

5 Tech Trends in 2021 To Accelerate Digital Transformation

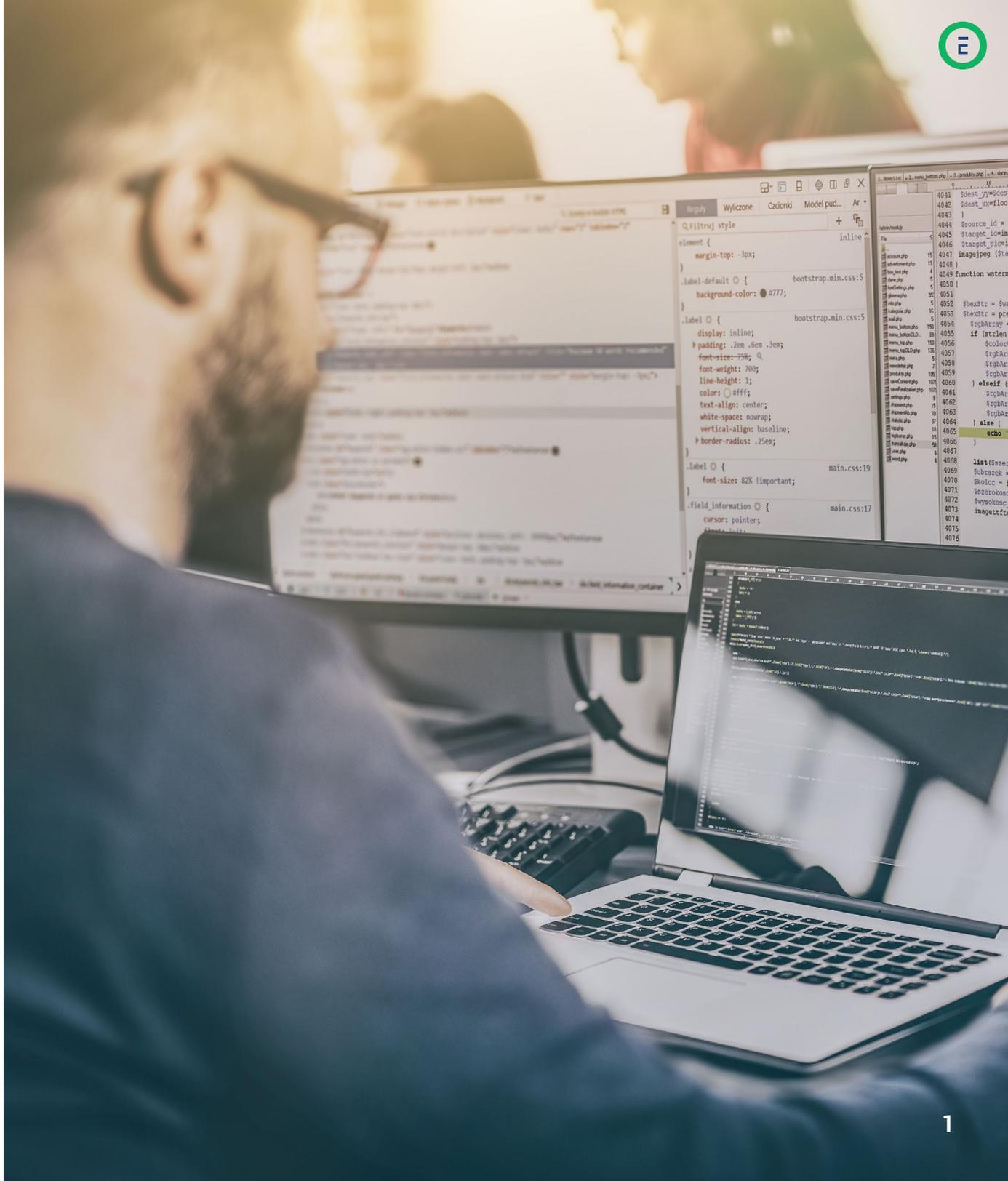




Overview

In this fast-paced era of ever-changing technology trends, the race for better, accelerated processes and content automation is critical to edging out the competition. Contextual data and intelligent process automation is more important than ever. We're seeing positions like Data Scientists and Artificial Intelligence (AI) Subject Matter Experts (SME) that have taken a giant leap as some of the leading careers in technology to help evolve what enterprises around the world both want and need.

