PLURALSIGHT

2022 Tech Forecast:

Build better teams. Build a better year.

Executive summary

Welcome to the 2022 Tech Forecast! The data-driven insights here will help you and your team prepare to both capitalize on and respond to the trends that we expect to continue in 2022. Equipped with that data, you'll be positioned to execute on your 2022 initiatives and make this the year you truly evolve.

Dive into the report to dig into these four key insights:

- Cloud maturity—not just adoption—will be essential for 2022 tech advancements
- Surviving the Great Resignation will require increased investments in reskilling and upskilling programs
- Remote work is here to stay—but we need to improve how we work remotely
- You and your team can tackle anything in 2022 proactively and intentionally

Technologists are accustomed to a fast-paced, ever-changing landscape, but the last two years have forced organizations to be reactive as opposed to proactive. It's time that changed.

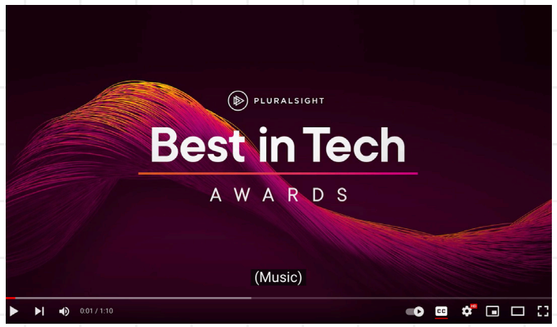
In 2021, despite the bumpy road littered with empty coffee cups, cats walking across keyboards and a stark increase in loungewear spending, the world acclimated to new ways of managing work and working together. Organizations adjusted processes to be more agile, and upskilling increased to align with those changes.

What does this mean for 2022? Tech leaders must approach this year with clear intention, by building a Blueprint that maps how their teams and orgs can continue to thrive and overcome roadblocks—to proactively approach their goals, rather than react to the next pandemic or great resignation.

The data in this report highlights shifts and trends in the market that will likely continue into this year, and suggests how you can plan for these shifts. With that data in hand, we'll also give you a Blueprint for planning how to execute on your 2022 initiatives.

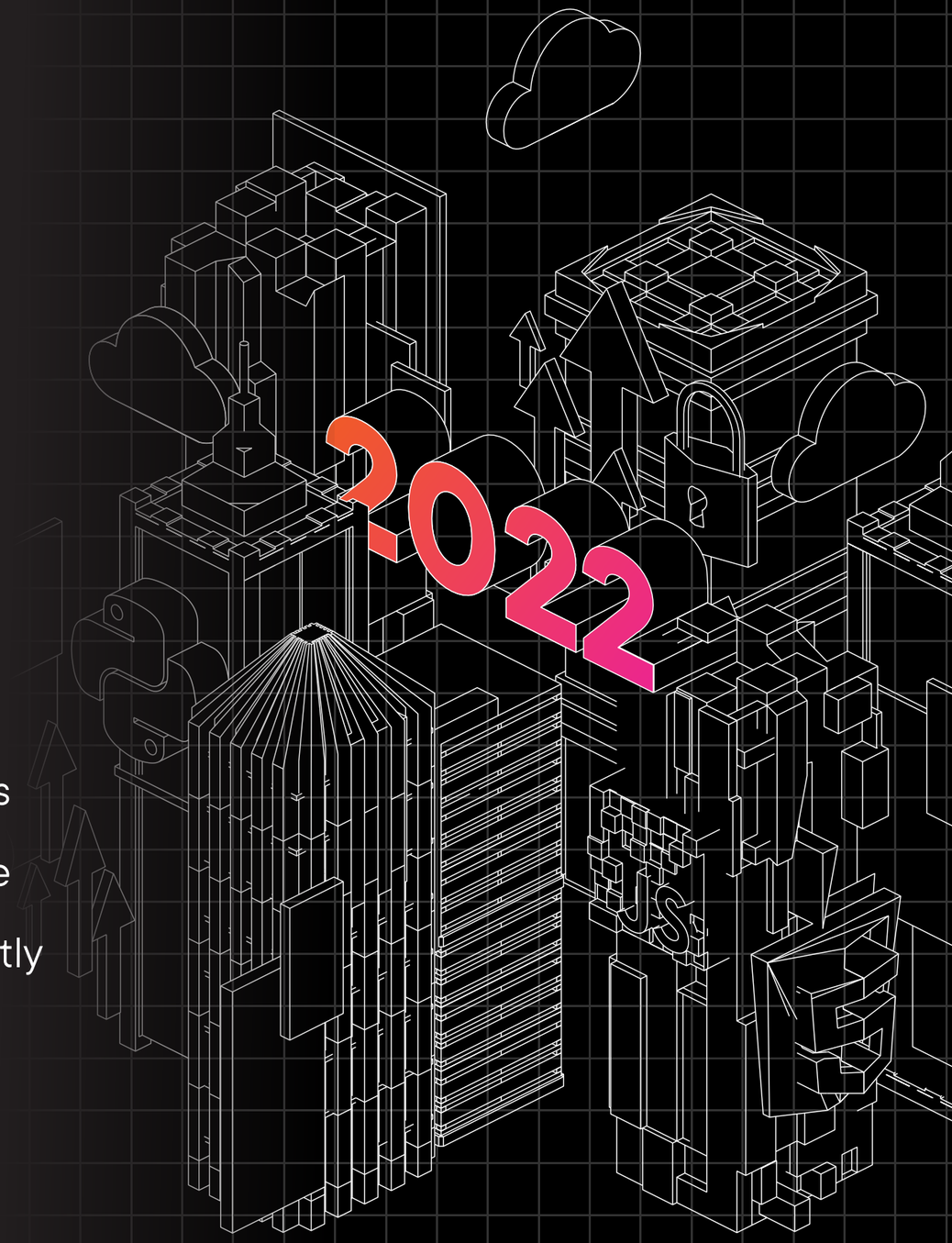
The world is changing, and we want to not only help you change with it, but to evolve and leverage these trends to accelerate your own business and drive the market forward for customers.

