The Process Era is Here
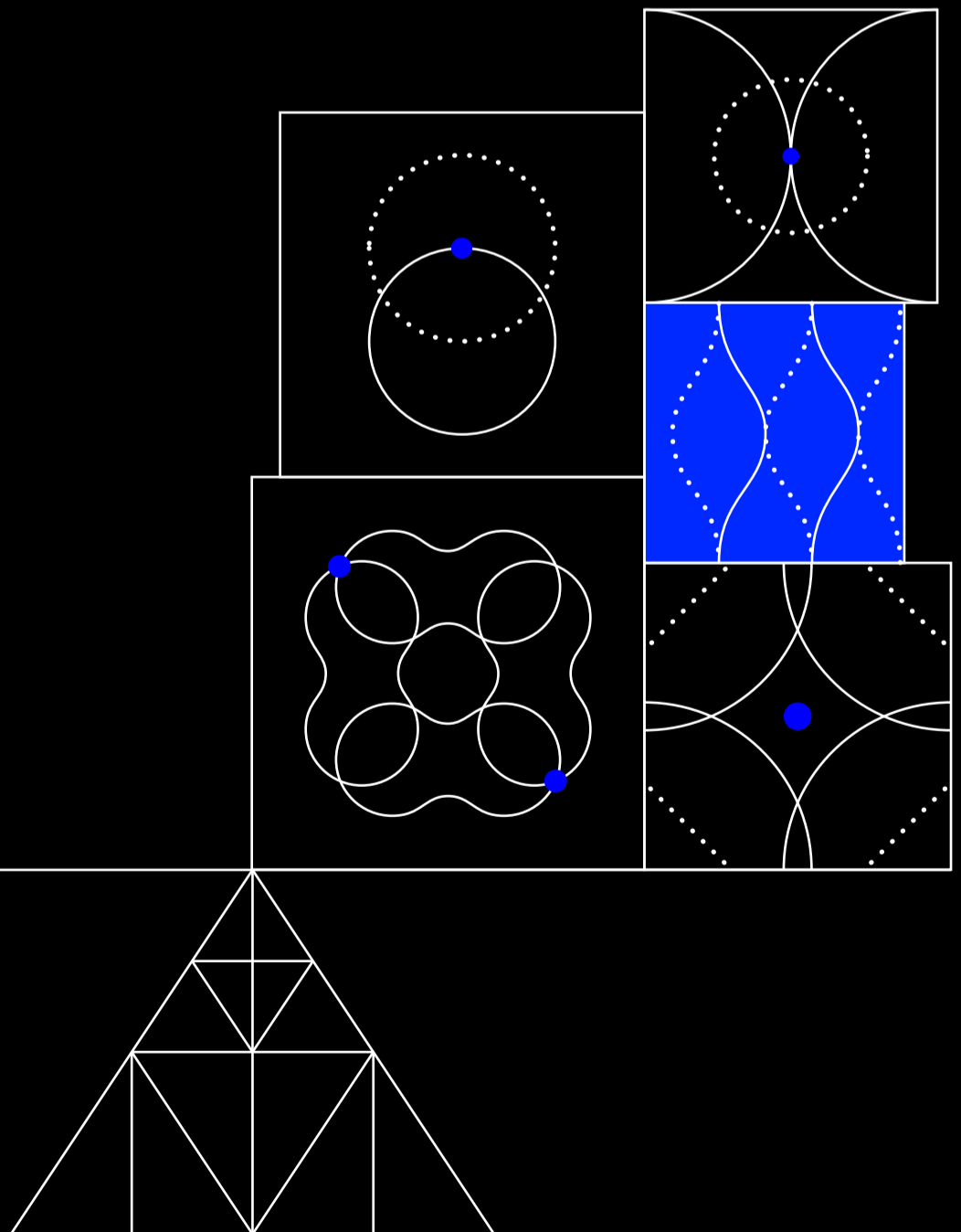## Supply Chain Edition

How supply chain leaders are using processes as a lever for value and a driver for change

Contents

Processes are key to keeping pace with change

Following years of supply chain disruption, a return to pre-pandemic 'normality' looks unlikely. From political unrest to global warming and technological disruption (not to mention inflationary and recessionary pressures), the world is changing at a pace that would have felt incomprehensible just a few years ago.

Supply chain leaders find themselves in the midst of all this upheaval, tasked with reducing cost, optimizing cash, and maintaining service levels. Most understand that optimizing their business processes will help them react positively to this fast-moving and sometimes precarious environment. In fact, our research reveals 85% of supply chain leaders see processes as their greatest lever for value and their fastest lever for change. Just how many are actually using that lever to the fullest, is another question.

We surveyed 300 senior supply chain leaders from large enterprises in Europe and the United States to find out how they are currently optimizing their processes. This report is primarily based on the findings of that survey. As the 300 responses formed part of a broader survey of over 1,200 business leaders from finance and shared services, process and operations, and IT, as well as supply chain, we also highlight cross-functional trends where useful.

The results reveal a sea change in the way enterprises create value. The process era is here — an era in which optimizing processes will be as foundational to business success as product development, finance, or sales.

Most supply chain leaders are enthusiastic about process optimization, with a convincing 99% saying it is important (or even essential) to meet organizational objectives. What's more, 83% agree process optimization can deliver bottom, top, and green-line value at the same time.

Many supply chain functions aren't yet taking the necessary action. A variety of barriers are holding back optimization and, as a result, sub-optimal processes are making an already difficult job harder. They're costing time and money, and limiting opportunities to capture value. But for the supply chain leaders that *are* optimizing processes, the rewards are very real, both from a financial (and especially working capital) viewpoint and in their ability to adapt to their customers' needs.
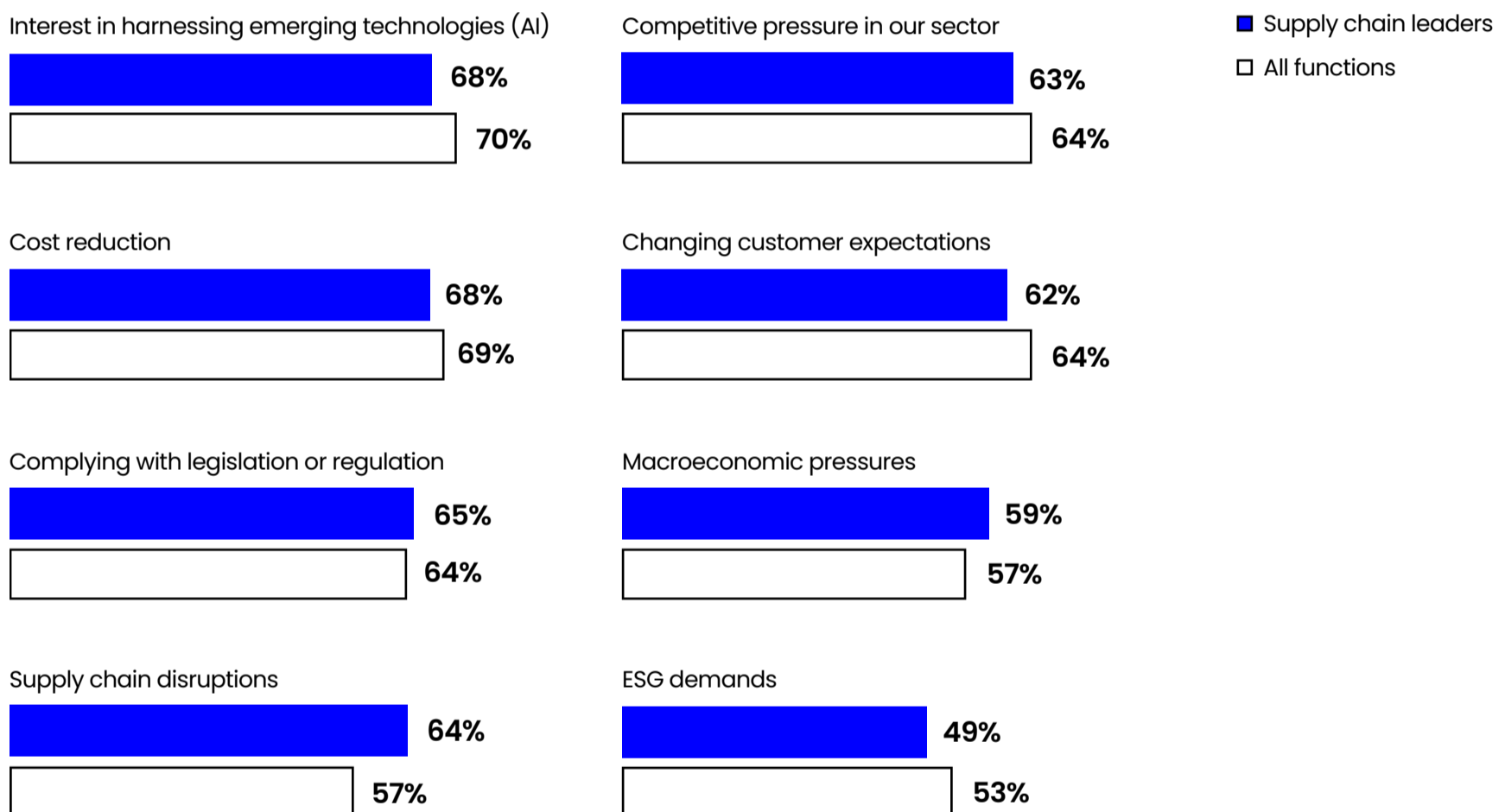
These benefits mean 82% of supply chain leaders believe process excellence will emerge as a core business discipline within the next five years. This presents an exciting opportunity for individuals who aren't willing to accept the status quo, and teams that want to improve how their organizations work and drive real business value. The time for these visionary leaders to galvanize change is now, and processes are the lever they can use to make it happen.
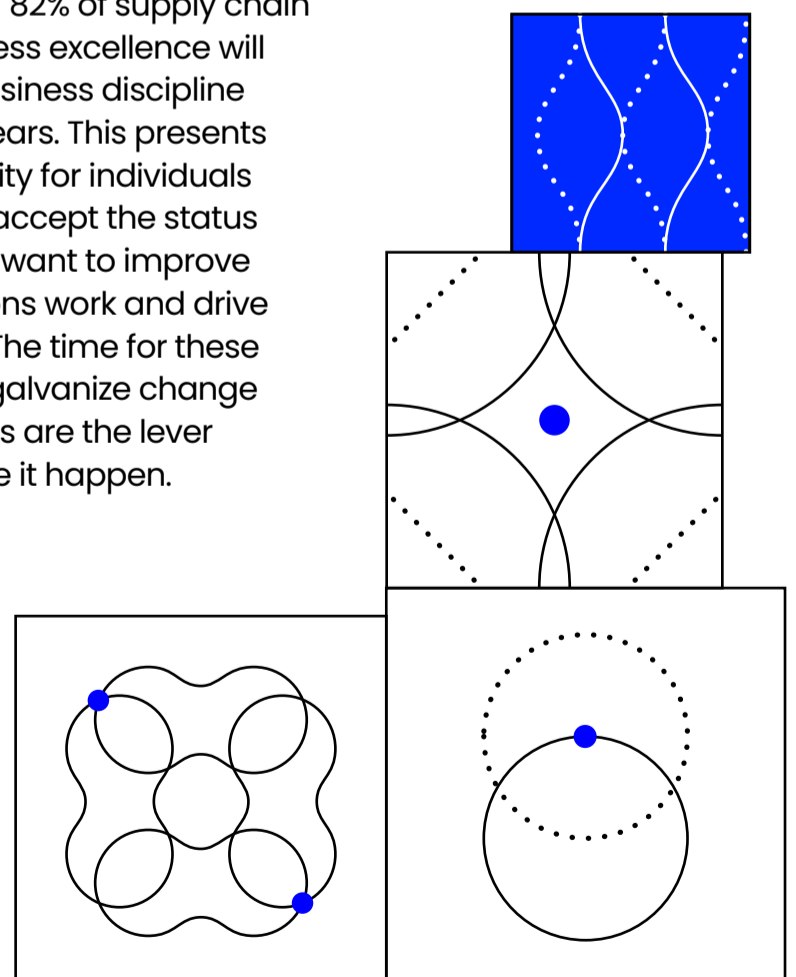
The process optimization imperative

