



2025 | Mainframe Market Survey

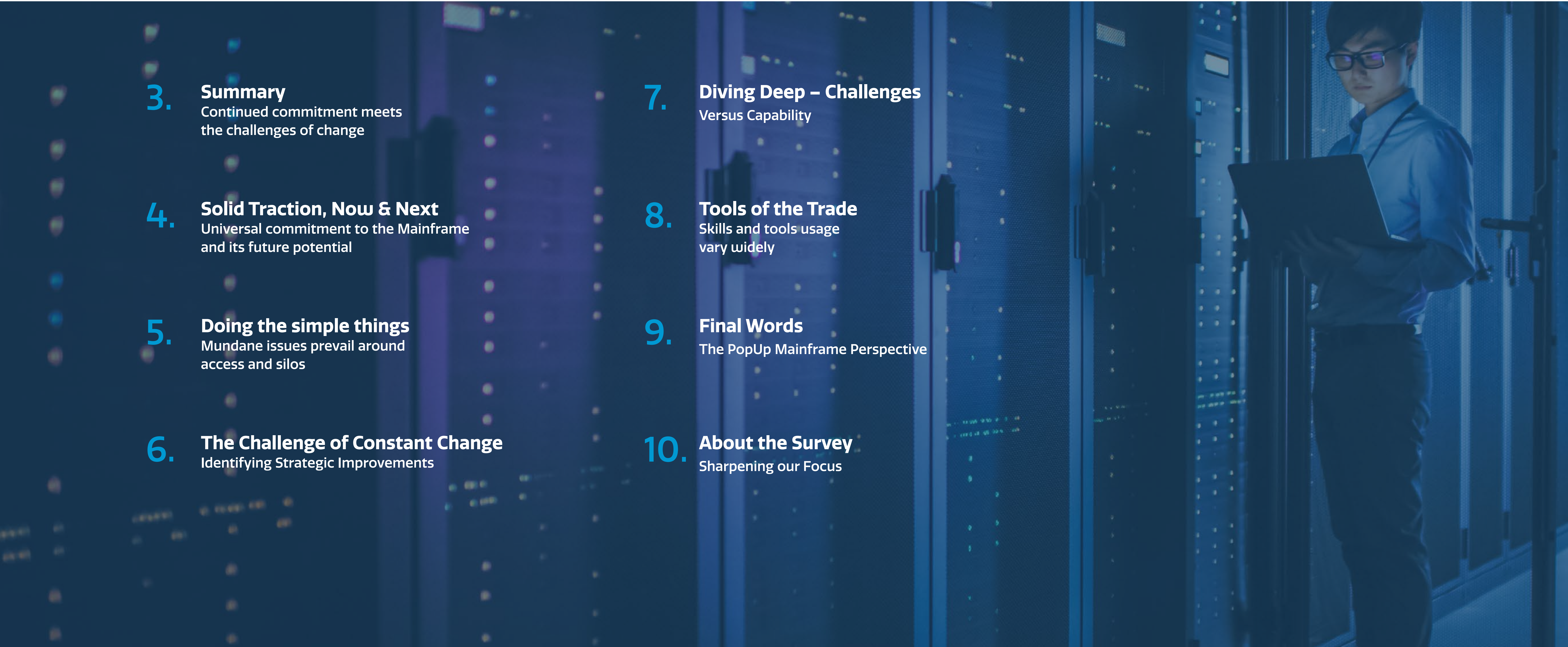
IN ASSOCIATION WITH:



VansonBourne

The Machine of Change

The topical challenges and opportunities
shaping modern mainframe strategy

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Summary

Continued commitment meets the challenges of change

The PopUp Mainframe market survey looked at the continued importance of the mainframe environment, including tactical elements surrounding how it continues to deliver business value.

In addition, we sought to uncover the emerging, most topical challenges facing mainframe leaders today, to get a litmus test on the barriers to delivering greater business value.

This results paper reveals a platform—now well into its seventh decade of global success—that commands a profound level of commitment from its users, who also are showing great enthusiasm towards new platform facilities, such as specialist processors including IFL.

Meanwhile, it will dig into the most reported challenges facing the community, touching on elements such as speed to market, cost management, sustainability, skills and tooling.

Our overall take on this exciting, and freshly unique examination of the market is that there is a sense of overwhelming positivity about the opportunities facing the mainframe world today—but that there is work yet to do to further improve how best to deliver the most value.

