A Resilient, Efficient, and Adaptive Hybrid Cloud Fit for a Dynamic Digital Business

Continuous Modernization, Autonomous Operations, Cloud-Like Experience

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“Storm of disruption” — businesses face unprecedented challenges

- Increasingly interwoven
- Not temporary
- Fracturing effect
- Company-specific impact

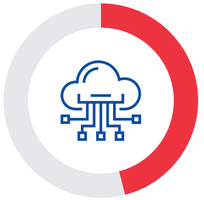
Disruptive events force organizations to not only develop digital resilience but also embed resilience in business processes and operations through resilient distributed (hybrid cloud) infrastructure.

All eyes are on technology, especially cloud-centric technology, as the foundation to weather the storms of disruption

- Energy crisis
- Cybersecurity threats
- Inflationary pressure
- Supply chain disruptions
- Talent skills gap
- Political risks/ government interventions
- Changing environmental targets/regulations
- Poor COVID vaccination rates and/or new variants

This is not about managing one crisis. It's about being prepared for anything — and being able to adapt to any disruption to the business. Technology is critical to make this a reality.

Gonçalo Caseiro Chair, INCM (Portuguese Mint and Official Printing Office)



46% of **European CEOs** cite accelerated adoption of cloud-centric technologies as the top tech initiative.

56% of **European organizations are already beyond the initial stages of cloud maturity** and are using cloud in a repeatable, managed way.

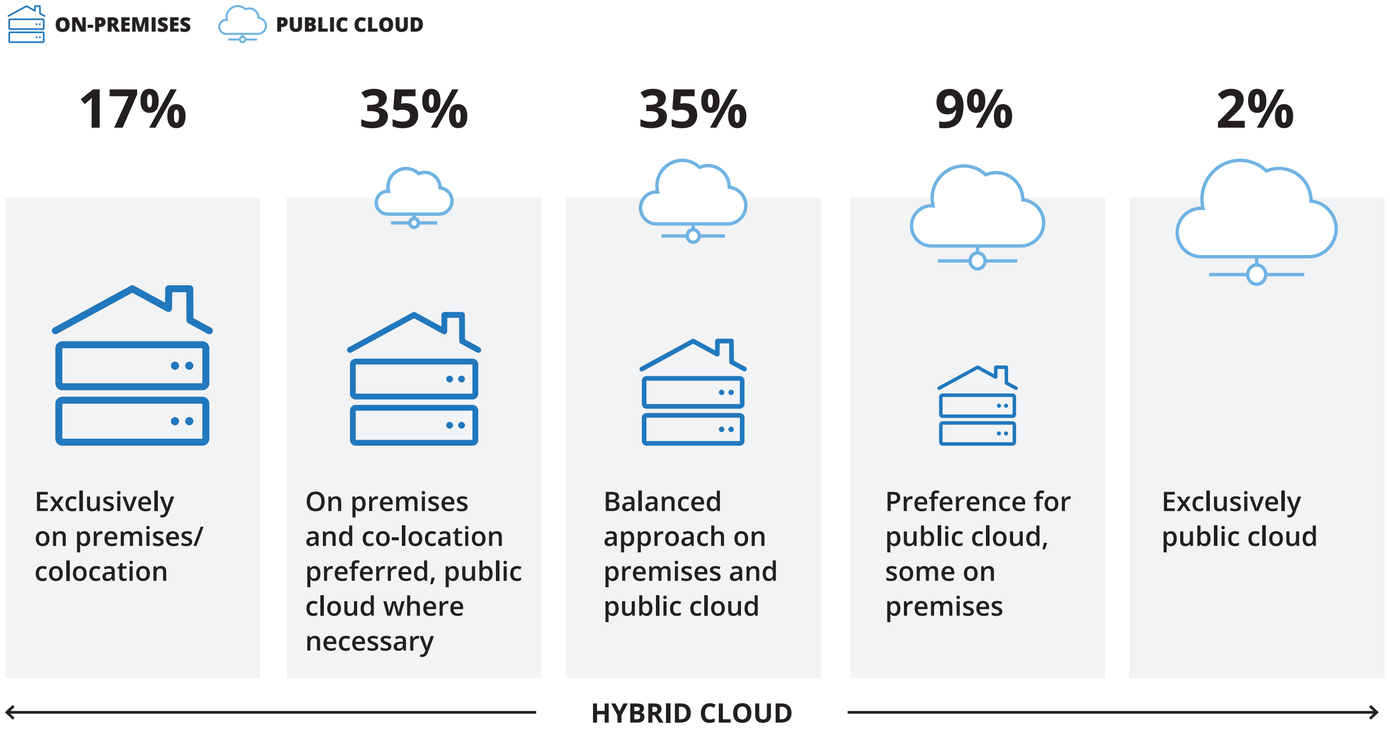
25% of **European CEOs** are considering **less expensive alternatives (lower-priced options for services) to prepare for energy-related price hikes**.

