



# Return on AI

Why AI only pays off in the value stream

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*"Value is created in the value stream, not in the silo."*

Peter Kramer, Associate Partner CTG Consulting

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# Executive Summary

AI has arrived across the board, but hardly in the results.

A good half of companies in Germany now use AI. In 2024, the figure was only 20 percent. Yet globally, only around 6 percent of McKinsey's respondents attribute at least 5 percent of their EBIT to AI. And this share is stagnating.

The cause is rarely the technology; it is the organization. AI speeds up the individual task, but time is lost at the handovers: in the inbox, in follow-up questions, in approval loops. In typical office processes, often less than 10 percent of the lead time is actual processing. This means: those who only speed up the task gain hours. Those who redesign the process gain days. That is why return on AI is created in the value stream – in the end-to-end chain from customer inquiry to cash receipt.

The path there consists of four steps:

- 1. Select:** one value stream with a profit lever, data and an owner instead of ten use cases.
- 2. Measure:** a baseline before building, separated into working time and waiting time.
- 3. Redesign:** first simplify, then automate, then orchestrate. For each process step, the solution with the best business case – and that is not always AI.
- 4. Capture:** calculate the business case in hit rate, margin and cash, and book the benefit bindingly instead of counting hours saved.

Which step comes next depends on the maturity level your company has already reached. We describe four levels: fragmented, selectively optimized, process-oriented and value-stream-oriented. The first two mainly generate costs; only levels 3 and 4 unlock the economic lever. Whether the leap succeeds is decided by people, roles and rules.

### **What this white paper delivers:**

- Why productivity at the workplace is not yet value contribution, and why mid-sized companies can have an advantage here
- What we mean by value stream and where it loses time
- A four-level maturity model with KPIs and failure patterns
- The path to return in four steps, calculated using an example from mechanical engineering
- Which competencies, roles and rules carry the leap, and how funding helps finance it
- Our approach from the Value Stream Scan to scaled return
- A self-assessment that lets you determine your level in ten minutes

# Chapter 1: Productivity is not value contribution

“AI use grows every year. But the share of those who make money with it does not grow with it.”

Peter Kramer, Associate Partner CTG Consulting

Usage is growing fast, the impact on results is not. Between the relief at the workplace and the company's results lies a gap that cannot be closed by using AI more.

## Broad use, narrow impact

Two years ago, one in five companies in Germany used AI; today it is 57 percent. A further 38 percent are planning or discussing its use, and 45 percent of all companies are spending more on AI in 2026 than in the previous year (Bitkom, September 2026).

Users initially report positive effects: two thirds see their competitive position improved, 48 percent have significantly accelerated internal processes. Asked how much of the potential they have tapped, the same companies answer differently. None uses the possibilities fully; nine out of ten see themselves at the beginning.

# The gap between workplace and results

Globally, the same pattern is even more pronounced. For its State of AI 2026, McKinsey surveyed 1,719 people in 97 countries:

- 80 percent report that AI has improved their personal productivity.
- 37 percent attribute at least part of their EBIT to AI, about as many as in the previous year.
- Around 6 percent attribute at least 5 percent of their EBIT to AI and also report significant value contribution. McKinsey calls them AI high performers. Their share has not moved since 2025.

Over the same period, the share of respondents whose companies are scaling AI rose from 38 to 44 percent. More usage, the same number of high performers: the bottleneck is not the tool. Note that the EBIT attribution is self-reported by respondents.

## What the 6 percent do differently

Almost three quarters of high performers have fundamentally redesigned their workflows with AI. Among the other respondents, it is only one quarter. This shows: those who make money with AI have rebuilt the processes in which it works. Those who leave the processes unchanged speed up individual steps and bear the corresponding costs without this becoming visible in the results.

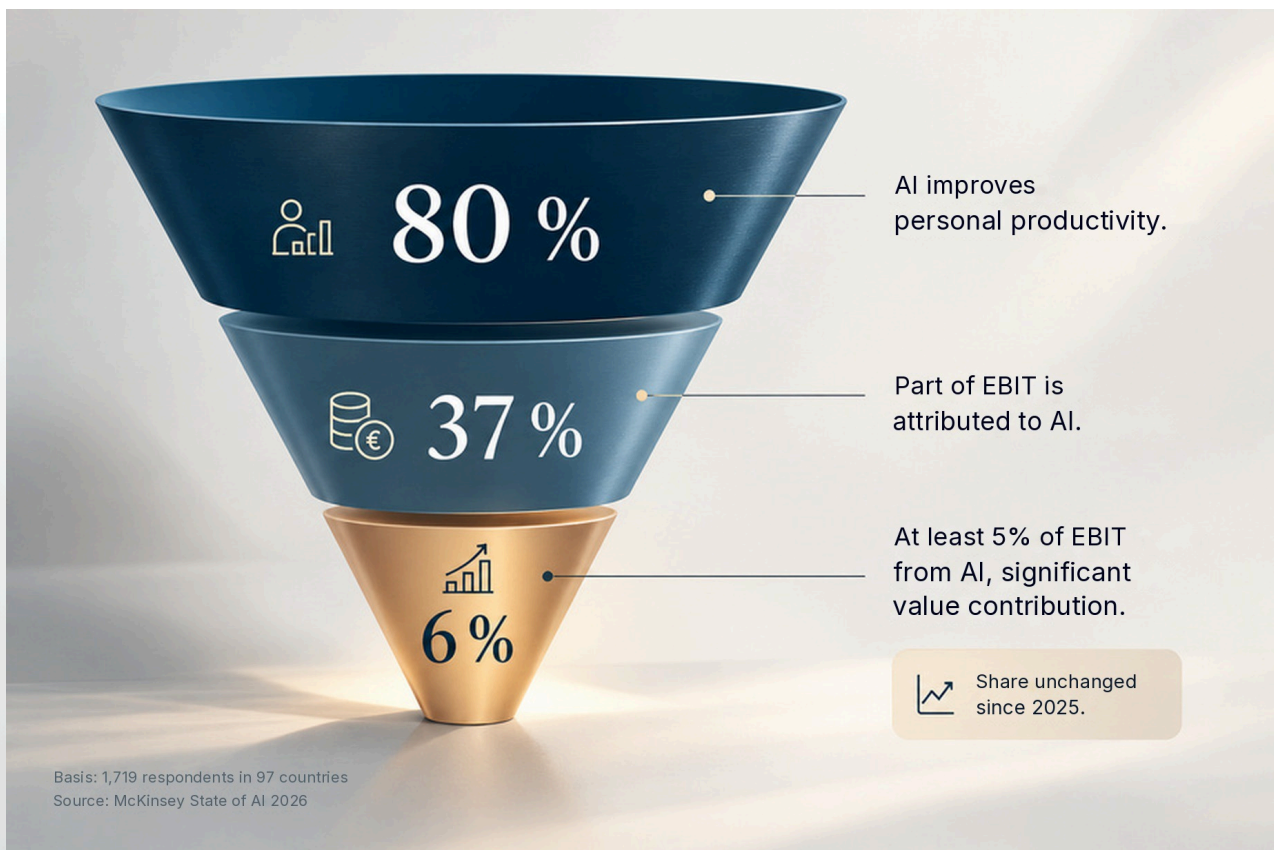
Studies on productivity per task confirm the picture from the other side. For suitable tasks, productivity gains of 14 to 25 percent are well documented: 14 percent more cases resolved per hour in customer service (Brynjolfsson, Li, Raymond, 2025) and 25 percent faster completion in consulting work (Dell'Acqua et al., 2023). But these gains remain local as long as the process remains unchanged (Chapter 2).