Pluralsight Skills' Agile Team Practice Fundamentals course saw a 171% increase in viewership in 2021. Additionally, the IT Ops-Agile course went from being the 6th most-watched course by IT Ops technologists in 2020 to the most-viewed course overall, with viewership topping 223,000 hours.



Learn how Applied Materials is leading the charge in Agile financial digital transformation with targeted upskilling

Cloud maturity—not just adoption—will be essential for 2022 tech advancements



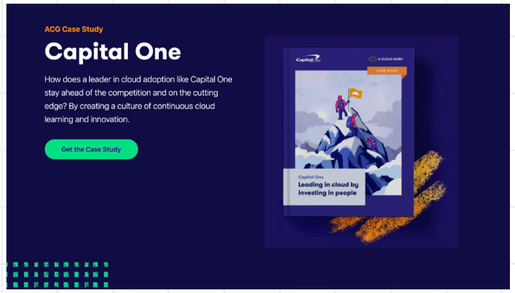
No surprises: The cloud continues to be a top strategic imperative for organizations globally, creating a heightened demand for cloud experts as organizations progress from adoption to maturity. Yet, learning in the cloud is fundamentally different from traditional upskilling and frequently requires developing more specialized expertise. The complexity of learning in the cloud continues to drive top skills gaps today.

More than 90% of IT leaders surveyed by A Cloud Guru (ACG) expect to expand their usage of cloud services over the next 1-3 years. **In 2021, A Cloud Guru measured a 152% increase in time spent on Azure learning** and an increase of almost 112% on Google Cloud learning. However, only 56% of IT leaders have a comprehensive, actionable plan to skill up their workforce in preparation for this shift.

In our 2021 State of Upskilling survey, tech leaders who were surveyed stated:

- Cloud management is a top skills gap with working from home
- They need to develop cloud management skills in the next 12 months
- They need cloud lab and sandbox environments for their roles. The number of cloud labs taken in Pluralsight Skills saw a 1,185% increase, demonstrating a growing and essential need for risk-free practice in the cloud

To fill cloud management skills gaps, half of leaders would rather upskill their employees than hire new ones, and with employers offering 30% - 40% higher salaries to attract new talent, upskilling can prove to be a more cost-effective solution. And we see ACG customers doing just that: reskilling and upskilling talent. **The most popular ACG course taken in 2021 was "Intro to Cloud Computing," which was completed by 24,000 unique users.**



Find out how Capital One stays ahead of the competition and on the cutting edge by creating a culture of continuous cloud learning.