Source: IDC FERS Survey, Wave 3, May 2022; IDC Worldwide CEO Survey, January 2022

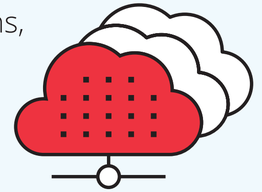
Cloud-centric environments are prevalent in Europe and evolving

Hybrid and multicloud environments are a reality for 79% of organizations.

Tomorrow's strategies are focused on designing resilient, governed, and optimized hybrid and multicloud environments.



For **95%** of European organizations, **enabling a multicloud environment** is a priority, with **48%** citing it as "**very important**" or "**extremely important**."



Core infrastructure isn't going anywhere.

Given the application gravity today and governance complexities, **core datacenter remains the starting point for hybrid** and multicloud excellence as it still hosts key workloads now and in the near future. European organizations expect to spend **44% of infrastructure budget on core and secondary DCs** by 2024, similar to the 45% expected in 2022.

Source: IDC European Multicloud Survey (September 2022); IDC European Enterprise Infrastructure Survey, May 2022

Hybrid and multicloud are here to stay, but it's not business as usual

Cloud adoption in the 2020s vastly differs from cloud adoption in the 2010s, with the pandemic being the tipping point for the recalibration of cloud strategy.

	Cloud Trends in the 2010s (IDC European 2016 CloudView Survey)	Cloud Trends in the 2020s (IDC European 2022 Multicloud Survey)
Expectations:	Reduce IT costs, redeploy staff to cloud, public clouds will eat datacenters	Deliver business value at speed; hybrid is the future
Decision makers:	Primarily IT directors, IT managers	60% of C-suite and 35% of business management are primary decision makers for cloud and IT infrastructure
Use cases:	Test and dev, web apps	Cloud experience for all workloads
Tech status:	Neatly defined IaaS, PaaS, and on-prem categories with minimal integration	Blurring lines between IaaS and PaaS, SaaS and stronger impact of DevOps, everything as code
Cloud strategy:	Ad hoc adoption, hybrid cloud and multicloud by accident with silos of public cloud, legacy on-prem, and hyperconverged infrastructure	Workload-defined, key focus on integration, interoperability, and portability
Security and governance impact:	Hasty workload repatriation, or maintaining status quo on-prem	Distributed cloud with focus on data, use of dedicated cloud services
Skills:	Focused on cloud migration, developing public cloud experience, Docker management	Focus on migration, operations, governance, management, Kubernetes orchestration, APIs
Choice:	Dichotomy with organizations taking an "OR" strategy to pick cloud or on-prem or hyperconvergence	Multiple clouds, private cloud, edge computing, and on-prem programmable software-defined infrastructure all connected
Experience:	Strong existence of shadow IT, public cloud bill shocks because of inappropriate workload placement and unused instances	Building cross-cloud consistency, self-service, and FinOps
Sustainability:	Not an infrastructure decision driver	One of the top infrastructure decision drivers

Infrastructure, workload, and governance complexities are increasing — hybrid cloud management needs to evolve

Infrastructure nuances: Addition of distributed infrastructure comprising hyperconverged infrastructure, edge environments, sovereign cloud components, multiple public clouds, containers, and software-defined infrastructure continues. This is increasing operational complexities, costs, and governance risks.

CURRENT SITUATION

Only 30%–40% of organizations rate their workloads running in hybrid and public cloud environments as "successful" or "very successful."

