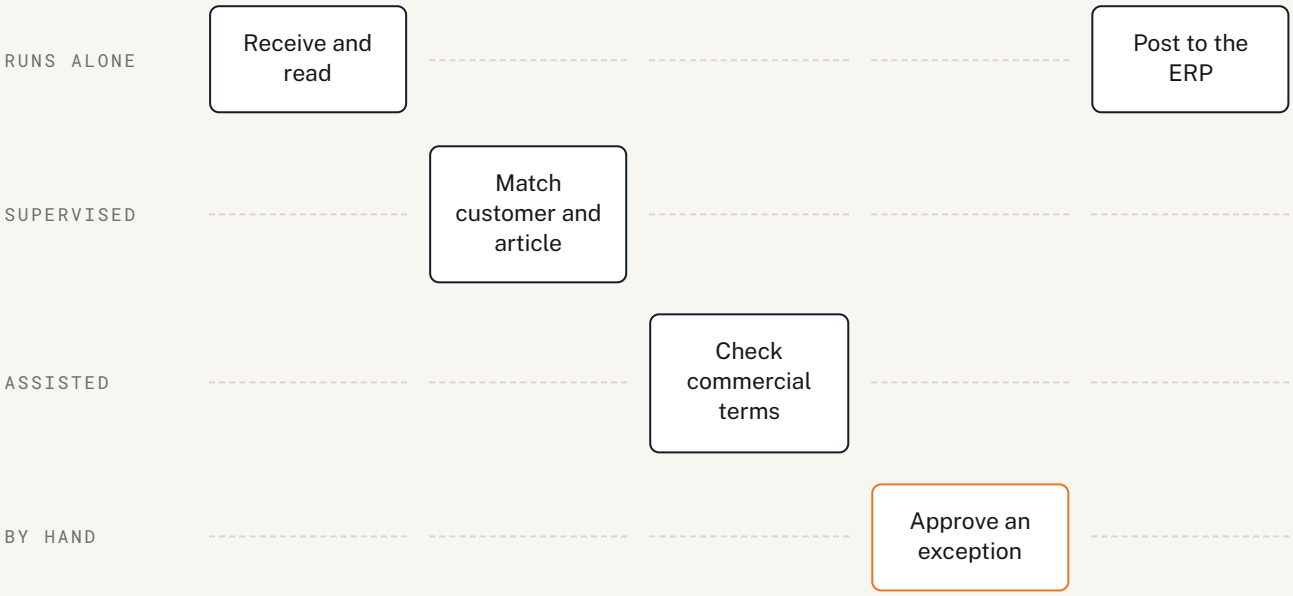


19 A process is not one switch
20 After go-live
21 Customer story: SPL Treatments

LEARN AND AUTOMATE · STEP BY STEP

A process is not one switch

Order intake is five steps, and in a typical setup they sit at four different levels. The reading runs on its own, while the judgement stays with people.



How a step moves up

A person moves it, on evidence: the success rate, the corrections and what a mistake would cost. One setting moves it back.

What never moves up

Changed bank details, master data changes and orders above a limit stay with a person for good.

Who approves

Matching and approving should never be the same hand. Name the owner of the exception queue before go-live.

BOOK A DEMO ↗

LEARN AND AUTOMATE · AFTER GO-LIVE

A process that runs on its own still needs an owner

Formats change and people change. An agent has to be watched like any colleague who is new to the job.

FORMATS CHANGE	A supplier sends a new invoice layout, or a customer a new order template. Watch accuracy and corrections per step. When they drop, move the step back to supervised until the new format is learned, then let it earn its level again.
WHEN THE MODEL IS UNAVAILABLE	Ask any vendor what happens to open cases when the AI model cannot be reached. They should wait for a person and never be posted unchecked.
MEASURE WHAT CAME BACK	Measure hours per step, before and after, in the first 90 days and every quarter after that. Hours only become money when people move to other work or a vacancy stays unfilled, so decide where the time goes before it comes back.

