

# 2020 Workplace Learning Trends Report: The Skills of the Future

 Udemy for Business



# AI is reshaping the world of work

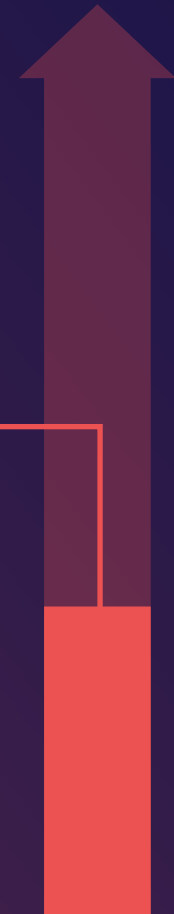
The rise of artificial intelligence (AI) is redefining how businesses operate. Artificial intelligence enables computers to learn from experience and accomplish human-like tasks more efficiently by processing large amounts of data and recognizing patterns.

Over the next decade, data analytics and AI will augment workers' efficiency, as companies rely on leading tech to beat out competitors, according to [Gartner's Hype Cycle 2019](#).<sup>2</sup>

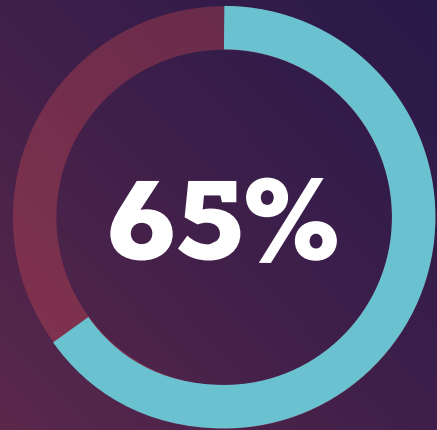
<sup>1</sup> "Masters of the Universe: The Rise of the Financial Machines," The Economist, October 3, 2019.

<sup>2</sup> Roberto Torres, "Gartner Depicts a Business World Reshaped by AI in 2019 Hype Cycle," CIO Dive, August 29, 2019.

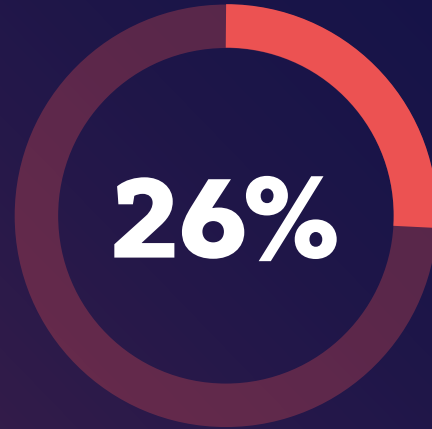
In the world of finance, investment funds managed by AI and computers account for **35%** of America's stock market today.<sup>1</sup> And this number is only growing.



# Is your workforce ready?



65% of leaders cited AI and robotics as an important or very important issue in human capital.



Only 26% of surveyed organizations are ready or very ready to address the impact of these technologies.

## Given the speed of change, most organizations are not ready for AI

AI brings with it a proliferation of data. Organizations and their employees will need to manage, store, process, analyze, and draw actionable insights from the data generated by AI. Becoming a data-driven culture will be essential for organizations to harness the power of AI and big data.

Source: 2019 Deloitte Global Human Capital Trends.<sup>3</sup>

<sup>3</sup> Deloitte Insights, 2019 Human Capital Trends Report, Deloitte Development LLC, 2019.

## Reimagining learning & development in 2020

With large-scale technology disruption, organizations will need to respond in a transformational way. It will mean rethinking workforce skills and talent management.

This report will discuss how organizations can reimagine the future of workplace learning for the new decade.

**In this report, you'll discover:**

# 5

## 5 learning trends in 2020

The latest learning trends & hottest skills based on what 40+ million people are learning on Udemy worldwide, including by role, industry, and country.

# 5

## 5 learning predictions in 2020

Based on a survey of 200 L&D leaders, 5 ways organizations are reinventing learning and preparing their workforce for the skills of the future.

# 5

## Workplace Learning Trends in 2020

Trend 1

**From concept to reality:  
AI goes mainstream in 2020**

Trend 2

**Upleveling the human: 2020 is about realizing  
the full potential of humans and machines**

Trend 3

**Learning & development is starting  
to tackle reskilling the workforce**

Trend 4

**Organizations are building  
a data-driven culture**

Trend 5

**Countries across the world are  
upskilling in highly coveted tech skills**



## Trend 1

# From concept to reality: AI goes mainstream in 2020

2020 is the year AI goes mainstream. We're starting to see AI adopted in all parts of the business. Marketing is applying AI data insights on customer behavior to tailor sales offers. HR teams are beginning to use AI to recruit, screen, and interview candidates. Finance teams are applying AI and machine learning to reduce company travel costs. The list of AI applications is endless.

## There's been a shift towards AI and data science skills over the past 3 years

When looking at the hottest skills trending on Udemy over the past 3 years, we see a shift to AI and data science. Here are the top 10 tech skills that have grown in popularity over the last 3 years (2016-2019).

Machine learning and neural networks are the muscle behind artificial intelligence (AI) innovations that have taken the world by storm. Artificial neural networks (skill #5) mimic how the human brain processes, stores, and acts on information. While self-driving cars or facial recognition are the most popular examples, the power of neural networks can be leveraged for just about every industry.

### Top 10 tech skills that grew in popularity 2016-2019\*

1. TensorFlow
2. Chatbot
3. Microsoft Azure - architecture
4. OpenCV (computer vision/AI)
5. Neural networks
6. LPIC- Linux
7. Ethereum (blockchain)
8. Splunk (data)
9. QGIS (open-source GIS software)
10. Kotlin

\*We ranked popular skills based on consumption on Udemy.com for each year 2016-2019. This list of top 10 is based on the skills with the highest rank change between 2016 and 2019. Source: Udemy Data 2020.

Building these neural network and machine learning models is a complex task. New technologies like TensorFlow (skill #1) makes this process easier. TensorFlow is an open-source library featuring machine learning algorithms and code for developers to apply to their own applications.

Computer vision is the field of AI that trains computers to interpret and understand digital images like facial recognition tasks. OpenCV (skill #4) is another open-source library of programming functions that helps developers build real-time computer vision applications. Driven by AI, chatbots (skill #2) can recreate the way a human interacts with customers to solve administrative tasks, sales, or frequently asked questions.