To better understand the priorities of supply chain leaders in this unpredictable world, we asked them to identify the top-five factors driving the need to optimize processes in the year ahead. They prove to be multitaskers, choosing today's demands (cost reduction) alongside an interest in tomorrow's innovation (harnessing new technologies) as their top picks.

■ Factors driving process optimization

Interest in harnessing emerging technologies (AI)

Supply chain leaders	68%
All functions	70%

Competitive pressure in our sector

Supply chain leaders	63%
All functions	64%

Cost reduction

Supply chain leaders	68%
All functions	69%

Changing customer expectations

Supply chain leaders	62%
All functions	64%

Complying with legislation or regulation

Supply chain leaders	65%
All functions	64%

Macroeconomic pressures

Supply chain leaders	59%
All functions	57%

Supply chain disruptions

Supply chain leaders	64%
All functions	57%

ESG demands

Supply chain leaders	49%
All functions	53%

■ Supply chain leaders
☐ All functions

These responses indicate supply chain professionals see three key opportunities in process optimization. First, to harness AI and other emerging technologies. Second, to keep costs under control. And third, to respond positively to continually changing circumstances including changing regulations.

Let's take a closer look at these three opportunities.

Harnessing AI and innovation

The successful implementation of AI-enabled supply chain management at the beginning of the decade enabled early adopters to cut logistics costs by 15% (compared with slower-moving competitors), while improving inventory levels by 35% and service levels generally, according to McKinsey.

Fast-forward a few years and it's no wonder the vast majority of supply chain leaders (91%) say their organizations are already using or actively implementing AI. Only 1% aren't planning on using AI at all, according to the survey.

Supply chain leaders recognize the potential AI has to unleash enormous value for their organization — but only if their processes can support it. Almost three-quarters (71%) of those already using AI are concerned that process shortcomings may hold back further successful implementation of AI (as well as automation and other emerging technologies) in the next two years.

71% **91%**
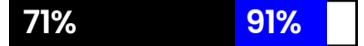
91% of supply chain leaders say their organizations are already using or actively implementing AI

71% of these are concerned process shortcomings may hold back further implementation of AI in the next two years

Reducing costs and controlling cash flow

Some 68% of supply chain leaders put cutting costs as one of the top-five factors that will drive the need to optimize processes in the year ahead. What's more, 85% of supply chain leaders feel process optimization grows in importance during times of economic instability, perhaps recognizing that it is an effective way to reduce expenditure and get cash flow under control.

And, as we'll see later in this report, almost half (48%) of supply chain leaders put cost reduction in their top three outcomes of fully-optimized processes (alongside revenue growth and improved working capital).

48%

48% of supply chain leaders cite cost reduction as one of the top three outcomes of fully-optimized departmental processes

Adapting to change

Many of the top drivers of process optimization identified by supply chain leaders, such as complying with regulations or dealing with supply chain disruptions, relate to the ability to adapt to change. And we've already seen processes are viewed as the greatest lever for value and the fastest lever for change by 85% of supply chain leaders. This is slightly higher than their peers in finance (83%), IT (84%), and process and operations (81%).

Supply chain leaders see process optimization as a way to seize value opportunities in a continually changing environment. As we'll see in the next section, 40% say the flexibility to respond to change quickly is one of the top three outcomes of fully-optimized processes within their function.

85%

85% of supply chain leaders agree processes are their greatest lever for value and their fastest lever for change

Processes are the lifeblood of organizations

Considering how foundational processes are to anything an organization does, it's perhaps not surprising that 83% of supply chain leaders say processes are the lifeblood of their organization. In fact, 93% think process optimization is important or even essential to meet departmental objectives. And 99% say the same about meeting organizational objectives.

83%
of supply chain leaders say processes are the lifeblood of their organization