Skill assessments can help organizations target skill development toward the unique needs of individuals and teams.

But, building for and within the cloud isn't getting easier. The rise in cloud upskilling is progressing, **but the median days to progress through those skills is also increasing, in some instances by as much as 3-6 months. There was also a 32% decrease in skill assessments taken to move from novice to proficient from 2021 to 2022, and a 42% decrease from proficient to expert**.

These decreases in assessments (which measure learners' technical abilities in a specific skill relative to other learners who've taken the same assessment) don't indicate that less learners are taking assessments, but rather that they need more time to cross these larger skills gaps.

When you combine the massive surge towards the cloud, the newness of the skills needed to make the transition and the amount of people trying to learn these new skills, it becomes clear why these data points saw such an increase. **More people than ever need to learn cloud, but figuring out exactly what to learn or where to start can be a challenge.**

Skill assessments can help organizations target skill development toward the unique needs of individuals and teams. Teams that need to be well-versed but not experts in cloud should move the novice-to-proficient needle, while teams focused on building cloud experts should focus on moving from proficient to expert.

THE TEN MOST POPULAR CLOUD COURSES OF 2021:

1. AWS Certified Solutions Architect Associate SAA-C02
2. AWS Certified Cloud Practitioner 2020
3. Introduction to AWS
4. AWS Certified Developer - Associate 2020
5. Introduction to Cloud Computing
6. AZ-900 Microsoft Azure Fundamentals
7. AWS Certified Solutions Architect - Associate (SAA-C02)
8. AWS Certified Solutions Architect - Professional 2020
9. AWS Certified Cloud Practitioner (CLF-C01)
10. AWS Certified Security - Specialty 2020

Having a cloud skill development program to close the skill gaps in 2022 will be essential to your org's success. Take a look at platform data from A Cloud Guru from 2021 so you can create a better Blueprint for the cloud in the coming year and beyond with the right cloud skills.

Creating new experts to meet the demand for cloud conversion led to "Intro to Cloud Computing" being the most-watched cloud-related course for the second year in a row. The total of Hands-on Labs taken grew by 24%, indicating that, with cloud complexity increasing, more technologists need a place to practice their growing cloud skills risk-free.