## Top 10 most popular tech skills in 2020\*

1. Python
2. React (web)
3. Angular
4. Machine learning
5. Docker
6. Django
7. CompTIA
8. Amazon AWS
9. Deep learning
10. React Native (mobile)

\*Ranking is based on highest consumption on Udeemy.com in 2019.  
Source: Udeemy Data 2020.

## AI, data science, web development, and cloud are the most popular tech skills in 2020

When we looked at the most popular skills on Udeemy in just 2020, we see similar trends. There is a huge appetite for AI and data science skills (Python, machine learning, deep learning), but also demand for web development frameworks (React, Angular), cloud computing and other IT certifications (AWS, CompTIA), and Docker. Docker is an open-source platform used for the creation of software packages called containers. For example, Docker is used in the DevOps process to automate some of the manual tasks of a DevOps Engineer.

## Top emerging tech skills: Web development, quantum computing, and internet things

We also took a look at the emerging tech skills that 40+ million people are learning on Udeemy. Gatsby.js (skill #1) is a new web development framework tool that is on the rise. There's a growing shift to "static site" framework tools like Gatsby.js as a way to build the web of the future. Other web development tools like React Hooks (#3 skill), a new addition to React 16.8, and Next.js (#5 skill) as well as SwiftUI, a user interface tool for Apple apps, also top the list of emerging skills 2020. In AI and data science, Apache Airflow (#6 skill), an open-source tool for complex computational and data processing, and Pegasystems (#8), certification for digital process automation software, also make the top 10 of emerging skills. Finally, brand new skills like quantum computing and ESP32, used in the internet of things, showed up on our emerging skills list this year.

### Top 10 emerging tech skills 2020\*

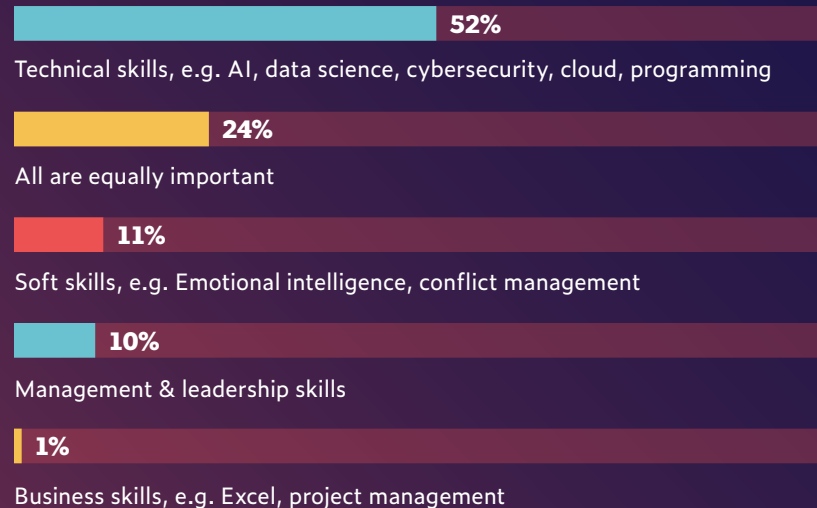
1. Gatsby.js (web framework)
2. AWS Big Data
3. React Hooks
4. Microsoft Azure Architecture
5. Next.js (web framework)
6. Apache Airflow (data processing)
7. SwiftUI (Apple apps)
8. Pegasystems (digital process automation)
9. ESP32 (internet of things)
10. Quantum computing

\*Data is based on skills with zero consumption in 2018 but surged in 2019 on Udeemy.  
Source: Udeemy Data 2020.

## Tech skills top the list for L&D priorities in 2020

### What is the most important skill area for training at your organization in 2020?

It's not surprising when we surveyed L&D leaders, 52% said tech skills were their top priority for training in 2020.

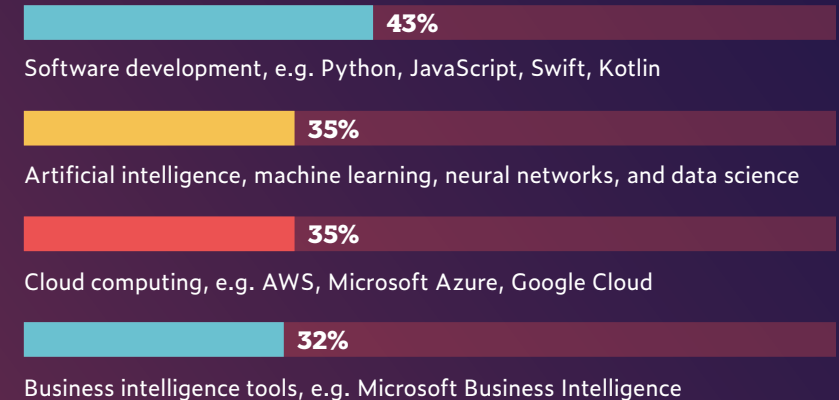


Source: Udemy Data 2020.

## Tech talent shortages: Software development, AI and data science, and cloud

### What is the most important tech skill area for training at your organization in 2020?

When we asked L&D leaders to name their top tech skill shortages, software development, AI and data science, and cloud computing topped the list.



Source: Udemy Data 2020.



## How Intellective refreshes its tech stack and skills every 3-6 months

James Baldwin,  
COO of Intellective



## Case study

Intellective is an innovative technology consulting firm that helps our clients drive the digital transformation of their business. Our globally distributed teams help companies leverage software automation technologies and processes to accelerate how they do business.

The digital business automation industry is constantly evolving. As a result, we keep our technology stacks on the cutting edge. Software robots or robotic process automation (RPA), AI, and machine learning are at the heart of what we do. To stay ahead of the game, we reassess our technology, product, and service offerings every three to six months. Our business promotes a continuous “refresh cycle” of what’s working, what’s not, and what customers are looking for, creating a need for continuous technology training of our workforce.

Our business focuses on creating business value from technology innovation. **Rapid access to training on cutting-edge technology is one of the big differentiators and reasons why we ended up choosing Udemy for Business.** With some other providers, there’s a lag in providing the latest technology training because they use a slower publisher model. In contrast, Udemy’s more dynamic Marketplace model enables experts to upload the latest technology training.

**Read blog:** [How Tech and EQ Skills Keep Intellective on the Cutting Edge](#)

Find out how Udemy for Business can help your organization keep up to speed on the latest technologies.