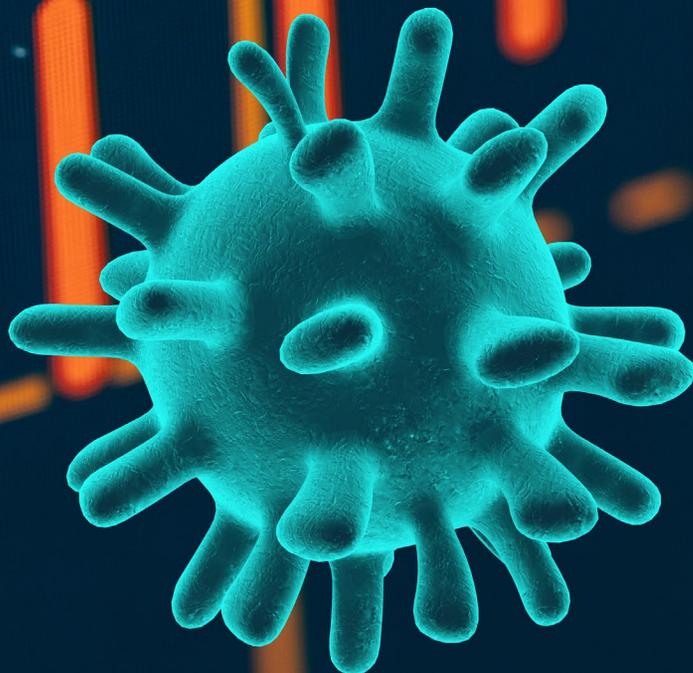
However, at the crux of recent technology trends and digital transformation initiatives, is the push towards making data more accessible. This involves using, organizing, extracting, onboarding, learning, visualizing and creating a new way to look at data through a wide-angle, comprehensive lens to see the bigger picture and garner insights. We live in a data-driven world, but we need more than just data points – we need meaning and context with our data to draw insights. As we examine some of the top trends that are impacting digital transformation for enterprises around the globe – IT initiatives in the cloud, AI and machine learning technology, iPaaS, point solutions, mobile and the use of semantic data – we recognize that understanding and optimizing data will be a catalyst for making the biggest impact for organizations.



Trend #1: IT Spend Shifts to Cloud, Fast

Working Through a Global Health Crisis in IT

Looking back at IT spend trends of 2020, it is no surprise that every single segment of IT purchases decreased compared to 2019. The pandemic clearly impacted operational budgets and planned IT projects, and the ripples of this global crisis will last into 2021.



4%

IT spend increase in 2021

IT spending in the rearview mirror: According to [Gartner](#), worldwide IT spending decreased by 5.4% from 2019 to 2020. Given that Gartner had previously predicted 4% growth globally, this slump in spend is all the more felt by technology vendors and eager IT teams alike. Planned projects and IT investments fell to the wayside as organizations fought to remain solvent during a global crisis.

5.1%

Projected increase in cloud spend within the total IT budget by 2024

IT spend in the future: “The proportion of IT spending that is shifting to cloud will accelerate in the aftermath of the COVID-19 crisis, with cloud projected to make up 14.2% of the total global enterprise IT spending market in 2024, up from 9.1% in 2020” ([Gartner](#)).

\$1 trillion

Global cloud services market spend by 2024

IDC forecasts that the **global cloud services market spending** will hit \$1 trillion by 2024. Taking into account the pandemic-enforced IT best practices for business continuity and application accessibility, companies are likely to prioritize cloud application and platform spend over on-premises solutions and operational processes.

Today's IT Analysis:

Cloud Spend Will Lead the Pack

Even though IT spend globally dipped in 2020, cloud spend grew. The COVID crisis in 2020 reinforced the importance of cloud infrastructure and continuity for organizations.

Companies of all sizes are embracing mission-critical cloud and SaaS-based business tools like CRM and ERP. SaaS solutions have long led the pack for cloud spending globally, but [Gartner forecasts](#) PaaS spend to grow by 26% in the next year. This is reflective of the need for outsourced integration capabilities and data interoperability.