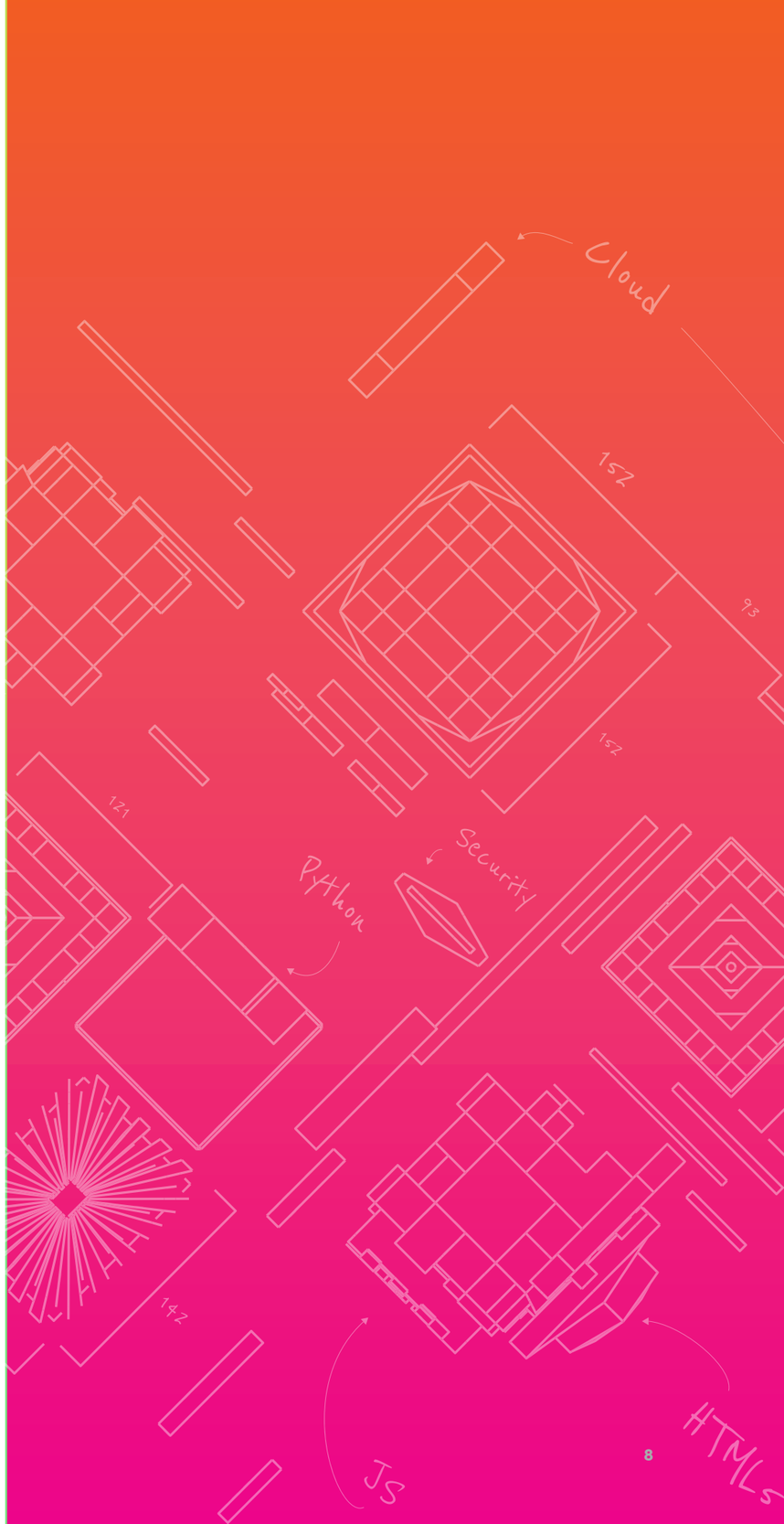
Not only did the popular courses see an increase in viewership, but the breadth of courses viewed did as well. Viewership increased across every business function from manufacturing and finance to public services and global energy companies. This demonstrates that the cloud touches more than just software development, but spans across multiple roles and business functions, driving the need for a cloud-literate workforce.

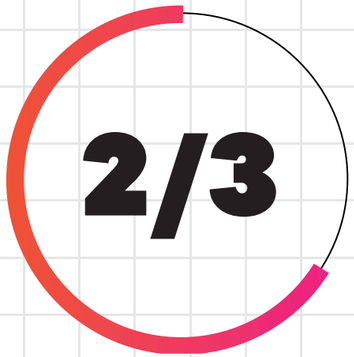
Surviving the Great Resignation will require increased investments in reskilling and upskilling programs

The value of retaining your skilled employees has never been more obvious. Staff turnover in the US IT industry ranks at 13.2%, which is the highest attrition index among all industries. High turnover is costly—employers pay 50 to 250% of the salary for each replacement (Daxx), and **our data reveals that it takes an average time of six months to onboard engineers to full productivity.**

The cost is only half the equation when needing to bring in new talent. In the current environment, there simply aren't enough people available to hire. Technologists looking for new jobs are also upskilling for a career shift. **Our Future Technology Careers course saw a 305% increase in viewership in 2021. And the number of skill assessments taken to move from novice to proficient in "Technology Leadership" saw a 21% increase.**

According to Mint, there's an estimated gap of six million between demand and supply of digital talent across eight countries including the US, China, India and parts of Europe. Providing upskilling options to employees is now essential. If they decide to go elsewhere, it will be exceedingly difficult to replace them with viable candidates.





of respondents from the 2021 State of Upskilling said they plan to use upskilling as either 100% of their solution or part of their solution, as opposed to bringing in new talent.

And that's where Technology Skill Development (TSD) comes into play. TSD is the most efficient strategy for developing the technology skills your organization needs to drive business outcomes—with confidence and predictability, with less effort and in less time. In fact, Amazon and Google recently invested nearly $2 billion in upskilling their staff. And they're not alone. When asked about their go-forward plan to respond to skills gaps in their organization, **2/3 of respondents from the 2021 State of Upskilling said they plan to use upskilling as either 100% of their solution or part of their solution, as opposed to bringing in new talent.**

"Technology is changing so quickly," says Chief Architect at Home Depot, Barbara Sanders. "We've had to adapt the way we bring it to life and make it a lot more flexible." Home Depot responded to hiring and skills gaps challenges by transforming cashiers into developers through their OrangeMethod program.

