



# Final Presentation of Group 1

## IS 513 Applied IT Management in the Digital Age



Logistics Consulting Group

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30.05.2023



# Agenda

- 1** Who are we?
- 2** Executive Summary
- 3** Your optimization potentials
  - a) IT cost optimization
  - b) IT portfolio optimization
  - c) IT sourcing
  - d) Digital initiatives
- 4** Our suggestions

# We are five consultants of the Logistics Consulting Group, helping you in optimizing your IT strategy



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Max Eisenträger



Philipp Weis



Yiyi Wei



Yusufjiang Maimaiti

# Your optimization potentials at a glance look promising

## IT Cost

- Overhead in **Application development cost** against the benchmark
- Overall higher IT cost** than the benchmark (2,86% of revenues vs 2,30%)
- In total we see **9 levers to pull** in order to reduce IT cost and especially application development cost



## IT Portfolio

- Proposed IT project portfolio by management **exceeds budget by €72M**
- Eliminating the planned project across business units** to enable real-time visibility into the supply leads to **exceeding budget by only €1M**
- Other initiatives are more important** regarding the reduction of IT cost and the proposed move to standard software



## IT Sourcing

- Go with **standard software** with customization options and **limit application development cost**
- Streamline** business processes and customize less
- Leverage a **future-proof** warehouse management system
- Don't make yourself **dependent on suppliers off shore**



## Digital initiatives

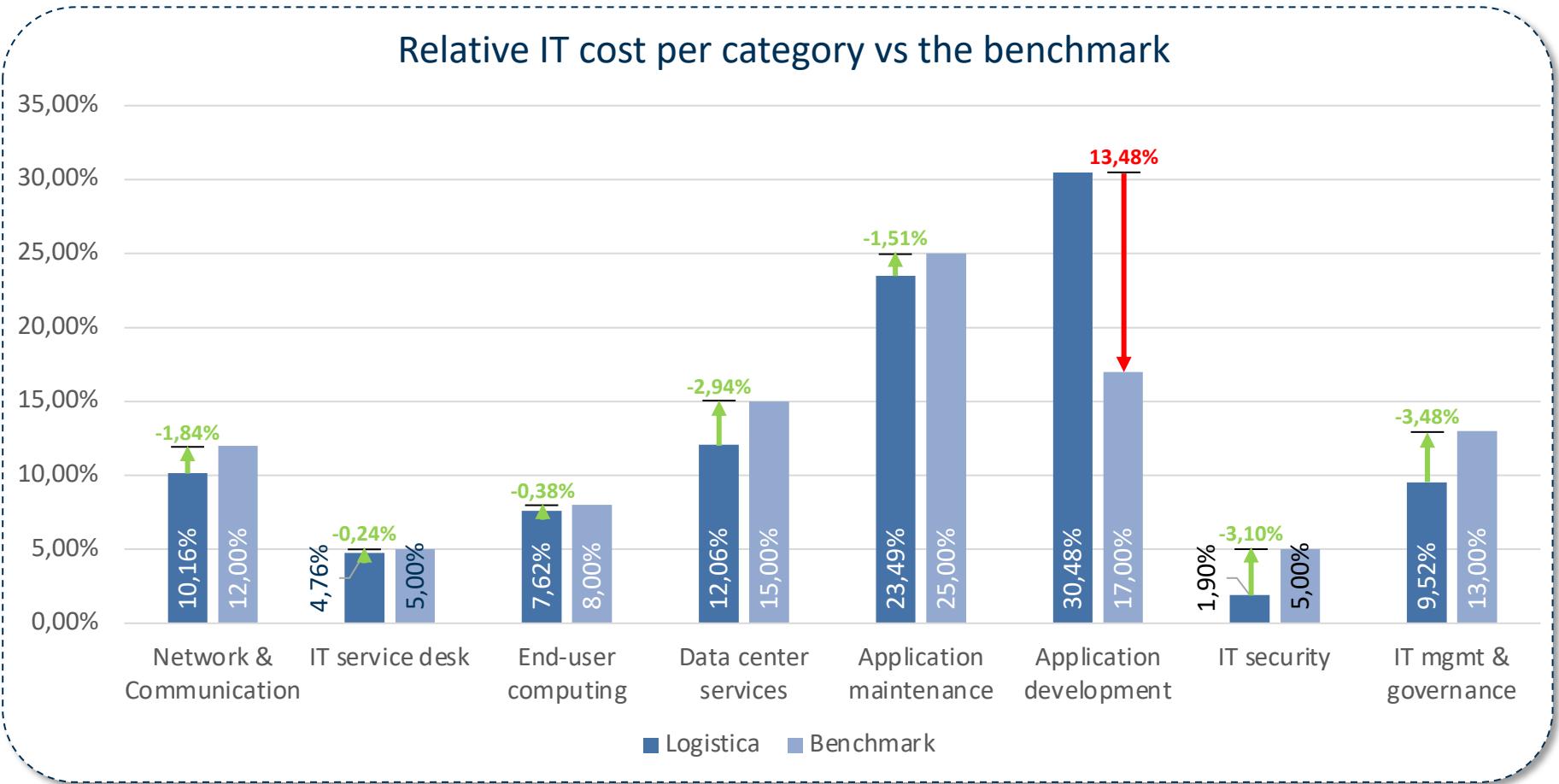
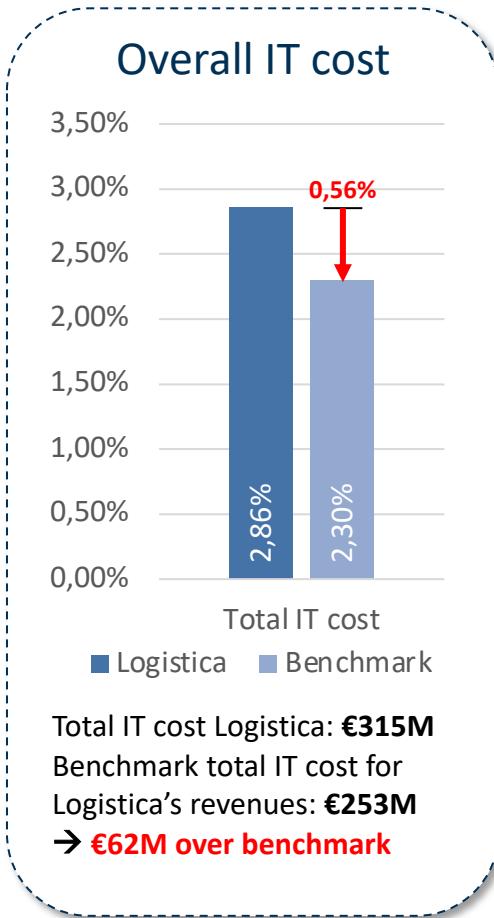
- Start a “**Process Offensive**” full of **automation and mining**
- Leverage innovations in **generative & conversational AI** through **Chatbots**
- Achieve **operational excellence** by integrating AI into **demand & supply planning** combined with **sustainability reporting**
- Increase uptimes and thereby revenues through **Predictive Maintenance**