Survey Extract:*

"I would prioritize strengthening automated processes, improving system integration, optimizing data management, and investing in employee training."

* The survey included the following Question:
If your organization was able to expedite the rate at which it can handle mainframe deliveries, what initiatives would you prioritize? We have included several illustrative responses in this report.



Solid Traction, Now & Next

Universal commitment to the Mainframe and its future potential

As an important level-set, we wanted to determine attitudes to the platform, including towards the Linux environment on the mainframe.

The results were illuminatingly positive: loyalty to the mainframe remains strong, with **98%** reporting that they rely on it to execute the business, while a staggering **99%** “will continue to rely on the IBM mainframe for the foreseeable future”.

Regarding Linux, **94%** responded as having “the potential to leverage additional workload capacity on specialist / Linux environments on Z”, and **97%** confirmed they were “actively seeking” to “make increased use” of specialist processors on the mainframe.

“With 60 years of success and a brand-new model now available, it is no wonder so many organizations see the enduring value of the IBM mainframe. Our survey serves as a reminder that overcoming important strategic and operational challenges continues to be an imperative for many organizations. Mainframe use must evolve to meet these challenges, enabling organizations to innovate through both tooling and process, with emphasis on cultural change.”

Gary Thornhill
CEO, PopUp Mainframe.

Perspective

While it would seem likely that mainframe executives about their commitment to the mainframe would register a positive response, we wanted to test this assumption. So much has been said about hybrid IT, cloud computing and platform modernization, that the first order of business was to test the rigidity of the market perspective.

The overwhelming advocacy of the availability and value of Linux and other specialist processors was a noteworthy revelation, suggesting perhaps that the much-documented drive towards hybrid IT is frequently within a mainframe environmental context, based on this sample.

Survey Extract:

“If my organization aims to expedite the rate at which it handles mainframe delivers, it could prioritize the following initiatives: Mainframe Modernization, Process optimizations, Cost efficiency, DevOps and Agile Practices, Automation, Talent and skills.”

Doing the simple things

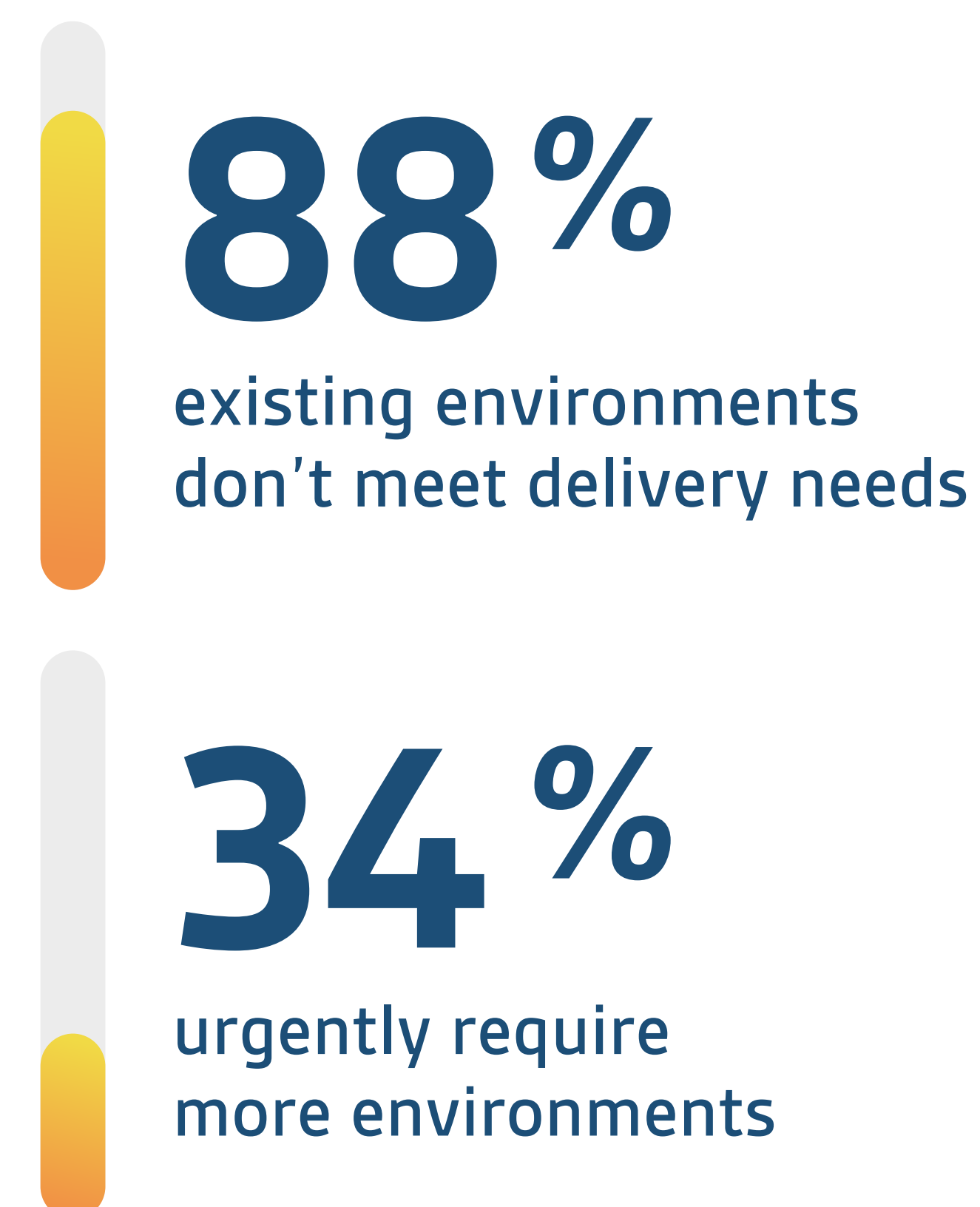
Mundane issues prevail around access and silos