"These are things you cannot really let run fully automatically."

OPERATIONS CONTACT AT A MANUFACTURING CUSTOMER, ON SUPPLIER PRICE CHECKS

So the price check stays supervised, while the article matching next to it runs on its own.

CUSTOMER STORY · QUOTES AND SPECIFICATIONS

SPLTreatments

SPL Treatments

An aerospace surface engineering company in the United Kingdom, working since 1926 for customers such as Rolls-Royce and Airbus. Every new part needed a decision that only one person could make.

800+

INTERNAL STANDARDS

The situation

Each new part arrives with a purchase order that refers to aerospace specifications, some of them sixty pages long and pointing to further specifications. Every reference has to be checked against a library of more than 800 internal standards before the route sheet can be written.

A first-time part took about an hour. On a normal day five or six arrive, on a busy one eleven, and one person, the operations and technical lead, made every decision.

2.5 min

PER FIRST-TIME PART, FROM 60

How it works now

The agent reads the order, follows each specification it refers to, checks it against the indexed standards and drafts the route sheet, with every recommendation cited to the section it came from. Where a reference is missing or two sections conflict, it flags the gap instead of guessing. The technical lead reviews the citations and makes the final call.

"90% of things are correct within a result. It feels a bit negative to give it a thumbs down."

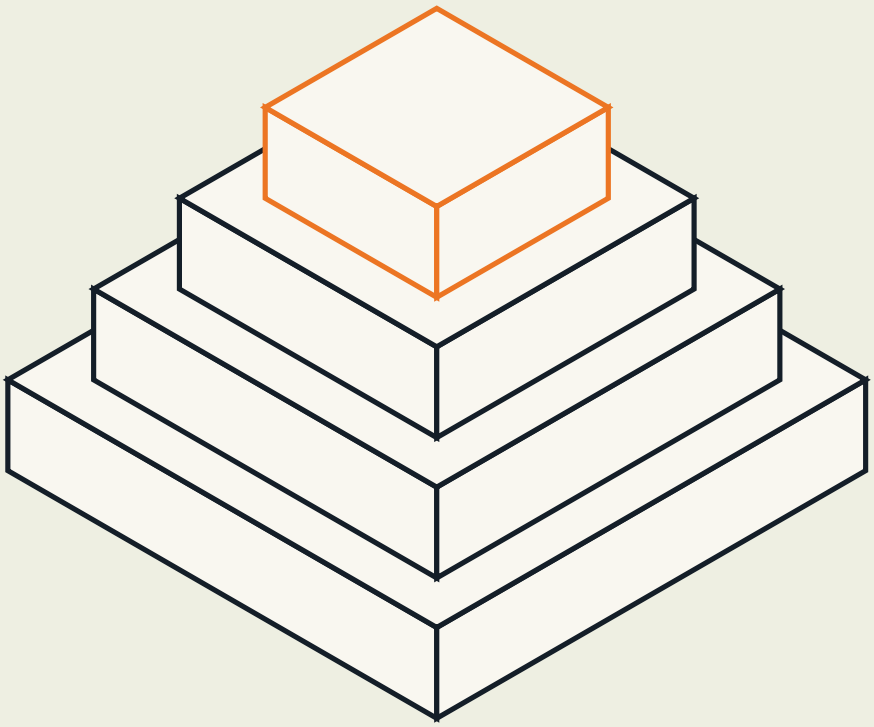
GRANT RILEY, OPERATIONS AND TECHNICAL LEAD, SPL TREATMENTS

BOOK A DEMO ↗

STEP 05

Compound

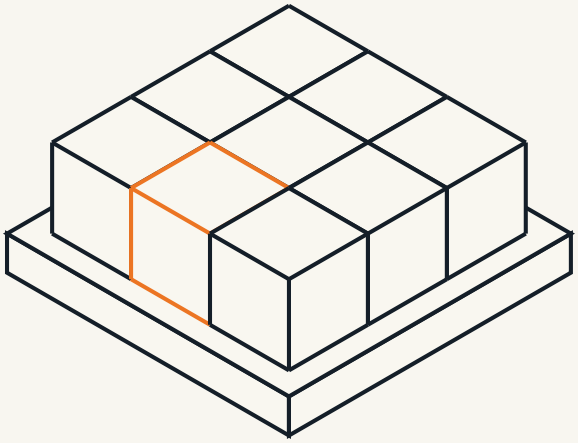
The first process teaches the company its own customers, articles, suppliers and exceptions. Every next process starts from there.



23 The second process
24 Which process first

COMPOUND · THE SECOND PROCESS

The second process takes far less effort than the first



Each process is one unit on the same base: the ERP connection, the master data and the written rules.

WHY THE SECOND IS EASIER	When the second process starts, the ERP connection, the master data clean-up and the written rules are already in place. The company brain already knows the customers, the articles, the suppliers and the exceptions, so the second agent goes live faster than the first.
PLAN IT ON DAY ONE	That is why it pays to know the second process before the first one starts. Supplier invoices are often followed by the confirmations that explain their variances. Order intake is often followed by quotes for the same customers.
BUILD TRUST AS YOU GO	Each process that runs well makes the next one easier to start, inside the organisation as much as in the system.

BOOK A DEMO ↗

COMPOUND · WHICH PROCESS FIRST