## What this means for mid-sized companies

The McKinsey figures are shaped by large organizations: 36 percent of respondents work at companies with more than one billion dollars in revenue. Large organizations scale AI more often (54 percent compared with one third of smaller ones). But that is only half the truth, because mid-sized companies have three advantages:

- **The value lies in the core business.** 70 percent of AI potential lies in core functions such as sales and marketing, production, supply chain and pricing (BCG, 2025). This is exactly where mid-sized companies are strong.
- **The return lies behind the scenes.** Around half of GenAI budgets go into sales and marketing, but automation in the back office often delivers the better return. Incidentally, projects with external partners reach production about twice as often as in-house builds, around 67 versus 33 percent (MIT Project NANDA, 2025; self-reported by 52 organizations).
- **Short paths are faster.** The most successful mid-sized companies need around 90 days on average from pilot to full implementation, large enterprises nine months or longer (MIT Project NANDA, 2025).

Companies that own a value stream end-to-end and have short decision paths can be faster than any large corporation. At the same time, the pressure is rising: higher capital costs and margin pressure leave little room for AI budgets that do not show up in the results. One in five respondents reports that their company is already limiting AI use because of operating costs.



# Chapter 2: What we mean by value stream

A value stream does not end at the department boundary, but with the cash receipt. By this we mean the end-to-end chain of work steps that turns a customer inquiry into money paid. This chain runs across departments. Yet almost everywhere, it is organized and measured by department.

| Step             | Department             | What the department measures |
|------------------|------------------------|------------------------------|
| 1 · Inquiry      | Sales                  | Response time                |
| 2 · Quote        | Sales and engineering  | Quotes per week              |
| 3 · Order        | Sales back office      | Entry errors                 |
| 4 · Planning     | Production planning    | Capacity utilization         |
| 5 · Delivery     | Logistics              | On-time delivery             |
| 6 · Invoice      | Accounting             | Invoices per day             |
| 7 · Cash receipt | Receivables management | Dunning rate                 |

Even if every department meets its KPI perfectly, this is no guarantee that payment arrives on time. The real impact is decided at the handovers: follow-up questions between sales and engineering, media breaks in order entry, queues before invoicing. As long as departments are viewed in isolation, the overall process cannot be optimized.

The value stream as a whole is measured by four metrics:

- Lead time from inquiry to cash receipt
- DSO (days sales outstanding), the days from invoice to payment
- On-time delivery, promised versus delivered
- Margin per order, after all clarifications

Other typical value streams in mid-sized companies include inquiry-to-quote, procure-to-pay, service and spare parts, and complaints.

## **Where a value stream loses time**

When we map a process end-to-end with companies, the picture is almost always the same. The individual work steps are properly organized. Time is lost in between: a case sits in the inbox, data is transferred into a second system, an approval waits for someone who is in a meeting.

According to lean experience, flow efficiency in office processes is typically in the single-digit to low

double-digit percentage range. In other words: more than 90 percent of lead time is idle time.

## Why faster tasks alone are not enough

Imagine a relay race. Making one runner 20 percent faster achieves little if there is a wait of several days at every baton handover. The math:

| Scenario                                                           | Lead time compared with today |
|--------------------------------------------------------------------|-------------------------------|
| Today: one quarter processing, three quarters waiting and handover | 100%                          |
| AI speeds up each task by 20%, the process stays the same          | 95%                           |
| Process redesigned: handovers and waiting time largely removed     | around 35%                    |

*Illustrative, five tasks and four handovers. Source: CTG × heuristiq experience.*

The bigger lever is not the faster task, but the redesigned process. AI speeds up the work; only the redesign removes the waiting time. The 14 to 25 percent per task is proven, but remains local. A factor of three or more in lead time only arises in the value stream.