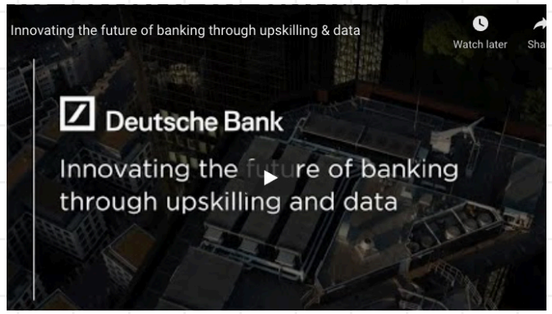
"When you think about all of our supply chain systems and planning and forecasting, everything from the cash register to our digital e-commerce website, technology has to be able to enable that," says Anthony Gregorio, Home Depot's Director of Technology Enablement. "And to be able to build these things, we have to have skilled associates."

Businesses investing in Tech Skill Development understand that upskilling delivers a powerful ROI. According to Zippia, hiring a mid-level employee typically runs up an average cost of $60,000. Meanwhile, the Society for Human Resource Management says **the cost of upskilling or reskilling current employees is about $1,208 per employee.** It also can add 12% to your bottom line.

$1,208 the cost to upskill or reskill each employee

Upskilling your current employees saves you time and money. It also helps you build a culture of learning and development that will empower your teams to adapt quickly in the future.

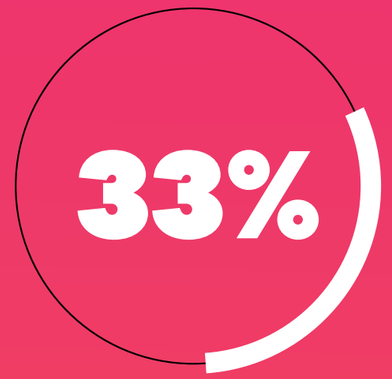
Learning new skills is great, but learning the right skills—aligned to business objectives—is what's truly valuable. To know what skills and technologies to focus on in the future, let's look at the most popular tech courses and skills of the last year on Pluralsight Skills.



See how Deutsche Bank is innovating the future of banking through upskilling and data.

TOP TEN CUSTOM LEARNING PATHS IN PLURALSIGHT SKILLS BEFORE AND DURING COVID

	PRE-COVID		DURING COVID
1.	csharp	1.	csharp
2.	java	2.	java
3.	angular	3.	angular
4.	microsoft-azure-architect-technologies-az-300	4.	fundamentals-of-it-operations
5.	fundamentals-of-it-operations	5.	react
6.	python	6.	microsoft-azure-architect-technologies-az-300
7.	react	7.	python
8.	microsoft-azure-administrator-az-103	8.	upgrading-your-technology-career-skill
9.	javascript	9.	upgrading-your-technology-career
10.	developing-solutions-for-microsoft-azure-az 203	10.	javascript



Increase in the amount of time technologists spent engaging with courses

The top training categories technologists access has remained roughly similar both before and during COVID, but the amount of time spent engaging with the courses during that time has increased by 33%.

Here's an interesting development: Custom learning paths built around upgrading technology careers and skills have risen to a firm position on this list. Technologists are certainly adapting to learn new tools and execute on evolving initiatives, but they're also seeking out ways to advance their careers—whether that's at your business or elsewhere.

Clearly, organizations are capitalizing on the benefits of upskilling, both to counteract the effects of the Great Resignation and to adapt to the rapidly-evolving technological landscape.

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Pluralsight Skills courses have seen an uptick greater than 100% in their viewership since the beginning of COVID

Remote is here to stay—but we need to improve *how* we work remotely

The continued advances in technology products and features during the COVID-19 shift to working from home proved that success isn't driven by where we work, but how.

An Owl Labs study found that 16% of companies are fully remote, and 62% of workers aged 22 to 65 claim to work remotely at least occasionally. Tech leaders are keen to understand how they can better support their remote teams.

Pluralsight Skills' Managing Virtual Teams course saw a 305% increase in viewership in 2021. Viewership of Technology Leadership courses as a whole was up 87% as well.