Before digging into the core challenges facing the market, we wanted first to test whether anything more mundane stood in the way of operational efficiency. One line of enquiry sought to determine how many respondents face difficulties both in accessing mainframe environments and dealing with operational complexity.

Asked to what extent did they require additional mainframe environments to perform their work, **88%** stated their “existing environments do not fully meet their mainframe delivery needs”, with over a third (**34%**) stating they “urgently require more environments”.

Asked how many separate teams were involved in mainframe deliveries, **69%** said up to 3 teams are involved, and **30%** saying 4 or more separate teams were involved in the process.

Given these fundamental findings, it is perhaps little surprise that a further question, **96%** of respondents reported challenges affecting mainframe development and testing activities.



Perspective

All market samples carry caveats—but it is more than a statistical anomaly how many respondents faced tactical, day-to-day challenges that can only be described as foundational: not having sufficient access to mainframe environments or having to work across a complex network of teams to achieve anything. It is difficult to overlook the fear that if such mundane issues exist, it is hard to see how more strategic challenges could be easily tackled. The very high rating regarding development challenges is as understandable as it is worrying.

Survey Extract:

“Upskilling and expanding talent pool would be prioritized and some area of regulatory compliance should be automated to meet requirements more efficiently.”

The Challenge of Constant Change

Identifying Strategic Improvements

An important line of questioning focused on areas where organizations are challenged to achieve their objectives. Of the key challenges faced by mainframe development teams, notable issues were each flagged by over a third of all respondents:

High cost / inefficiency (**39%**), lack of flexibility (**39%**), and the inability to meet sustainability goals (**38%**), and difficulties in testing/debugging mainframe applications (**38%**), featured most frequently.

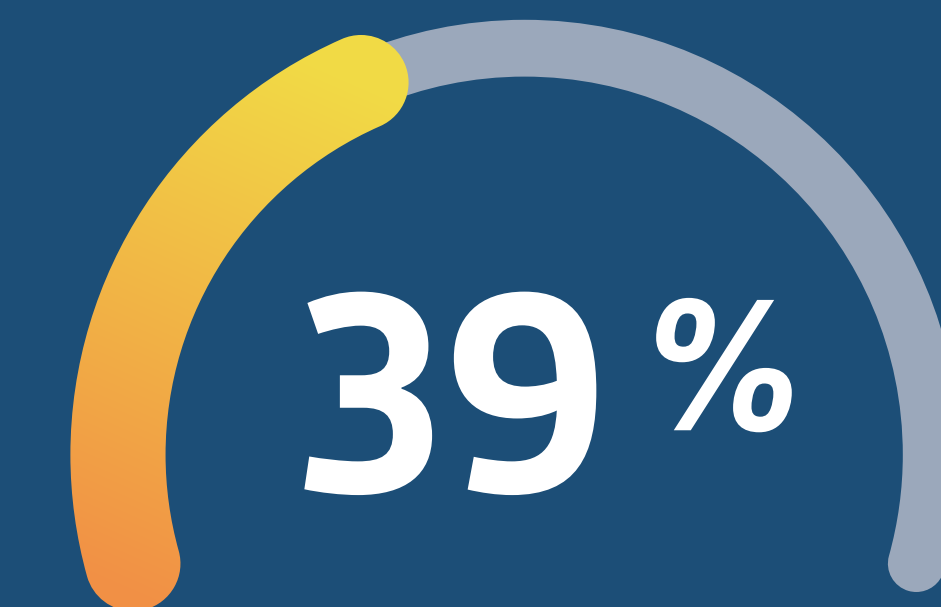
"These findings clearly demonstrate both the commitment of the mainframe market to the platform, and a market that is continuously challenging itself to improve what it can accomplish. The issues uncovered reflect a relentless motivation for mainframe-centric modernization and innovation to achieve even greater organizational results."