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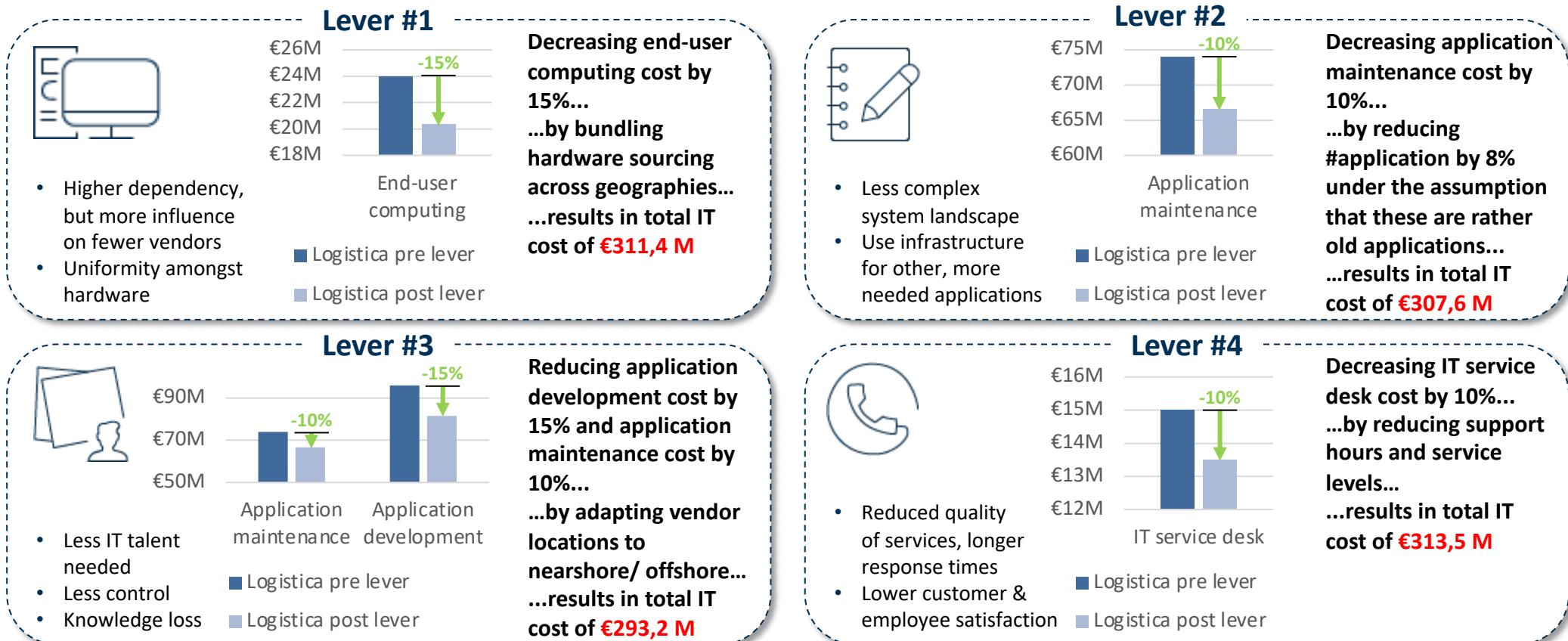
# Application development cost are the main cost driver of your overall IT cost