OUTCOMES OF UNSUCCESSFUL CLOUD STRATEGIES

- Growing IT costs and management complexities
- Limitations in supporting innovative business needs or digital programs
- Poor confidence around security postures
- Inability to manage data and application sprawl
- Lack of relevant architecture to pivot to a future enterprise that is data driven, agile, resilient, and adaptable
- Operational friction

NEW PARADIGM IN HYBRID CLOUD

- Workload-first strategy to infrastructure
- 68% of organizations are currently using or planning to use sovereign cloud solutions
- Organizations planning to spend nearly 20% of infrastructure budgets in edge environment
- Modern databases that meet the needs of modern cloud-native applications

Lack of success, **impact of cloud project failures**, and **unprecedented changes** are overthrowing the traditional attitude to cloud adoption and operations.

Breaking free from complexity and deriving value from hybrid cloud requires a mindset change

Day 0:
Hybrid cloud adoption/migration

Day 1 and beyond:
Autonomous and intelligent hybrid cloud operations

Day 2 and beyond:
Capitalize on next-gen features in the ecosystem

Migrate

MINDSET CHANGE IN MIGRATION

Evolve cloud-first to workload-first strategy to determine the right infrastructure and right application strategy — should I lift and shift, should I modernize for private cloud, should I reengineer for public cloud?

Evolve from "big bang" migration to datacenter extension

Operate

MINDSET CHANGE IN OPERATIONS

Ensure building skills and management capability to operate in the cloud

Ensure unified, consistent cross-cloud governance and adopt unified control plane to be in control

Ensure energy efficiency and wide mix of energy sources

Continuously optimize

MINDSET CHANGE IN OPTIMIZATION

Leverage modern capabilities such as observability, automation, consumption-based pricing, and container platforms

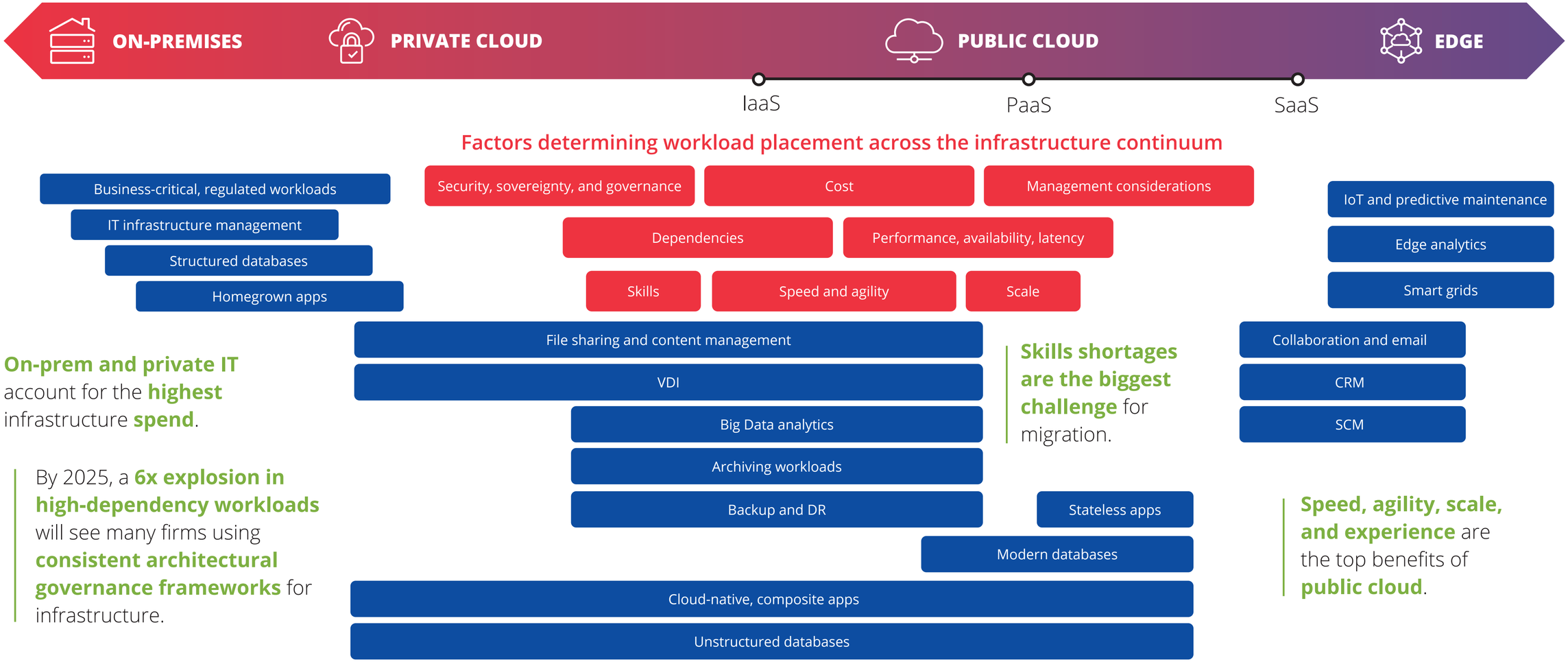
Ensure an open, flexible ecosystem and a balanced mix of distributed infrastructure environments for all workloads

