



Flash Technology:

Unlocking Innovations that Shape Society



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In This InfoBrief:

Flash is unlocking innovation and enabling business transformation

Flash is changing the world

Flash is enabling innovation and business transformation by allowing companies to do things they simply could not have done before



To understand how flash is transforming business and quantify the benefits of flash adoption, IDC conducted a global survey of

1,305

executives involved in IT infrastructure and business transformation

IDC identified four levels of flash adoption: Flash Innovators, Flash Users, Flash Aware, and Flash Laggards

Innovators, the group with the highest flash adoption, enjoy superior business outcomes across a range of areas

They have higher revenue growth, profitability, and productivity, and experience shorter time-to-market for new products

IDC identified steps companies in the other categories can take to understand their level of flash adoption and accelerate flash migration to take greater advantage of the business benefits

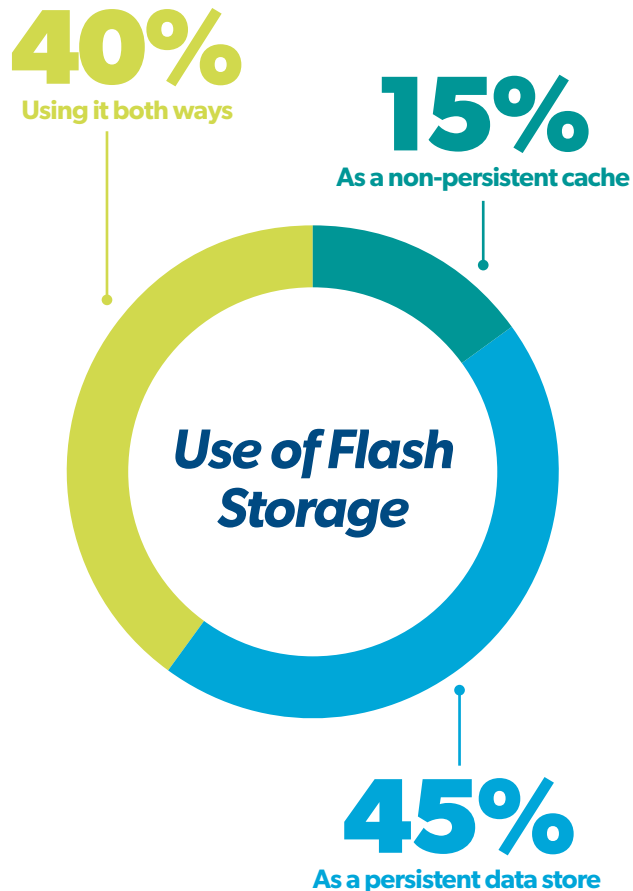


"I think flash is the help in disguise for IT professionals looking for an innovative enterprise storage solution."

IT VP
Large Financial Institution, US



Flash Has Become Mainstream

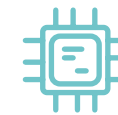


85%



of respondents are using flash as a persistent data store, with 40% also using it as a non-persistent cache. Almost half of storage is on flash, and respondents anticipate this to increase over the next five years.

Today
45%



% of Storage on Flash (vs. Disk)