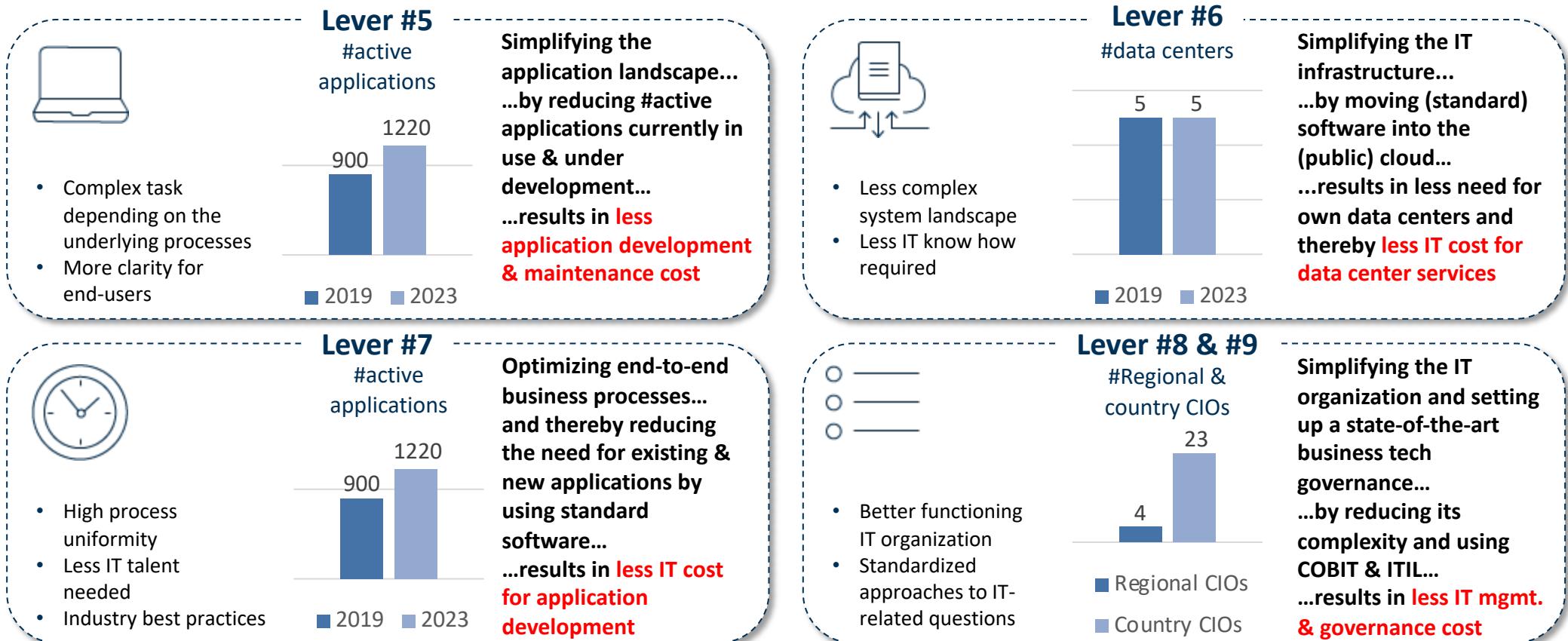
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# Especially the suggested levers 2 and 3 help with decreasing the overall IT cost



# Further levers can help in decreasing the different IT cost categories



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# Optimize for cost, capabilities and growth by monitoring important KPI's

Home

Dashboard

Admin

Messages

Settings

Logout

**IT efficiency & cost**

- Overall IT cost are higher than the benchmark
- High potential for reducing application development cost

Possible KPI's	Currently	Ambition level
Time spent on application development	no data	decrease
Number of active applications	1220	< 1000
Application age	11y	< 10
Number of unused applications	no data	decrease
Number of applications per business unit	no data	decrease
Workforce working on application development	no data	decrease
Difference to IT cost benchmark	0,56%	0%
IT initiative cost comparison against the budget	no data	don't exceed budget
Savings tracking	no data	increase

...

**Digital capabilities & culture**

- Currently not enough talent and capabilities
- Outdated technologies

Possible KPI's	Currently	Ambition level
Workforce age	81% > 45y	< 75%
Application age	11y	< 10
Diversity & Inclusion in IT hirings	no data	increase
Employee satisfaction	no data	increase
Employee turnover	no data	decrease

**Scalability to support growth**

- Cloud transformation needs to scale and not just cause more cost
- Supporting a growing business, the IT landscape has to scale

Possible KPI's	Currently	Ambition level
Number of data centers	5	< 5
Cost of storage	70,00 €	< 65,00 €
Public Clouds in use	4	4
Cloud Adoption	no data	increase

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# The proposed IT project portfolio, doesn't fit into the budget for '24-'33 so initiative 3 should be dropped

#	Business Unit	Initiative Title
1	Internal Logistics	Replacement: Warehouse Management System
2	Land transport	Digitalization of customer requests
3	Cross-BU	Real-time visibility into supply chain
4	Contract Logistics	Further automate warehouses
5	Infrastructure	Enabler1 : Unified Data Layer
6	Air transport	Algorithm to combine shipments
7	Organization	Agile@Scale: New Operating Model
8	Overall	Enabler1 : Foundations in technology landscape
9	Infrastructure	Simplification: API Management

