RESEARCH REPORT: **ACCELERATING DATA-DRIVEN DECISION-MAKING**

ACCELERATING DATA-DRIVEN DECISION-MAKING

5 WAYS TO TURN CRISIS MODE INTO GROWTH MODE

Exasol

The analytics database

CONTENTS

INTRODUCTION

A CRISIS OFTEN FORCES BUSINESSES TO MAKE RAPID REALIGNMENTS, TO BOTH REMAIN RESILIENT DURING THE CHALLENGING PERIOD AND – IDEALLY – TO EMERGE READY TO ACCELERATE THEIR RECOVERY.

During such times, decision-making cycles are typically shortened – sometimes dramatically. And in the age of data and digital business models that means higher demand for timely insights from analytics. As McKinsey states in 'Ready, set, go: Reinventing the organization for speed in the post-COVID-19 era', "An organization designed for speed will see powerful outcomes, including greater customer responsiveness, enhanced capabilities, and better performance, in terms of cost efficiency, revenues, and return on capital".

In 2020, one of the most disruptive crises in living memory has struck businesses around the world. The COVID-19 pandemic has impacted not only entire industries and markets but also the very way that businesses and their people work (not to mention the wider social impacts). One thing we can be confident of, however, is that this latest crisis is certain to herald long-term changes to the demands placed on data analytics infrastructures. As the same McKinsey report mentions, "Organizational successes forged during the crisis need to be hardwired into the new operating model; and leaders must ensure their organizations do not revert to old behaviors and processes. That requires making permanent structural changes that can sustain speed in ways that will inspire and engage employees".

To help identify and implement these changes, this report – the result of a survey of 2,500 business and technical decision-makers from the US, UK and DACH region – examines the extent to which decision-making cycles have been squeezed during crises, past and present. It also explores the obstacles to sustaining this increased performance post-crisis and the changes that can be made to overcome these while garnering the highest return on investment.

Read on to find out what needs to change and how.

ORGANIZATIONAL SUCCESSES FORGED DURING THE CRISIS NEED TO BE HARDWIRED INTO THE NEW OPERATING MODEL; AND LEADERS MUST ENSURE THEIR ORGANIZATIONS DO NOT REVERT TO OLD BEHAVIORS AND PROCESSES.

FAST IS GETTING FASTER – AND IT'S NOT DONE YET

KEY TAKEAWAYS FOR DATA LEADERS

#1 SHORT DECISION-MAKING CYCLES ARE THE LONG-TERM ANSWER

Today's crisis has increased pressure on organizations to make decisions faster. This is widely expected to become the new normal – a relief for the majority that feel it should have happened sooner.

#2 TIME TO INSIGHTS IS LAGGING

Insights are not being delivered fast enough today and yet they are expected to be needed even faster in the very near future. With the definition or expectation of 'faster' in this context unlikely to remain static, leaders face the challenge of aiming improvements at a moving target.

#3 DATA DEMOCRATIZATION HAS A BIG ROLE TO PLAY

Maximizing the number of people involved with decision-making has a clear impact on accelerating decision-making. But scope for action in this regard is defined by the levels of data literacy among personnel.

FOCUS AREA #1: USE THE NEED FOR SPEED TO GUIDE DATA STACK OPTIMIZATIONS

Our research reveals that 84% of organizations have been under pressure to shorten decision-making cycles since COVID-19 hit. Furthermore, 74% believe this will be the new normal for their business – something that will be welcomed by the 68% who wish that shorter decision-making had been embraced sooner.

CUSTOMER SPOTLIGHT

Piedmont Healthcare underlines the importance of getting insights to users faster.

"By placing Exasol at the beating heart of our analytics we have seen significant improvements, not only to the organization's bottom line, but to the satisfaction and safe delivery of our services to patients. Internally, it is also helping Piedmont staff deliver a better service and increase productivity and this results in a happier working environment. For me personally, it has taken a lot of stress out of the day to day. When we need answers, we can get them in near real time," Mark Jackson, Head of Business Intelligence, Piedmont Healthcare.