Find out how Accenture is fostering technology literacy and technology skills transformation at scale

Top keyword searches in Pluralsight Skills

PRE-COVID

- Python
- Angular
- Javascript
- React
- Java
- C#
- Azure
- AWS
- SQL
- Docker

DURING COVID

- Python
- C#
- Angular
- Java
- Javascript
- React
- AWS
- Docker
- Azure
- SQL

We saw a 12% increase in code commit activity in the six months after the sudden remote work shift.

We also found a 440% increase in view time of the Make Work from Home Work course in Pluralsight Skills.

of workers say that having the option to work remotely would make them less likely to leave a company.

Find Stack notes that 85% of managers think remote work is here to stay and, perhaps more importantly, 77% of remote workers say they're more productive when working from home.

Our Flow data supports this:

- We saw a 12% increase in code commit activity in the six months after the sudden remote work shift
- We also found a 440% increase in view time of the Make Work from Home Work course in Pluralsight Skills
- 74% of workers say that having the option to work remotely would make them less likely to leave a company

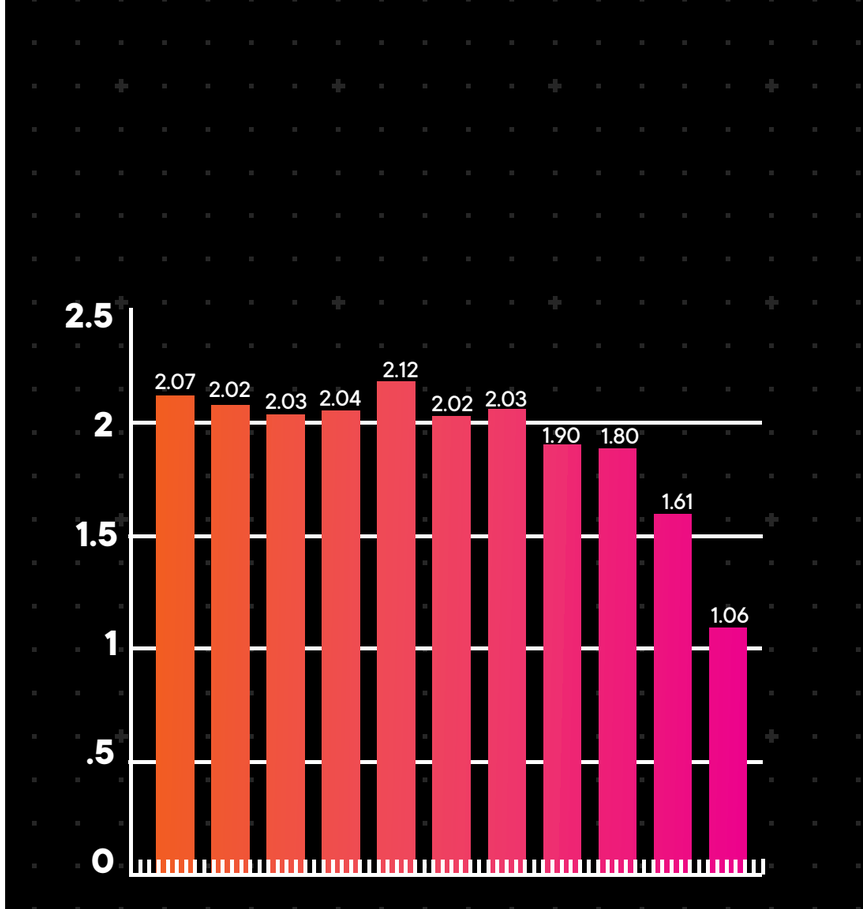
We've all learned over the past couple years (sometimes the hard way) that remote teams simply can't be managed the same as in-office teams. We're all learning how to navigate this new work landscape together, but one thing's clear: If you're doing it the old way, your team will likely fall behind.

The lack of flexibility to work from home is one of the major aspects driving the Great Resignation. According to McKinsey & Company, of those who took new jobs in new cities during the past six months, almost 90% did NOT have to relocate. Find Stack also reported that 74% of workers say that having the option to work remotely would make them less likely to leave a company.