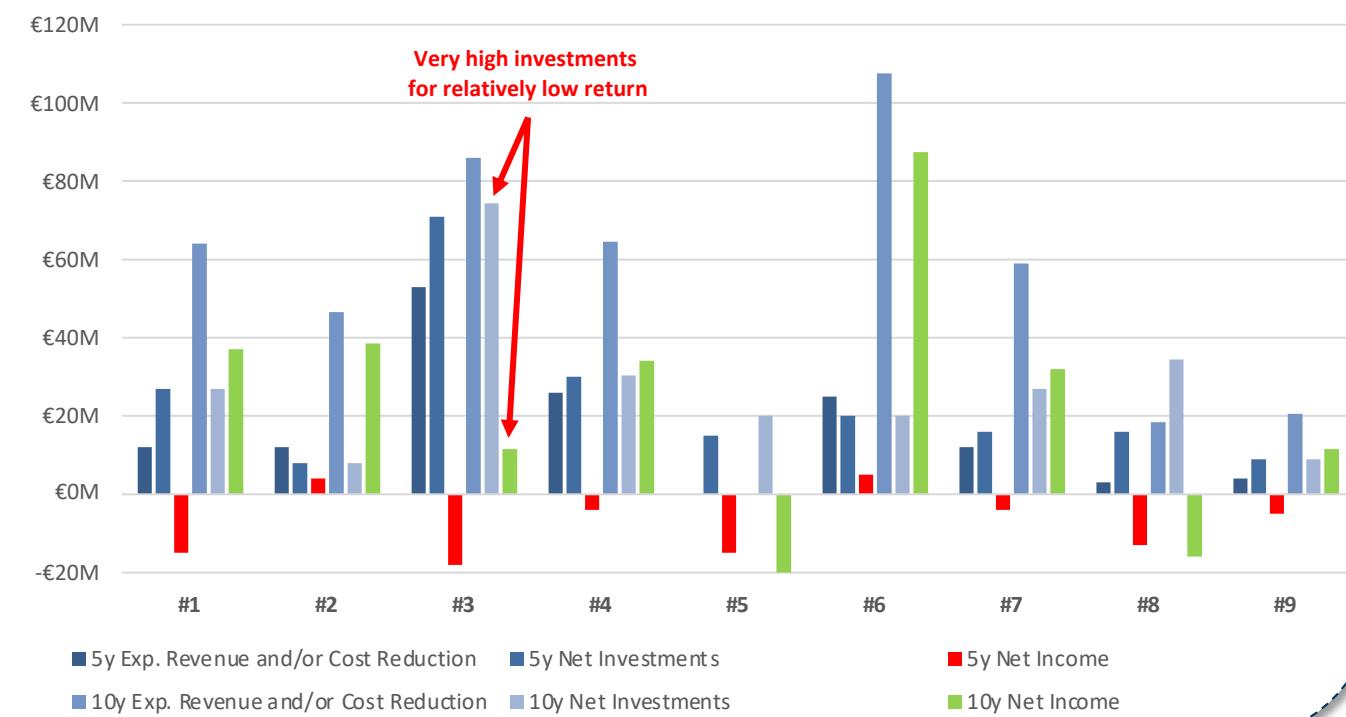
  

		Low Structure	High Structure
	Large Project	Low Risk #5	Low Risk
Low Technology	Small Project	Very Low Risk	Very Low Risk #7
	Large Project	Very High Risk #1 #3	Medium Risk #4 #6 #8
High Technology	Small Project	High Risk	Medium-Low Risk #2 #9

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## Financial impact of the IT project portfolio



# Various facets of IT sourcing can make it hard to find “the optimal approach”

## 1 Keep the existing system

- IT doesn't think it would be good to keep things as they are
- Warehouse management system is built based on outdated technology and currently runs on-premise
- Manufacturer offers a maintenance guarantee for the platform until 2026
- IT experts expect an annual cost increase of 5% for the maintenance & licensing of the system
- Hardware of the system needs to be replaced entirely in 2025 latest



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## 2 Standard software with customization option

- Project is to be run within the next two years and total cost amounts to approximately €8.8M
- License costs for trade system: €4M
- Implementation expenditure: €3M external expenditure and €1M internal expenditure
- Maintenance licenses 15% of the one-time licenses annually
- IT experts expect an annual cost increase of 5% for the maintenance & licensing of the system