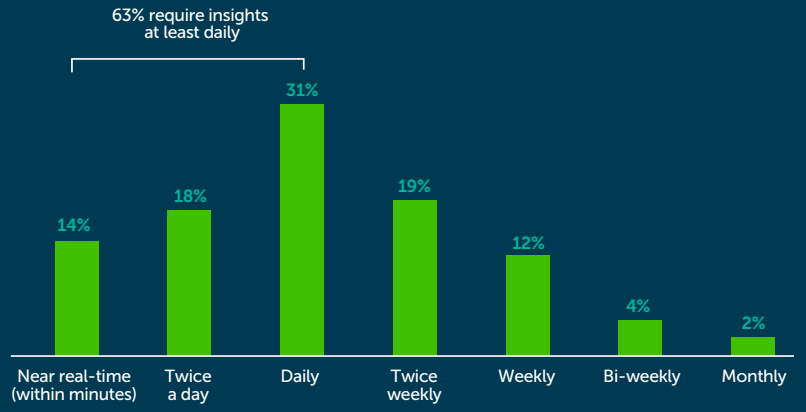
However, frustration is likely to have been growing at many of these organizations with the majority of participants (58%) also saying they don't have fast enough access to data insights in their organization.

PRESSURE IS GROWING ON THE DATA AND ANALYTICS TEAMS

Many respondents already feel their organization is slow to provide daily insights for decision-making and yet a large proportion are expecting imminent growth in demand for real-time insights.

The uncertain post-crisis economic outlook means organizations will be forced to squeeze out additional performance by both optimizing what they currently have and maximizing time to value for any new initiative. Our findings show that they should prioritize tactical investments that put insights into users' hands faster. Prime candidates for this must include high-performance analytics databases as well as solutions that improve the analytics UX (such as including dashboards and visualizations) to allow users to understand and act on insights faster.

Figure 1.
For decision-making needs, how frequently do you need insights delivered?'



FOCUS AREA #2: PUSH DATA LITERACY AND ACCESS TO THE ENTIRE ORGANIZATION

One factor in particular has had a dramatic impact on the speed of decision-making during the current COVID-19 crisis: whether to increase or reduce the number of people involved in the process.

A quarter of those surveyed (24%) opted to increase the number of people involved in decision-making while a third (33%) chose to make reductions in this area.

And we see a clear divergence in performance between the two. The group that expanded the number of people involved in decision-making were twice as likely to report that decision-making has become much faster (Figure 2).

DEMOCRATIZED DECISION-MAKING CAN ENABLE ORGANIZATIONS TO RESPOND AND ADAPT TO CHANGE FASTER.

This shows us that democratized decision-making can enable organizations to respond and adapt to change faster. Achieving similar results will of course not be automatic and will depend on how these additional individuals contribute to decision-making. Bringing more people into a single decision risks slowing businesses down. Empowering more people to make more decisions on the other hand clearly has the potential to significantly increase velocity.

Figure 2.

Among those that have increased the number of people involved with decision-making, **43%** report that decision-making has become faster.

Among those that have reduced the number of people involved with decision-making, only **22%** report that decision-making has become much faster.

TECHNOLOGY WILL FAIL WITHOUT WIDESPREAD DATA LITERACY

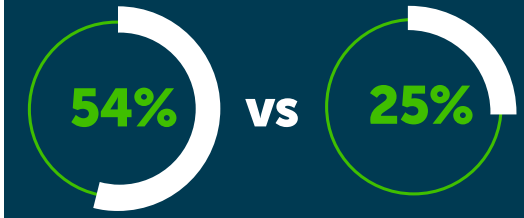
One factor that might force an organization's hand when it comes to expanding or reducing its pool of decision-makers is the level of confidence in data literacy.

Those that have made more people involved in decision-making are twice as likely to say that they are completely confident in their organization's data literacy versus those who made reductions (40% to 21%). In fact, any organization reporting that decision-making has become much faster is twice as likely to be completely confident in the levels of data literacy in their business compared to survey respondents as a whole (54% versus 25%).

For post-crisis planning this provides clear direction for data leaders and illustrates how analytics challenges are not always about technology. Data literacy is fundamental to both gaining value through faster decision-making and to successfully enabling more people to be involved with making decisions.

Indeed, while 68% report some confidence in the levels of data literacy in their organization, they are clearly some way off what they themselves would class as fully competent. The vast majority (84%) agree that it would be beneficial for their organization to improve data literacy across their workforce.

ANALYTICS CHALLENGES ARE NOT ALWAYS ABOUT TECHNOLOGY.



Those who have reported that decision-making has become much faster are twice as likely to be completely confident in the levels of data literacy in their business compared to survey respondents as a whole (54% versus 25%).