■ **Importance of optimizing processes**

■ Essential
■ Important
□ Not important

7%

To meet departmental objectives

39%   54%

1%

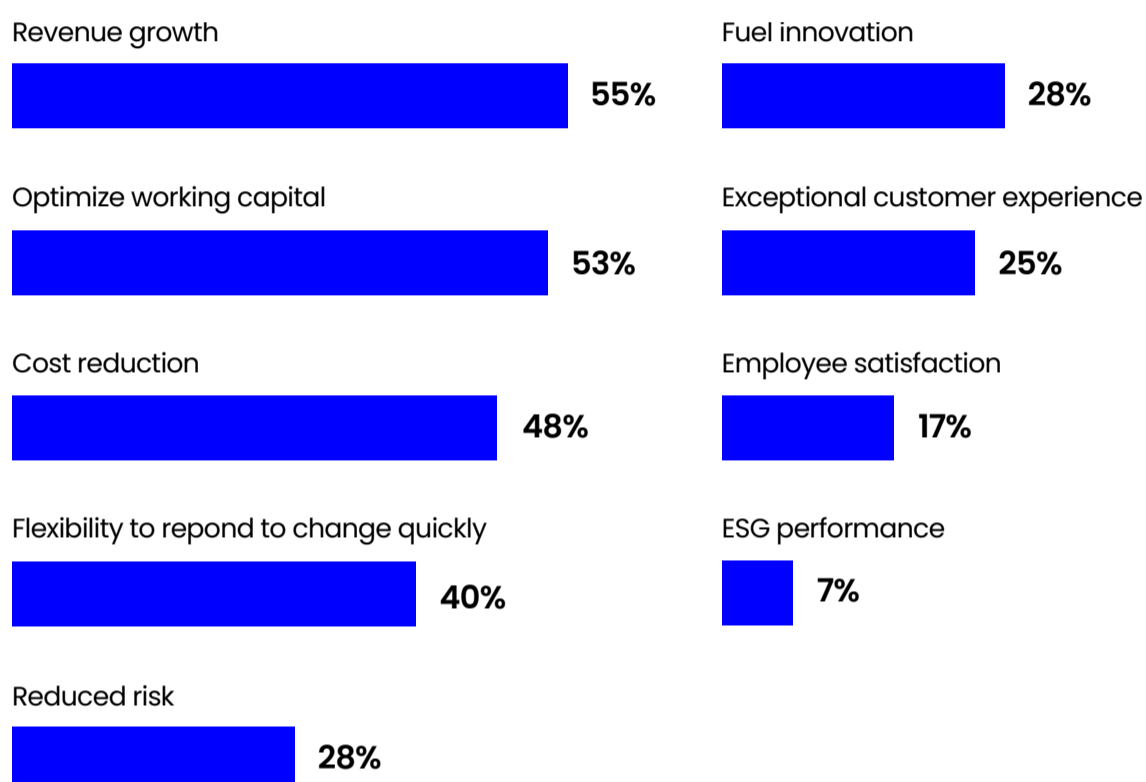To meet organizational objectives

52%   47%
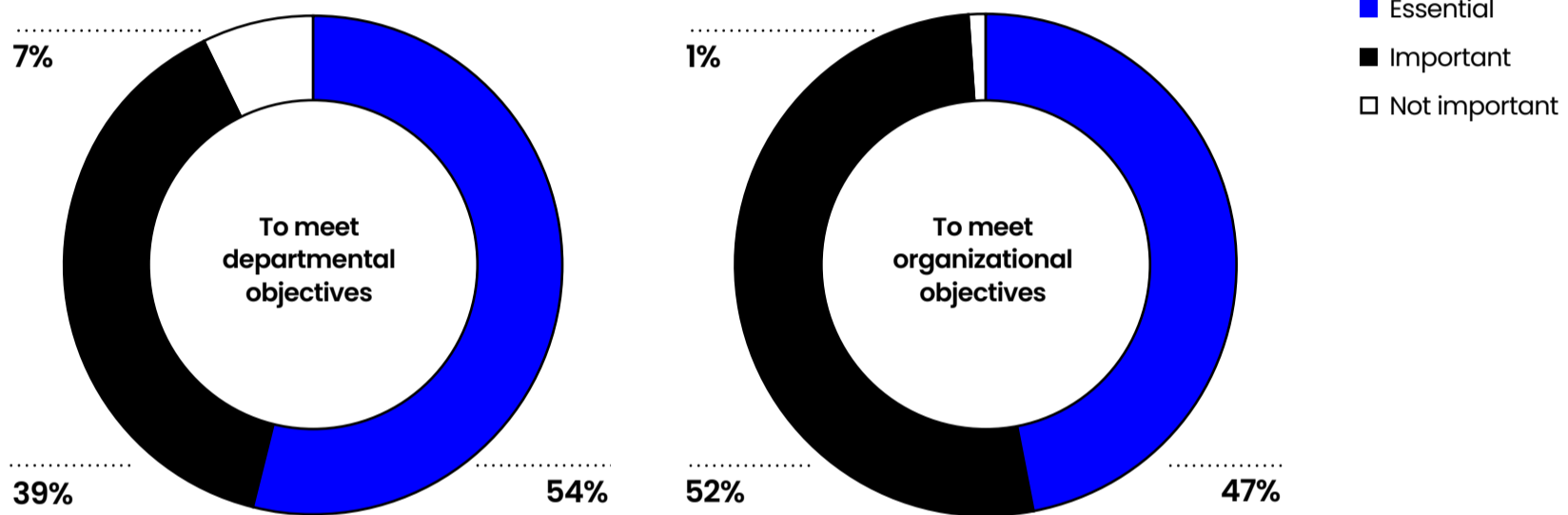
US leaders endorse optimization

US supply chain leaders are most likely to recognize the importance of optimizing processes. Almost two-thirds (65%) say process optimization is essential to meeting departmental objectives, compared with 59% in Europe and just 38% in the DACH region (Germany, Austria and Switzerland).

The outcomes of process optimization

To get a deeper understanding of the specific outcomes supply chain leaders are achieving or believe can be achieved by using the process lever, we asked them to pick their top three. Business-critical financial outcomes top the list, closely followed by the flexibility to respond to change quickly.

■ The top outcomes of optimized supply chain processes

Revenue growth
55%

Fuel innovation
28%

Optimize working capital
53%

Exceptional customer experience
25%

Cost reduction
48%

Employee satisfaction
17%

Flexibility to repond to change quickly
40%

ESG performance
7%

Reduced risk
28%

Working capital improvement is an expected outcome

Supply chain leaders are more likely to see optimized working capital as an outcome of optimized processes than other functions, with 53% putting it in their top three compared with 46% in finance, 43% in process and operations, and 25% in IT.

On the other hand, they are the least likely to think process optimization will increase employee satisfaction, with just 17% including it in their top three compared with 28% in finance and IT, and 24% in process and operations.

So far the survey results show that enthusiasm for process optimization is high. In fact, 82% of supply chain leaders believe process excellence will emerge as a core business discipline within the next five years. But there are still many challenges to overcome before we get there, as we'll see in the next section.

82%
of supply chain leaders believe process excellence will emerge as a core business discipline within the next five years

Processes aren't running as they should

On average, only 56% of business-critical processes within supply chain departments are seen as fully optimized, according to the survey. That means a worrying 44% of processes in areas such as planning, sourcing, production, distribution, and returns are running in a sub-optimal way.

And of course, there's a high chance that the 56% of processes that *are* seen as fully optimized could still be improved. Leaders' perceptions of process performance within their departments don't necessarily reflect the on-the-ground reality if these processes aren't being accurately measured.