# Chapter 3: The four maturity levels of AI use

The return begins with the leap from level 2 to level 3 – where AI no longer speeds up a single department but changes an entire process. Our maturity model classifies AI use by how far it reaches into the value stream. Each level has its time. It gets expensive when a company gets stuck at a level whose costs it already bears without reaching the benefits of the next.

| Level                     | Reach                                          | Typical KPI                                                  | Typical failure pattern                       | Step to the next level                                   |
|---------------------------|------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|
| 1 · Fragmented            | Individual workstations, pilots                | Licenses, usage rate                                         | The pilot ends after the demo                 | Prioritize use cases by business value                   |
| 2 · Selectively optimized | Individual departments                         | Time saved per case                                          | The waiting time moves to the next department | Select one value stream and redesign it end-to-end       |
| 3 · Process-oriented      | One end-to-end process                         | Lead time, cost per case                                     | New process, old responsibilities             | Connect adjacent processes, shared data foundation       |
| 4 · Value-stream-oriented | Connected processes from order to cash receipt | Margin per order, order-to-cash time, DSO, EBIT contribution | Agents without rules                          | Define authority for agents, scale further value streams |

## Level 1 · Fragmented

Employees use AI assistants on their own initiative, individual departments test applications. Sales has quote texts written, HR job ads, IT builds a chatbot. The three often know little about each other. What gets measured is what can be counted: licenses, usage rates, number of pilots.

The typical failure pattern is the pilot that ends after the presentation. According to Gartner, at least half of all GenAI projects had been abandoned after the proof of concept by the end of 2025, due to poor data quality, inadequate risk controls, rising costs and unclear business value. Three of the four reasons have little to do with the tool.

## Level 2 · Selectively optimized

AI works productively in individual process steps: incoming invoices are captured automatically, customer service answers standard inquiries with AI support. The efficiency gains are real, but each stays within one department.

The failure pattern is local optimization. Customer service records a complaint in minutes, then it goes by email to quality assurance as before and waits there. The department is faster; the customer waits just as long as before. With every isolated solution, the costs of licenses, integration and operation grow while the contribution to results barely rises. In our observation, a large part of the Mittelstand is at

this level today.

## **Level 3 · Process-oriented**

An entire process is redesigned end-to-end, and AI sits at the points where it changes the process. In mechanical engineering, for example, this means: inquiries are captured automatically, costing and configuration access the same data, and sales reviews and decides instead of gathering information from three systems. What is measured is the lead time from inquiry to quote and the hit rate, not the use of the tool. Chapter 4 calculates exactly this example.

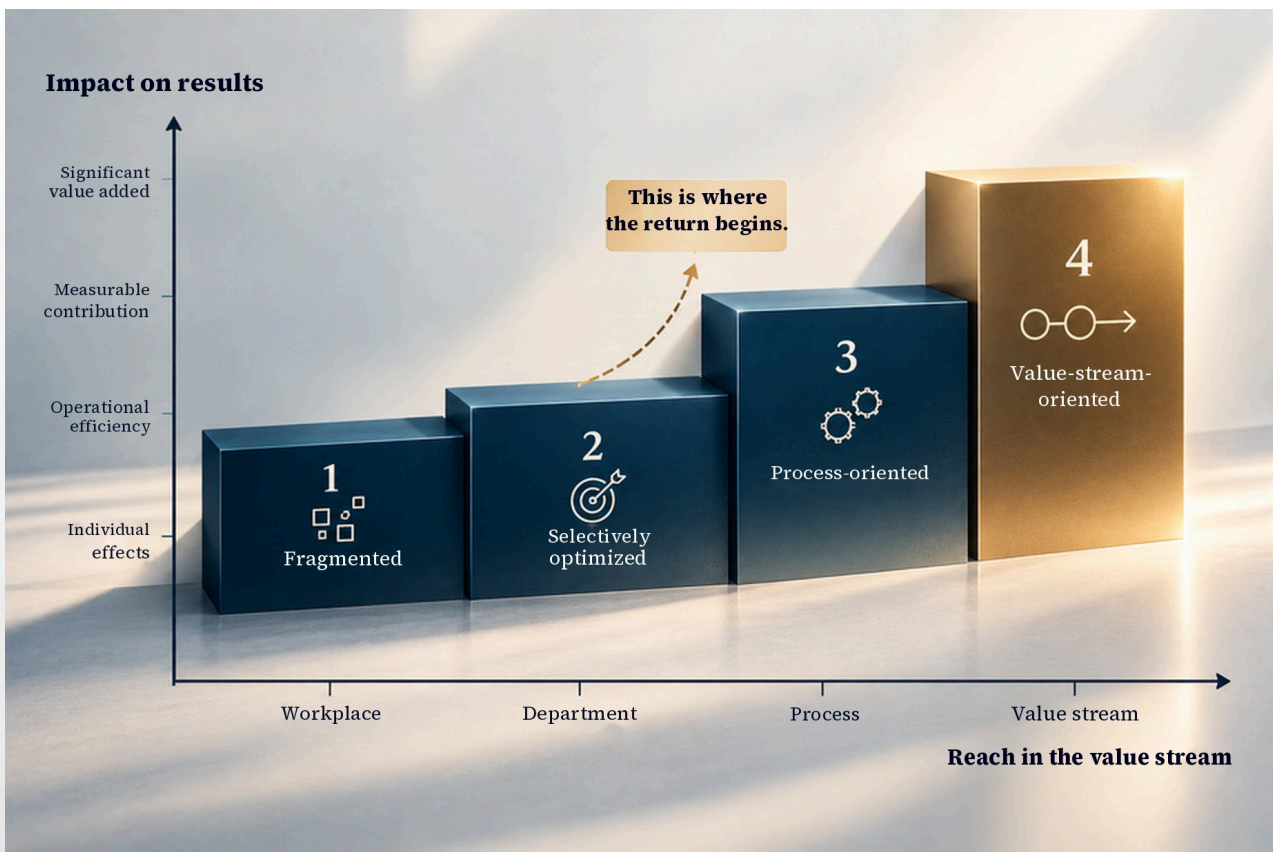
This is where what distinguishes the high performers comes in. The failure pattern at this level: the process is new, but the responsibilities are still the old ones. Approvals run through the former line, nobody owns the process across department boundaries, and after a few months everyone is working around the new process again.