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LEGACY SYSTEMS THREATEN BROAD ADOPTION

KEY TAKEAWAYS FOR DATA LEADERS

#1 CONCERN OVER LONG-TERM EFFECTIVENESS OF INFRASTRUCTURE

A kaleidoscope of infrastructure challenges – from data quality concerns to issues with scalability – underpins well-founded and widespread pessimism about how much current set-ups can power a recovery from macro or micro economic challenges.

#2 WIDER DATA ANALYTICS STACK VIEWED AS BEING VULNERABLE

Varied and significant obstacles already prevent timely delivery of insights to users, and look set to prevent further meaningful optimizations of end-to-end analytics workflows.

#3 COMBINATION OF CHALLENGES COULD SLOW DOWN ORGANIZATIONS LONG-TERM

Together these challenges effectively create a ceiling on the improved performance gains organizations could otherwise expect to achieve without major investment.

FOCUS AREA #3: CALM INFRASTRUCTURE DOUBTS SET TO BOOST CRISIS RECOVERY

Our technical respondents are extremely pessimistic regarding the extent to which current infrastructure set-ups can power a crisis recovery. More than half (51%) believe their data infrastructure will need improvements in order to help them recover from macro or micro economic challenges. The reasons for this are deep and varied (Figure 3).

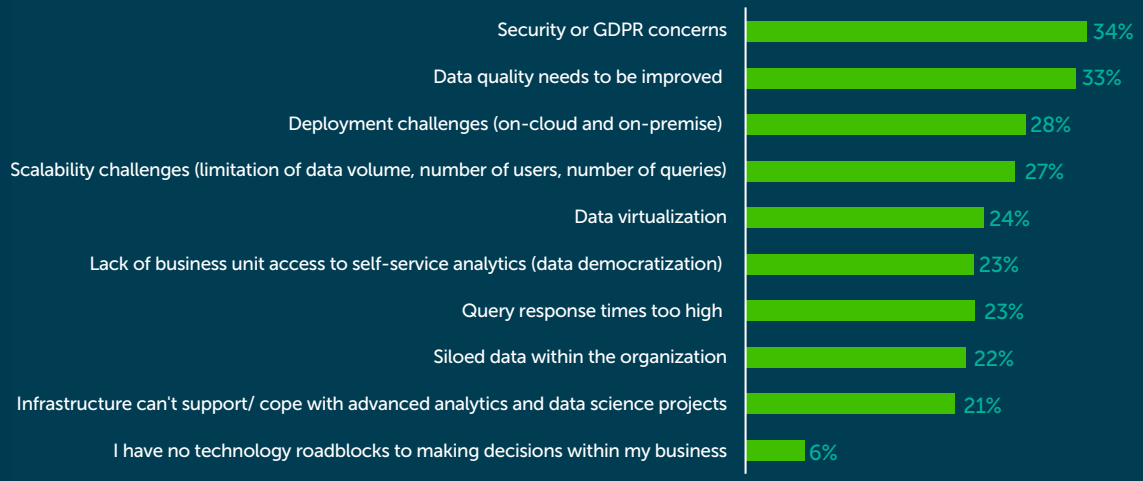
From security concerns to data quality improvements and deployment challenges, organizations face multiple decision-making roadblocks that will stifle adaptability and competitiveness. Crisis or no crisis, no organization can afford to stop moving forward when new market entrants or changing customer demand can suddenly emerge to disrupt traditional business models.

And yet it's not feasible to tackle everything at once in normal times let alone when recovering from a crisis.

Instead, our earlier findings indicate that optimizing query response times should be among the higher priorities for tactical investments in the data stack. So should tackling scalability challenges and enabling self-serve analytics to democratize data and in turn empower more decision makers.

Foundational to both from a technical point of view is the need to improve data quality and to overcome data silos.

Figure 3. Which of the following options are the biggest technology roadblocks to making decisions within your business?



CUSTOMER SPOTLIGHT

Revolut is a great example of the difference that accelerating query times can make.

"We are an extremely data-driven company and Exasol was a game changer for us. Queries that took hours now complete in seconds, people gain more trust in data studying, using it on a daily basis. Today, almost every department is relying on Exasol." Demeter Sztanko, Head of Data Engineering at Revolut.

