

How will my use of AI Agents actually pay off?

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01.09.2026



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Expert AI Knowledge Transfer @ AI Factory Austria AI:AT

- <https://ai-at.eu/trainings/>

AI in **manufacturing** (through digital twins)

- IT Consultant and Trainer
- Business Informatics Researcher (441 citations) [1]

AI for **general public**

- University lectures AI for law/business administration
- VHS courses AI for general public [2]
- Certified AI Manager trainings [3]

[1] https://scholar.google.com/citations?user=TGGaQ_0AAAAJ

[2] https://vhskurs.linz.at/index.php?kathaupt=18&suchesetzen=false&kfs_dozentid=139372

[3] <https://tecnovy.com/de/tecnovy/certified-ai-manager>

AI Agents: Examples

Agent 1: E-Mail Briefing

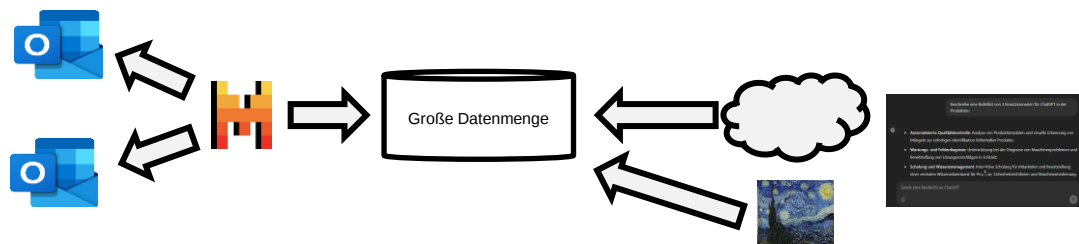
System Prompt: I am the managing director of a. Every Monday at 08:00, send me a summary of the emails I have received in the last 52 hours. I am particularly interested in:

- Are there things that require my immediate attention?
- What new action points have been added?
- ...

Send me the result by email.

Permissions

- Email from xx (read)
- Own email mailbox (write)



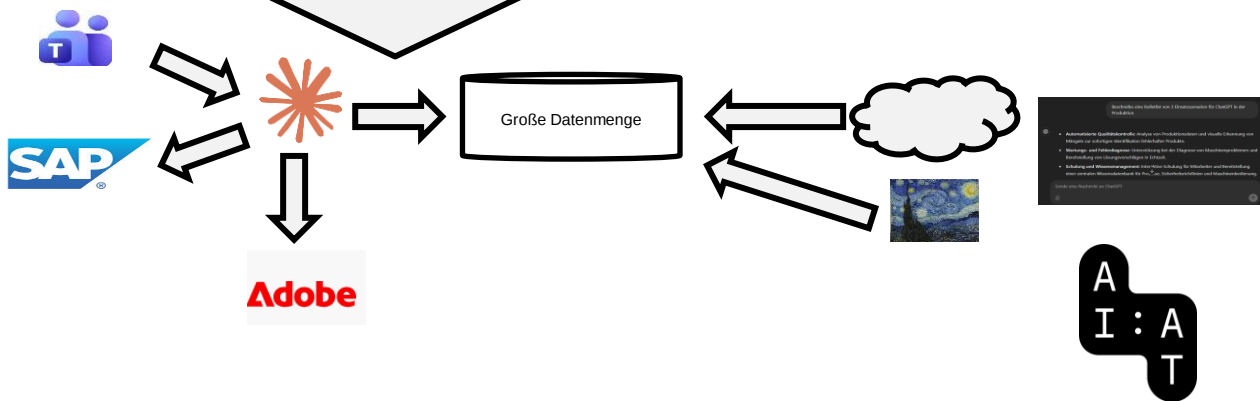
Agent 2: Invoice Scanning

System Prompt: Use the attached scan of an invoice. Use the Adobe OCR tool to extract the following invoice data: Then create a new goods receipt in SAP, and save the corresponding invoice data. Confirm the successful creation of the invoice with a short message, including a link to the created goods receipt for review.