Energy optimization across the stack

Forward-thinking organizations implement an "integrated" operating model to extend their datacenter to the cloud instead of taking a big bang approach to migrate all-in.

Over 40% of European organizations rated infrastructure automation/analytics/security and cloud and datacenter interconnection services as the top digital infrastructure building blocks over next two years.

Workload placement determines workload-first strategy success



On-prem and private IT account for the **highest** infrastructure **spend**.

By 2025, a **6x explosion in high-dependency workloads** will see many firms using **consistent architectural governance frameworks** for infrastructure.

Skills shortages are the biggest challenge for migration.

Speed, agility, scale, and experience are the top benefits of **public cloud**.

Ultimate hybrid cloud resilience goal — application centricity, fluidity, and optimized operations

Excelling on Day 0

Organizations are building modern hybrid cloud architectures that enable them to deploy workloads on the most appropriate infrastructure in the hybrid environment.

1 Expectations from modern hybrid cloud operations:

- App and data fluidity
- Standardized operations and management
- Unified experience on any infrastructure
- Energy efficiency

2 Top 5 areas identified for immediate investment to optimize cloud operations

28% Security operations center

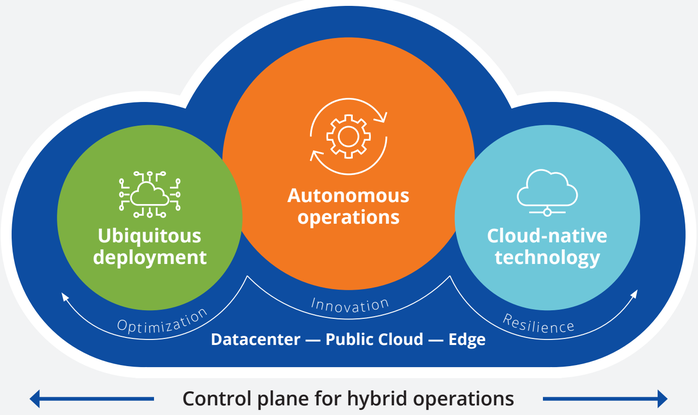
21% Application and infrastructure performance management

20% Continuous monitoring, remediation, and optimization tools

19% Cloud cost assessment

18% Cloud center of excellence for best practices and standards

3 Hybrid cloud infrastructure design outcome of workload-first strategy



- Distributed infrastructure design
- Unified by autonomous, consistent management
- Delivered by a software-driven control plane

4 Benefits:

- Right cloud for the right workload
- Build-once-run-anywhere
- Energy optimized
- Optimized operations
- App mobility/fluidity
- Data management and security by design