## **Level 4 · Value-stream-oriented**

Several processes are connected into one end-to-end value stream. A customer order triggers planning, procurement, production and invoicing; the system reports deviations itself, and people decide at defined points. AI agents take on defined tasks across process boundaries. Management is based on KPIs of the entire value stream: margin per order, time to payment, tied-up

capital.

Of the companies in Germany that use, plan or discuss AI, only 11 percent use AI agents so far, and another 29 percent are planning to (Bitkom, 2026). This already signals the failure pattern of this level: agents that are allowed to act before anyone has defined what they are allowed to do.



# Chapter 4: Select, measure, redesign, capture

Return on AI is created in four steps. The first effect often comes from an organizational decision, not from a model. We show the steps using one continuous example: a machine builder with around 120 million euros in revenue. The example is illustrative and based on typical results of our scans in mechanical engineering.

## Step 1 · Select: lever, data and an owner

The right starting point is not the most exciting use case, but the value stream that has a profit lever, available data and an owner. We assess candidates using five weighted criteria:

| Criterion         | Key question                                                         | Weight |
|-------------------|----------------------------------------------------------------------|--------|
| Profit lever      | Does an improvement directly contribute to revenue, margin or cash?  | 30%    |
| Friction          | How many handovers, media breaks and waiting times are there today?  | 20%    |
| Data availability | Is event data available in the ERP or CRM, i.e. timestamps per step? | 20%    |

| Criterion      | Key question                                                    | Weight |
|----------------|-----------------------------------------------------------------|--------|
| Ownership      | Is there a sponsor who wants to own the process end-to-end?     | 15%    |
| Feasibility H1 | Can a first measurable effect be achieved in four to six weeks? | 15%    |

Ownership is weighted at only 15 percent, but acts as a knock-out criterion: no owner, no value stream. Without a sponsor, every selection becomes an IT project again.

In the example, three candidates were up for selection (rating 0 to 5):

| Value stream            | Lever | Friction | Data | Owner | Feasibility | Score |
|-------------------------|-------|----------|------|-------|-------------|-------|
| Inquiry-to-quote        | 4     | 5        | 4    | 5     | 4           | 4.35  |
| Order-to-cash           | 5     | 4        | 4    | 2     | 3           | 3.85  |
| Service and spare parts | 3     | 3        | 2    | 4     | 4           | 3.1   |

Order-to-cash had the biggest lever, but no owner: sales and accounting each owned their part, nobody the whole process. The start was therefore made with inquiry-to-quote. The head of sales wanted to own the process, and quotes and orders were in the ERP. Starting point: 8 days lead time per quote, 18 percent hit rate. Order-to-cash follows as the second value stream. The selection is therefore an organizational decision, not a technology decision.

## Step 2 · Measure: baseline first, then build

Of 8 days of lead time, only around 6 hours were actual work. With 8 working days, i.e. 64 working hours, flow efficiency is below 10 percent. The rest of the time, the inquiry sat in the inbox, waited for a technical clarification or hung in the approval loop:

| Activity                | Processing time | Pattern         |
|-------------------------|-----------------|-----------------|
| Capture inquiry         | 0.5 h           | in two attempts |
| Technical clarification | 2 h             | in four loops   |
| Costing                 | 2.5 h           | in four stages  |
| Approval                | 0.5 h           | one return      |
| Dispatch                | 0.5 h           | -               |

Saving just one hour of costing here shortens the lead time by around 1.5 percent.

The baseline therefore separates working time and waiting time and measures on three levels:

1. **Flow:** lead time, waiting time, number of handovers
2. **Quality:** first-time-right, follow-up questions per quote
3. **Result:** hit rate, margin, incoming orders

A baseline does not need a data science department, but it needs event data. Three sources are enough:

| Source                             | What it shows                                                                                                                             | Effort           |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Process mining on ERP and CRM data | The actual process from timestamps per document status, including loops. Also works with older systems such as SAP ECC, proAlpha or abas. | 1–2 weeks        |
| Sampling and shadowing             | 20 to 30 cases tracked end-to-end. Closes gaps where email, Excel and phone leave no traces.                                              | Days, not months |
| Result KPIs from controlling       | Hit rate, DSO and margin per order translate lead time into euros.                                                                        | 1–2 days         |

Measurement comes before building. What starts without a baseline cannot be proven afterwards.

## Step 3 · Redesign: simplify, automate, orchestrate

The target picture is derived from the result: the quote goes out on the day of the inquiry, the hit rate rises. From there, we work our way there over three horizons, and each horizon carries its own business case. For each process step, we choose the solution with the best business case – and that is not always AI.

| Horizon       | Process step              | Solution                                                                         |
|---------------|---------------------------|----------------------------------------------------------------------------------|
| H1 · Simplify | Approval loop             | Raise the approval limit: up to 50,000 euros, sales decides alone. No AI needed. |
| H2 · Automate | Inquiry and clarification | AI extracts inquiries from email and PDF and creates the case in the ERP.        |

| Horizon          | Process step    | Solution                                                                                                        |
|------------------|-----------------|-----------------------------------------------------------------------------------------------------------------|
| H2 · Automate    | Costing         | AI proposes the costing based on past orders; a person reviews and approves it (human in the loop).             |
| H3 · Orchestrate | Overall process | Agents manage clarification, costing and approval in parallel instead of sequentially and prioritize follow-up. |



Source: Illustrative inquiry-to-quote example, mechanical engineering · CTG × heuristiq experience

Processing time per quote falls from around 6 to 2 hours. The first effect came from the higher approval limit, i.e. from a decision by the owner. Only the combination of both delivers the full effect: eliminating waiting time and speeding up tasks with AI. H2 and H3 are real investments that the return has to carry.