■ **Business-critical processes within supply chain**

44%

Sub-optimal

56%
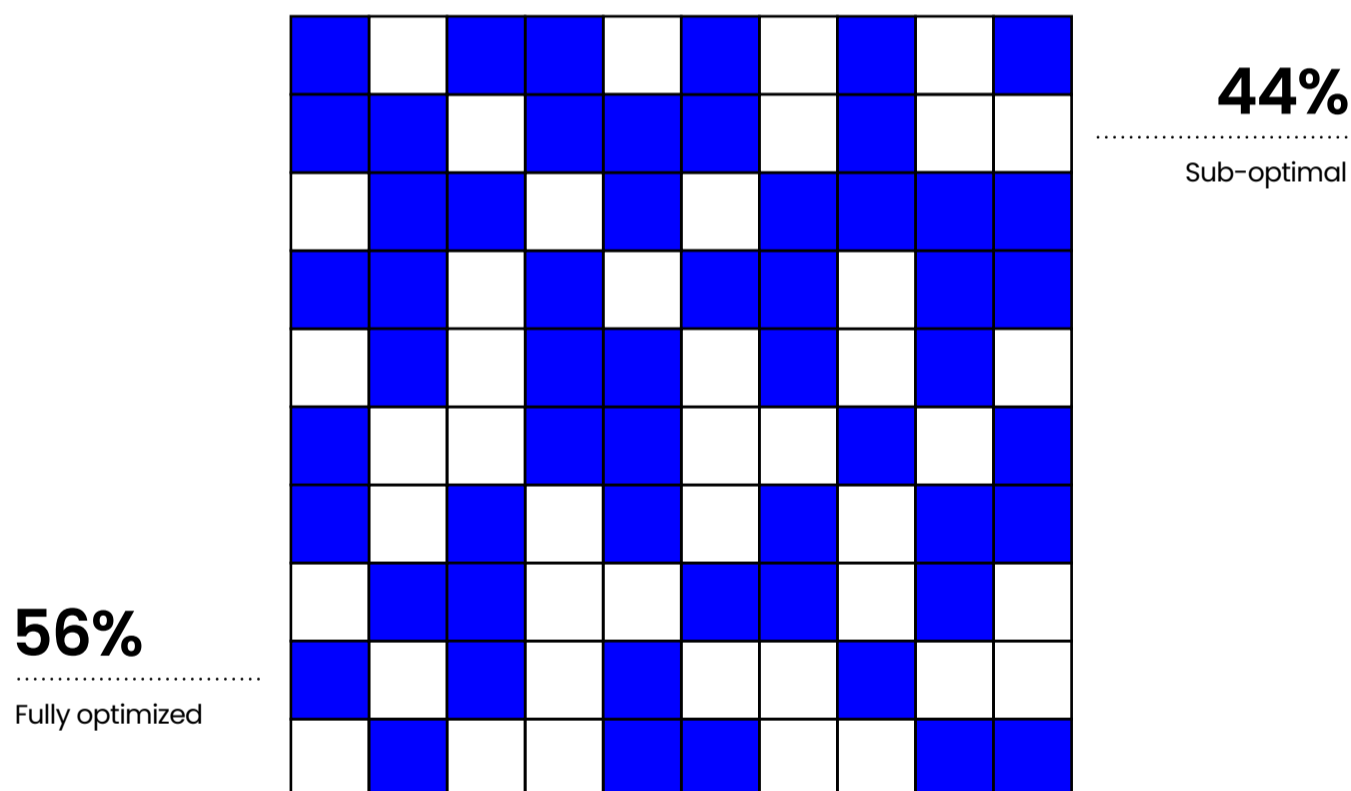
Fully optimized

A question of process perception

In the US, 81% of supply chain leaders consider more than half of their business-critical departmental processes to be fully optimized, while only 49% in DACH give the same response.
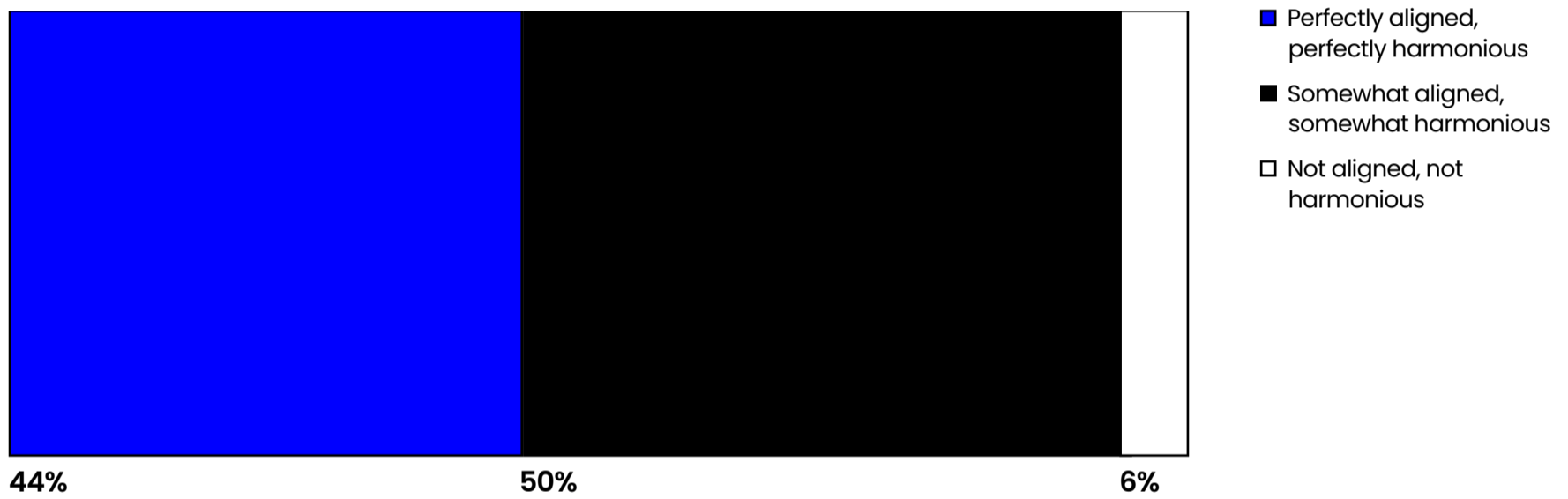
This may indicate process optimization is more advanced in the US, or it may simply indicate a difference in how supply chain leaders perceive process effectiveness in the two different markets.

A similar picture emerges when considering cross-departmental processes, which is to be expected. If businesses have sub-optimal processes within individual departments, they're unlikely to have harmonious processes running across multiple functions.
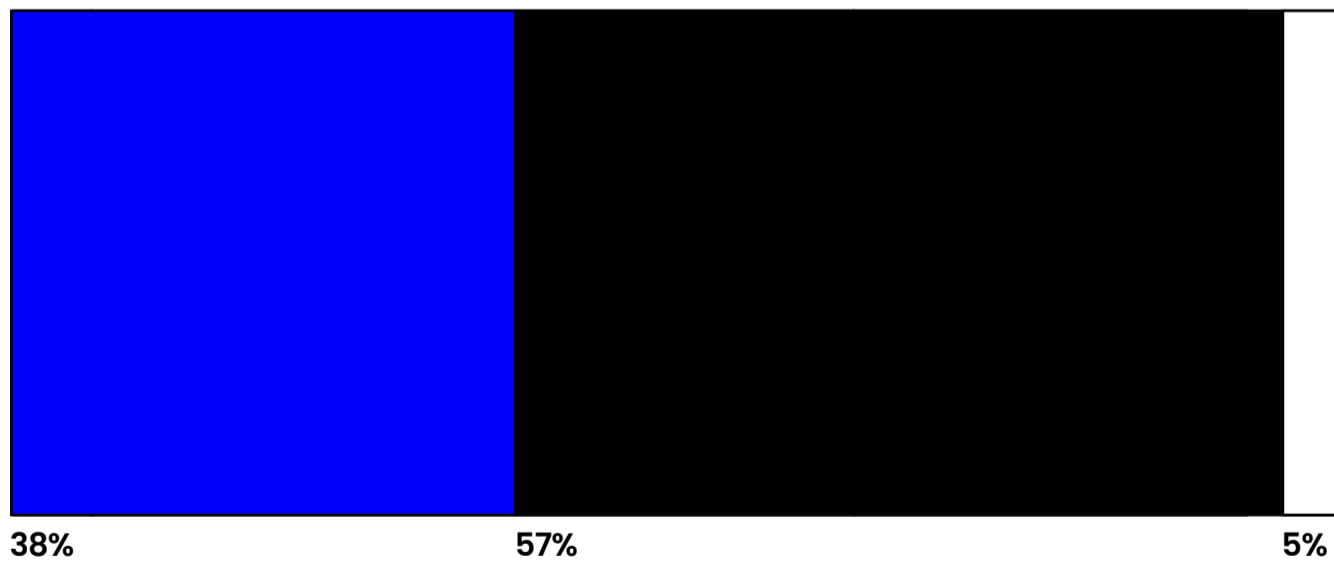
When asked to describe the cross-departmental processes in their business, half (50%) of supply chain leaders say they are 'somewhat aligned' compared with just 44% that describe them as 'perfectly aligned'. However, this view is slightly more positive than the response from the cross-functional survey, where only 38% of business leaders see cross-departmental processes as being 'perfectly aligned'.

■ **State of cross-departmental processes**

Supply chain

■ Perfectly aligned, perfectly harmonious

■ Somewhat aligned, somewhat harmonious

□ Not aligned, not harmonious

44% **50%** **6%**

**All functions**

38% **57%** **5%**

Process optimization is being neglected

Process optimization is a relatively broad concept that can mean different things to different people. In this research we define it as:

"Pinpointing a business-critical process that needs improvement, identifying the root cause of the problem, and then taking effective, sustainable action to optimize that process to drive a high-performance outcome."

We asked supply chain leaders about the last time their department had taken this action. The results reveal process optimization is being widely neglected.

Just under one in five supply chain leaders (18%) say they do process optimization on a continuous basis. This compares favorably with the responses from other departmental leaders (8% in finance, 15% in IT, and 15% in process and operations) but the figure is still worryingly low. Over half (54%) of supply chain leaders haven't optimized a process in the last year.

54%
Over half of supply chain leaders haven't optimized a process in the last 12 months
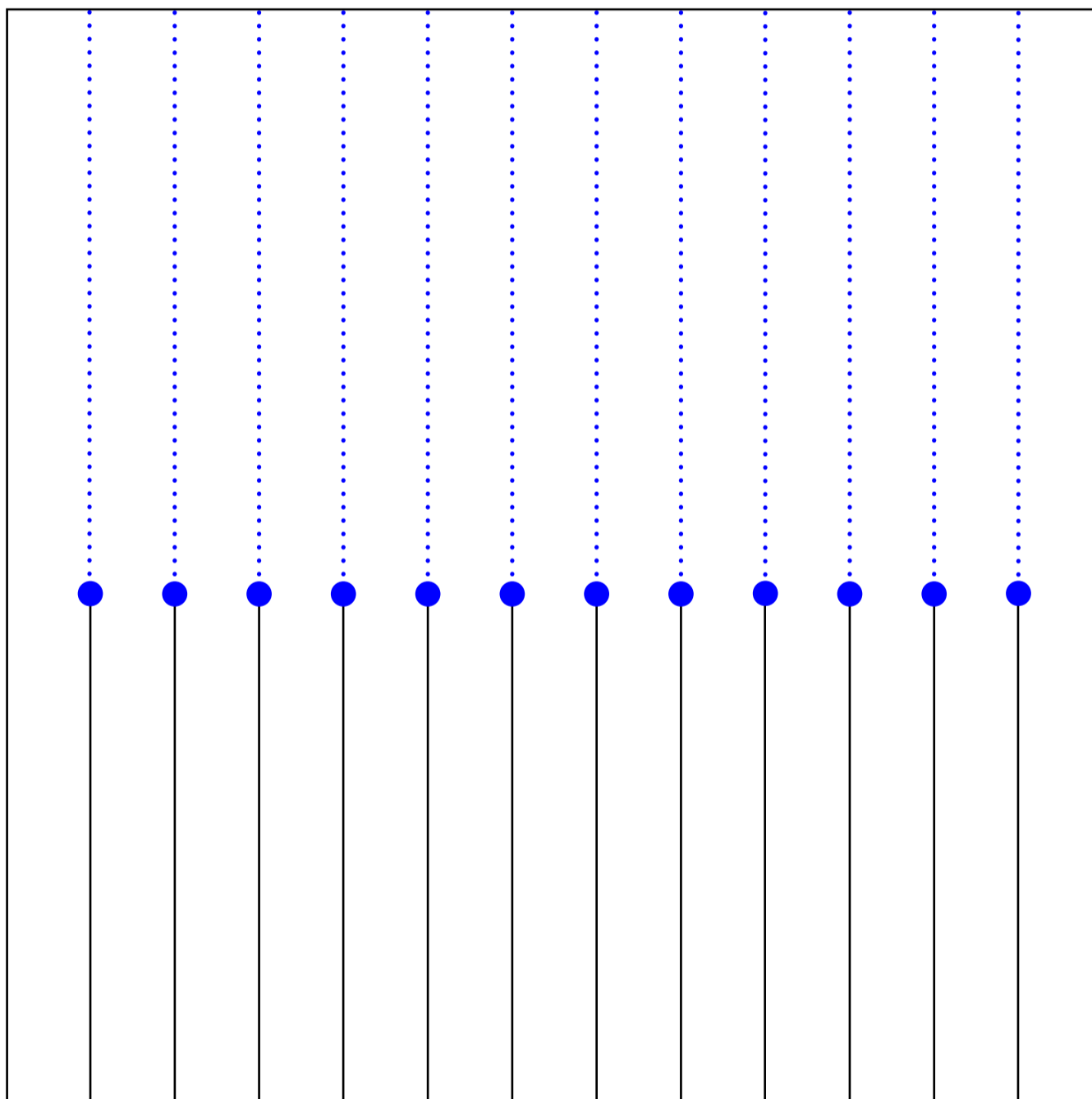
Siloes and poor visibility: the barriers getting in the way