FOCUS AREA #4: ATTACK INSIGHT ACCESSIBILITY BLOCKERS FROM THE TOP AND BOTTOM OF THE STACK

We quickly see why organizations cannot get insights to users fast enough when we examine the reported problems around accessing analytics or data insights.

Query times being too long/performance too slow, needing more information/unable to tap new data sources and data silos obstructing a single view of the customer make up the three most common obstacles. But the additional reporting of problems such as dashboards not being fit for purpose, prohibitive costs limiting analytics choice, and no access to legacy data, all combine to paint a picture of severe difficulties with integration and optimization throughout the entire analytics workflow.

DATA ANALYTICS IS ONLY AS FAST AS THE SLOWEST LAYER IN THE STACK

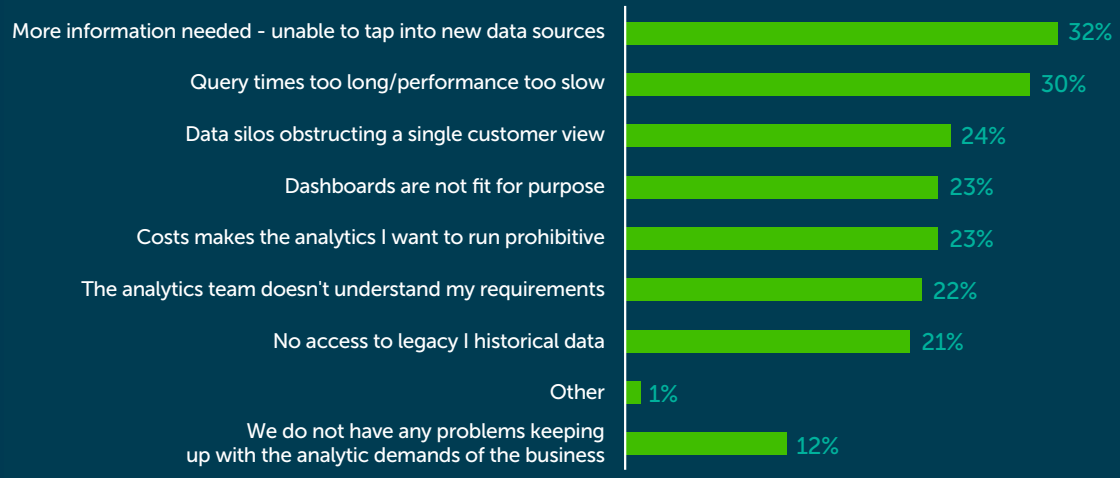
Every aspect must be working at its best to enable elite decision-making performance. When it isn't, user confidence suffers as we see in Figure 5 and becoming proactively data-driven (as opposed to reactively data-led) will remain just out of reach.

HOW TO RESPOND

To address these challenges, data leaders should consider approaching the challenge from each end of the stack simultaneously. Optimizing and streamlining data collection and storage while unlocking legacy data lays the foundation for maximizing all of an organization's data. Meanwhile, making swift improvements to users' dashboards is a quick win that will ease frustrations and buy time for future back-end optimizations. These will also enable users to continue to improve their data literacy.

Once data can be trusted and more sources tapped, and once users can access it more easily, leaders should then move upstream and downstream through the analytics stack. By optimizing each layer in turn, they can reap the marginal gains needed to accelerate overall query times.

Figure 4. What, if any, problems do you face with accessing analytics or data insights that you need to make decisions?



DIVERSE DEMAND FOR INSIGHTS PUTS SELF-SERVICE FIRMLY IN THE FRAME

KEY TAKEAWAYS FOR DATA LEADERS

#1 SELF-SERVICE ANALYTICS MORE IMPORTANT THAN EVER

Many have turned to self-service analytics – some specifically in response to the COVID-19 pandemic – to enable teams and individuals to direct their own analytics journey.

#2 GREATER DEMANDS FOR DATA

Teams within organizations are making more demands of their data and analytics colleagues than they were just three months ago.

#3 DIVERSITY OF REQUESTS A CHALLENGE

Diversity of demand is set to be as big a challenge as scale, with demand expecting to continue to grow throughout the business.

FOCUS AREA #5: STRESS TEST SELF-SERVICE SET-UPS

More than two-thirds of participants (69%) have reported receiving a higher number of data analytics requests from multiple business departments in recent months.