Request a demo



## Trend 2

# Upleveling the human: 2020 is about realizing the full potential of humans and machines

Workplace automation is here. AI and robotic process automation (a.k.a software robots) are scanning all kinds of data at organizations to improve workplace safety, fraud, hiring time, or travel costs. But it's not just about software robots. 2020 is more than ever about the "human side" of our workforce. As automation and AI take care of the more mundane tasks, employees are increasingly specializing in tasks that leverage unique "human" strengths like creativity, emotional intelligence, and storytelling. 2020 and the next decade will be about upleveling the human and realizing the full potential of humans and machines in the workplace.

## Process automation tools on the rise

We took a look at what kind of skills people are learning in the workplace on Udemy for Business when it comes to process and tools. We found interesting trends in robotic process automation and business process management — both ranking in our top 10 fastest-growing skills in 2020.

Much in the same way that physical robots have revolutionized the manufacturing industry, software robots are now having a similar impact on office work. [Robotic Process Automation \(RPA\)](#) simply means using process automation tools to quickly replicate how human beings perform routine daily office work on tools such as Microsoft Excel, databases, or web applications.

In our constantly changing environment, it's not surprising that Agile scrum (project management) and risk management are also fast-growing skills.

## Top 10 fastest-growing process & tools skills in the workplace 2020\*

1. SAP
2. ISO/IEC 27001 (risk management)
3. Information security process
4. Microsoft Dynamics 365
5. UiPath (Robotic Process Automation)
6. Business process management
7. Scrum (Agile)
8. Oracle SQL
9. Robotic Process Automation
10. Risk management

\*Based on highest consumption growth rate on Udemy for Business 2018-2019.  
Source: Udemy Data 2020.

## Top 10 fastest-growing soft skills in 2020\*

1. Growth mindset
2. Creativity
3. Focus mastery
4. Innovation
5. Communication skills
6. Storytelling
7. Culture awareness
8. Critical thinking
9. Leadership
10. Emotional intelligence

## Soft skills like growth mindset, creativity, and communication matter in 2020

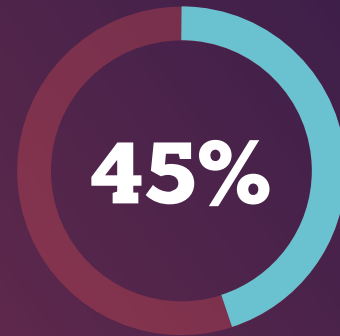
When we analyzed the fastest-growing soft skills people are learning at work in 2020, we saw an uptick in learning about topics like growth mindset, creativity, and innovation. It's increasingly important for employees to adopt a growth mindset of continuous learning and be open to change in the workplace. While skills training is key, building an organizational culture and leadership to nurture innovation and creativity is also critical. Finally, employees are leaning into their innately human skills and what robots can't do. Critical thinking, communication, storytelling, and emotional intelligence top the list of fastest-growing soft skills in 2020 in the workplace.

\*Based on highest consumption growth rates 2018–2019 on UdeMy for Business.  
Source: UdeMy Data 2020.

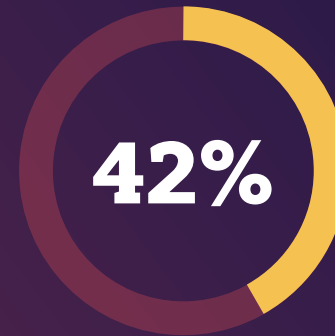
## Soft skills priorities by L&D leaders for 2020

This paralleled the kind of soft skills L&D leaders indicated as their top priority in our survey. Innovation, change management, emotional intelligence, communication & storytelling, and growth mindset all feature on their wish list for employees.

### What are the top soft skill priorities for training at your organization in 2020?



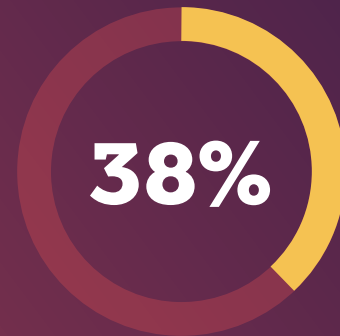
Innovation



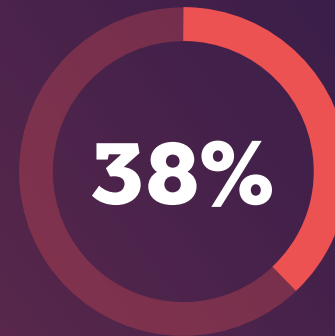
Change management



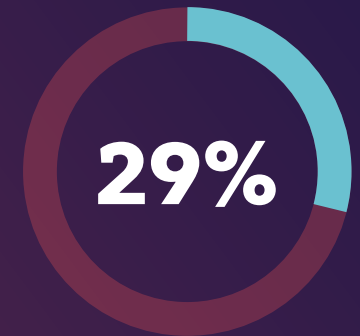
Communication & storytelling



Emotional intelligence



Growth mindset



Time management

Source: Udemy Data 2020.





## How emotional intelligence skills helped Intellective build effective teams

James Baldwin,  
COO of Intellective



## Case study

Intellective is an innovative technology consulting firm that helps our clients drive the digital transformation of their business. Soft skills are also extremely important for us to build effective, globally distributed teams. **We leverage Udemy for Business' robust soft skills training extensively as part of all our career training paths.**

Almost every team at Intellective is global with associates from across North America, Eastern Europe, and India. Unfortunately, our rapid growth created the problem of horizontal communication — an issue that often arises when scaling expert teams. It wasn't a language barrier, but it was one of trust and shared

understanding. Needing to find a way to scale trust and purpose quickly, we focused on emotional intelligence (EQ) courses on Udemy for Business that got to the core of what we needed to better connect our teams.

Our training focused on how our global associates should communicate and empathize with each other to help them work together more effectively. These skills helped us build collaborative high-functioning teams at Intellective.

**Read blog:** [How Tech and EQ Skills Keep Intellective on the Cutting Edge](#)

Find out how Udemy for Business can help build high-functioning teams through soft skills training in emotional intelligence and more.

[Request a demo](#)



## Trend 3

# Learning & development teams are starting to tackle reskilling the workforce

Organizations tend to lay off workers to address obsolete skills and then hire for new skills to move the business forward. However, with tight labor markets, business leaders are beginning to recognize retraining existing talent for new roles as more effective than competing for scarce talent. While reskilling for future skills requires long-term planning, the cost of disruptive layoffs and hiring can be more expensive than providing continuous training for employees.

# 6x

*"The net savings:  
It can cost as much as  
6 times more to hire  
from the outside than  
to build from within."*

—Josh Bersin.<sup>4</sup>

<sup>4</sup> Josh Bersin, "Rethinking the Build vs Buy Approach to Talent," WhiteBoardAdvisors, 2019.