So, why aren't supply chain departments making better use of the process lever when they so clearly understand its value?

The research reveals there are numerous barriers preventing supply chain teams from optimizing processes. The top three are siloed data and teams, difficulty in identifying opportunities to improve, and the complexity of processes. But other barriers such as legacy technology and resistance to change are also identified by a significant proportion of supply chain leaders. Almost a third say process optimization isn't a priority as they're often in firefighting mode.

■ **Barriers to optimizing supply chain processes**

Siloed data and teams — 46%	**Opportunities to improve are hard to identify** — 46%	**Complexity of processes** — 44%
Legacy technology — 36%	**Resistance to change within the organization** — 34%	**Not a priority as we're often in firefighting mode** — 32%
Lack of executive buy-in — 27%	**Lack of process ownership** — 27%	**Poor data quality** — 26%

We can see an overall disconnect within these enterprises. Departments speak their own languages, systems don't play well together, and processes are hard to see, which makes it difficult to move forward with optimization initiatives.

And these many and varied barriers aren't just standing in the way of process optimization. In a function that continuously needs to balance cost, cash, and service levels, barriers like data and team siloes, legacy technology, and resistance to change will inevitably impact overall supply chain performance.
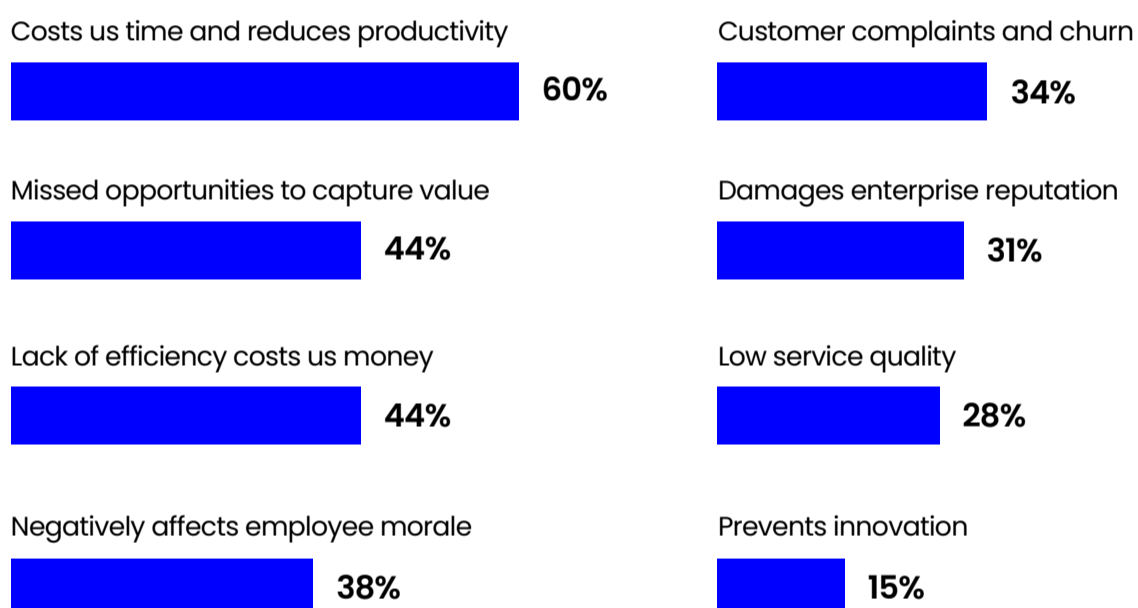
Businesses are paying a high price

So far we've seen that process neglect, exacerbated by a variety of barriers to process optimization, is resulting in sub-optimal processes within supply chain departments.

When businesses look at these sub-optimal processes individually, the impact may not seem that significant. But, as we saw earlier, a massive 44% of business-critical processes aren't running as well as they should be. And when the impacts of each of these are added together, the effects are immense, making adapting to change and building for the future very difficult.

The specific effects felt within supply chain departments are interesting to note. Loss of time and productivity is seen as by far the biggest impact, with missing opportunities to capture value and the cost of inefficiency both ranking second.

■ Impacts of sub-optimal processes on supply chain

Costs us time and reduces productivity

60%

Customer complaints and churn

34%

Missed opportunities to capture value

44%

Damages enterprise reputation

31%

Lack of efficiency costs us money

44%

Low service quality

28%

Negatively affects employee morale

38%

Prevents innovation

15%

Interestingly, preventing innovation comes at the bottom of the list of current impacts. This might feel contradictory to other findings from this survey, which suggest supply chain leaders see process optimization as essential to drive innovation. However, the other options in the list have more immediate business consequences, which perhaps explains the results.

As mentioned earlier, 71% of the supply chain leaders that are already using AI are worried that process shortcomings may hold back further implementation in the next two years, so we could see preventing innovation rise up this list if process optimization is not prioritized.

Tech investment in the process era

Many supply chain leaders are already attempting to unlock the value opportunities in their processes. Almost half (46%) say their organization is currently investing in process optimization technologies, while a further 34% say they plan to invest in the next three years.

So, what types of tools and techniques are being used to identify and act on value opportunities within supply chain processes? With almost three-quarters (73%) of supply chain leaders saying a lack of visibility is the biggest enemy to process excellence, the tools and tactics supply chain departments are using today tend to focus on increasing the visibility of processes so they can be optimized. Business Intelligence (BI) tools are most commonly used, especially in the US, while Robotic Process Automation (RPA) and Business Process Management (BPM) are also popular.

■ **Process optimization tech investment**

Business Intelligence (BI) tools

64%

Business Intelligence: software that ingests business data and presents it in user-friendly formats such as reports or dashboards

Robotic Process Automation (RPA)

59%

Robotic Process Automation: automation technologies that mimic back-office tasks such as extracting data, filling in forms, and moving files

Use external consultants

53%

Business Process Management (BPM)

48%

Business Process Management: a method for visually representing workflows, designed to help businesses model and understand processes more clearly

Map them out internally using standard office software e.g. Excel

37%

Process mining tools

27%

Process mining: a technology that discovers, monitors and improves actual processes by leveraging real-time and historical data for business processes and operations