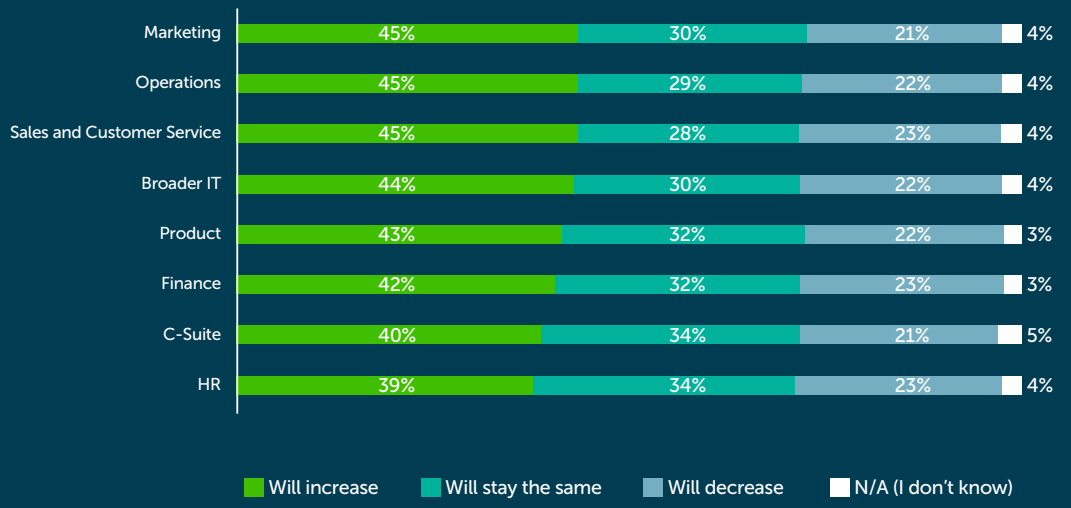
But volume is only half the story here – and possibly not even the most important half. Instead, diversity of demand looks set to be the primary cause of headaches for data leaders.

In future, 45% of respondents think that demands will increase most from marketing, operations or sales; but requests from all areas are expected to be more likely to increase versus staying the same or dropping (Figure 6).

If this was a one-dimensional demand challenge it might be a less daunting prospect to address, but these business groups have distinct decision-making agendas and therefore varying data and insight needs.

Data leaders have a job on their hands first understanding the needs of each of these groups, and then figuring out how to scale and accelerate insight delivery to meet those requirements. It will not be sustainable for data organizations and IT to provide daily and direct support to this many business groups.

Figure 6. In terms of demands from 'data consumers' or end-users within business functions, how do you predict this will change going forward?



GET AHEAD OF SELF-SERVICE VULNERABILITIES

Organizations can bring insights closer to the source of need and the root of action by enabling users to direct their own analytics journey by preparing, modelling, visualizing, analyzing, publishing, and presenting data themselves.

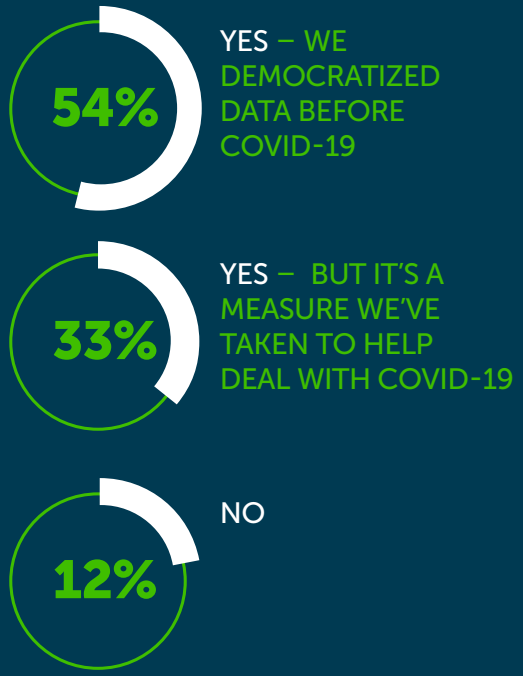
It's encouraging to see that these initiatives are already widespread (Figure 7). However, the question data leaders need to ask is whether pre-existing set-ups or those hastily assembled during crisis mode can scale to provide sustainable and consistent performance.