Place your own processes on two axes

One axis is how many documents arrive each month, the other is how clear the rules are. Start where the volume is high.

	RULES UNCLEAR	RULES CLEAR
HIGH VOLUME	START **Customer order intake** This is where the hours are. It stays supervised for longer.	START **Supplier invoices with a goods receipt** If finance has an owner, this reaches autonomy fastest.
LOW VOLUME	LATER **Quotes, make or buy** A supervised agent works next to the person who knows.	NEXT **Confirmations against the purchase order** The rules are clear, and it reuses the supplier master.

WHEN NOT TO START YET

Fewer than about 500 documents a month. Below that, the first agent rarely pays back the ERP connection, unless the process is planning or quoting.

Nobody owns the process. A project without an owner stalls in supervision.

An ERP migration in the coming months. Plan the agent on the new ERP rather than the old one. A new ERP is a good moment to stop retyping.

Master data in the middle of a big clean-up. Finish it first, or let the agent's exception list drive it.

CRITICAL SUCCESS FACTORS AND COMMON PITFALLS

What the projects that succeed do differently

WHAT THEY DO

One process, the easy 80%

They start with one process and automate the majority that looks the same every time, while people keep the exceptions.

Names in week one

They put a name on ERP access, on the exception queue and on the conversation with the works council before the build starts.

The team owns the rules

The people who did the work become the owners of the rules. Correction logs improve the agent and are never used to judge individual people.

Hours before and after

They measure manual hours before the agent and after it, per step, and decide in advance where the time goes.

WHAT STALLS THE REST

Assuming the ERP is reachable

Write access, posting rights, licences and a test environment that matches production have each delayed a project.

Skipping the master data

Several accounts per customer, units that do not match and articles without a bill of materials. The agent finds them faster than people did, so plan the clean-up.

Switching steps on silently

A step should run on its own only because someone decided it should.

Expecting hours back during supervision

In the first phase every case is still reviewed. The hours come back when steps run on their own.

"Those first emails were the moment. You saw it recognise the customer, pick out the delivery date, the contact person and even a number of articles."

PATRICK WIJERS, SALES DESK MANAGER, SIG BENELUX

BOOK A DEMO ↗

THE FIRST 90 DAYS

A first process can be live in 90 days

That holds once the ERP can be reached. Here is what happens in each month, and what it takes from your team.