## Build vs. buy talent

We're starting to see companies reskill existing employees for new roles. AT&T has retrained 180,000 employees as part of their Future Ready program. Employees can view in-demand roles at the organization and opt to take the required training to prepare themselves for these new roles. Future Ready has helped AT&T minimize external hiring and transitioned employees to new roles on a large scale.<sup>5</sup>

<sup>5</sup> Lauren Weber, "Why Companies Are Failing at Reskilling," Wall Street Journal, April 19, 2019.

## L&D teams are reskilling their workforce

39%

of L&D leaders said current jobs are either being altered or replaced by new technologies like AI and automation.

59%

of L&D leaders reskilled 10-20% of their workforce in the last year.

64%

of organizations have an informal or formal reskilling program.

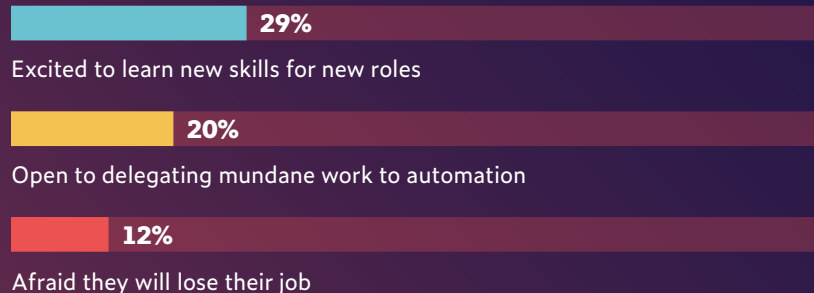
Source: Udemy Data 2020.

# Employees are warming to automation

With more organizations offering reskilling programs for new roles internally, employees are starting to view automation and disruptive technologies in a more positive light. When we asked L&D leaders how their employees feel about automation and other disruptive technologies, 29% of L&D leaders said their employees were excited to learn new skills. Only 12% were afraid they would lose their job.

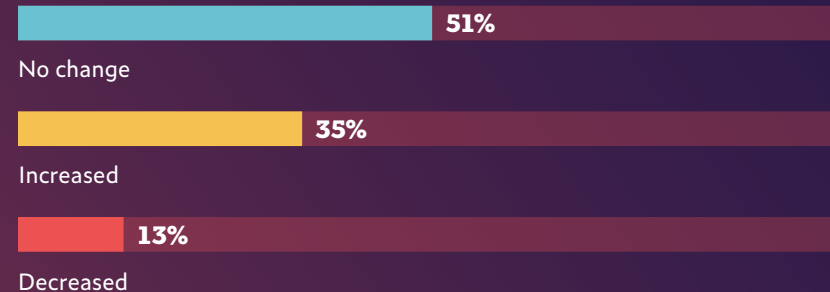
With this new demand for reskilling, organizations are placing a higher priority on L&D. 35% of surveyed organizations enjoyed increased budgets in the last year, and only 13% saw their budget decline. However, 51% of L&D budgets remained the same, which is worrying, given the reskilling task ahead.

## How do your employees feel about new disruptive technologies like automation, AI, or others?



Source: Udemy Data 2020.

## How has your L&D team budget (spend and/or headcount) changed in the last year?



Source: Udemy Data 2020.



## Transforming into a data science leader: How Booz Allen Hamilton trained data scientists at scale

**Jim Hemgen**  
Senior Learning Associate,  
Booz Allen Hamilton

Booz | Allen | Hamilton

## Case study

At Booz Allen Hamilton, a management and technology firm, we strive to be a game-changer in the data science field. We want to innovate and change the conversation around data to help our clients harness data in a way they've never used it before. That's why we set a goal over 3 years to employ 5,000 data scientists. Due to the talent shortage, we knew we couldn't only rely on hiring data scientists externally. Instead, we doubled down on training existing employees for new data science roles. To meet this goal, our learning & development (L&D) team set out to create a personalized learning program at scale.

With a lean L&D team, we played the role of "learning experience architects." We developed a great ecosystem with curated content,

**technologies, and platforms using Udemey for Business and Degreed.** Here are 4 ways we scaled personalized learning at Booz Allen Hamilton to meet our data science talent challenge.

- Online assessments and pre-work to tailor learning
- Personalized online learning pathways
- Blended learning model focused on hands-on projects in the classroom
- Mentor circles that guide the learning journey

Read blog: [How Booz Allen Hamilton Is Winning the War on Talent](#)

Find out how Udemey for Business can help build workforce skills through personalized learning paths.

[Request a demo](#)



## Trend 4

# Organizations are building a data-driven culture

As organizations build a data-driven culture to harness the power of AI and big data, roles are changing fast and becoming more fluid. For example, marketers and sales pros are becoming more data savvy.

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## Top 10 popular skills that matter to marketers in 2020\*

While marketers are learning digital marketing, Google Analytics and AdWords skills, they are also increasingly acquiring big data skills like data science, SQL, Excel, and Tableau.

- |                      |                     |
|----------------------|---------------------|
| 1. Digital marketing | 6. Excel            |
| 2. Python            | 7. Leadership       |
| 3. Web development   | 8. Google Analytics |
| 4. SQL               | 9. Data science     |
| 5. Google Ads        | 10. Tableau         |

\*Data is based on highest consumption on Udemty for Business by marketing teams in 2019.  
Source: Udemty Data 2020

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## Top 10 popular skills that matter to sales pros in 2020\*\*

Popular sales skills like public speaking and negotiation matter to sales pros, but new data analytics skills like Excel and SQL are also essential as organizations transform into a data-driven culture.

- |                    |                       |
|--------------------|-----------------------|
| 1. Sales skills    | 6. Communication      |
| 2. Excel           | 7. SQL                |
| 3. Leadership      | 8. Negotiation        |
| 4. Web development | 9. Management         |
| 5. Public speaking | 10. Business strategy |

\*\*Data is based on highest consumption on Udemty for Business by sales teams in 2019.  
Source: Udemty Data 2020

## Top 10 popular skills that matter to finance pros in 2020\*

While typical finance skills like Excel, Tableau, financial analysis, and accounting are popular, soft skills like leadership, diversity, and performance management matter to finance pros as well.