The expected increase in demand for insights, the speed at which they're likely to be required, and the previously identified infrastructure and resourcing challenges, all suggest that there will be vulnerabilities in this regard. In addition, the data literacy concerns noted earlier in this report are likely to become a blocker sooner or later to users' abilities to maximize their organizations' data unassisted.

ORGANIZATIONS CAN BRING INSIGHTS **CLOSER TO THE SOURCE OF NEED** AND THE ROOT OF ACTION.

Figure 7.

DO DEPARTMENTS ACROSS YOUR ORGANIZATION HAVE ACCESS TO OR THE OPTION FOR SELF-SERVICE ANALYTICS?



CONCLUSION: ACT NOW, MOVE AT SPEED TOMORROW

It's difficult to make decisions when in the middle of a crisis. High stress and fast-moving situations demand fast information, and yet the respondents in our survey couldn't be clearer: they're not getting the insights they need, at the speed they need them.

For data leaders, this is a technology, process and a people challenge. We've seen that faster decision-making is linked to enabling more people to take part in making decisions, and that data literacy is a pre-requisite for being able to do so. But we've also seen that initiatives to do this will be undermined at many organizations by at least one but likely more obstacles in their underlying data analytics infrastructure which could also impact self-service solutions.

Based on these findings, we leave data leaders with five key considerations to ensure they can sustainably make faster decisions, and so emerge from this crisis – and any future one – more nimble than they went in.

#1 TARGET QUICK WINS WITH HIGH-PERFORMANCE ANALYTICS DATABASES AND BEST-IN-CLASS VISUALIZATION TOOLS

Data leaders need to find quick wins to accelerate both the delivery of insights and improve the ways in which users can engage with analytics. They should explore high-performance analytics databases and best-in-class visualization tools.

#2 INVEST IN DATA LITERACY TO OPTIMIZE THE DATA VALUE CHAIN'S 'LAST MILE'

People are a key layer of the data stack that must be optimized to accelerate decision-making. Our research provides data leaders with the beginnings of a clear business case for doing this by improving data literacy throughout their organization.

#3 BE CLEAR ON OPTIMIZATION PRIORITIES TO BECOME DATA-DRIVEN

Harsh financial realities likely mean that most data leaders will need to carefully choose their optimization priorities. Our findings suggest they should consider solutions for improving scalability (in terms of number of users and queries that can be supported), providing self-service options, fixing data quality and breaking down silos.

#4 TAKE A TWO-PRONGED APPROACH TO ANALYTICS ACCESSIBILITY CHALLENGES

The variety of challenges around accessing data analytics and insights demands similar prioritization, with simultaneous action at both ends of the stack. Data leaders should lay the foundations for success by optimizing and streamlining on-the-ground data collection and storage. They also need to make swift improvements to users' dashboards and tools, to ease any current frustrations and buy time for future back-end optimizations.

#5 GIVE PEOPLE MORE CONTROL OVER THEIR ANALYTICS JOURNEY

Self-service analytics will be a crucial lever for data leaders when it comes to managing growing and diverse demand for analytics from across the business. Data leaders must act now to ensure existing self-service provisions will be able to stand up and support business users as they re-position the company for future growth.

ABOUT EXASOL

THE EXASOL HIGH-PERFORMANCE ANALYTICS DATABASE IS BUILT TO RUN FASTER THAN ANY OTHER DATABASE, DELIVERING NEXT-LEVEL PERFORMANCE, SCALE AND EASE OF USE. ANALYZE BILLIONS OF ROWS IN SECONDS; RUN HIGH-PERFORMANCE ANALYTICS SECURELY IN THE CLOUD OR ON-PREMISE; DELIVER FRICTIONLESS ANALYTICS WITH SELF-INDEXING THAT AUTOMATICALLY TUNES PERFORMANCE; AND SCALE OUT ANALYTICS FOR ONE TRANSPARENT PRICE.

CONTACT US TO SEE HOW WE CAN HELP YOU ACCELERATE DECISION-MAKING TODAY.
EXASOL.COM

METHODOLOGY

The survey for this report was conducted among 2,501 decision-makers with a technical or business background, from companies with more than 250 employees.

Respondents were drawn from the US (900), the UK (801) and the DACH region (800).

At an overall level results are accurate to ± 2.0% at 95% confidence limits assuming a result of 50%.

The interviews were conducted online by Sapio Research in July 2020 using an email invitation and an online survey.

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