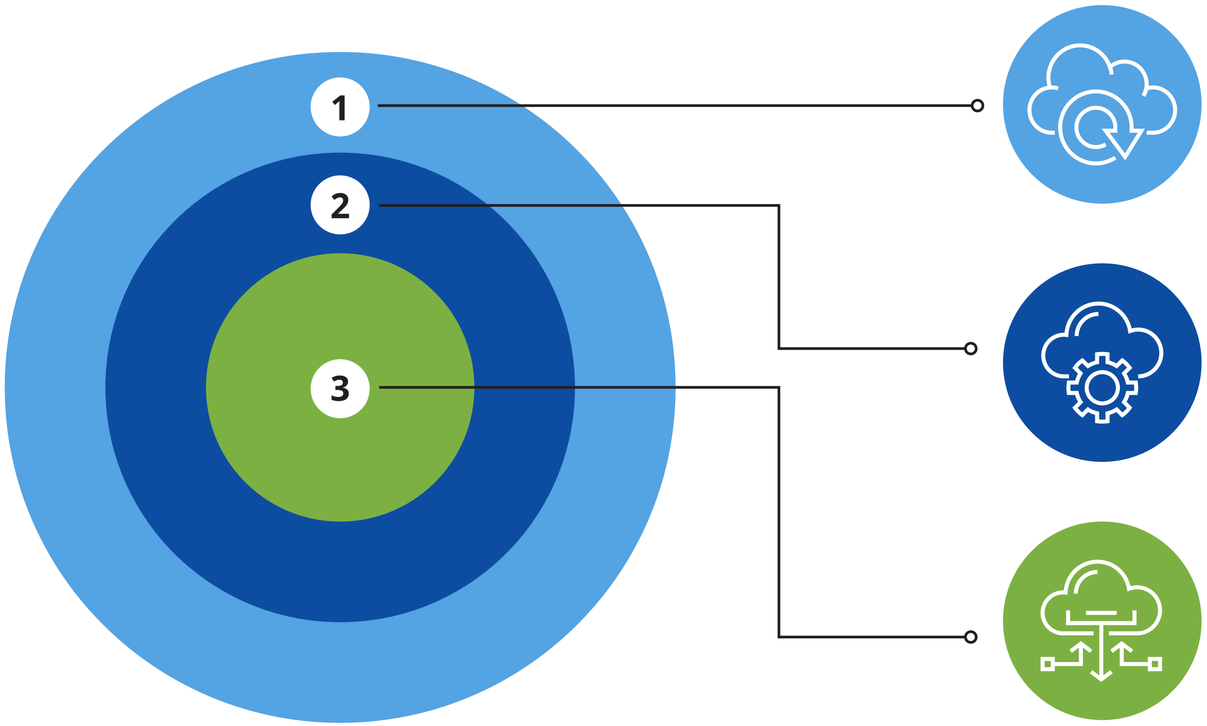
Source: IDC Multicloud and Datacenter Survey, August 2021

How to get started: thinking about day 1, day 2, and beyond with cloud operational framework

Excelling on Day 1 and 2

Cloud operations — such as optimizing cloud resources, creating frameworks and blueprints for streamlined operations, adopting policy-driven governance and security guardrails for continuous compliance, and embedding processes to manage the ever-growing cloud functions — have become vital for success.

Hybrid Cloud Strategy and Operational Framework



Cloud operations (including FinOps)

- Facilitate business continuity, disaster recovery, and resilience
- Provide visibility and monitoring while enabling continuous optimization (observability)
- Enable automation, standardization, energy efficiency, and consistency
- Ensure cloud cost optimization

Cloud governance

- Identify cloud-related risks and set risk appetite
- Translate risks into policies, then implement processes to monitor
- Create security, sustainability, and data management policies and track adherence

Cloud adoption strategy

- Align hybrid and multicloud adoption to business outcomes and environment, social, and governance (ESG) strategies
- Build diverse cloud skills covering tech, governance, and operational needs
- Adopt workload-driven cloud adoption plan

Source: IDC European Multicloud Survey, August 2021 (n = 925)

Laser focus on operations is seen as critical for hybrid cloud success

Excelling on Day 1 and 2

A quarter of European organizations have "extensively" adopted cloud operations capabilities and improved governance early in the cloud journey.

Three-step journey to hybrid cloud success

Planning for the hybrid cloud

Adopting appropriate cloud for each workload

Operating in the hybrid cloud

VALUE EXPECTATIONS FROM FOCUSING ON HYBRID CLOUD OPERATIONS

- Consistent management
- Improved cloud security, resilience, and performance
- Cloud cost optimization (FinOps framework for consumption and minimizing cloud waste)
- Reduced operating costs (with efficiency through maximum automation)
- Better user experience (with faster turnarounds, self-service, predictability, high availability)
- Energy optimization