Derek Britton
CMO, PopUp Mainframe.

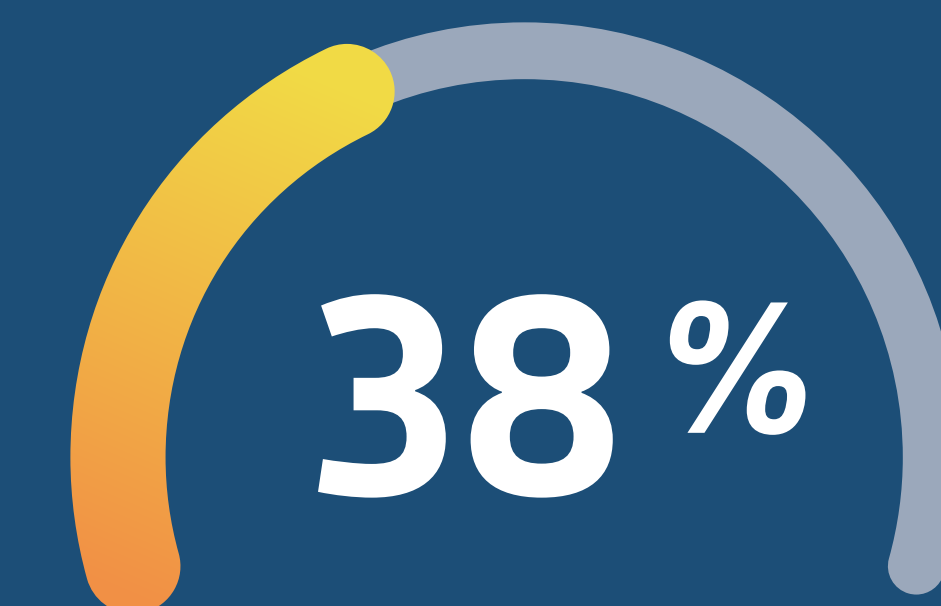
Survey Extract:

"Automation is key. I'd push for more automation in testing to identify and fix issues faster, ensuring quality while speeding up the process."

Key Challenges



High cost / inefficiency
and lack of flexibility



Missing sustainability goals and
difficulties testing/debugging

Perspective

This is the part of the survey which offers a refreshingly honest perspective of what lies ahead for mainframe leaders. A positive identification of known challenges needing attention, ranked against each other, represents a hugely valuable insight. The undiluted truth of areas identified for improvement offers a helpful north star hypothesis to the mainframe community.

Diving Deep – Challenges Versus Capability

Barriers to Improvement Come Under the Microscope

Further questioning then delved deeper into each of the major talking points from the survey, to determine the market's perception of which issues were most important, as well as—critically—whether any improvements were needed to resolve them.

The responses were as follows:

28% said implementing mainframe change in a shorter timeframe was of critical importance to their organization
– and **81%** said improvements were needed in that area

36% said improving the flexibility / agility of mainframe deliveries was of critical importance to their organization
– and **86%** said improvements were needed

37% said the ability to meet regulatory and data compliance requirements was of critical importance to their organization
– and **82%** said improvements were needed

29% said greater cost efficiency was of critical importance to their organization – and **90%** said improvements were needed

30% said the ability to deliver on IT-related sustainability objectives was of critical importance to their organization
– and **86%** said improvements were needed.