59%
By 2020

Few Companies Are Fully Utilizing Flash

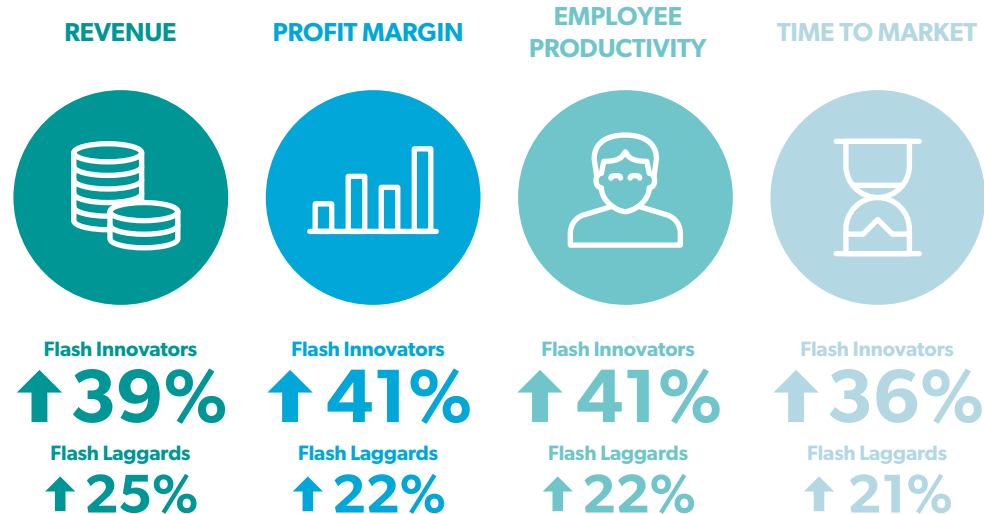
While use of flash has become mainstream, the level of flash adoption matters. IDC characterized companies based on their flash adoption; we refer to the most advanced as Flash Innovators and the least advanced as Flash Laggards

IDC'S FOUR LEVELS OF FLASH ADOPTION

	16% FLASH LAGGARDS	39% FLASH AWARE	32% FLASH USERS	13% FLASH INNOVATORS
% existing workloads on flash	32%	42%	50%	56%
% datacenter storage on flash	28%	41%	52%	57%
Agree that "flash enables marketing new services not possible before"	34%	76%	87%	89%
Representative company sizes	500 to 999 employees	1,000 to 4,999 employees	5,000 + employees	500 to 999 employees
Representative geographies	Japan Germany UK	Australia France Japan	India United States China	United States Canada India / Brazil
Representative industries	Manufacturing Healthcare providers	Government Resource industries Construction	Broadcast communications/media Education Wholesale trade	Life sciences Consumer services/retail

Businesses with Higher Flash Adoption Are Achieving Greater Success

PAST THREE-YEAR IMPROVEMENT



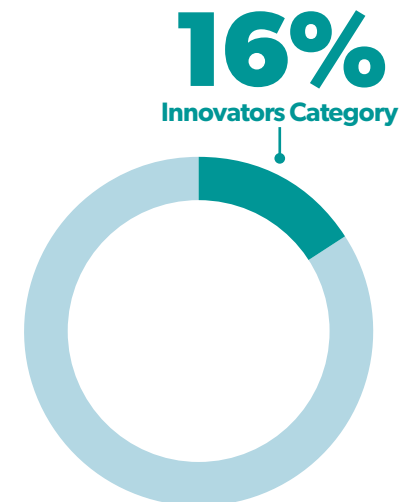
"All flash arrays ultimately increased our competitive advantage by speeding time to the market for our data-driven business, providing faster service to users."

IT Executive, Mid-Sized Transportation Company, Brazil



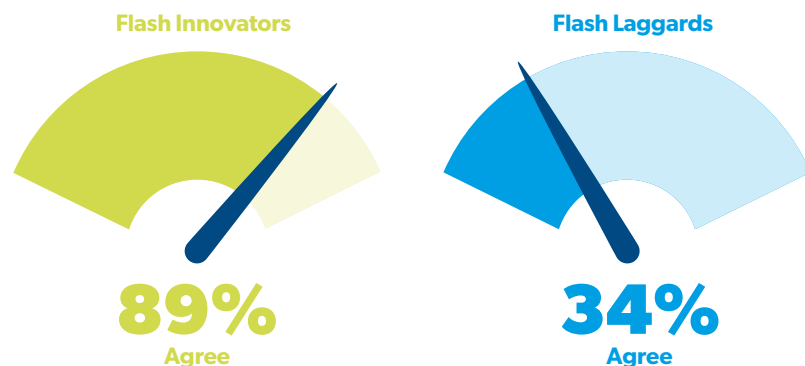
Innovators outperformed Laggards over the past three years across every business metric studied