The reason remote will remain is **that technologists have proven that they don't just survive while working from their homes, they thrive**. Since the start of COVID, teams have adjusted to remote learning models—and they've taken over 86,000 assessments on language, frameworks, tools and processes to move up in proficiency from novice to proficient to expert.

Additionally, in the last two years, according to Pluralsight Flow data, **coding days, PR time to close and productive throughput numbers are all up**. From the beginning of 2021 to the end of the year, average PR time to merge dropped nearly 100% from 2.07 to 1.06 days, a decrease of a full day in less than a calendar year. PRs can be an indicator of how well your team is collaborating, especially given the asynchronous nature of the remote environment.

To assure remote work doesn't become detrimental to both the work produced and the mental health of employees, leaders need to evolve how they keep teams connected. In a recent Qualtrics survey, 34% of respondents said they feel their company lacks open and honest communication, and it's become worse in the remote work era.



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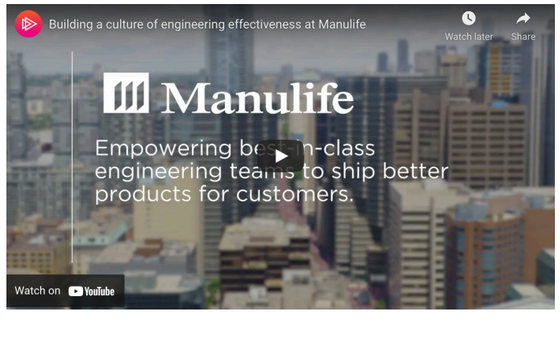
Find out how Accenture is bringing technology literacy and tech skills transformation at scale.



Find out how Manulife is empowering its teams to make data-backed decisions and ship better products with Pluralsight Flow.

Pluralsight Flow creates data-driven communication opportunities by helping every member of the engineering team see the same information, even when they're not in the same room. By better understanding what projects, tasks or pull requests team members are struggling with, you can create mentorship opportunities. You can also build out cross-team groups to work on projects together, which creates a stronger team bond and sense of belonging.

Building company culture in a remote environment isn't about Zoom social effects, it's about what happens in practice.

As Tracy Brower puts it,

"We start to work together on something that we both care about and we can better understand our roles and what makes us a team as opposed to what separates us."

Here are a few other ways that Pluralsight Flow enhanced company culture and improved remote work by providing deep insight into the inner workings of teams scattered across the globe:

- A global engineering team leveraged Flow data to make the case for hiring senior engineering leadership outside of the U.S. to enable their offshore engineering teams to collaborate more efficiently

- With Flow data removing questions of how effectively teams are working remotely, executives could make the case to move to a remote-first hiring stance and easily access more talent

- Leaders used Flow data to recognize and promote hidden talent—something they didn't previously have visibility into

Trusting and supporting your remote employees are key indicators of success for your org in 2022 and beyond. And it's essential in order to retain your top talent.

Don’t leave 2022 up to chance

Technologists couldn’t plan for the unknowns the last two years would bring, but they produced groundbreaking products and services, new disaster recovery and much more nonetheless. These innovations occurred out of necessity of change. Chaos may be a ladder, but without support, there’s a risk it will topple over. **By building a foundation that’s structurally sound and based on what we’ve learned in the past, we can proactively plan for 2022 and beyond.**

The data in this report can help you establish direction and intention behind your 2022 objectives and plans. It can help you win executive buy-in on tech-driven initiatives—because if you’re not investing in those initiatives, your competitors likely are. Data-driven decisions will also empower your teams to deliver disruptive digital experiences, products and services to customers before your competitors do.

Whether you’re a tech leader or an up-and-coming engineer, working in tech today is not a singular job. It involves not just understanding and solving data-related challenges but also about empowering teams (or yourself) to solve those challenges, whether it’s adjusting workflow patterns or upskilling in their role. **The world is changing faster than ever. And so are the ways our teams work, learn and deliver.**