CONCRETE STEPS TO GET THERE

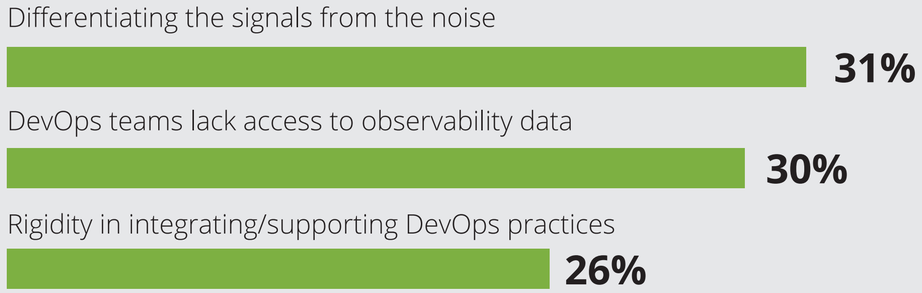
- Avoid ad hoc cloud migrations to escape these pitfalls
- Widen their cloud considerations and breaking silos between days 0, 1, 2, and beyond
- Manage the three-step journey as a continuum to bring together infrastructure, DevOps, platform engineering, and site reliability engineering teams
- Add a varied mix of renewable and nuclear energy sources

Observability and turning data into action — delivering business value via better customer experience

Excelling on Day 2 and Beyond

CHALLENGES

95%
find it difficult to observe their cloud-native ops.



IDC TAKE:

Observability and the ability to turn that data into action is a game-changer:

Applications need to be easy to use, secure, and deliver acceptable performance consistently to drive superior customer engagement. Use of unified IT observability to report on performance and give actionable recommendations is a necessity in the complex, dynamic, and interdependent application landscape.

Killer combination:

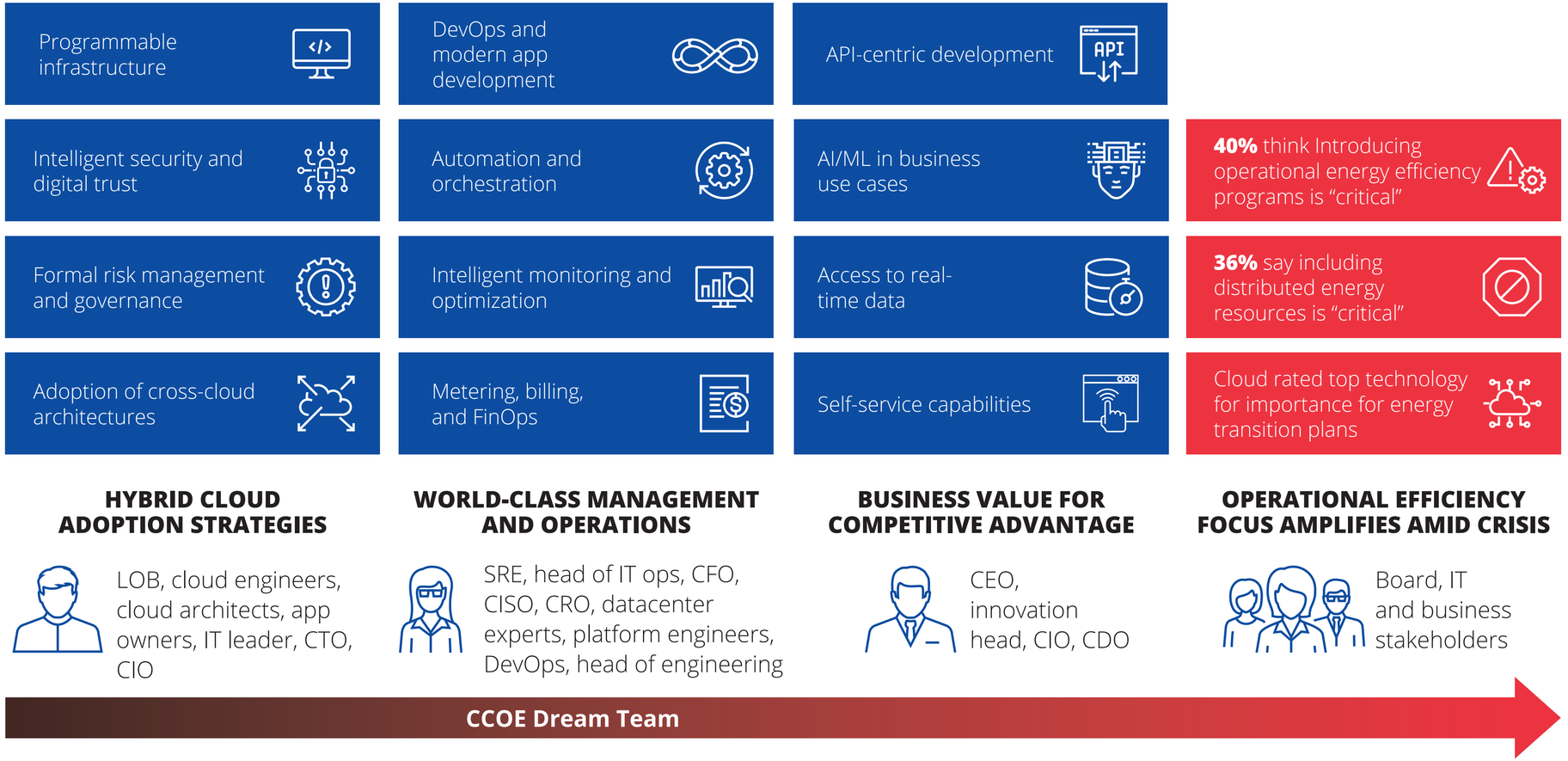
Observability, automation, and IT service desk turn operational insights into actionable direction. They help IT teams deliver SLAs and SLOs to restore business issues faster. It improves collaboration between development and operations by standardizing on a single source of truth and guides quick action by ITSM platforms. It can ensure higher business resilience and customer satisfaction.