Four questions, in this order, structure every redesign:

- 1 Process.** Which steps does the value stream still need? Which can be dropped, which can be merged, where can a handover be eliminated?
- 2 Data.** Which data do all steps access, where is it stored, and who is responsible for its quality?
- 3 Roles.** Who owns the process end-to-end? Where does a person decide, and with what authority?
- 4 Management.** Which KPI is used to measure success, and who reports it to the executive board?

Only then is it worth asking about the tool. The answer is often smaller than expected, because part of the gain already comes from the new process.

## Step 4 · Capture: calculate in hit rate and cash

The business case is calculated in hit rate and cash, not in hours saved. In the example:

| Metric                         | Calculation                                   | Value                     |
|--------------------------------|-----------------------------------------------|---------------------------|
| Quote volume                   | 1,200 quotes p.a. × avg. 40,000 euros         | 48 million euros          |
| Hit rate                       | Quote on the same day instead of after 8 days | 18% → 24%                 |
| Additional incoming orders     | 48 million euros × 6 percentage points        | 2.88 million euros p.a.   |
| Additional contribution margin | 2.88 million euros × 25% CM margin            | around 720,000 euros p.a. |

On top of this comes freed-up capacity: 4 hours less processing per quote add up to around 4,800 hours a year, roughly 3 full-time positions. Initially, this capacity is only a promise. In the example, it was concretely reassigned: one position to additional quotes, two positions to after-sales to tap additional revenue potential with A customers.

The same logic applies to the next value stream. One day of DSO corresponds to around 1/365 of revenue. With 120 million euros in revenue, 10 fewer days of DSO free up around 3.3 million euros in working capital. Three rules ensure that the effect reaches the results:

- 1 Define in advance who books the benefit, for example as a sales target of plus 6 percentage points in hit rate.
- 2 Concretely reassign freed-up capacity, for example to active follow-up with B customers or more quotes without new hires.
- 3 Monthly value monitoring on the baseline KPIs, not on usage figures.

Time saved is a promise. Hit rate and DSO are a result.

## The time is in the handovers.

Inquiry to quote · of 8 days of lead time, only around 6 hours are actual work

### Today: fragmented process

Flow efficiency below 10%



### Redesigned: integrated process along the value stream

Processing around 2 hours per quote



Illustrative inquiry-to-quote example, mechanical engineering · CTG × heuristiq experience

# Chapter 5 · People, roles, governance

Where a company gets stuck between two levels, in our experience one of three things is almost always missing: people who can work safely with AI and rethink processes. A role that owns the value stream as a whole. Or rules for what AI may decide on its own and how its contribution is measured. In most cases, the technology is available.

## Competence: the gap is measurable

66 percent of companies in Germany rate their employees' AI competence as low. Those already using AI are further along: there, 40 percent consider competence to be high, compared with 14 percent among the rest. 70 percent of all companies now provide training on using AI; one in four still offers no training at all (Bitkom). Bitkom President Ralf Wintergerst: "Competence develops with the use of AI, but it does not develop by itself."

Training alone, however, does not yet create impact: knowledge increases, the work stays the same. For levels 1 and 2, it is usually enough for the workforce to use the tools confidently. From level 3 onwards, two further capabilities are needed:

- Process competence: mapping a process, redesigning it and measuring it against KPIs.

- **Leadership competence:** deciding where AI works, where a person decides, and how tasks and roles change as a result.

Both develop most effectively on the real value stream, as training on the project rather than as a seminar in advance.

## Roles: who owns the value stream?

A process that runs across three departments needs one person who owns it as a whole. Most organizations do not have this role: each department is responsible for its section, and nobody is responsible for the handovers. Anyone who wants to reach level 3 therefore needs roles that did not exist in this form before:

- 1 Executive sponsor:** Sets the ambition, decides on priorities and authority (from the leap from level 1 to 2)
- 2 Value stream owner:** Leads a value stream end-to-end, with authority across department boundaries and a KPI by which they are measured. Ideally as a dual leadership of business owner and IT owner (from the leap from level 2 to 3)
- 3 AI program management:** Manages the portfolio of use cases by business value and ends pilots without a business case (from the leap from level 2 to 3)
- 4 Data ownership:** Ensures that the shared data foundation is right (from the leap from level 3 to 4)

## **5 Technical AI roles:** AI architecture, machine learning and LLM engineering, built up internally or brought in via partners (from the leap from level 3 to 4)

In our experience, the technical profiles are the hardest to find. For all roles, there are three paths that can be combined: develop internally, hire externally or bridge the role with an interim executive for the duration of the transformation.

## **Governance: rules before AI acts**

McKinsey finds two characteristics among high performers that have little to do with technology. They are twice as likely to report that their top management visibly champions AI initiatives. And they are twice as likely to report having fixed procedures for measuring the impact of these initiatives.