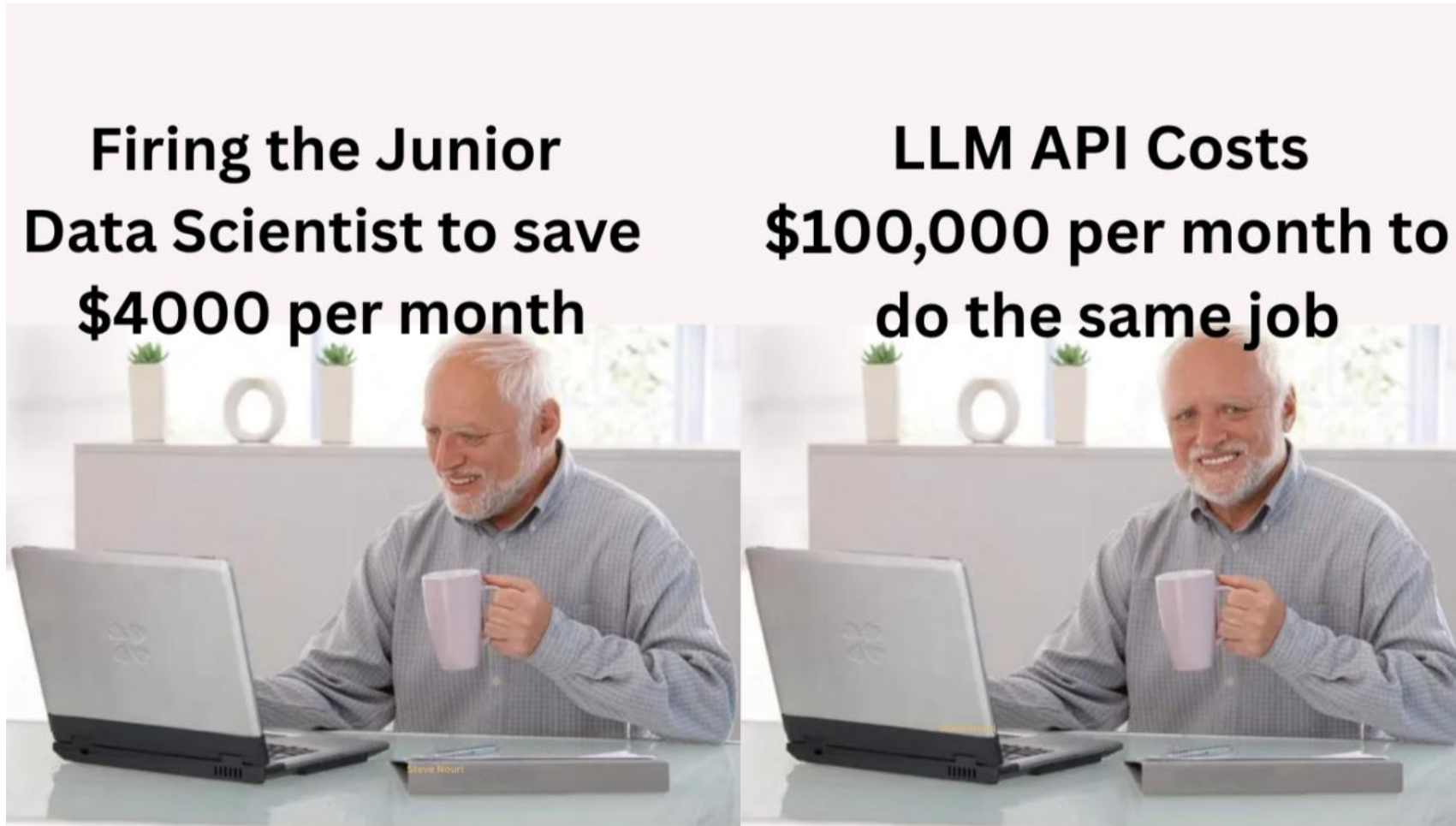
User Prompt: Here is the document with the invoice

Permissions

- Own Teams mailbox (read + write)
- SAP goods receipt (write)



ROI Analysis of AI Agents



Source: <https://www.linkedin.com/pulse/enterprise-ai-needs-new-agentic-architecture-steve-nouri-om7pe/>

Is my AI project worth it?