Source: IDC EMEA, Accelerated App Delivery Survey, August 2021, Europe; n = 411

Learning from the leaders — how they excel in cloud adoption, operations, and changing mindset for hybrid cloud success

Excelling on Day 2 and Beyond

Hybrid cloud success is a team sport with a group of specialists collaborating as a cloud center of excellence (CCoE). Very mature organizations use modern tools and capabilities and quickly react to disruptive forces such as the current energy crisis.



CCoE as the catalyst — extend years of on-prem operational excellence and management principles to the cloud

Organizations building cloud operations and FinOps excellence need a team that collaborates across the end-to-end hybrid cloud journey. In response, leading organizations are creating cloud centers of excellence. CCoEs and multicloud centers of excellence (MCCoEs) are developing frameworks and best practices for operations and governance.

52% of surveyed European organizations have adopted a CCOE.

What is a CCOE?

- A cross-functional cloud-focused team with C-suite representation
- Aims to create a balance between speed and stability, and between IT and the business
- Drives the following goals:

Effectively managing cloud costs

Why? 40% of European organizations estimate that between 10% and 25% of their public cloud spend is "waste."

Improving performance, governance, and security

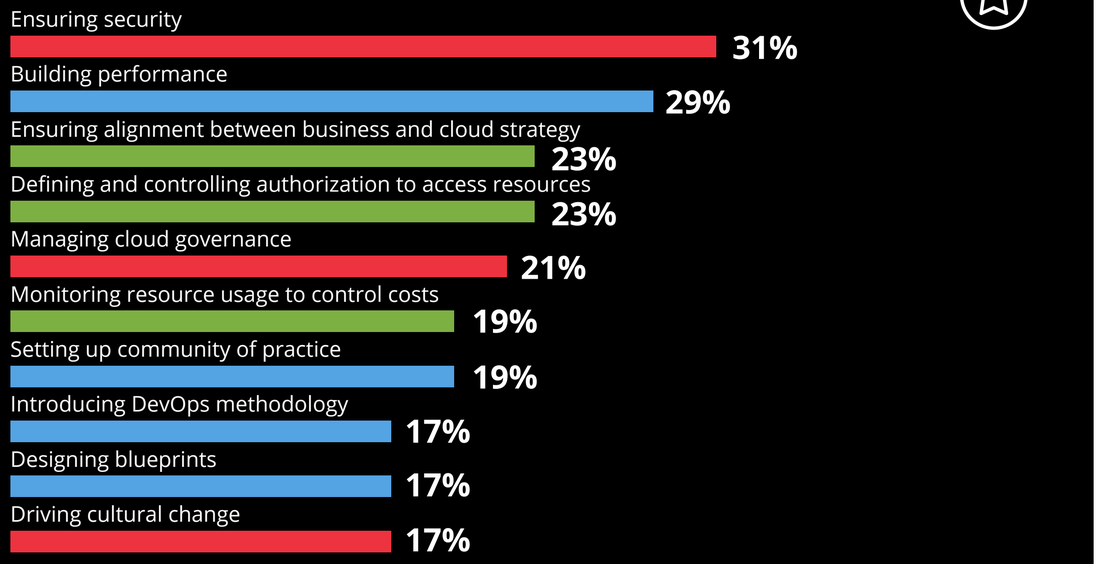
Why? 38% of European respondents said their top challenge in cloud operations is a lack of insights into their hybrid cloud environments.