Without rules, AI is used covertly, and without management, benefits can neither be scaled nor proven. With AI agents, this becomes more urgent. Sound governance answers four questions in writing:

1. Who decides on the priority of use cases?
2. Which decisions may an AI system make on its own?
3. Who is liable if it decides wrongly?
4. Which KPI is used to measure the contribution, before and after?

| Leap  | Competence                                   | Roles                                     | Governance                                     |
|-------|----------------------------------------------|-------------------------------------------|------------------------------------------------|
| 1 → 2 | Using tools confidently                      | Sponsors, owners per use case             | Prioritization by business case                |
| 2 → 3 | Mapping and redesigning processes            | Value stream owner, AI program management | Measuring the process instead of usage         |
| 3 → 4 | Managing via KPIs of the entire value stream | Data ownership, technical AI roles        | Authority for AI systems and agents, liability |

## The role of CTG Consulting: business and organizational transformation

This part of the journey decides the return more often than the technology. In our joint projects, CTG Consulting is therefore responsible for the business and organizational transformation, led by Peter Kramer. We ensure that the redesigned value stream has an owner, that roles, management and governance are in place, and that the benefit reaches the results. heuristiq is responsible for the technical implementation. Wherever competencies, people or budget are lacking during the transformation, we bring additional CTG services into the client project in a targeted way, as part of the transformation and not as a separate package:

- Building competence on the value stream (CTG Academy): individually designed training on AI, data & analytics and change management, as well as programs such as the AI Business Navigator, ideally as training on the project for the value stream team. Eligible for funding under the Qualification Opportunities Act (Chapter 6).
- Permanently filling missing roles (recruiting): business-critical AI and data roles, among others via alphacoders, a CTG Consulting brand for AI enablement, tech recruiting and software development.
- Taking over roles immediately (interim management): experienced executives for AI program management, as an interim value stream owner or in chief data and chief AI roles, until the role is filled internally.
- Co-financing the transformation (funding advisory): review and application for the research allowance and training funding, together with GrantLift (Chapter 6).

# Chapter 6: Funding – how the state co-finances the change

Two building blocks of the transformation can be partly financed with public money: in-house development work via the research allowance (Forschungszulage), and qualifying people via the Qualification Opportunities Act (Qualifizierungschancengesetz). Roles, governance and the introduction of off-the-shelf tools remain the company's responsibility. In our observation, mid-sized companies rarely use either instrument in AI projects, mostly because the rules seem more complicated than they are.

|                    | Research allowance                                                                                                                     | Qualification Opportunities Act                                                                 |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| What is funded     | In-house research and development, e.g. a new method for process control or a proprietary model                                        | Employee training: course fees and wage subsidy                                                 |
| Amount             | 25% of eligible expenses, 35% for SMEs on application; up to 4.2 million euros per year for SMEs, 3 million euros for larger companies | Scaled by company size; under 50 employees up to 100% of course fees and up to 75% wage subsidy |
| What is not funded | The introduction of an off-the-shelf AI tool                                                                                           | Short-term on-the-job adaptation, measures under 120 teaching units                             |
| Who decides        | The Research Allowance Certification Office (BSFZ) confirms the R&D project, the tax office sets the allowance                         | The Federal Employment Agency, at its discretion                                                |

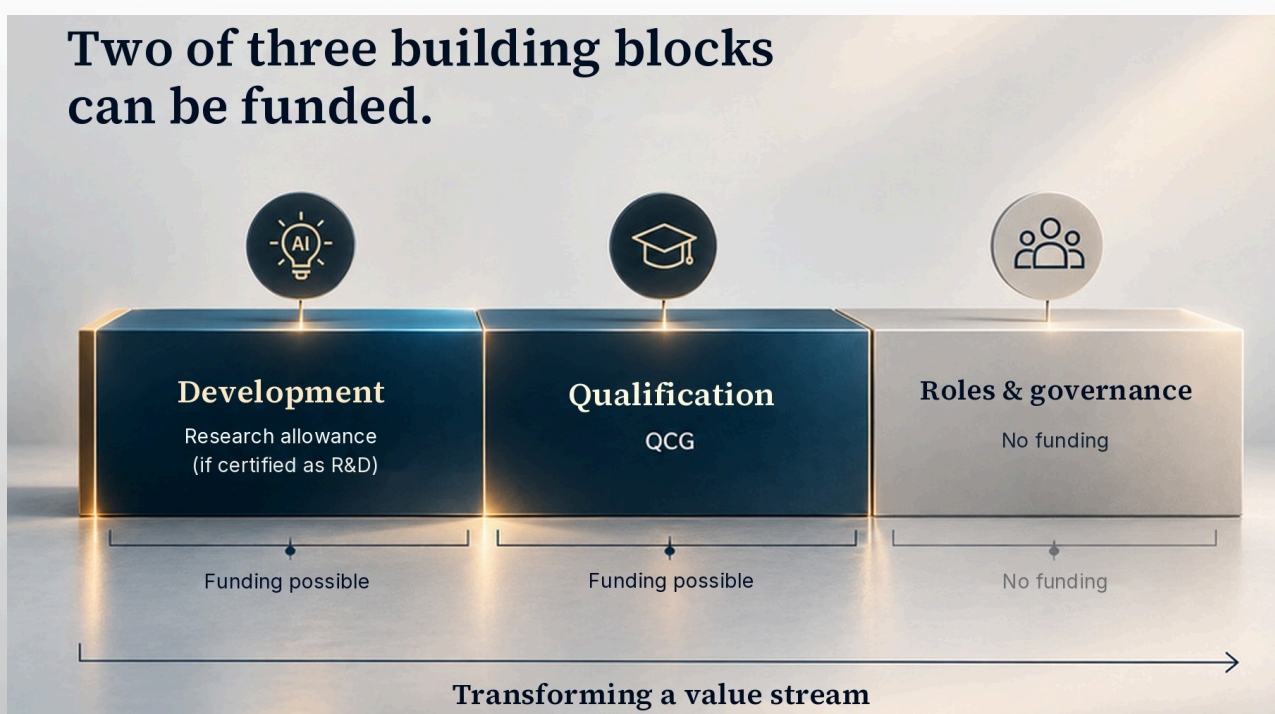
Details and requirements can be found in Appendix A.