28 % say it is critical to implement change in a shorter timeframe

36 % see flexibility and agility as critical to their organization

37 % list regulatory data compliance as a critical requirement

Tools of the Trade

Skills and tools usage vary widely

Strategic challenges aside, another hygiene factor we wanted to test for was how well teams were mobilized to deliver mainframe value, so we turned our attention to the resourcing, training, and tooling behind mainframe delivery.

Those operational elements were also the focus of material concerns: the availability of mainframe environments (**88%**), staffing limitations, and tooling (both **79%**) were given as hindrances to meeting business objectives.

More specifically, skills availability challenges were identified in with specific mainframe technologies, with COBOL (**24%**), REXX (**30%**), and Assembler (**27%**) being reported as suffering with “low” or “no” skills in that domain.

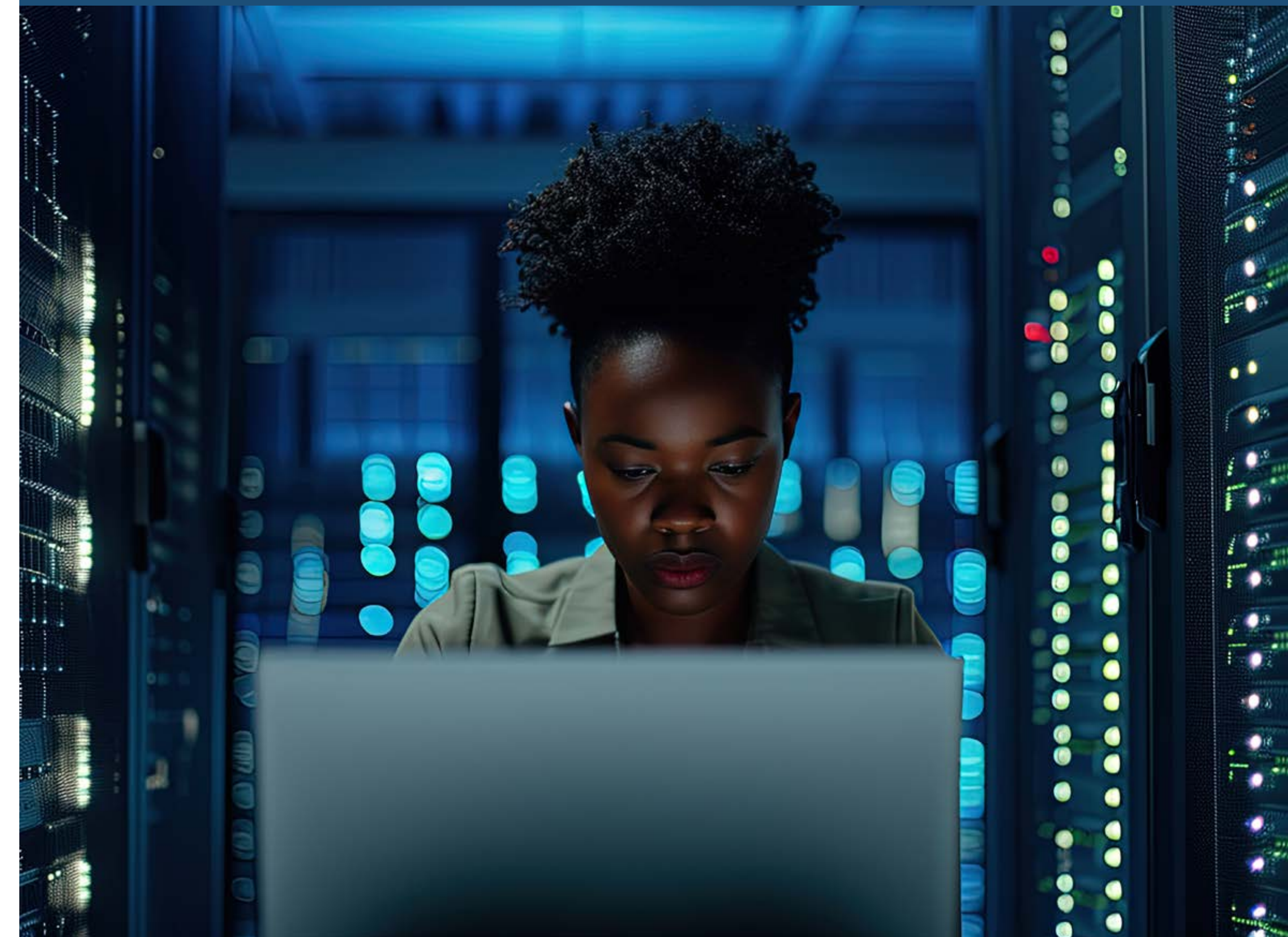
Elsewhere, newer technologies including modern IDEs (**93%**), modern agile tools (e.g. Git/Jenkins) (**90%**) were reported by the majority as possessing a good or sufficient skill / knowledge level, however. Further, more traditional mainframe technical skills such as Db2 (**86%**), CICS (**88%**), IMS (**91%**), and Java (**87%**) skills were reported as widely available.