Aligning business outcomes with cloud strategy

Only 26% of European respondents said cloud provides the foundation for new business models and new revenue streams.

Benefits of a CCOE? CloudOps, Governance, and FinOps

What are the main reasons for adopting a cloud center of excellence?



Source: IDC European Multicloud Survey, September 2022, August 2021

Benefits cited by organizations investing in hybrid cloud operations and management platforms

Prioritizing cloud operations right at the beginning of cloud strategy helps address core challenges:

- Using the datacenter as a starting point to develop a hybrid cloud control strategy
- Overcoming management complexities and getting consistent and seamless experience across cross-cloud environments
- Continuous innovation and optimization
- Near-zero-touch operations (or autonomous operations)
- Being in control of apps, data, and infrastructure, and managing it from the primary enterprise infrastructure

IDC TAKE:

Benefits for developer, operations, and business teams:

For European organizations, **overcoming technical debt, cost of infrastructure spend, rising cyber risks, and training and skills** are the top 4 concerns in infrastructure's ability to support business goals.

Cloud operations offer a **control point and self-service capability that empowers developers**.

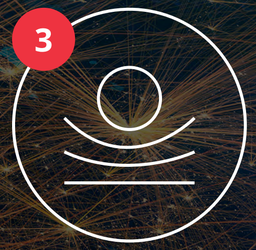
Autonomous operations help infrastructure operations teams **shift from reactive monitoring and ad hoc provisioning to intelligent operations with higher efficiency, cost optimization, and security compliance** in a dynamic world.

Ability to **monitor and have reliable data on carbon footprint** to take action for improvements.

Getting on top of hybrid cloud adoption and operations has never been more important — prepare for upcoming trends

Digital spend is set to grow at six times the rate of the economy in 2023.

By 2025, a 6x explosion in high-dependency workloads will lead to 65% of G2000 firms using consistent architectural governance frameworks to ensure compliance reporting and auditing of their infrastructure.



By 2026, 90% of G2000 CIOs will use AIOps solutions to drive automated remediation and workload placement decisions that include cost and performance metrics and improving resilience and agility.

Organizations are developing infrastructure and operational and governance resilience to tackle the first potential recession during the as-a-service era.

Improve resilience by focusing on long-term hybrid cloud operational excellence and taking a workload-first approach to infrastructure.

MESSAGE FROM FUJITSU

The Need for Resilience

Fujitsu's Global vision is to create a human-centric intelligent society, creating better customer experience and leading to the acceleration of profitable growth. Fujitsu envisages a world without complexity and risk when building datacenter and hybrid cloud infrastructures.

We strive to add value to our customers' business and to make a positive difference in the lives of our people, our customers, and our partners. By investing in more customer-centric themes to improve customer experience (CX), Fujitsu is looking to stay relevant and to be a trusted advisor for our customers, providing a unique CX.

Why Hybrid Cloud?

In line with Fujitsu's vision, the latest report from IDC clearly shows that hybrid and multicloud environments are a reality for 79% of organizations and underpin their ability to navigate through digital transformation and macroeconomic crises. European organizations' focus is now on designing resilient, governed, and optimized hybrid clouds.

Being customer obsessed, we are simply responding to their requests. Fujitsu is uniquely positioned to help customers find the right cloud for the right workload because we can offer a choice of solutions on which to build a hybrid cloud. These solutions build on Fujitsu's engineering heritage, where we have already pre-certified, pre-integrated, and prebuilt solutions to take out the complexity, cost, and risk for our customers. Enabling them to build resilient infrastructures and businesses.

Craig Parker, Head of Hybrid Cloud Europe, Fujitsu Platform Business

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