For a project on the way to level 3, this means: the research allowance covers the development share, if there is one. The Qualification Opportunities Act covers the training of the people who need to master the new process.

## How CTG Consulting supports you here

- Funding advisory: together with our partner GrantLift, we check eligibility and apply for the research allowance and other programs, on a purely success-based fee.
- CTG Academy: our programs run via the certified education provider BES Academy. This makes them generally eligible for funding under the Qualification Opportunities Act, with up to 100 percent of course fees for companies with fewer than 50 employees.

In the Value Stream Scan, we also check eligibility so that it is part of the business case from the start.



# Chapter 7: Our approach: from Value Stream Scan to scaled return

“We start with the value stream and choose the tool last.”

Peter Kramer, Associate Partner CTG Consulting

The entry point is the AI Value Stream Scan: in three to four weeks at a fixed price, it delivers the decision on which value stream starts with which business case. Three phases follow, each bookable separately with its own business case.

## Two perspectives, one goal

CTG Consulting and the AI studio heuristiq work as a dual leadership. CTG Consulting, led by Peter Kramer, is responsible for the business and organizational transformation: selecting the value stream, owner and roles, management and benefit capture. heuristiq provides the technical depth: data access, process mining, solution design per process step through to stable operation. For mid-sized companies, this means: ready for use quickly, with measurable results and without corporate overhead.

| Phase                                     | What happens                                                                                                                                                                       | Business and organization (CTG)                                                                                                          | Technology, data and AI (heuristiq)                                                                | Duration               |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------|
| <b>01 Discover · AI Value Stream Scan</b> | Select and measure: understand value streams, data and capabilities end-to-end, prioritize the value stream with the highest lever and an owner, baseline and business case for H1 | Management alignment, selection and owner, business case, funding check                                                                  | Tech and data landscape assessment, process and event mining, AI readiness                         | 3–4 weeks, fixed price |
| <b>02 Redesign</b>                        | Redesign: target picture derived from the result, implement improvements in H1                                                                                                     | Rethink the value stream from the business outcome: develop the target picture, set up the value stream team, introduce value monitoring | Target data & AI architecture, rapid prototyping and proof of value                                | 4–6 weeks              |
| <b>03 Transform</b>                       | Automate and anchor (H2): technology, operating model and adoption                                                                                                                 | Operating model, governance and roles, training on the project                                                                           | Data pipelines and integrations, agents and workflows with human in the loop, MLOps and guardrails | depending on scope     |
| <b>04 Scale</b>                           | Capture and scale (H3): transfer to further value streams, build internal capabilities                                                                                             | Portfolio management, bootcamps for further parts of the organization                                                                    | Reusable patterns, cost and model monitoring, building internal tech expertise                     | ongoing                |

Return on AI is measurable from horizon 1. You can stop after any phase, because the business case is reviewed per phase.

# What CTG Consulting additionally brings to the project

Transforming a value stream almost always raises questions beyond process and technology. CTG Consulting brings these building blocks directly into the ongoing client project as needed:

- 1 CTG Academy / BES Academy:** If teams have not yet mastered the new process during the transformation, competence can be built directly in the value stream, incl. possible funding
- 2 Recruiting, among others via alphacoders:** If a critical role is missing during the transformation, such as AI architecture or data ownership, it can be filled permanently
- 3 Interim management:** If a leadership role is needed immediately in the process, such as AI program management or value stream owner, it can be bridged at short notice for the duration of the transformation
- 4 Funding advisory with GrantLift:** If development or training in the process is to be financed, eligibility can be checked and applied for individually

With these four building blocks, CTG Consulting covers the entire spectrum of relevant services for the optimal design of your value stream.

# Getting started in three steps

- 1** Initial meeting, 30 minutes: starting point and first assessment of level and value stream.
- 2** Management workshop, one day (optional): shared understanding of value stream, ambition and goals in the leadership team.
- 3** AI Value Stream Scan, three to four weeks: prioritized value stream map, quantified baseline, business case and funding eligibility as a basis for decision.

# Chapter 8: Outlook: From 2027, the value stream decides the margin

“AI pays off when companies rethink their value stream from the business outcome and consistently align their processes with it.”

Peter Kramer, Associate Partner CTG Consulting

AI has arrived across the board, but in the results only for a few. The difference is whether a company rebuilds the processes in which AI works, and whether it has the people, roles and rules to carry this transformation.

The next step is emerging. “AI agents today are roughly where artificial intelligence as a whole was three years ago. But they will spread just as quickly,” says Bitkom President Ralf Wintergerst. In our assessment, the self-managing value stream will become a competitive differentiator from 2027: agents take over routine work across process boundaries, people manage the exceptions.

Those still at level 2 by then will have fallen behind in a way that cannot be made up with a license. Reliable data, connected systems and clear rules take time. Companies that invest this time now will earn the margin the others lack.

# The path there begins with three steps

- 1** Determine your company's level. The self-assessment on the next page takes ten minutes.
- 2** Select the value stream that has a profit lever and an owner.
- 3** Measure it and redesign it before you buy the next tool.