- |                       |                           |
|-----------------------|---------------------------|
| 1. Excel              | 6. Accounting             |
| 2. SQL                | 7. CFA                    |
| 3. Financial analysis | 8. Diversity              |
| 4. Tableau            | 9. Performance management |
| 5. Leadership         | 10. Agile                 |

\*Data is based on highest consumption on UdeMy for Business by finance teams in 2019.  
Source: UdeMy Data 2020

## Top 10 popular skills that matter to software engineers in 2020\*\*

Python, Java, AWS, and web frameworks (React, Angular, Spring, Node.js) are the most popular skills for engineers.

- |               |                      |
|---------------|----------------------|
| 1. Python     | 6. AWS certification |
| 2. React      | 7. Angular           |
| 3. Docker     | 8. Node.js           |
| 4. Java       | 9. C++               |
| 5. JavaScript | 10. Spring Framework |

\*\*Data is based on highest consumption on UdeMy for Business by engineering teams in 2019.  
Source: UdeMy Data 2020



# Industries are transforming into data-driven organizations

Businesses are transforming into a data-driven organizations by upskilling on tech skills like deep learning, algorithms, automation, natural language processing, Excel, data analytics, and the cloud.



**Business services**



**Financial services**



**Software and technology**



**Information technology**



**Manufacturing**



**Government and nonprofit**



**Consumer goods**



**Retail**



## Business services

### Fastest-growing skills in business services in 2020\*

Business services companies like management consulting and marketing & advertising firms are focusing on IT skills such as cybersecurity and networking as well as Agile Scrum and customer relationship management tools like Salesforce.

- |  |  |
|--|--|
| <b>1</b> Professional Scrum Master (Agile) | <b>6</b> ISO/IEC 27001                       |
| <b>2</b> Malware                           | <b>7</b> CompTIA Network+                    |
| <b>3</b> ECMAScript                        | <b>8</b> CompTIA Security+                   |
| <b>4</b> RESTful API                       | <b>9</b> CompTIA A+                          |
| <b>5</b> Cyber security awareness          | <b>10</b> Salesforce Certified Administrator |

\*Data is based on highest enrollment growth rates by industry on UdeMy for Business 2018-2019. Source: UdeMy Data 2020.

### Fastest-growing skills in financial services in 2020\*

Employees in the financial services industry are also busy learning IT skills like AWS cloud and networking as well as customer relationship management tools (e.g. Salesforce and Microsoft Dynamics).

- |   |   |
|---|---|
| <b>1</b> RESTful API                        | <b>6</b> COBIT (IT management)            |
| <b>2</b> Professional Scrum Master (Agile)  | <b>7</b> RESTful Web Services             |
| <b>3</b> Cognos Analytics                   | <b>8</b> CompTIA Network+                 |
| <b>4</b> Salesforce Certified Administrator | <b>9</b> AWS Certified Cloud Practitioner |
| <b>5</b> ISO/IEC 27001                      | <b>10</b> Microsoft Dynamics 365          |



## Financial services



## Software and technology

### Fastest-growing skills in software and technology in 2020\*

The software and technology sector is upskilling in a range of skills including web development (e.g. Express Framework, Google Flutter), Agile project management, Microsoft Azure cloud skills, and digital transformation.

- |   |                                     |    |                                  |
|---|-------------------------------------|----|----------------------------------|
| 1 | Microsoft AZ-900                    | 6  | Azure Logic Apps                 |
| 2 | Express Framework (web development) | 7  | Malware                          |
| 3 | Professional Scrum Master (Agile)   | 8  | Digital transformation           |
| 4 | Salesforce Certified Administrator  | 9  | Google Flutter (app development) |
| 5 | RESTful API                         | 10 | Visual Studio Code               |

### Fastest-growing skills in IT in 2020\*

The IT consulting industry is busy upskilling on cybersecurity skills, AWS cloud, and IT automation tools like Chef Software. Emotional intelligence and design thinking topped the fastest-growing soft skills for the IT consulting industry in 2020.

- |   |                                  |    |                        |
|---|----------------------------------|----|------------------------|
| 1 | Chef Software                    | 6  | Emotional intelligence |
| 2 | Network security                 | 7  | Design thinking        |
| 3 | Penetration testing              | 8  | JMeter                 |
| 4 | Linux Security                   | 9  | CompTIA Security+      |
| 5 | AWS Certified Cloud Practitioner | 10 | API testing            |

\*Data is based on highest enrollment growth rates by industry on UdeMy for Business 2018-2019. Source: UdeMy Data 2020.



## Information technology



## Manufacturing

### Fastest-growing skills in manufacturing in 2020\*

The manufacturing industry is upskilling on artificial intelligence skills like deep learning and neural networks as well as app development skills (e.g. Android development and Kubernetes). Soft skills such as focus mastery, personal development and business strategy are also popular fast-growing skills in manufacturing.

- |                                       |                             |
|---------------------------------------|-----------------------------|
| <b>1</b> Android development          | <b>6</b> Typescript         |
| <b>2</b> Kubernetes (app development) | <b>7</b> Deep learning      |
| <b>3</b> Focus mastery                | <b>8</b> Neural networks    |
| <b>4</b> Object oriented programming  | <b>9</b> Microsoft AZ-103   |
| <b>5</b> Personal development         | <b>10</b> Business strategy |

\*Data is based on highest enrollment growth rates by industry on Udemy for Business 2018-2019. Source: Udemy Data 2020.

### Fastest-growing skills in government and nonprofit organizations in 2020\*

The fastest-growing skills government and nonprofit employees are learning include robotic process automation, AWS cloud, and cybersecurity. Soft skills include emotional intelligence and gender equality.

- |  |  |
|--|--|
| <b>1</b> Gender equality                     | <b>6</b> Amazon AWS                        |
| <b>2</b> UiPath (robotic process automation) | <b>7</b> Cyber security awareness          |
| <b>3</b> Robotic Process Automation          | <b>8</b> Information Security              |
| <b>4</b> AWS Certified Cloud Practitioner    | <b>9</b> Risk management                   |
| <b>5</b> Emotional intelligence              | <b>10</b> Google Flutter (app development) |



## Government and nonprofit



## Consumer goods

### Fastest-growing skills in consumer goods in 2020\*

Fast-growing skills in the consumer goods industry include artificial intelligence skills like algorithms and natural language processing, cybersecurity skills, and soft skills like goal setting and business fundamentals.

- |                                 |   |
|---------------------------------|---|
| <b>1</b> Algorithms (AI)        | <b>6</b> Finance fundamentals             |
| <b>2</b> Django (web framework) | <b>7</b> Network security                 |
| <b>3</b> Goal setting           | <b>8</b> Natural language processing (AI) |
| <b>4</b> Cyber security         | <b>9</b> Ethical hacking                  |
| <b>5</b> Windows Server         | <b>10</b> Business fundamentals           |

\*Data is based on highest enrollment growth rates by industry on UdeMy for Business 2018-2019. Source: UdeMy Data 2020.