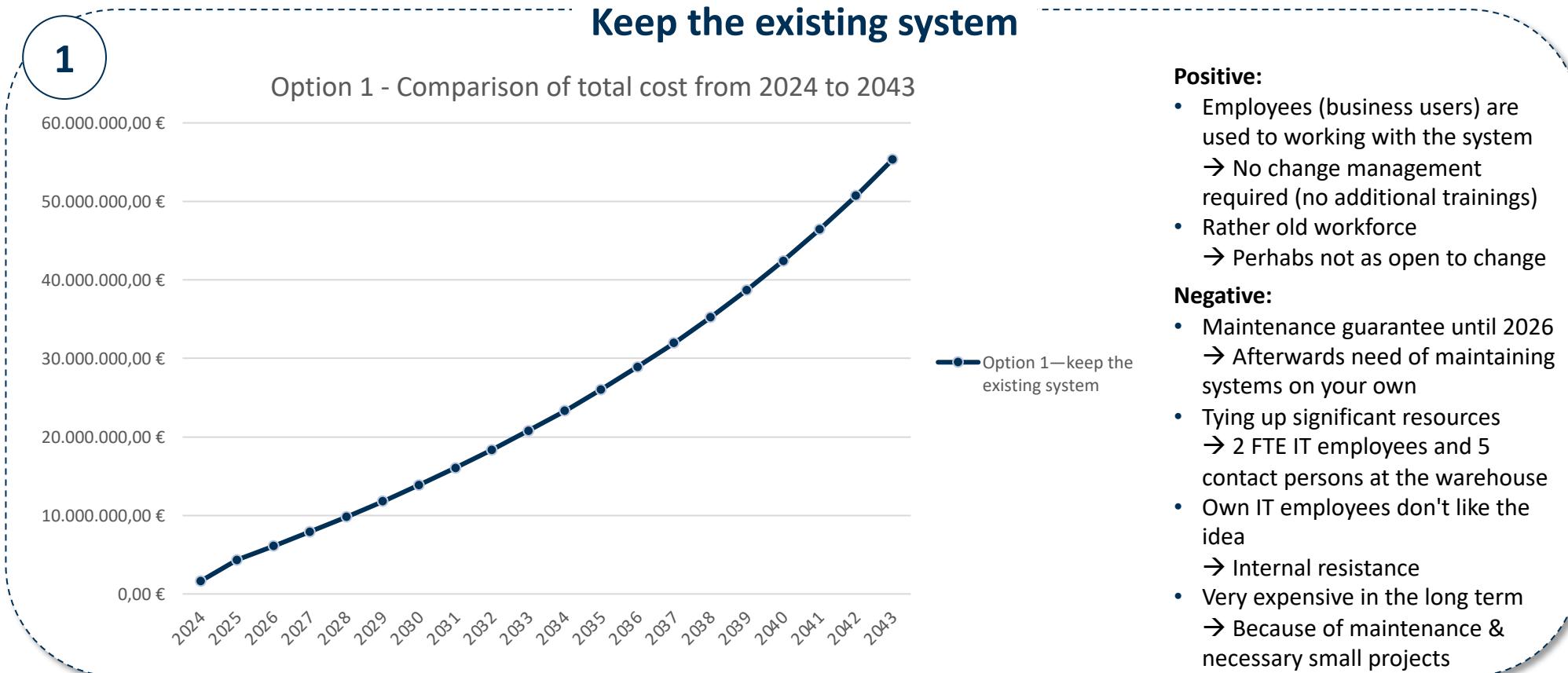
## 3 Proprietary software with outsourcing/ offshoring

- Project is to be run within the next three years and total cost amount to approximately €6M
- First estimation for implementation expenditure amounts to a total of 5,500 Person Days
- Application management and support approximately 1,300 Person Days p.a. & system operation approximately 800 Person Days p.a.
- External service provider offers an offshore scenario to reduce cost