While acronyms like SaaS – Software as a Service – have become commonplace in the tech industry, PaaS and IaaS may be less recognizable to the non-IT focused professionals. For industry jargon terminology, see the text boxes below.

Software as a Service (SaaS)

This model provides consumers of software with a user to interface or specific functionality that is accessed via web browser or light-weight application.

Platform as a Service (PaaS)

Currently the smallest category of the –as a service market, this gives clients a place for app development and testing.

Infrastructure as a Service (IaaS)

Provides companies and agencies with computing resources in a virtual environment. Examples of services include data storage, services, and networking.

Gartner predicts that over the next five years, SaaS will be the largest category of cloud computing, capturing more than half of all public cloud spending globally. SaaS spending, which consists of applications and system infrastructure software, will be dominated by enterprise applications purchases. More specifically, the prediction is that the leading SaaS applications (by IT spend) will be CRM and enterprise resource management – ERP – tools.

Infrastructure as a Service (IaaS) is forecasted to be the second largest category of public cloud spending, followed by Platform as a Service (PaaS). IaaS is comprised of servers and storage devices and is thought to be the fastest growing category within public cloud spend, coming up close to SaaS spend over the next 5 years. PaaS spending, falling in third where cloud spend is concerned, is predominantly driven by purchases of data management software, application platforms, and integration and orchestration middleware.

Trend #2: The Democratization of AI

AI is Among Us

Let's face it – artificial intelligence (AI) is now a commonplace term for almost every generation. Most of us use AI in ways we don't even realize such as in social media, tagging friends or family in photos online, search engines, online shopping suggestions, or using Siri or Alexa. We even see big players like Microsoft normalizing AI on television ads.

In business, a growing number of forward-thinking companies have analytic platforms and focus on being data-driven in their decision-making. But that's where organizations are falling short – they are working with flat data. The problem with flat data is that it has no context; it's simply a piece of data without meaning. What companies are realizing is that they need semantic data, which builds relationships and links data points together so business users can get a complete picture or scenario of that data. Semantic data can be visualized in knowledge graphs using AI tools.

Technology companies are going to continue to focus on building and incorporating AI into their solutions as organizations make the decision to turn to these smart applications. In a recent Gartner report, Emerging Technologies and Trends Impact Radar: Artificial Intelligence, they note, "AI augmentation of processes generates \$2.9 trillion in business value and can recover 6.2 billion hours of worker productivity." The democratization of data and AI will accelerate processes, productivity and growth. AI is also the basis for other technology trends that we will look at next.



\$2.9 trillion
AI augmentation of
processes business value



6.2 billion hours
Workers can recover productivity
with AI augmentation processes



Trend #3: The Rise of iPaaS

Cloud-based integration is becoming a crucial service for organizations working toward digital transformation, and [iPaaS](#) (or integration platform as a service) offerings are filling this need. Where once RPA was seen as the answer to all the problems of application interoperability, iPaaS is truly resolving organizational issues related to data silos, lack of development resources and funds, and interapplication workflows.

As the tech industry barreled headlong into the new decade and RPA companies were receiving record-high valuations and investment rounds, small stirrings of doubt were felt and whispers of the shortcomings of these inflated workflow tools were heard. Where was the cloud support? Where was the flexibility? Where were the plug-and-play repeatability and integration marketplaces as promised?

Cloud-based integration platforms and hybrid on-premises/cloud models of this service aim to overcome the challenges with custom integration work, complex coding and server-based challenges. And as IT departments are realizing the importance of low/no-code applications that provide great benefit without requiring that deep-technical expertise to achieve results, the timing for iPaaS is perfect.

Metrics for the success of digital transformation projects will no longer be measured in the elimination of manual clicks or process improvement but in the accessibility of organizational data for time savings, customer satisfaction improvement, employee retention, cost savings and more. iPaaS will allow companies to move beyond intelligent process automation to true organizational transformation.