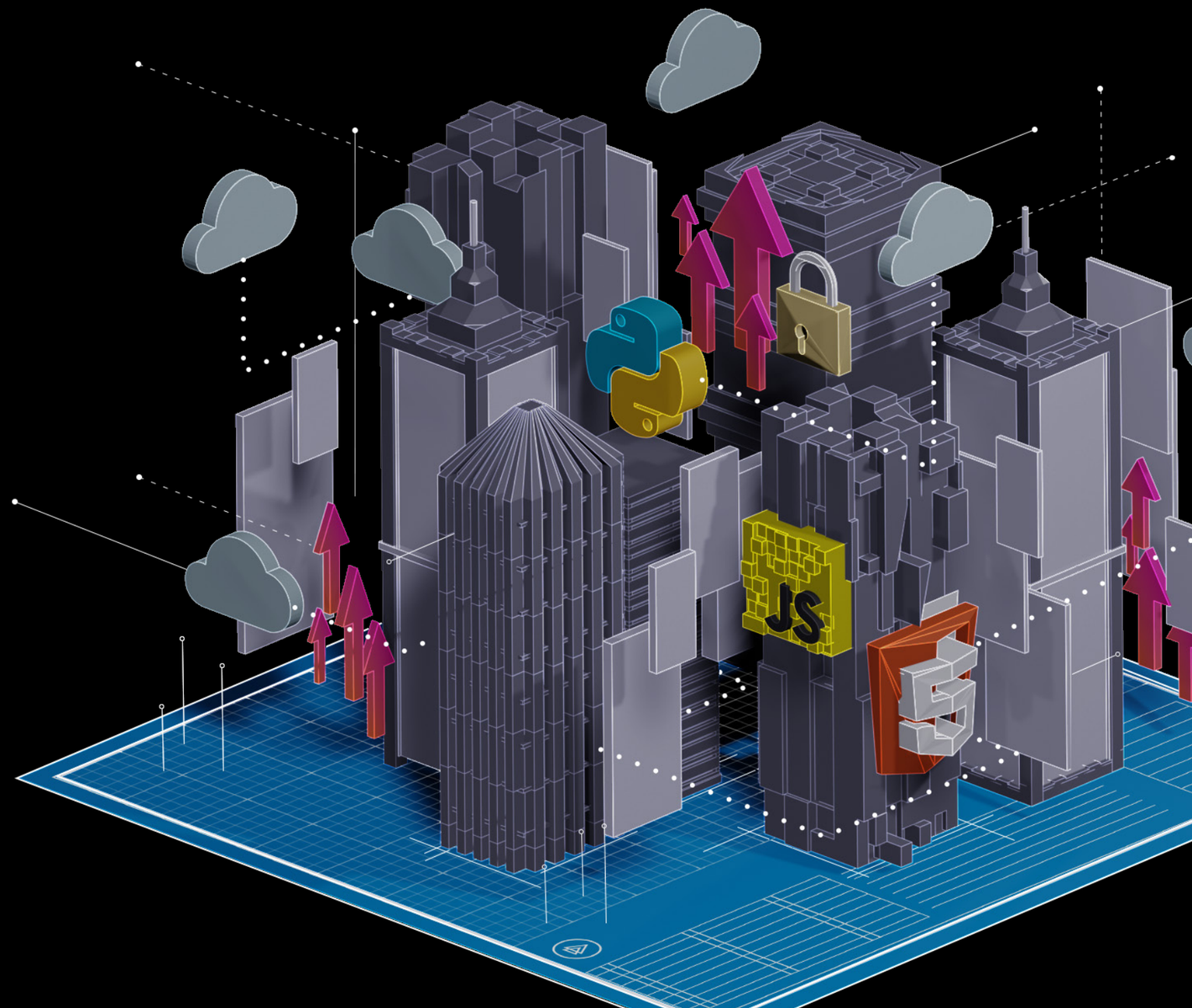
It’s not enough to devise an architectural solution for your organization’s cloud migration. You also need to have a solution for the technologist attrition so you have the developers to implement that solution. You need knowledgeable and talented teams and you also need to provide those teams the upskilling tools to continue their own growth. After all, you can’t make the most of your technology until you invest in your people and processes first. Develop your technology workforce and then you’ll be able to get the most out of your own technologies and build a better 2022.

PLURALSIGHT

We want to lend a hand: Set up a plan for building your better 2022 with our Build Better Blueprint!

This Build Better Blueprint will help you:

- Build a purpose-driven workforce development strategy aligned with your organization's key initiatives
- Map out milestones toward accomplishing key initiatives
- Set progress goals that work for your team
- Create a plan to prove your program's ROI to leadership

Get your blueprint here

Build Better