# Chapter 9: Maturity self-assessment

The test comprises twelve statements, three for each level. A level is reached when all three statements apply. Your company is at the highest level reached. If not everything applies even at level 1, start there.

| Statement                                                                                                         | Yes / No                                          |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| <b>Level 1 · Fragmented</b>                                                                                       |                                                   |
| In at least one area, employees use AI tools in their daily work.                                                 | <input type="checkbox"/> <input type="checkbox"/> |
| There has been at least one AI pilot with a specific use case.                                                    | <input type="checkbox"/> <input type="checkbox"/> |
| Management knows which AI tools are used in the company.                                                          | <input type="checkbox"/> <input type="checkbox"/> |
| <b>Level 2 · Selectively optimized</b>                                                                            |                                                   |
| At least one AI application is running permanently in regular operation.                                          | <input type="checkbox"/> <input type="checkbox"/> |
| For this application, you measure time or cost savings per case.                                                  | <input type="checkbox"/> <input type="checkbox"/> |
| New AI projects only start with a business case that quantifies their business value.                             | <input type="checkbox"/> <input type="checkbox"/> |
| <b>Level 3 · Process-oriented</b>                                                                                 |                                                   |
| For your most important value stream, you know the end-to-end lead time, separated into working and waiting time. | <input type="checkbox"/> <input type="checkbox"/> |
| At least one process has been redesigned end-to-end and has an owner across department boundaries.                | <input type="checkbox"/> <input type="checkbox"/> |
| The benefit is measured and booked against a result metric, such as hit rate, margin or DSO.                      | <input type="checkbox"/> <input type="checkbox"/> |

| Statement                                                                            | Yes / No                                          |
|--------------------------------------------------------------------------------------|---------------------------------------------------|
| <b>Level 4 · Value-stream-oriented</b>                                               |                                                   |
| Several processes access a shared, maintained data foundation.                       | <input type="checkbox"/> <input type="checkbox"/> |
| It is defined in writing which decisions AI systems or agents may make on their own. | <input type="checkbox"/> <input type="checkbox"/> |
| AI's contribution to results is included in the regular report to management.        | <input type="checkbox"/> <input type="checkbox"/> |

## Evaluation

**Level 1:** Prioritize: which two or three use cases have the clearest business case?

**Level 2:** Select and measure: identify a value stream with lever and owner and collect its baseline.

**Level 3:** Connect: link the redesigned process with adjacent ones and create a shared data foundation.

**Level 4:** Rules: define what agents may do before they are given more tasks, and scale to further value streams.

If you have yes answers at a higher level but not at a lower one, it is worth looking at exactly this gap. It is usually the reason why the higher level does not yet hold.

# Chapter 10: Contact: which value stream is yours?

In a free 30-minute initial meeting, we will jointly assess which level your company is at, which value stream has lever and owner, and whether a Value Stream Scan is the right next step.

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# Chapter 11: Appendix

## A · Funding overview

### Research allowance (Forschungszulage)

| Item             | Rule                                                            |
|------------------|-----------------------------------------------------------------|
| Legal basis      | Research Allowance Act (FZulG)                                  |
| Funding rate     | 25% of eligible R&D expenses, 35% for SMEs on application       |
| Assessment basis | max. €12 million per fiscal year for expenses from 2026         |
| Maximum amount   | €4.2 million per year for SMEs, €3 million for larger companies |
| Requirement      | BSFZ certificate confirming that the project qualifies as R&D   |
| Procedure        | 1. Application to the BSFZ · 2. Assessment by the tax office    |

### Qualification Opportunities Act (Section 82 SGB III)

| Company size            | Coverage of course fees                                                |
|-------------------------|------------------------------------------------------------------------|
| fewer than 50 employees | 100%                                                                   |
| 50 to 499 employees     | 50%; 100% for employees aged 45 and over and severely disabled persons |
| 500 or more employees   | 25%                                                                    |

| Item                                                | Rule                                                                                                                |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Works agreement or collective agreement on training | additional 5 percentage points                                                                                      |
| Scope                                               | more than 120 teaching units (45 minutes each), more than short-term on-the-job adaptation                          |
| Person                                              | Vocational qualification usually obtained at least two years ago; no funding under Section 82 in the last two years |
| Certification                                       | Measure and provider certified under AZAV                                                                           |
| Decision                                            | Discretionary benefit of the Federal Employment Agency                                                              |

*As of October 2026. All figures are maximum rates; funding is decided case by case. This overview does not replace tax or legal advice.*

## B • Glossary

**AI high performers (McKinsey)** – Respondents who attribute at least 5 percent of their company's EBIT to AI and report significant value contribution. In the State of AI 2026, around 6 percent of respondents.

**AZAV** – German Accreditation and Approval Ordinance for Employment Promotion. Providers and measures need this approval to receive funding from the Federal Employment Agency.

**Baseline** – The measurement of a value stream before the transformation, separated into working and waiting time, on the levels of flow, quality and result.

**BSFZ** – Research Allowance Certification Office. On behalf of the Federal Ministry of Research, Technology and Space, it checks whether a project qualifies as research and development.

**DSO (days sales outstanding)** – Receivables turnover time, i.e. the average number of days between invoice and payment.

**End-to-end** – Looking at a process from its start with the customer to its result, across all departments involved.

**Flow efficiency** – Share of pure processing time in total lead time.

**Horizons H1 to H3** – The three stages of redesign: simplify, automate, orchestrate. Each horizon has its own business case.

**AI agent** – An AI system that acts autonomously, e.g. comparing prices, obtaining quotes or working out decision options.

**Benefit capture** – The binding booking of the benefit in a result metric, with defined responsibility and ongoing value monitoring.

**Proof of concept (PoC)** – A limited test of whether an application works technically. It does not yet say whether it creates value in operation.

**Maturity level** – In the model of this paper, the level to which AI is anchored in a company's value stream: fragmented, selectively optimized, process-oriented, value-stream-oriented.

**Value stream owner** – The role that leads a value stream end-to-end, with authority across department boundaries and a KPI by which it is measured.

**Value Stream Scan** – The entry point to our approach. In three to four weeks, it produces a value stream map, baseline and business case.

**Value stream** – The end-to-end chain of work steps that turns a customer inquiry into a paid result, across all departments.

## C • Sources

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