Step 2:

What's the cost?

$$\text{ROI} = \frac{\text{Profit over calculation period}}{\text{Investment cost}} \%$$

„Return of capital“ = how much of the money invested comes back?

$$\text{Payback period} = \frac{\text{Investment cost}}{\text{Return/year}} \text{ Years}$$

How long until my investment pays off?

Step 1:

What's the return?

What's the benefit?



Returns from AI Projects

$$\text{Time savings} = (\text{actual} - \text{target}) * \text{hourly rate } \text{€}$$

- **Actual hours:** number of hours people currently need
- **Target hours:** number of hours people are expected to need with AI assistance

$$\text{Reduced error rate} = (\# \text{ errors actual} * \text{cost/error actual}) - (\# \text{ errors target} * \text{cost/error target}) \text{ €}$$

- **# actual errors:** how many errors occur currently?
- **Actual cost per error:** how much does an error cost us on average currently?
- **# target errors:** how many errors are expected to occur after introducing the AI solution
- **Target cost per error:** how much does an error cost us on average after AI implementation?

Additional Return Factors

Revenue Growth

- Increased customer satisfaction (and thus revenue growth)

Replacement of Existing Tools

- How much does the current tool that will no longer be needed cost?
- Often linked to reduced working hours (AI tools are more expensive, but save working time overall)
- Example: “AI Researcher” for \$20K/month (Sam Altman/OpenAI)

Example calculation of returns

Mail-Summary

Rationale:

- Management-Team of 100 people costing 200 €/hour
- 15 minutes/week/person working time reduction

Manual labor reduction = $0.25 * 100 * 200 * 45 = 300.000$ €/Jahr

Invoice Scanning

Rationale:

- Reduced work effort Controlling: (20 %): 60K/year
- Overhead für scanning: 10K/year

Manual labor reduction = $€ 60.000 - € 10.000 = € 50.000$ /year

What's the cost?