Interestingly, process mining tools — by far the most powerful way to enhance process visibility — are currently least likely to be used. But over a quarter of supply chain departments *are* using this emerging technology and, as we'll see in the next section, far more are exploring its use.
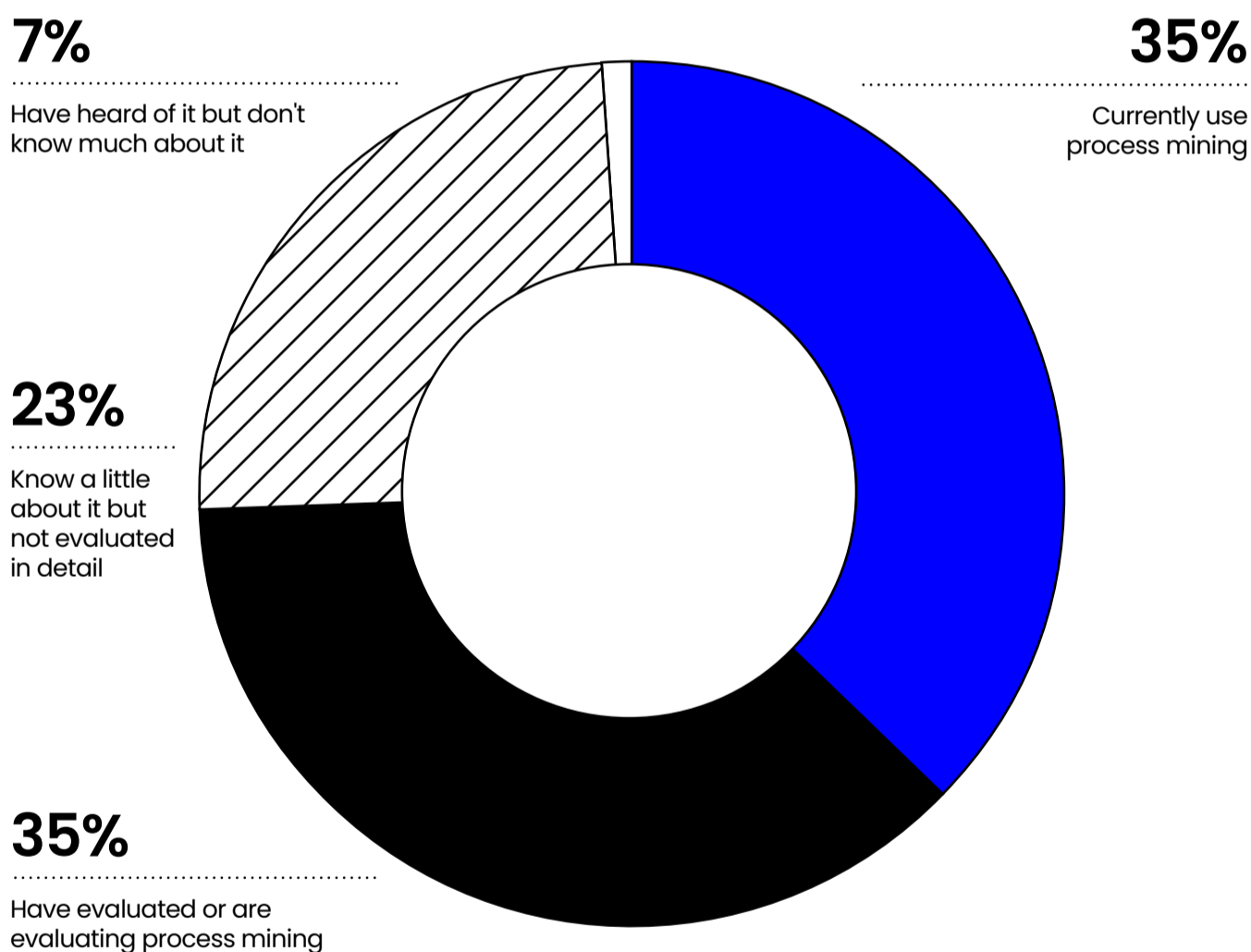
Process mining is gaining traction

Process mining is currently the least used tool for gaining visibility into supply chain processes, but it is gaining traction. Its importance as a key enterprise technology is highlighted by the fact that Gartner® published its first Magic Quadrant™ for Process Mining Tools in 2023.

According to Gartner®, ***"by 2025, 80% of organizations driven by the expectations of cost reduction and automation-derived enhanced process efficiency will embed process mining capabilities in at least 10% of their business operations."***

While 27% of supply chain leaders say they use process mining tools specifically for gaining visibility, 35% are currently using the technology in some form (mostly as part of an integrated tool or software suite). And a further 35% are evaluating process mining.

■ Familiarity with process mining

7%

Have heard of it but don't know much about it

35%

Currently use process mining

23%

Know a little about it but not evaluated in detail

35%

Have evaluated or are evaluating process mining

Process mining helps to address specific challenges faced by over half of supply chain leaders, of which the top two are identifying and defining opportunities for improvement within individual processes, and measuring how processes currently perform.

■ Process challenges faced by supply chain leaders

■ Very challenging   ■ Challenging   □ Not so challenging

Challenge	How process mining helps

Identifying and defining opportunities for improvement within a process

19%   37%   44%

Process mining provides an MRI of finance processes to rapidly uncover hidden value opportunities

Measuring how a process currently performs

19%   36%   45%

Process mining quantifies the impact of process performance on specific KPIs

Migrating systems

16%   39%   45%

Process mining supports each system migration phase, from standardizing processes pre-migration to maximizing value post go-live

Understanding how processes interact

20%   34%   46%

The latest iteration of process mining, object-centric process mining, allows organizations to visualize how processes interconnect across operations

Orchestrating improvements across people, processes, and technologies

17%   37%   46%

Process mining layers on top of existing systems to allow businesses to look holistically across processes and take an end-to-end approach to improvements

Analyzing how to optimize the process

15%   38%   47%

Process mining continuously observes how processes are performing, and recommends the right actions to capture value

Understanding how processes actually run

20%   32%   48%

Process mining extracts data from business systems to accurately visualize finance processes as they actually run

The leaders driving adoption

Change management is always challenging. Driving the process optimization agenda forward requires individuals or departments within organizations to act as changemakers. These leaders don't just accept the status quo, but take action to make their businesses more efficient and effective.

We asked the 1,217 business leaders that took part in the cross-functional survey which departments they see as actual or potential change makers in their organization. The supply chain function is seen as a strong contender for this role, with almost half (49%) identifying it as a potential changemaker that can set an example for process excellence. IT and digital, as well as process and operations, are also identified as potential leaders.

When asked which departments are process laggards, the top three answers are finance, compliance, and product development.

■ Process changemakers and laggards

■ Changemakers
☐ Laggards
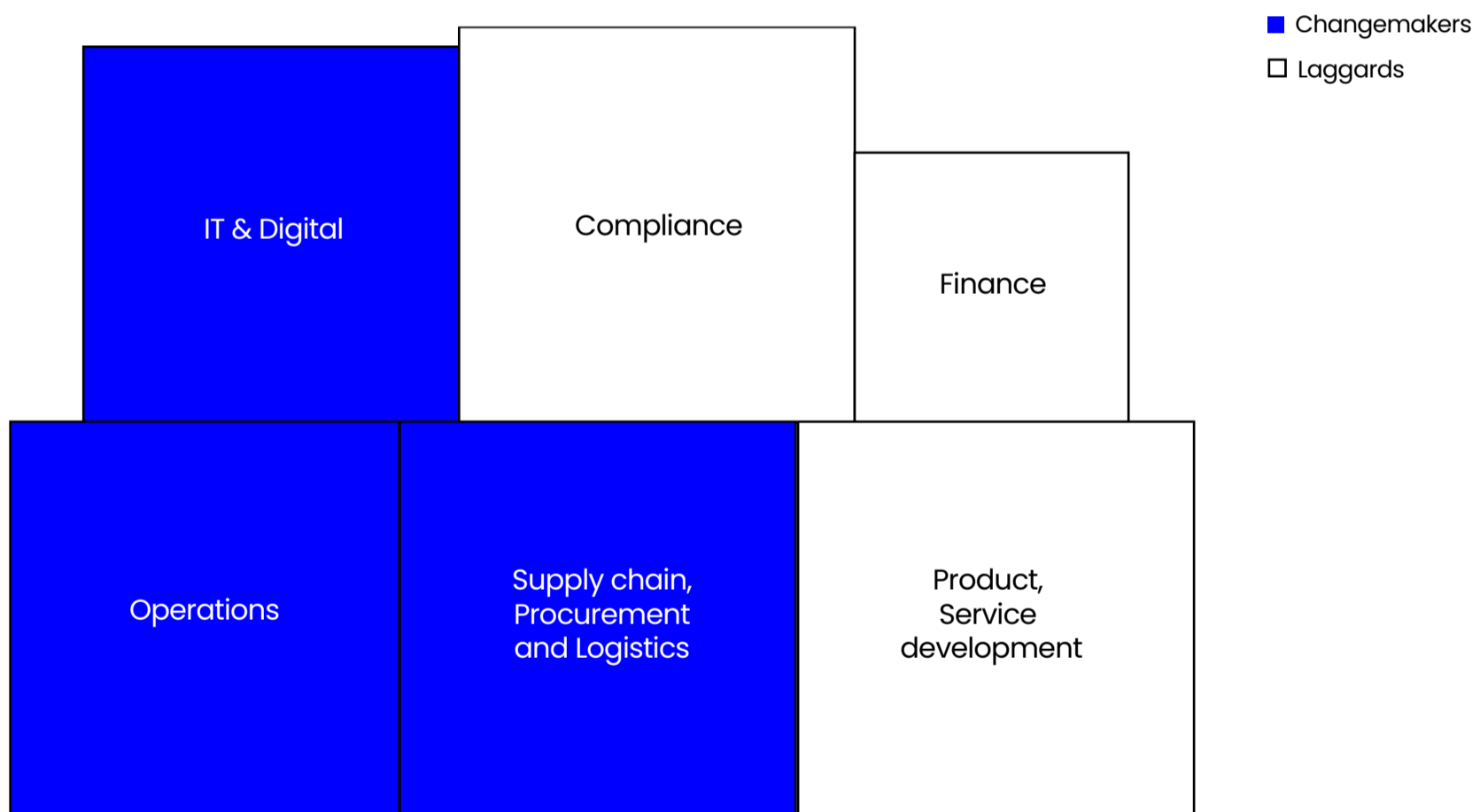
Supply chain leaders are on the right path

Supply chain functions need to adapt and operate with greater flexibility in an unpredictable environment. And supply chain leaders recognize processes as a powerful lever to drive that change.