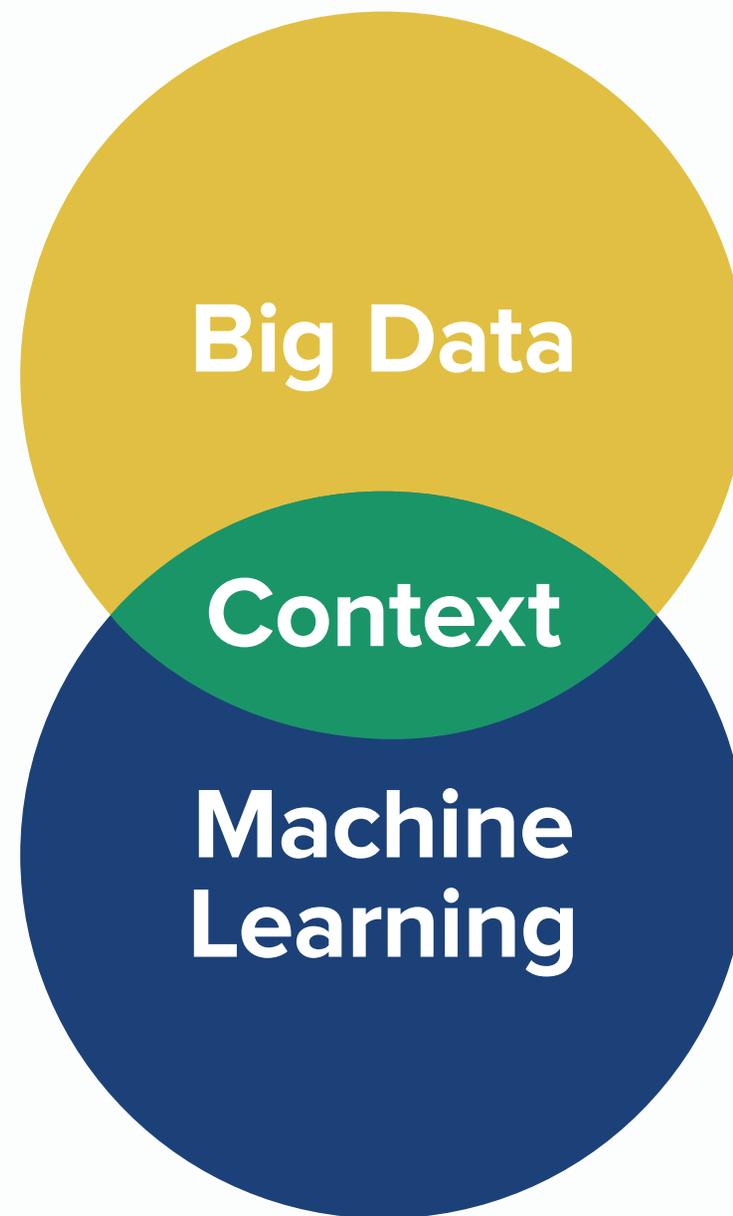
Trend #4: Putting Big Data to Real Use

Conflux of Big Data and Machine Learning

Big Data has been trending in the technology industry for the better part of a decade. Experts and analysts alike predicted it would solve many business problems through its intrinsic value, realized by predictive analytics. The focus on it predated machine learning as an ideal solution by a few years, but now machine learning rivals Big Data due to its potential to automate workflows and glean insights from Big Data.

However, the value of Big Data and the vision it can provide is only as good as the source of the data, its completeness and its [cleanliness](#). According to a [survey](#) with data professionals, 40% of a data scientist's time is spent on cleansing. With primary focus on structured data (and the process of cleansing it), most data scientists only interact with a fraction of the organizational information available to them. This means they have an incomplete picture of the data they're working to manipulate. Similarly, the machine learning model created is only as good as the samples used and human input provided to build it.

Big Data is about crunching large amounts of data. So, how can businesses optimize and expand insights from the results? The answer stems from when we create a Vesica Pisces diagram with the circles of Big Data and machine learning overlapping. The outcome is the creation of context. When Big Data is inclusive of unstructured content and machine learning models, flat-data problems will start to disappear. The conflux is where modern organizations who are trying to solve digital transformation and data challenges will merge in order to stay competitive. This trend will become increasingly important as businesses struggle to manage their growing data.