### Fastest-growing skills in retail in 2020\*

Retail industry employees are upskilling on data skills like Excel and data modeling, app development like Google Flutter and Dart programming language, and soft skills such as creativity and employee performance management.

- |  |   |
|--|---|
| <b>1</b> Financial statement                         | <b>6</b> AWS Certified Cloud Practitioner |
| <b>2</b> Google Flutter (app development)            | <b>7</b> Creativity                       |
| <b>3</b> Excel VBA                                   | <b>8</b> Performance management           |
| <b>4</b> Dart programming language (app development) | <b>9</b> Excel formulas and functions     |
| <b>5</b> Excel macros                                | <b>10</b> Data modeling                   |



## Retail



## Trend 5

# Countries across the world are upskilling in highly coveted tech skills

Based on the top 10 popular tech skills in 2020, we took a look at what countries are learning these skills the most on Udemy. We then created a composite ranking to benchmark how countries are doing when it comes to acquiring these 10 tech skills. These highly coveted tech skills include Python, React, machine learning, deep learning, Docker, or Amazon AWS.

## How countries stack up: Top 20 countries learning popular tech skills in 2020\*

1. United States
2. India
3. Brazil
4. United Kingdom
5. Germany
6. Canada
7. Poland
8. Mexico
9. Spain
10. Australia
11. Japan
12. France
13. Italy
14. Netherlands
15. Israel
16. Singapore
17. South Africa
18. Thailand
19. Argentina
20. Russian Federation

\*We created a composite ranking for countries based on total consumption on Udemy.com using the top 10 most popular tech skills on Udemy.com in 2019: Python, React (web), Angular, machine learning, Docker, Django, CompTIA, Amazon AWS, deep learning, and React Native (mobile). Note: Data is based on users in countries who are learning on Udemy; not all countries may be represented. Source: Udemy Data 2020.

## Which countries are learning the most per learner?

We also ranked countries with the highest average number of learning hours per learner to neutralize bias for size. Based on this analysis, we uncovered countries doing the best at acquiring these highly coveted tech skills on a per learner basis.

### Top 20 countries with the highest learning on popular tech skills per learner\*

- |                   |                        |
|-------------------|------------------------|
| 1. Bulgaria       | 11. Norway             |
| 2. Italy          | 12. Russian Federation |
| 3. Ukraine        | 13. Finland            |
| 4. Greece         | 14. Poland             |
| 5. Canada         | 15. Denmark            |
| 6. Czech Republic | 16. Japan              |
| 7. Switzerland    | 17. Singapore          |
| 8. Serbia         | 18. Sweden             |
| 9. Israel         | 19. Hungary            |
| 10. Romania       | 20. Portugal           |

\*We created a composite ranking for countries based on total consumption on UdeMy.com using the top 10 most popular tech skills on UdeMy.com in 2019: Python, React (web), Angular, machine learning, Docker, Django, CompTIA, Amazon AWS, deep learning, and React Native (mobile).

Note: Data is based on users in countries who are learning on UdeMy; not all countries may be represented.

Source: UdeMy Data 2020.



# 5

## Workplace Learning Predictions

### Prepare Your Workforce for the Future

How can business and learning leaders prepare their workforce for the skills of the future? Here are 5 learning predictions for 2020 based on innovative ways L&D leaders are preparing their workforce for AI, cloud, and other disruptive technologies.



# 5

## Workplace Learning Predictions in 2020

Prediction 1

Skills mapping will chart the future workforce

Prediction 2

Focused Capability Academies will replace ad hoc training

Prediction 3

Communities of practice will help keep skills up to date — quickly

Prediction 4

The L&D function will radically transform in the next decade

Prediction 5

Organizations will build an internal talent marketplace



## Prediction 1

# Skills mapping will chart the future workforce

With large-scale technology disruption in the next decade, continuous skills mapping will become critical for workforce planning. Forecasting future skills for an organization is not an easy task and a common obstacle when implementing reskilling programs. In part, the challenge is old and new roles aren't always a perfect match for reskilling.

For many of these future jobs, there are no existing candidates externally with these emerging skills, making internal reskilling the next best option. For example, Amazon is creating career training paths for its warehouse workers to retool for new in-demand roles as data technicians at the company.<sup>8</sup>

<sup>8</sup> Lauren Weber, "Why Companies Are Failing at Reskilling," Wall Street Journal, April 19, 2019.



## What is skills mapping?

Skills mapping is a visual representation of skills needed to perform desired roles as compared to the existing skill base of an organization's workforce. This exercise helps HR and L&D leaders identify key skill gaps.

As organizations tackle workforce reskilling, they're beginning to hire experts to help map existing workforce skills and future skills. JPMorgan is working with the Massachusetts Institute of Technology's Initiative on the Digital Economy to forecast emerging skillsets for its workforce. JPMorgan is also piloting a "skills passport" platform in their IT department. The platform enables employees to assess current skills as well as browse new roles and the necessary training to achieve this next step in their career.<sup>9</sup>

In 2020 and beyond, expect organizations to take a deeper dive into skills mapping to prepare their workforce for what's next.

<sup>9</sup> Lauren Weber, "Why Companies Are Failing at Reskilling," Wall Street Journal, April 19, 2019.



## Prediction 2

# Focused Capability Academies will replace ad hoc training

Companies often use an ad hoc approach for their talent-building efforts, according to McKinsey. They hire new workers equipped with the desired skills or apply ad hoc training when needed. But these quick-fix tactics aren't enough to transform an organization and continuously keep up with the pace of technology and business change.<sup>10</sup>

According to McKinsey, "While hiring new talent can address immediate resource needs, such as those required to rapidly build out an organization's AI practice at the start, it sidesteps a critical need for most organizations: broad capability building across all levels." This is best accomplished by training current employees using in-house capability programs.<sup>11</sup>

<sup>10</sup> Solly Brown, Darshit Gandhi, Louise Herring, and Ankur Puri, "The Analytics Academy: Bridging the Gap Between Humans and Artificial Intelligence," McKinsey Quarterly, McKinsey & Company, September 2019.