Investment Costs in AI Projects

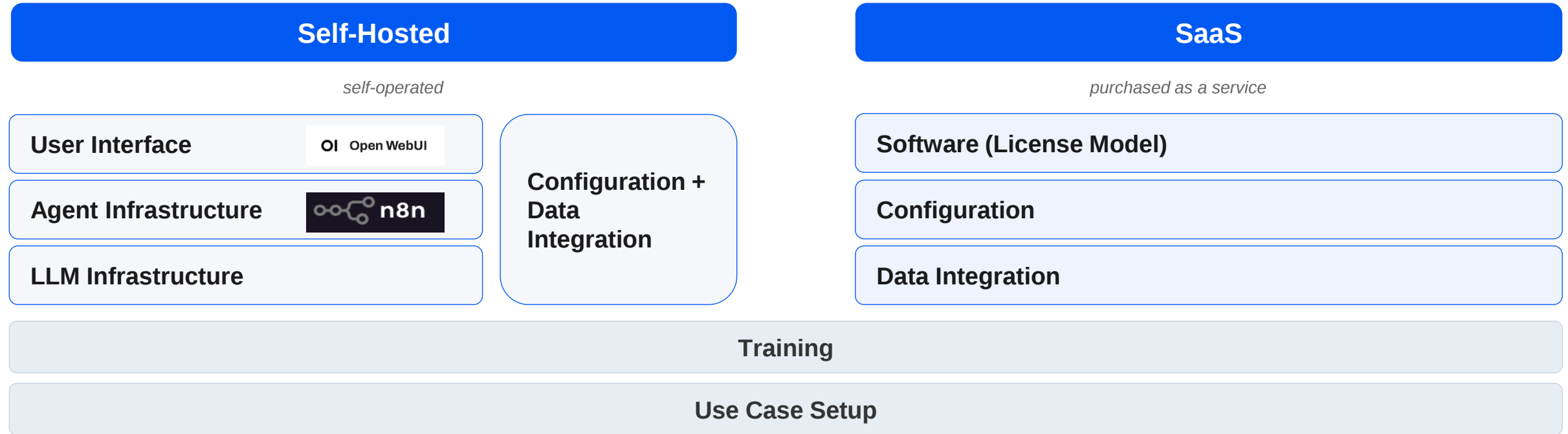
KPI Tradeoffs

Operations

Infrastructure + AI Literacy

Infrastructure Sourcing: Self-Hosting vs. SaaS

Which components do you operate yourself — and which do you buy as a service?



LLM Infrastructure

How big does my LLM need to be?

SLM

- Runs on PC
- Low token consumption



Fast LLM

- Cloud or supercomputer
- Lower token consumption than LLM
- Up to 20% of the price of Frontier LLMs



Frontier LLM

- Runs in the cloud
- Self-hosting mostly not possible

Where does it run?

On-Premise · only for open-source models

- Full control and sovereignty
- Open-source software free of charge

Hardware options

- **Mac Mini (SLM):** €700
- **Own server (Frontier LLM):** €40,000 + approx. €1,000/month (power, cooling, maintenance)
- **vServer (Frontier LLM):** €5,000/month, billed hourly
- **Supercomputer:** €1 million and up

Cloud-Hosted LLM

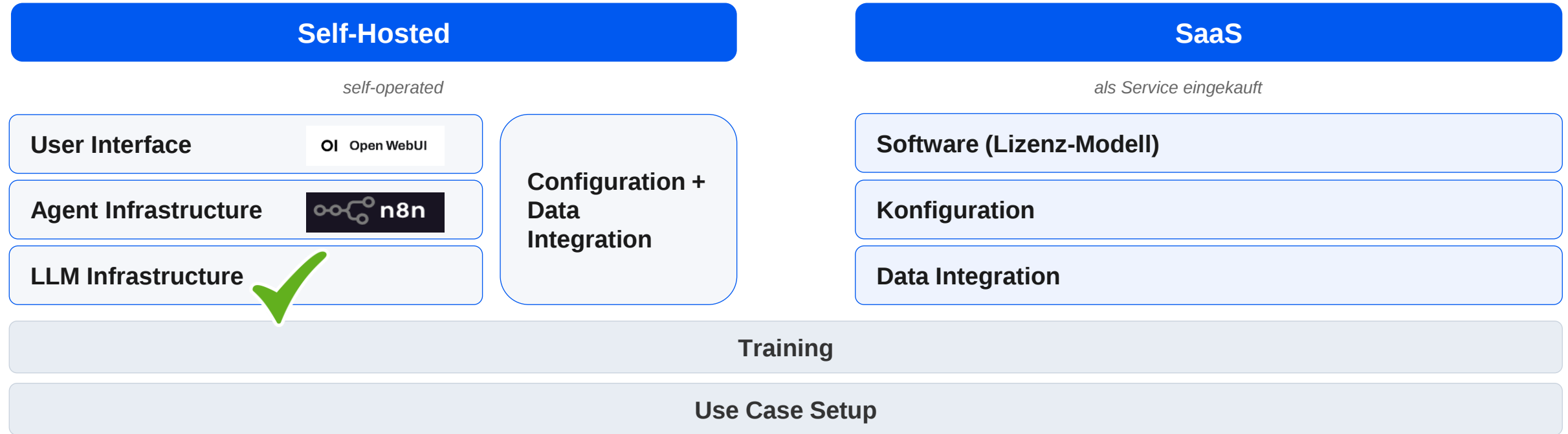
- Cost per call / request
- Demos + small projects possible without large investment
- Costs can escalate quickly

Typical providers

OpenAI, Anthropic, Google, Microsoft Azure, AWS Bedrock

Infrastructure Sourcing: Self-Hosting vs. SaaS

Welche Komponenten betreibt man selbst — und welche kauft man als Service ein?