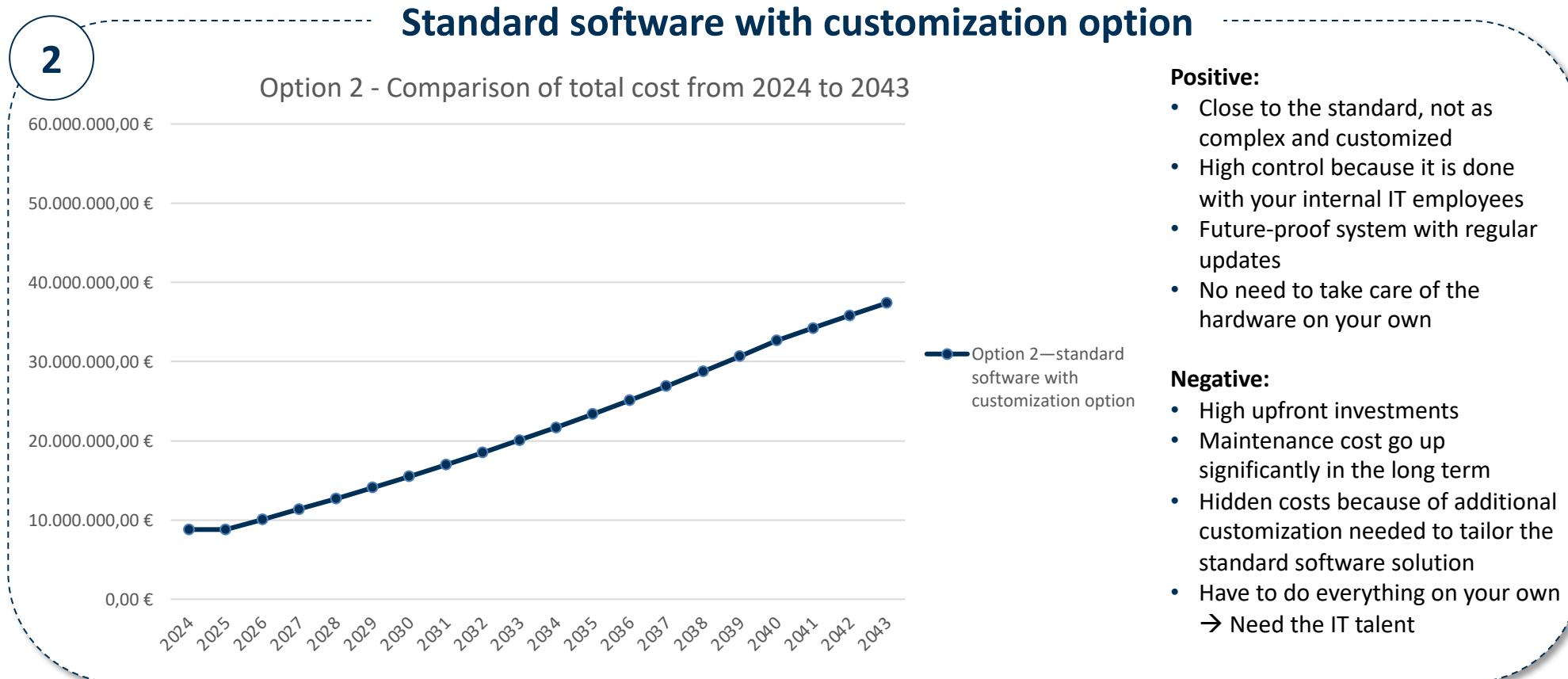


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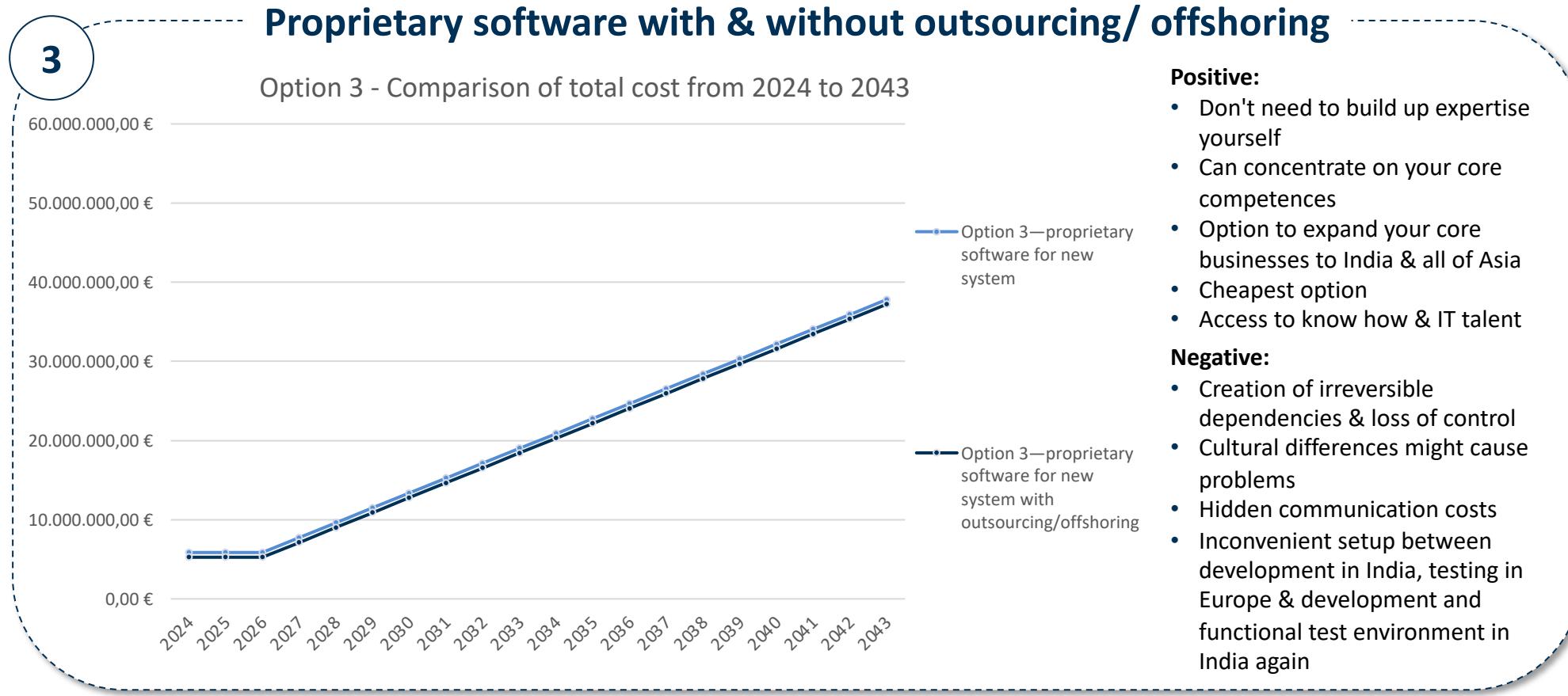
# Keeping an existing system sounds easy until you have to maintain it on your own