But with only 16% of companies falling into the Innovators category, the remaining 84% risk falling further behind

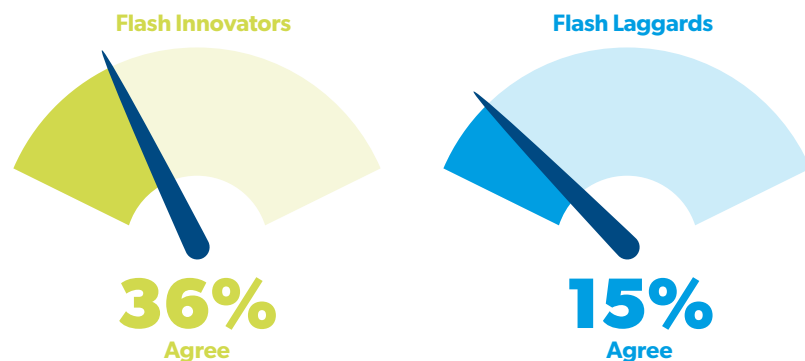


Innovators Indicate Flash is Enabling Transformative Change

"Flash enables new services not previously possible"



"Flash has enabled truly transformative innovation"



"Flash storage... introduced dozens of new features that enable better understanding of infections in patients and better prognosis."

IT VP, Mid-Sized Life Sciences Company, India

"[Flash] has been able to satisfy our extreme enterprise performance demands."

IT Executive, Large Technology Company, China



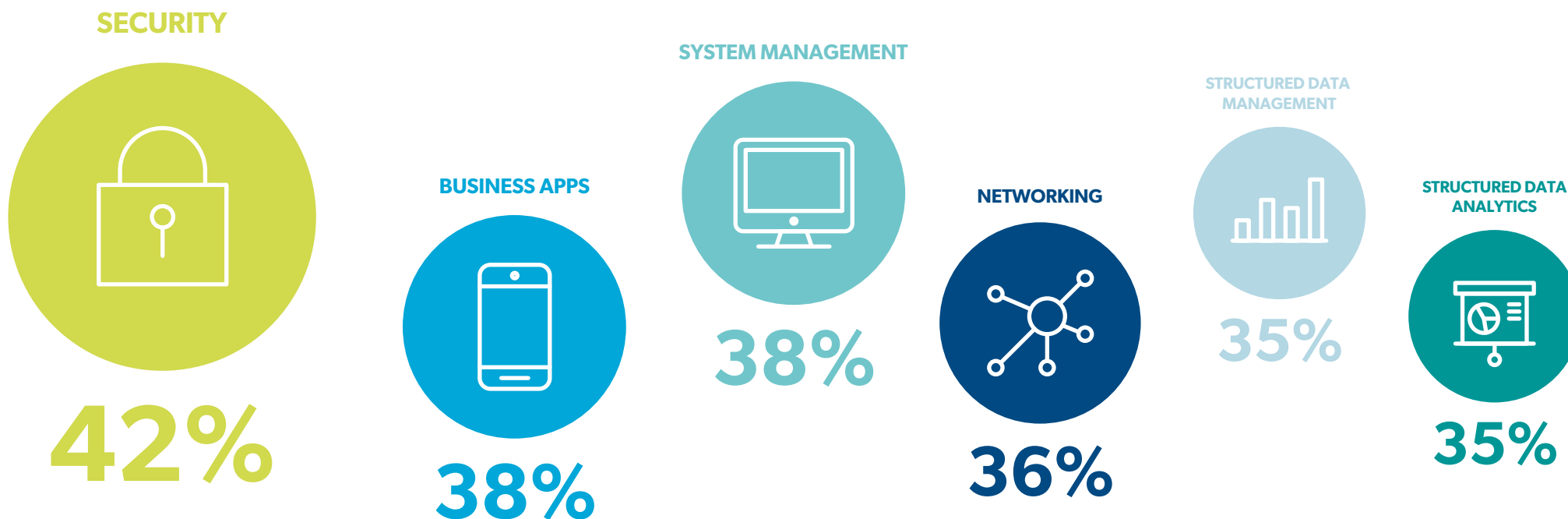
86%

of Respondents Agree:

"Flash is a strong/extremely strong enabler for meeting future challenges"

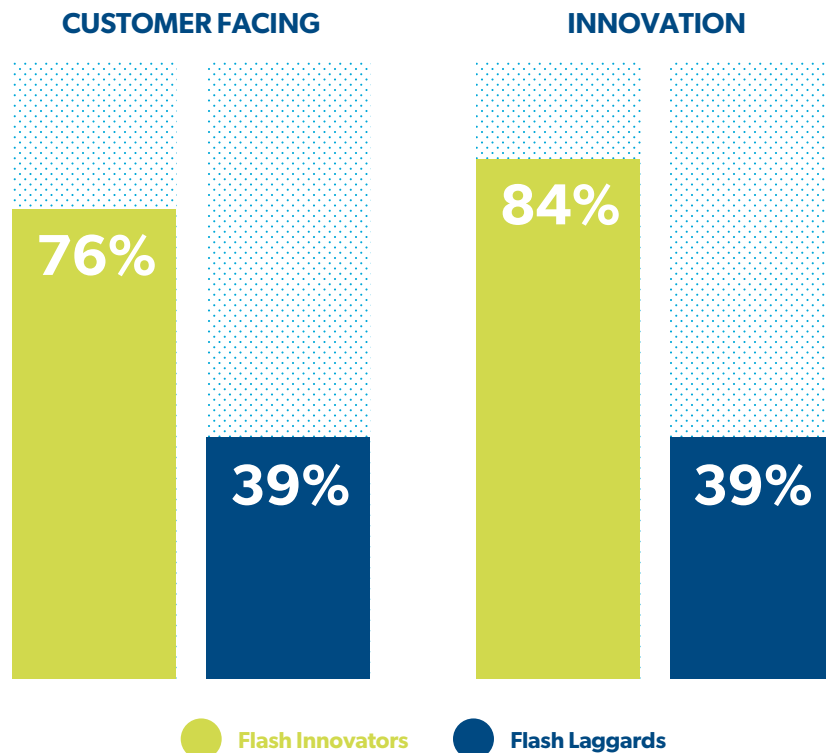
Flash Is Being Used for a Broad Range of Workloads

Top workloads for which flash is being used



...But Innovators Are Using Flash for More Strategic Reasons

Areas Where Organizations Are Using Flash



Innovators are much more likely to use flash for customer-facing and innovation functions. Laggards use it for tactical, operational purposes.

"Customer facing apps run quicker now and we receive fewer user complaints."

IT Executive, Mid-Sized Construction Company, India



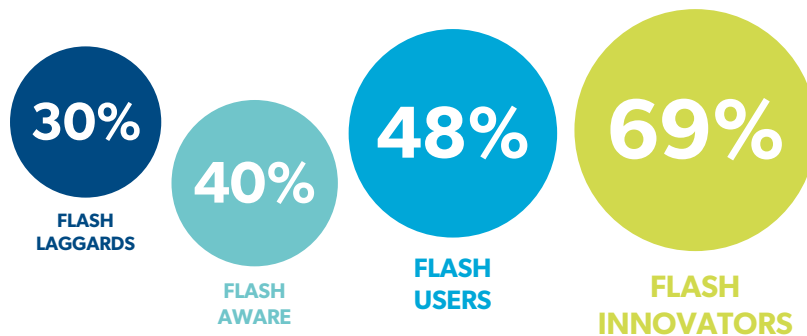
"Flash enabled innovation in our line of business due to improved and faster insights."