DAYS 1 TO 30

Scan

One process is chosen, the three questions are answered and the review screen is agreed.

From your team: a process owner for two hours a week, a technical lead and a test environment.

DAYS 31 TO 60

Supervise

The agent runs while a person watches, and every correction becomes a rule.

From your team: the process owner, for about 30 minutes a day.

DAYS 61 TO 90

Learn and automate

Manual hours are measured before and after, and the first steps earn autonomy.

From your team: a decision per step on which ones move up.

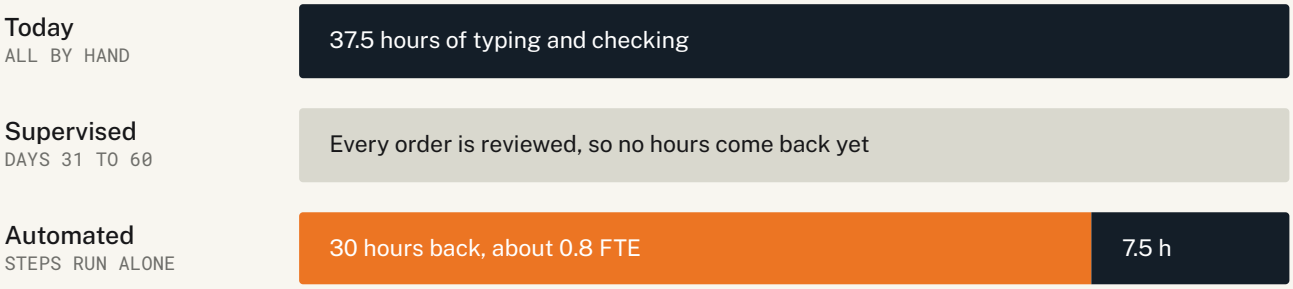
Before you start

Every "no" is a risk to plan for.

- ☐ Is there one process with 500+ documents a month?
- ☐ Does one person own it and feel the pain?
- ☐ Is there a technical lead for the API question?
- ☐ Do you know who controls the ERP API?
- ☐ Is any on-premise constraint written down?
- ☐ Can you name the simple majority of cases?
- ☐ Can you name the exceptions?
- ☐ Is there a test environment that matches production?
- ☐ Is there room for a review screen first?
- ☐ Do you know what the second process is?

WHAT IT RETURNS

The routine hours come back, and the hours that stay go to the exceptions



Example desk: 150 orders a week × 15 minutes × 80% untouched. Redo the sum with your own numbers.

WHAT IT MEANS

The 7.5 hours that stay are the exceptions: the odd price, the unknown article, the customer on the phone. That is the work your most experienced people should be doing.

TYPICAL RESULTS

Across our customers, not one company's numbers: order processing from about 15 minutes to about 2 per order, invoice processing from about 12 minutes to about 90 seconds, and quotes for known articles from about 30 minutes to about 5.

PUBLISHED RESULTS

Koninklijke Dekker sends 92% of its orders straight through, untouched, across more than 40,000 articles. Topa Bathroom Products handles more than 90% of order entry automatically. Microtechniek writes 45 to 71 orders a week without manual entry.

COMPARING VENDORS?

Ask whether "touchless" means no human touch at all or only no correction, and whether accuracy is counted per field or per document. Numbers only compare when the definitions are the same.

BOOK A DEMO ↗

Lleverage

NEXT STEP

See it work on five of your own documents

Bring five orders, invoices or quote requests, including one you consider difficult. In 30 minutes you see what an agent reads, what it would post and what it would hand to a person.

BOOK A DEMO ↗

OR SCAN
LLEVERAGE.AI/
BOOK-A-DEMO

BOSCH · A-WARE FOOD GROUP · TPVISION · Royal Kaak · dekker · opa

Lleverage builds the autonomous back office for companies that make, move and sell physical products. EU hosted, ISO 27001 and SOC 2 Type II certified.