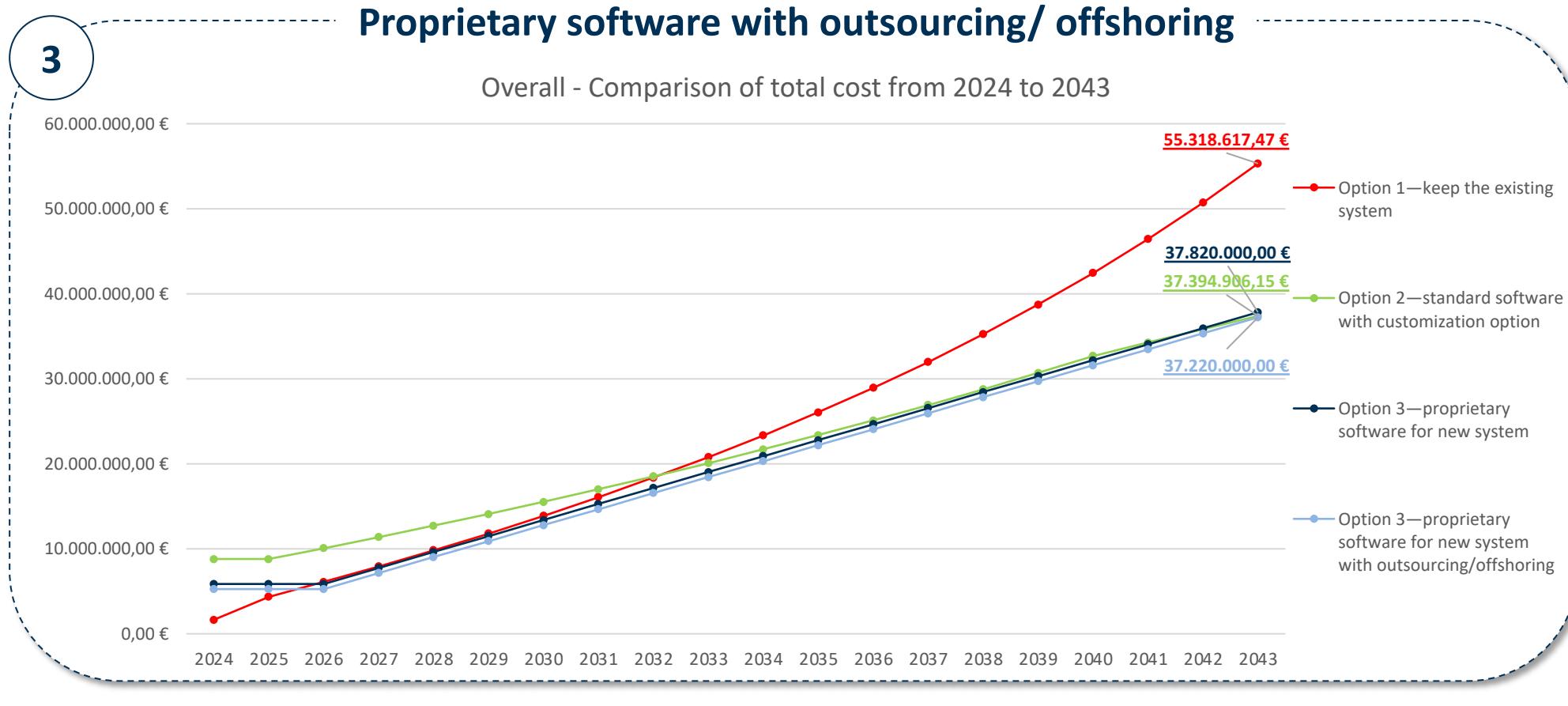
# Standard software sounds like the holy grail but licenses can be expensive



# Outsourcing is in everyone's mouth but there are several downsides to it



# Comparing the options, option 2 leveraging standard software is the best



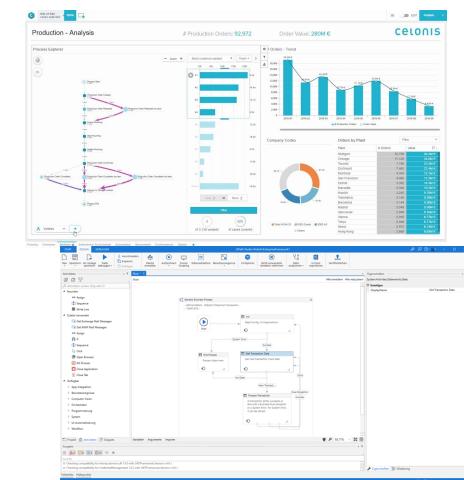
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# 4 promising ways in which to improve your business through digital technologies