Agent Infrastructure



<https://n8n.io/>

Self-Hosting in Cloud

€20 / month · Setup + maintenance required

SaaS

€20 / user / month

Self-Hosting by N8N.IO

€667 / month

Flexible deployment

Self-hosted or SaaS · Full data control



<https://www.make.com/>

European provider

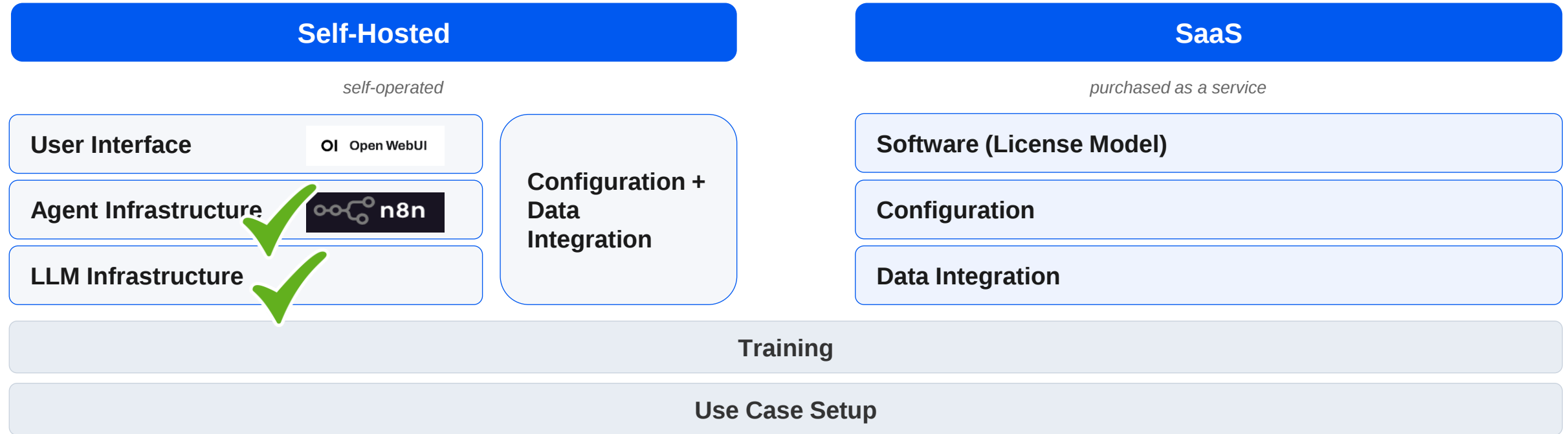
- SaaS only
- Higher usability than n8n
- From €10 / user / month

Easy to get started

No infrastructure · Ready to use immediately

Infrastructure Sourcing: Self-Hosting vs. SaaS

Which components do you operate yourself — and which do you buy as a service?



AI Literacy/Training

Cross-InUse Case

AI Task Force

- 1 person primarily responsible
Support from every business area
- Builds knowledge through external training
- Coordinates and administers AI initiatives

Promptathons

- Joint workshop
- Participants develop their own use cases
- Results go directly into the use case library

Use Case-InSpecific

Training allowances from AI providers

- Free of charge
- Good for tool-specific details
- Mostly videos and interactive tutorials

Use Case Library

- Employees immediately know where to start
- Ongoing input through regular in-house training (externally supported)

Investment Costs in AI Projects

KPI Tradeoffs

Operations

Infrastructure + AI Literacy



Operations

Vier Fragen, die die laufenden Kosten bestimmen

1

TOKENS

How many tokens does my prompt need?

Input and output length determine the cost per request.

2

MODEL

Which model do I need?

SLM, Fast LLM, or Frontier — depending on complexity.

3

DATA

How much data is retrieved, and from where?

Data volumes and sources drive integration and latency.

4

VOLUME

How many prompts per user per month?

Call frequency · a prerequisite for the planned return.