IT VP, Large Professional Services Firm, US



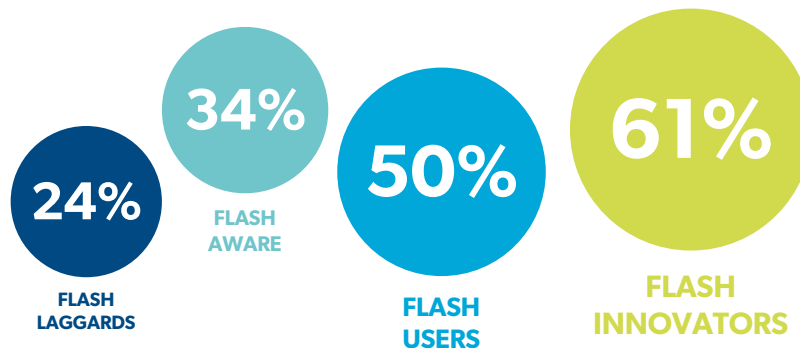
Having an Explicit, Long-Term Flash Strategy Separates Innovators from Laggards

HAVE A LONG-TERM STRATEGY TO MIGRATE EXISTING APPLICATIONS TO FLASH

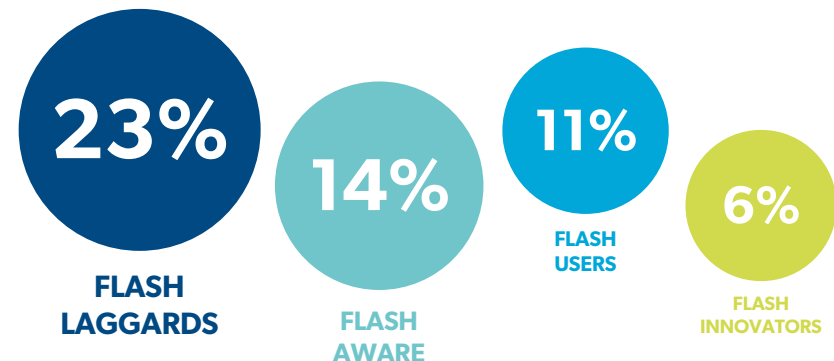


Innovators are adopting an all flash/flash first stance for their primary storage and workloads, while almost a quarter of Laggards don't even have an explicit flash strategy

HAVE A LONG-TERM STRATEGY TO PLACE ALL NEW APPLICATIONS ON FLASH



DO NOT HAVE AN EXPLICIT FLASH STRATEGY



IDC Guidance: What You Can Do Today

1

Assess your level of flash maturity

Use IDC's flash adoption heat map
<https://flashinnovation.emc.com>
to understand where you fit in the flash adoption curve



2

Understand how and where flash best fits in your organization

Determine best fit use cases. Consider new projects/applications as well as existing performance-constrained workloads

Work with lines of business/application owners to develop IOPs, latency, availability, \$/VM, \$/desktop and latency requirements specific to given workloads

Evaluate these workload-specific requirements against different classes of storage

3

Evaluate storage options available in your current system architecture

Evaluate adding flash as a cache or tier to an existing array, and which candidate workloads to move to all flash arrays