Despite the multitude and variety of barriers getting in the way, many have already set out on the process optimization journey, driven by the need to reduce costs and harness new technologies, as well as the need to respond positively to future challenges.

Supply chain leaders are moving in the right direction, using and evaluating the tools that will make their operations more efficient, more resilient, and more suited to a continually changing world.
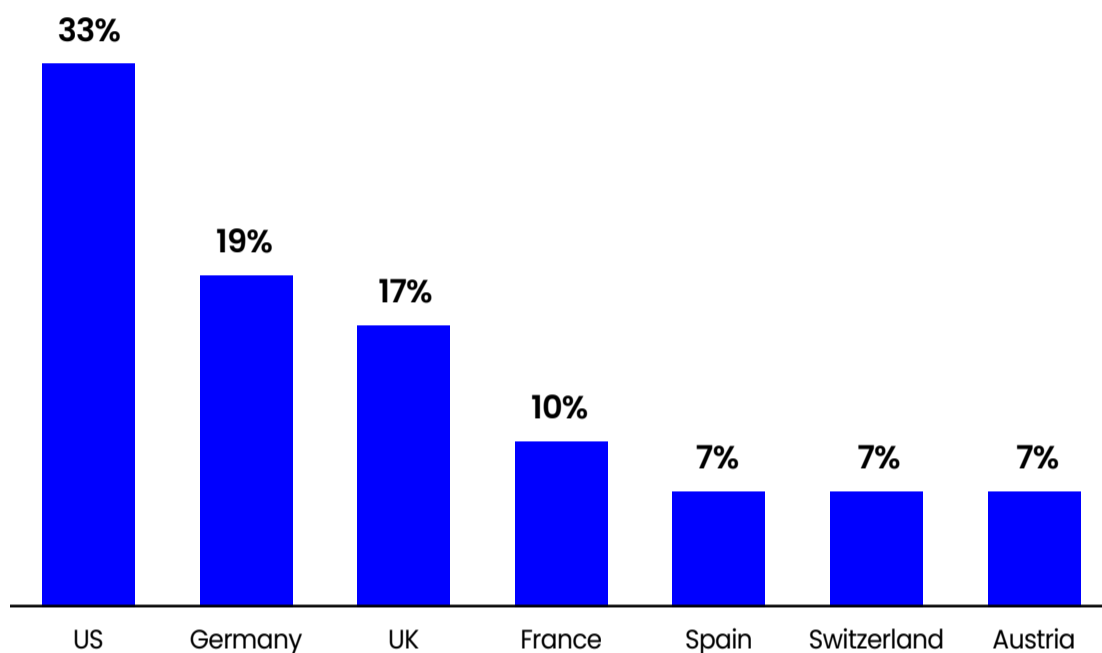
Get in touch to find out more about how your organization can use process mining to improve supply chain performance.
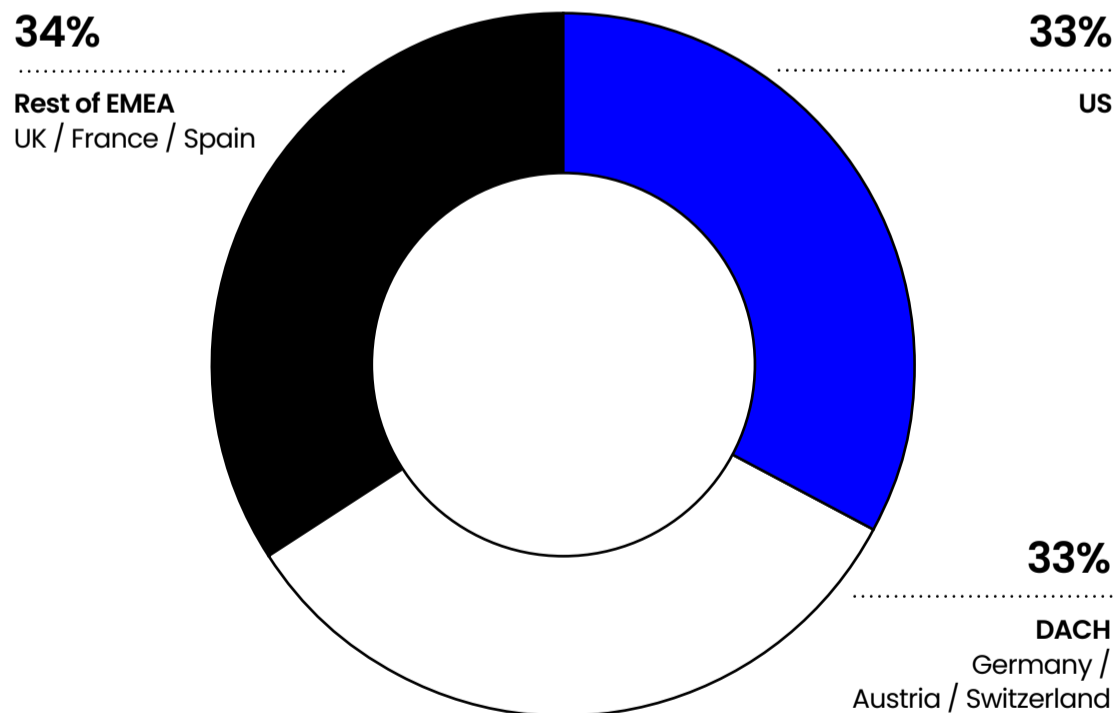
Let's talk

Survey methodology

The research was conducted by Insight Avenue, an independent, third-party, specialist B2B and technology research consultancy. 1,217 interviews, with around 400 in each of three regions and 300 in each of four job functions, were conducted during August and September 2023. Business leaders were interviewed from organizations with revenue of $500m+ across a range of sectors.

■ Country

Country	Percentage
US	33%
Germany	19%
UK	17%
France	10%
Spain	7%
Switzerland	7%
Austria	7%

■ Region

34%
Rest of EMEA
UK / France / Spain

33%
US
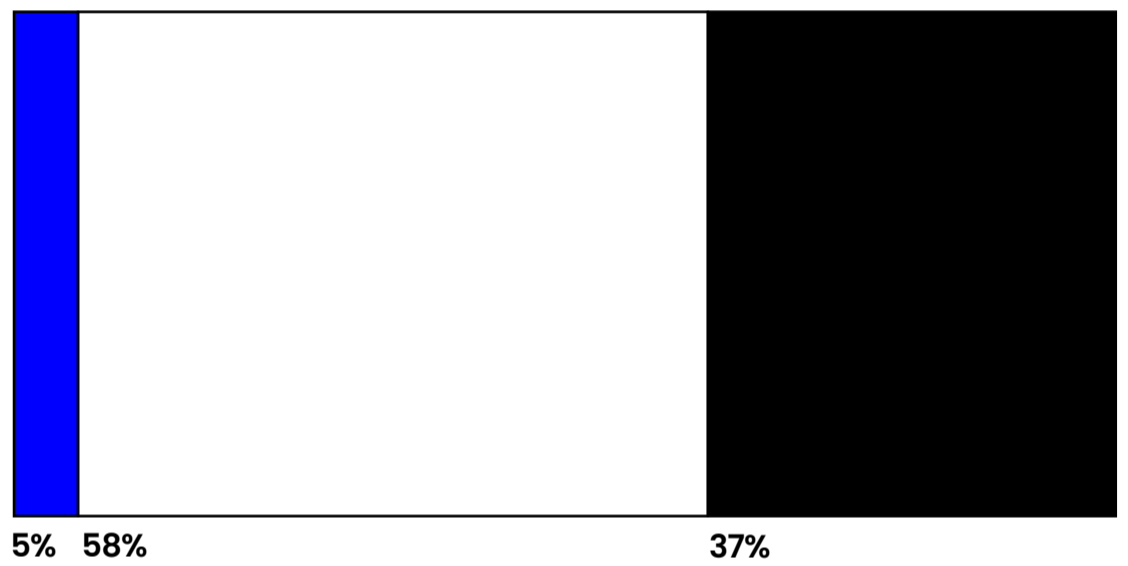
33%
DACH
Germany /
Austria / Switzerland