Example: Self-Hosting

Organizational fixed costs (cross-agent)

AI lead
€90K salary + €10K training

AI core team
€20K

Hardware (self-hosted N8N + own server)
€240 + €60,000 / year

Agent 1 · Mail Summary

FIXED COSTS (one-time)

- Training and onboarding: **€200/employee**
 - Data integration & configuration: **€5,000**
- Total: €25,500**

Calculated return **300K/year**

Agent 2 · Invoice Scanning

FIXED COSTS (one-time)

- Training and onboarding: **€50/employee**
 - Data integration & configuration: **€8,000**
- Total: €50,000**

Calculated return **50K/year**

Agent 3 · Create JIRA ticket

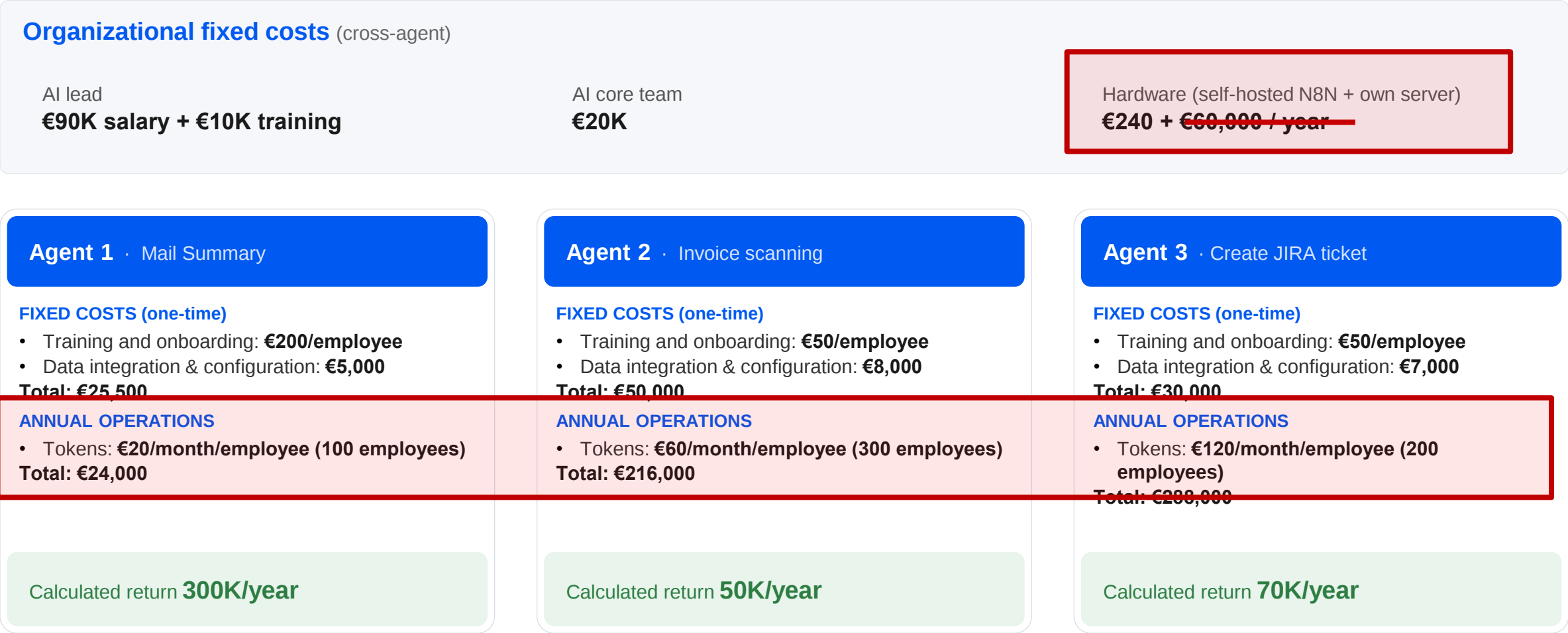
FIXED COSTS (one-time)