<sup>11</sup> *ibid.*

## Capability Academies in action

Capability Academies are in-depth training initiatives to develop and sustain skill capabilities that support specific business strategies and function areas. We're beginning to see Capability Academies being implemented at UdeMy for Business customers. For example, Publicis Sapient, a business and technology consulting firm, reorganized their organization and learning & development team by "capabilities." For the artificial intelligence capability, they launched an AI Academy to provide in-depth training for existing employees in AI and data science. At Booz Allen Hamilton, they are retraining thousands of internal employees as data scientists — effectively transforming their organization.

Read blog: [How Booz Allen Hamilton is Winning the War on Talent](#)





## Prediction 3

# Communities of practice will help keep skills up to date — quickly

To complement in-depth learning offered by Capability Academies, social learning communities are on the rise to support learning on the job. For example, in the software developer world, industry standards change quickly and are often set by consensus. A group of developers may share a best practice, and the industry will move in a new direction almost overnight. This makes it hard to keep up with best practices and curate the right course material to upskill your team.

## The rise of social learning

Organizations  
that offer social  
learning



**35%**  
**43%**

Organizations  
that plan to add  
social learning



**23%**  
**34%**

— 2018 — 2019

Source: UdeMy Data 2020

## Tapping into the collective brain

To keep skills aligned with the latest trends in the industry, we see companies increasingly rely on communities of practice. For example, when developers run into a problem with a line of code, they naturally ask their peers for help. But instead of only tapping the shoulder of their neighbor, they're creating a virtual community of developers to serve as a collective brain.

Communities of practice aren't just an organic peer learning effort. Learning & development teams are also creating structured learning around their communities. This might include trolling Slack for commonly asked questions and creating content for in-person and virtual sessions around these issues. Online courses or lectures can be assigned as pre-work while in-person sessions focus on hands-on practice and discussion.

In 2020, we expect more companies to rely on social learning.





## Prediction 4

# The L&D function will radically transform in the next decade

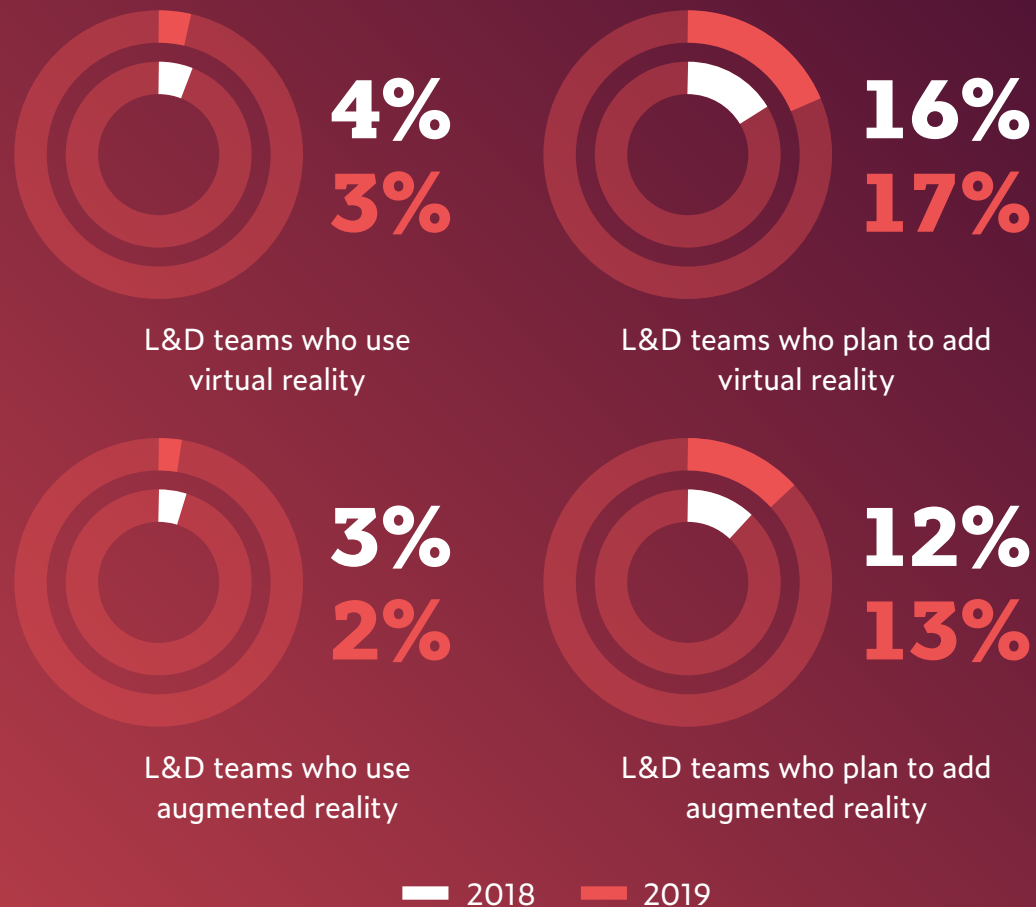
L&D is at the center of the Fourth Industrial Revolution and the massive reskilling required. However, the old L&D function of the last decade cannot effectively bring your organization into the future. In 2020, we expect L&D teams to radically transform themselves. This will involve reshaping the learning ecosystem to optimize the learner experience. Part of this experience will involve applying adaptive AI and personalization to learning as well as tailored learning paths. While only 5% of organizations currently use AI, 26% said they plan to add it, according to our survey of L&D leaders.

## VR and AR adoption is still low

We're lukewarm about Virtual Reality (VR) and Augmented Reality (AR) in 2020 as we haven't seen much increase in applications for corporate learning.

In the VR space, there's little off-the-shelf content to make it easy to adopt. Except for large enterprises, who can afford the hefty price tag for custom VR content, it's expensive for most organizations. In contrast, AR is easier to implement as smartphones are widespread and inexpensive AR apps are available.

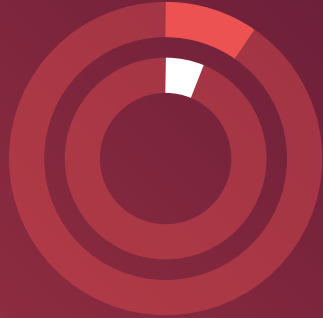
### VR and AR adoption 2018 vs. 2019



Source: Udemy Data 2020.

## L&D teams are experimenting with chatbots

L&D teams who use chatbots today



4%  
8%

L&D teams who plan to add chatbots



20%  
24%

— 2018 — 2019

Source: Udemy Data 2020

## Look out for L&D chatbots

While still small, we expect more organizations to begin experimenting with chatbots in 2020. A higher number of L&D teams plan to add chatbots (24%) in the next few years than VR (17%) or AR (13%). According to our survey, more L&D teams are using chatbots today. Siri or Alexa-like chatbots are being used as learning assistants to offer Q&A for employees. L&D teams who currently have chatbots doubled from 4% to 8% between 2018-2019.