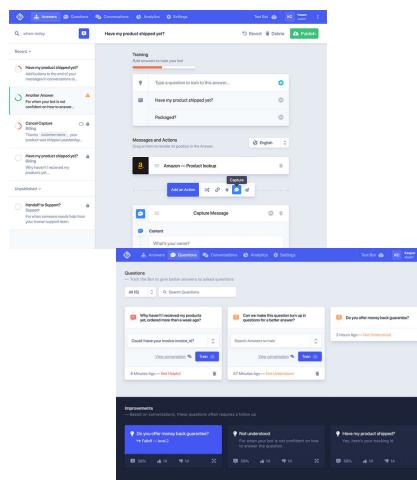
## Process Offensive

### Process Mining & (Robotic) Process Automation



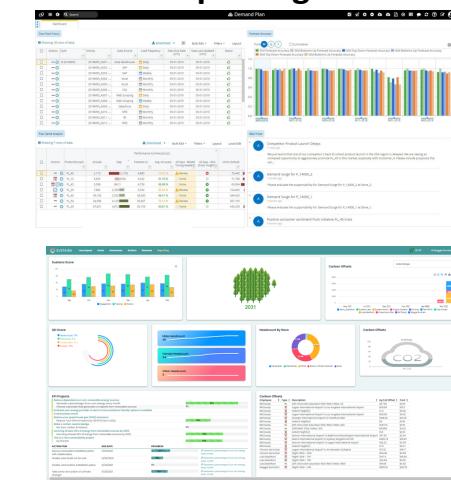
## Chatbots

### Generative & conversational AI



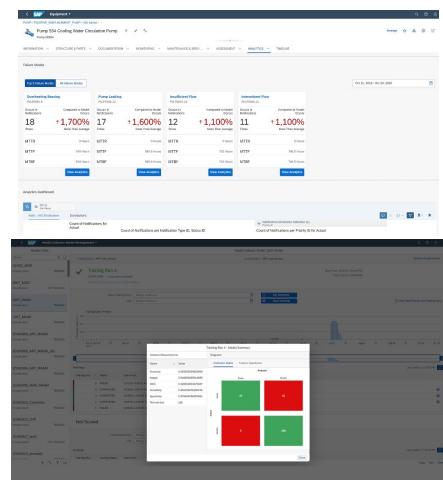
## Operational Excellence

### AI-driven demand & supply planning with sustainability reporting



## Predictive Maintenance

### Machine Learning-enabled maintenance “revolution”



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# A process offensive combined with Chatbots improves customer satisfaction, saves cost & gains revenues

## Process Offensive

- **Details:**
  - Process Mining finds uncompliant process behavior & analyzes various time & data dimensions
  - Robotic Process Automation uses so-called software robots to do repetitive, manual & time-consuming tasks
  - Decrease complexity of processes & create a higher uniformity as well as clarity & transparency for employees
  - Uniform processes reduce #needed applications and need for new application development
  - Applications can be consolidated/ shut down
- **Impact on costs and revenues:**
  - Increase in software licenses cost for SaaS process mining solutions like Celonis or SAP Signavio (not too expensive)
  - Cost decrease in application development cost
  - Cost decrease in application maintenance cost
  - Revenue increase through optimized revenue-generating processes



## Chatbots

- **Details:**
  - Taking advantage of the innovations generated by the hype around Generative AI
  - Customer service around the clock without having to pay multiple employees
  - Can make up for reduced SLAs in the 4<sup>th</sup> cost reduction lever of chapter 3a
- **Impact on costs and revenues:**
  - Cost savings through potential employee layoffs
  - Revenue generation through the possibility of assigning employees to different tasks
  - Very quick response times
  - Gain of valuable data about your customers
  - Reduced amount of human errors
  - Improved customer satisfaction



# Achieving operational excellence in demand & supply planning and establishing predictive maintenance

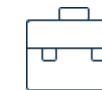
## Operational Excellence

- **Details:**
  - Amount of data available has increased exponentially
  - Make use of this data through finding patterns and trends that can help optimize the movement of goods
  - Predict demand and forecast inventory needs
  - AI can take into account a variety of factors that might affect demand (e.g. weather, news & social media data as well as sustainability data)
- **Impact on costs and revenues:**
  - More accurate forecasts and thereby optimized spend
  - Minimizing overstock and stockouts
  - Dealing with supplier unpredictability
  - Transparency on sustainability + ESG compliance
    - Identify problematic areas
    - Less need for buying CO2 certificates
    - Lower costs + improved shareholder standing



## Predictive Maintenance

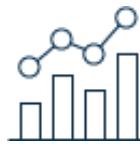
- **Details:**
  - Reduction or near elimination of unscheduled equipment downtime caused by equipment or system failure
  - Increased production capacity
  - Reduced maintenance costs
  - Increased equipment lifespan
- **Impact on costs and revenues:**
  - Higher uptimes & productivity of assets
    - Higher revenues, less costs
  - Less preventive maintenance (before it is actually necessary)
    - Saving costs by optimizing the point in time to maintain assets



# Choose standard software to reduce application development cost & use digitalization & AI to your advantage

## IT Cost

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**Thank You.**

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# Appendix

# Find all our calculations in the following Excel spreadsheet (simply click on the picture)



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In this document, we'd like to give you all the necessary insights into the calculations we did in order to come up with the presented suggestions for the IT of your company, Logistica.

The structure of the document is as follows:

1. In the sheet "IT cost vs benchmark" you can see the calculation and comparison of how you as Logistica perform against the benchmark in terms of overall IT cost as well as IT cost split into 8 different categories. There, you can also see the impact of the proposed levers on your overall IT cost.
2. In the sheet "IT portfolio 5 years" we display the necessary calculations in order to evaluate the feasibility of the proposed IT portfolio. We sum up the expected returns/ cost savings & investments per proposed project as well as the total values over all 9 projects. Furthermore we compare the investments with the IT change budget for the next 5 years.
3. In the sheet "IT portfolio 10 years forecast" we extend the calculations for the next 5 years for further 5 years. The full 10 year plan is calculated by using the "FORECAST.LINEAR" fuction by Excel that takes into consideration the values of all previous years and thereby predicts the value of the current year. In terms of the investments, this formula isn't sufficient because it will also predict negative values for linearly decreasing functions. For these cases of negative investments, we assumed the investments to be "0€" and substituted the predictions accordingly.
4. In the sheet "IT Sourcing", there are all calculations regarding the 3 sourcing options for the new warehouse management system.  
Option 1—keep the existing system  
Option 2—standard software with customization option  
Option 3—proprietary software for new system with & without outsourcing/offshoring