- Training and onboarding: **€50/employee**
 - Data integration & configuration: **€7,000**
- Total: €30,000**

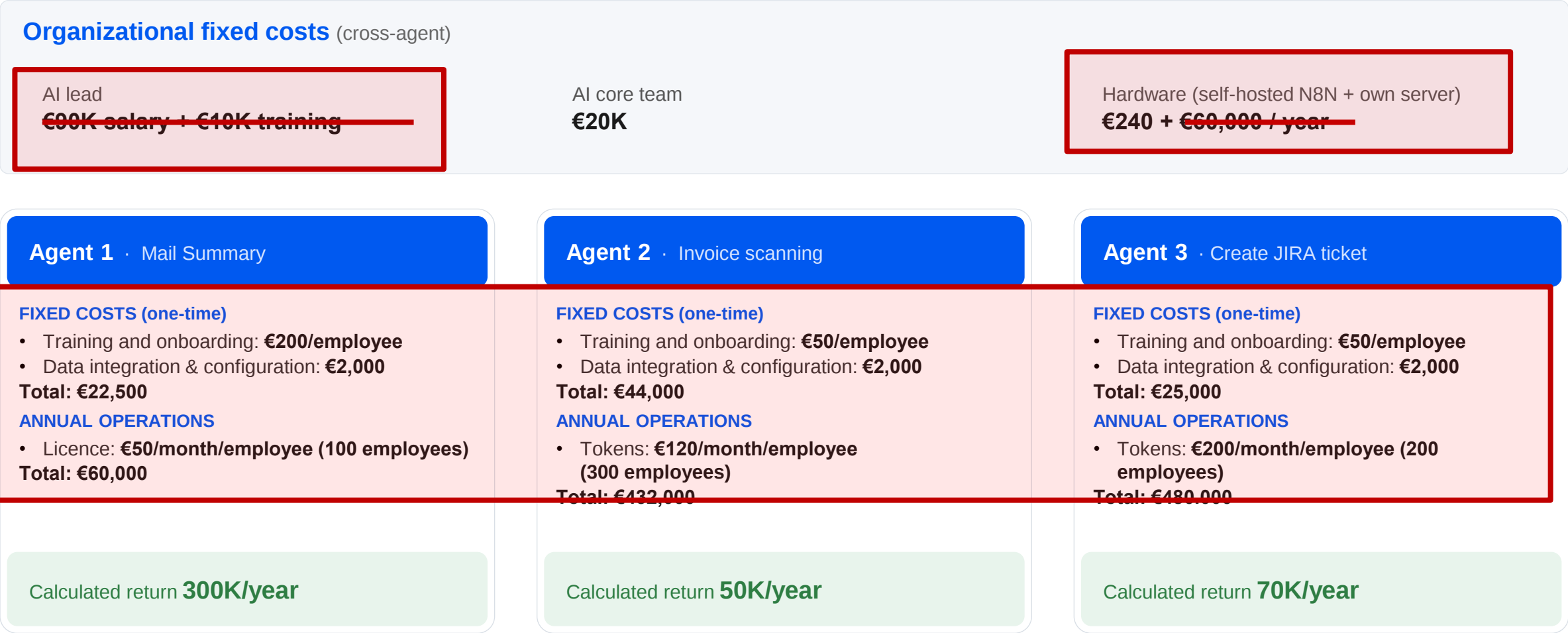
Calculated return **70K/year**



Example: "LLM as a Service"



Example: "Software as a Service"



Does my AI project pay off?

Option 1: Self-Hosting

$$\text{ROI (3 years)} = \frac{(130,000 - \dots) \times 3}{180,240 \times 3 + 60,000 + 50,000} = 60 \%$$

Option 2: LLM as a Service

$$\text{ROI (3 years)} = \frac{\text{Profit over assessment period}}{\text{Investment costs}} = 63 \%$$

$$\text{ROI (3 years)} = \frac{\text{Profit over assessment period}}{\text{Investment costs}} = 130 \%$$

Contact



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