4

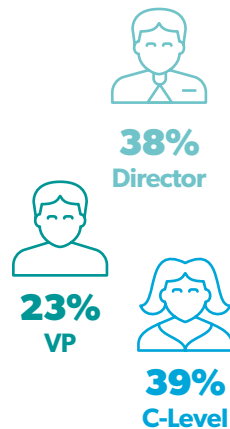
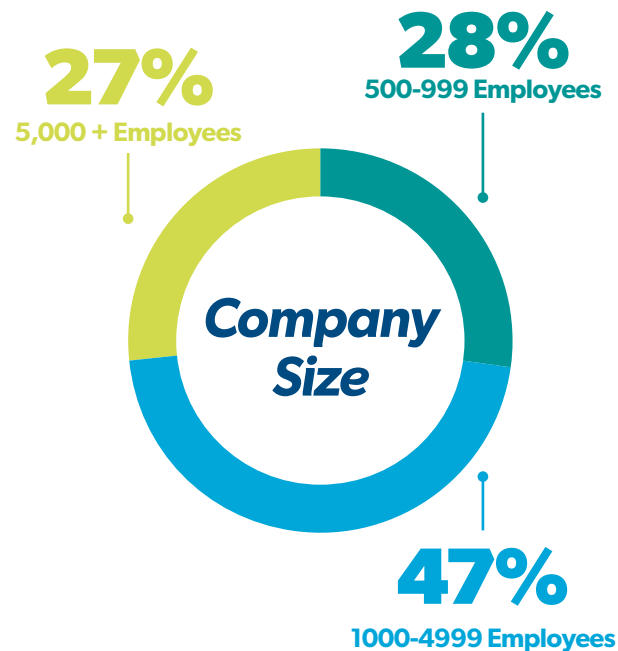
Identify workloads that would benefit most from flash and develop a prioritized migration schedule

Conduct before and after performance, capacity, and economic comparisons

Collect line of business and/or application owner feedback on performance improvements and resulting business impact

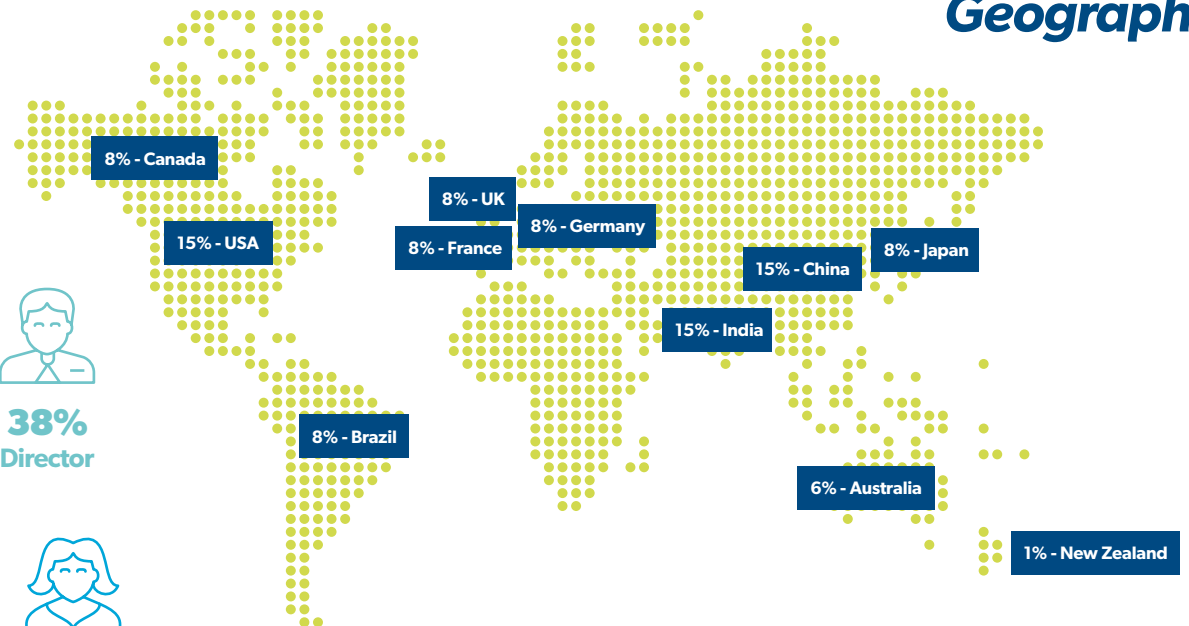
Study Methodology

This research is based on a global IDC survey of 1,305 executives involved in IT infrastructure and business transformation at companies with 500 or more employees



This research was supplemented by interviews with senior IT executives in the U.S.

Geography



The goals: understand how flash is enabling business transformation and the business benefits associated with higher rates of flash adoption