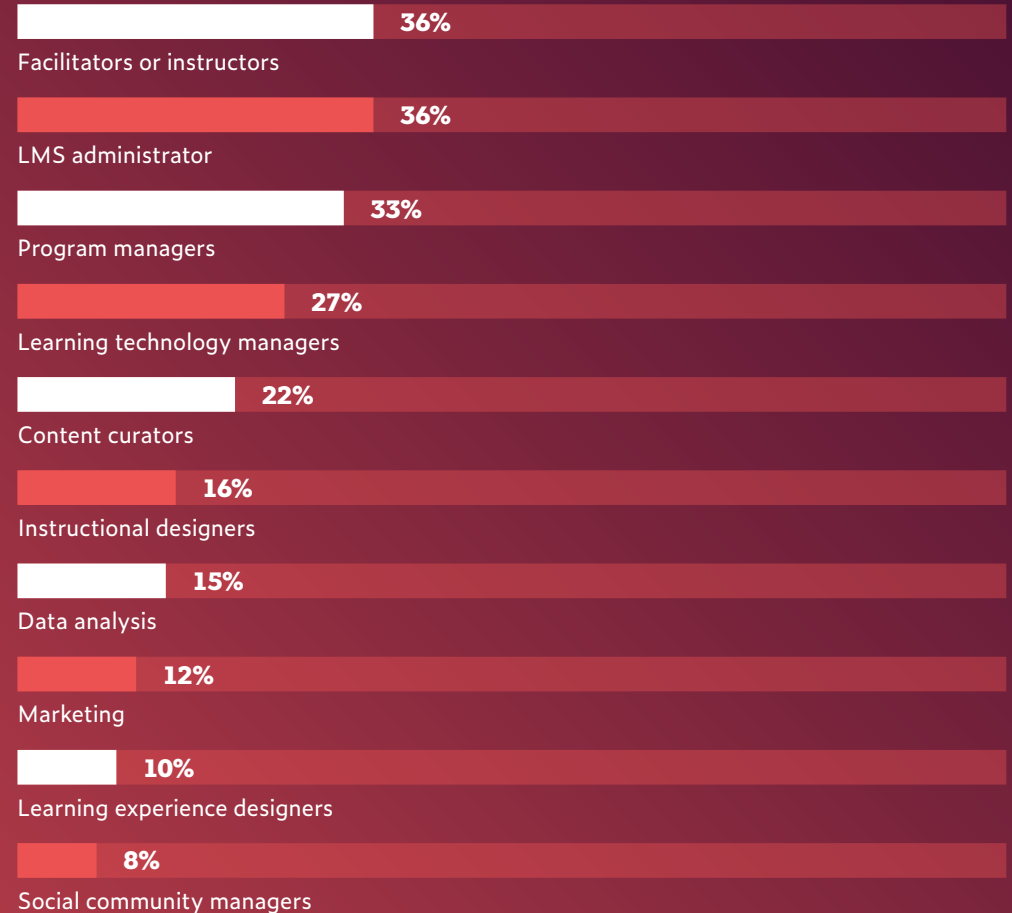
## Say hello to the new L&D team

L&D processes will be revamped to become more agile — focusing less on content creation and relying more on content curation. We also expect learning leaders to revamp their teams' skills in 2020 and beyond.

While facilitators/instructors (36%) and LMS admins (36%) still make up the majority of L&D teams today, learning technology managers (27%) and content curators (22%) are starting to become mainstream. And new roles are popping up such as data analyst (15%), learning experience designer (10%), and social community manager (8%).

Finally, we expect L&D teams to rethink how they're organized to better align themselves with the business and new emerging skill capabilities. To stay on top of the latest skills needs for the future, L&D managers will need to become more tightly embedded in the business.

## What role(s) do you have on your L&D team?



Source: UdeMy Data 2020.



## Prediction 5

# Organizations will build an internal talent marketplace

The old way of structuring your workforce based on fixed roles is not the optimal way to support a fast-moving business. Organizations will need to shift to more agile and flexible networked teams focused on projects, instead of fixed roles. Similar to how consulting firms or the gig economy operates, team members would be selected for a specific project based on their skills, not their role. They may work on a diverse range of projects throughout the year. Teams may change based on the project.

Organizations will need a new approach to managing talent in the era of flexible teams. To help managers find the right skills for projects, they will need to build an “internal talent marketplace,” said Josh Bersin at his HRTech 2019 Conference Keynote in October.<sup>6</sup>

<sup>6</sup> Josh Bersin, “Making Sense of it All: How Technology Is Shaping the New HR Agenda,” Keynote Presentation, HRTech 2019 Conference, Las Vegas, October 2019.

## Why you need an internal talent marketplace

In this shift to a “role-less” workplace, skills are fluid and traditional career paths no longer relevant. The internal talent marketplace can also help your employees navigate career opportunities within your organization. Josh Bersin posed the following question: We spend all our money on external talent acquisition, but what about internal talent acquisition and career planning for our current workforce?<sup>7</sup> Employees say it’s easier to find a new job at another company than to identify a new role inside their companies. This shouldn’t be the case.

Continuous learning for employees to reskill and take the next step or work on an exciting project can be part of your talent management system. In short, talent management will need to shift to a new way of thinking about skills in our era of rapid change.

<sup>7</sup> Josh Bersin, “Making Sense of it All: How Technology Is Shaping the New HR Agenda,” Keynote Presentation, HRTech 2019 Conference, Las Vegas, October 2019.



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# Conclusion

As new technologies like artificial intelligence disrupt the world of work, L&D teams will need to reinvent themselves to prepare their workforce for the skills of the future.

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Udemy for Business helps global companies stay competitive in the digital transformation of the workplace by offering fresh, relevant, personalized on-demand learning content powered by a dynamic content marketplace. Our global network of 50K+ expert instructors continuously supplies the market with courses on trending, popular, in-demand topics. We then curate 3,500+ top-rated courses for organizations around the world to help their employees do whatever comes next — whether that's tackling the next project, learning a new skill, or mastering a role.

We offer a learner-first approach that delivers an engaging experience personalized to an individual's interests and needs. Our content covers key business and technical topics ranging from development and IT to leadership, marketing, design, stress management, and more. In addition to a curated content collection for professional and personal growth, organizations can host and distribute their own proprietary content on Udemy.



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