■ Job function

- ■ Operations, Process improvement, Process excellence
- ▨ IT, Digital
- ☐ Supply chain, Procurement, Demand planning, Logistics, Order management
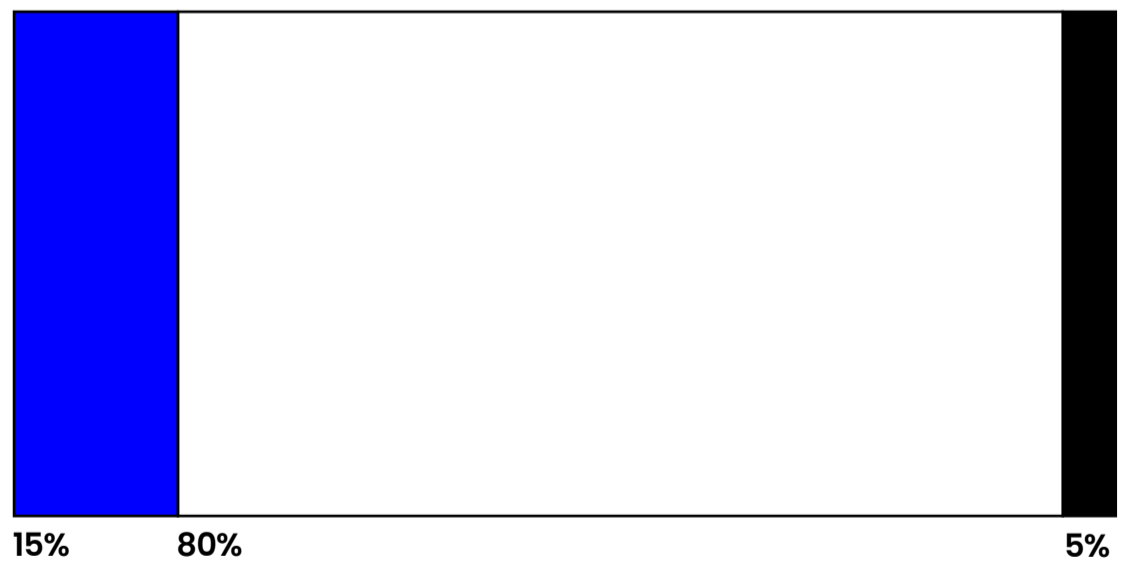- ■ Finance, Shared services

25%   **25%**   **25%**   **25%**

The base data for this edition
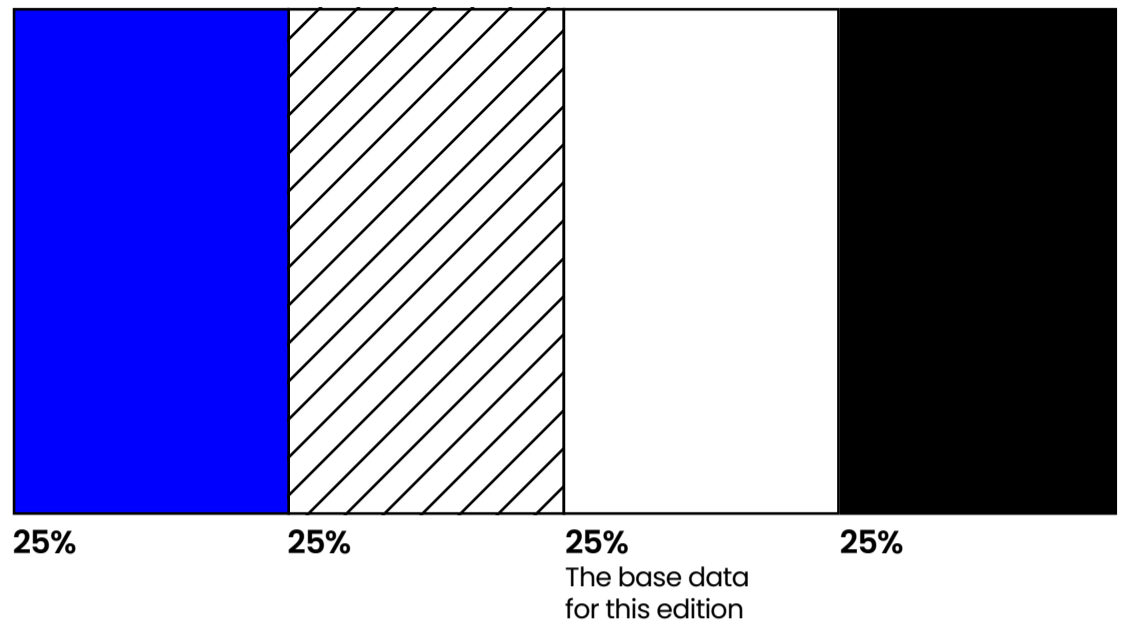
■ Seniority

- ■ Board, C-level
- ☐ Head of department, Director
- ■ Senior manager

5%   **58%**   **37%**

■ Revenue

- ■ $500 million – $2 billion
- ☐ $2 billion – $10 billion
- ■ More than $10 billion

15%   **80%**   **5%**

Industry sector

Sector	Percentage
Utilities	14%
Retail	13%
Manufacturing	12%
IT / Technology	9%
Banking	8%
Insurance	7%
Automotive	6%
Public sector	6%
Oil and gas	5%
Chemicals	5%
CPG / FMCG	5%
Logistics	4%
Pharma	3%
Life sciences	3%
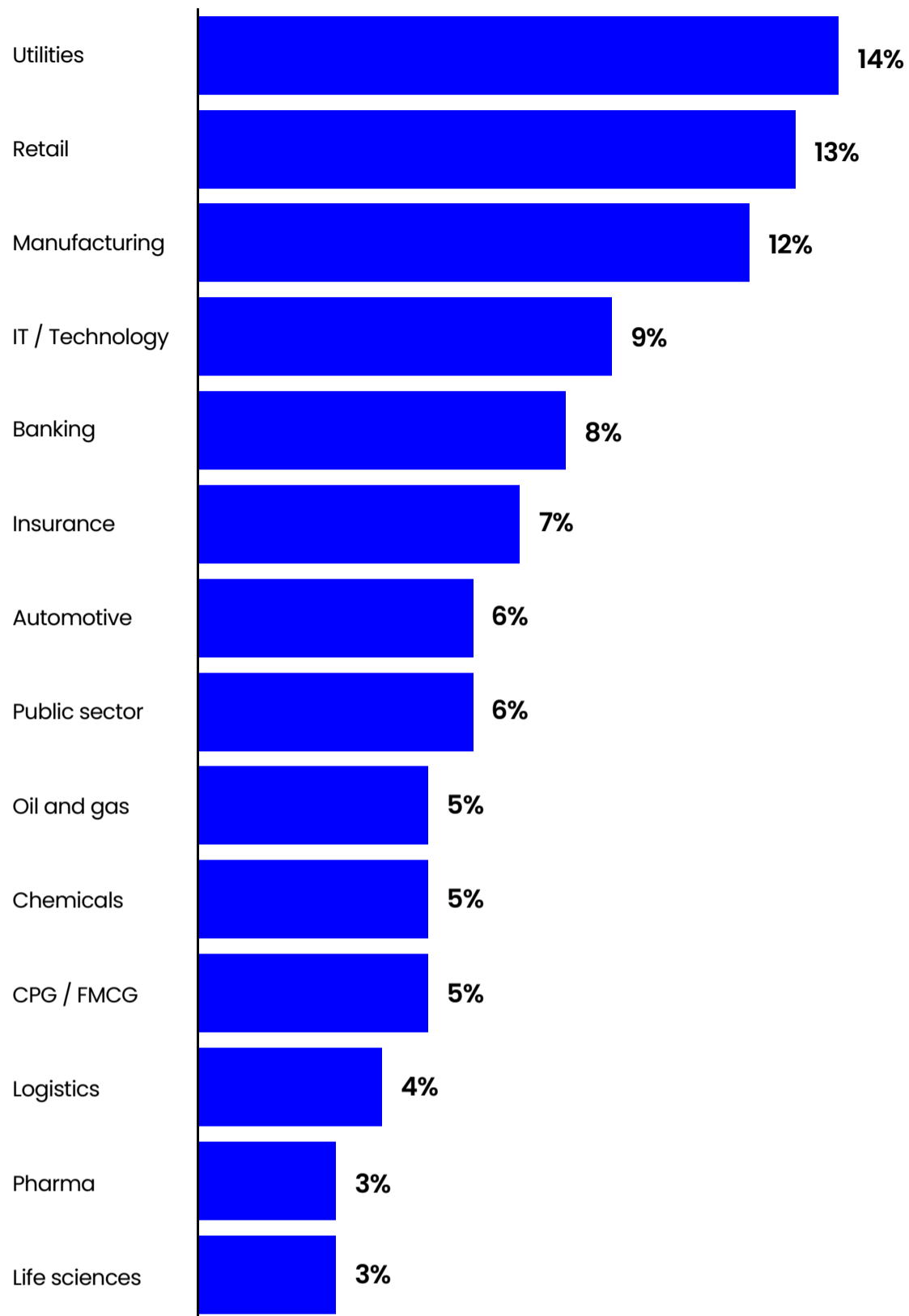
About Celonis

Since 2011, Celonis has helped thousands of the world's largest and most esteemed companies yield immediate cash impact, radically improve customer experience, and reduce carbon emissions.

Its Process Intelligence platform uses industry-leading process mining technology and AI to present companies with a living digital twin of their end-to-end processes. For the first time, everyone in an organization has a common language for how the business runs, visibility into where value is hiding, and the ability to capture it. Celonis is headquartered in Munich, Germany and New York City, USA with more than 20 offices worldwide.

Find out more at celonis.com

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