Asked how training was performed in their organizations, respondents mentioned a variety of knowledge transfer options. On average, inhouse (**35%**) training was the most popular of the answers, over outsourced (**31%**) or online (**34%**) alternatives. Almost all (**95%**) said modern tools and capabilities can help close skill gaps, with **83%** noting that they face difficulties recruiting and retaining individuals due to a lack of modern tools.

Hindrances to meeting business objectives:

88% availability of mainframe environments

79% staffing limitations and tooling



Perspective

To imagine the mainframe and the people who use it as a constant, unchanging entity, is a cardinal flaw. The survey shows elements of new technology already coming into the mainstream of mainframe skills, and some acknowledgement of their value for future onboarding. While this is a positive sign, it suggests some frustration that the tools have, so far, not helped achieved the desired levels of modernization or improvement. Moreover, the survey spotlights residual pockets of skills issues dotted around the mainframe environment.

In terms of mainframe resourcing and skills, the chain is only as strong as its weakest link, and it is a wake-up call for those responsible for onboarding, training, and succession planning that these are strategic programs.

Final Words

The PopUp Mainframe Perspective

Regular check-ins with the mainframe market offers the opportunity to stay current with evolving attitudes. The unique line of questioning in this survey, in addition, offers some fresh perspectives which we found illuminating, and we hope you will, too.

PopUp Mainframe observes—and applauds—the continued importance of the IBM mainframe to overwhelming majority of surveyed organizations, plus their unified desire to leverage its latest capabilities—including the Linux environment—to deliver greater value. The market seems eager to embrace the tremendous opportunity offered by the newly unveiled z17 mainframe environment.

Yet delivering value is hampered by organizational silos and—in some cases—access to the right environments, tools and skills.

Drivers for improvement across sustainability, cost management, speed of delivery, flexibility, and risk/compliance were all recognized as key issues, and the data also pointed at appropriate skills and tooling as being important factors affecting delivery capability. It suggests that while the mainframe delivers tremendous benefits, it is not without its challenges, and that leaders are looking to improve across several areas.

Overall, the survey underscores both the strategic importance and practical realities of how organizations are modernizing how they deliver mainframe value, to continue to maximize the profound opportunity the mainframe platform can provide.



“The launch of the z17 underscores the mainframe’s enduring strength, cementing its position in the market. With evolving application needs, organisations are turning to DevOps advancements to enhance performance and maintain a competitive edge, and PopUp Mainframe stands out as a solution worth evaluating in this context.”

Steven Dickens
CEO & Principal Analyst
at HyperFRAME Research.

Survey Extract:

“I would prioritize the following initiatives: introducing automation tools to streamline delivery processes, conducting team training to enhance staff skills, improving communication with supply chains to reduce delays, and implementing agile project management methods to increase responsiveness.”

About the Survey

Sharpening our Focus

The mainframe market is no stranger to market surveys, and a variety of organizations aim to determine trends and attitudes using regular market enquiries. We set about augmenting established market opinions with a fresh look at different perspectives from leaders of mainframe organizations. At PopUp Mainframe, we sought to capture further insight regarding major challenges affecting mainframe organizations today—we wanted an honest reality check to help the whole community focus on the big matters at hand.



Conducted by Vanson Bourne, a global research and analysis company, the survey asked leading practitioners and IT executives from the UK and North America. The survey took place in early 2025, involving 175 executives and decision makers within organizations (across sectors including financial services, IT services, energy, insurance, and retail) running IBM mainframes.

"This survey allowed for Vanson Bourne to gather valuable data from the mainframe community on the platform's continued relevance, as well as the forward-looking insights needed for PopUp Mainframe – and the mainframe community at large -- to continue shaping the mainframe technology landscape."

Katie Haslett

Senior Research Consultant, Vanson Bourne.

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