Trend #5: Point Solutions Gain Traction

Machine Learning Powers Up Point Solutions

In the past few years, a handful of veteran technology companies and emergent startups announced machine learning capture platforms with varying degrees of success and follow through. Chasing the market share of this unavoidable buzz word, software vendors are scrambling to incorporate machine learning (part of the AI family) into their technology stack for all the obvious benefits.

However, having the framework in place to leverage machine learning algorithms to automatically identify and extract data from unstructured content isn't necessarily the main challenge. The major hurdles to overcome are in-house (or outsourced) industry expertise and access to a large enough sample dataset to deliver a machine learning model that can automate the identification and extraction of data from the first day of product use.

Misconceptions

There are many misconceptions about what AI and machine learning can and can't do. Vendors touting machine learning-powered technology are quick to claim its ability to eliminate human interaction from any manual process. These over-inflated market promises have led many consumers to believe that the answer to any IT-related problem is machine learning. A common refrain can be summarized as, "That's the value of machine learning and artificial intelligence. It just does it automatically." But this sentiment couldn't be further from the truth.

Customers don't want to invest the time and effort into providing industry knowledge and content in addition to paying for access or a license to use a product. If a technology vendor is proposing a machine learning-only application without the framework of a specific use case available, the outcome will often fail. With this in mind, there are two important considerations for product or application evaluation:

- 1 Learning Timeframe:** In the world of content capture, a machine learning-powered solution requires input to function. It might need thousands of document samples or an end-user entering and correcting data. Input and time are both required.
- 2 Model Type:** Vendor trained models will be the preferred option for customers that do not want to spend a year or more inputting data into a system to make their solution viable.

Shifting Focus

In 2021, technology companies will shift the generic focus on machine learning to point solutions for industry and department-specific capture use cases. Successful startups with a small customer base will develop niche solutions that tackle documents and data for a specific and narrow industry. Larger software vendors with a more robust network will be able to expand their machine learning-driven capture with natural language processing (NLP) technology offerings to a greater number of use cases with a shorter ramp-up timeline. To survive and thrive in this machine learning-mad climate, specialization in the form of point solutions that are production ready from Day 1 will be critical.

Point solutions will allow for greater innovation with specific use cases. Software development companies that can add additional value, resources and tools will see increasing market adoption. For example, adapting invoicing processes by adding semantic data (data with context and relationships) or having a contract management solution that builds a workflow eliminating tedious steps or creating a healthcare platform that centralizes patient history from any of the multiple hospitals, clinics and offices used over a lifetime will disrupt the current course of business. This type of shift will push digital transformation initiatives forward.

Mobile

Another type of point solution that will continue to generate strength for businesses is the use of mobile devices for automating processes and tasks on demand or in the field. According to [GSMA](#) real-time intelligence data, as of January 2021, there are 5.125 billion people that have a mobile device in the world or 67% of the world's population. [Statista](#) predicts that by 2024 this number of mobile device users will increase to 7.41 billion. While these numbers include consumer use too, you'll see an increasing number of organizations making use of productivity apps and software developer kits (SDKs) to gain market share.

5.25 billion

People with mobile
devices in **2021**



7.41 billion

People with mobile
devices predicted in **2024**

Summary

2021 and beyond holds great promise for all things IT. Analysts agree we'll see an increase in IT spending and a major part of that growth will be contributed to enterprise software sales. Additionally, we expect continued migration to the public cloud and new solutions being created with AI and machine learning technology which will support that move. The US market will lead this charge, but enterprise digital transformation efforts in APAC and EMEA will ramp up quickly.

While the market for RPA is still significant where manual process automation is concerned, we'll see an uptick in integration-first

transformation projects as organizations take advantage of the agile new methods of adding context to data and eliminating informational silos. This will be true for Big Data solutions that can be further empowered with AI and machine learning tools. On trend with the industry-focused AI theme, 2021's burgeoning surge in point solutions will see applications with pre-trained models powered by machine learning, natural language processing and semantic understanding. Finally, we'll see an emerging new industry for semantic data as enterprises start to document the productivity gains. And, as it relates to data and processes, context will elevate digital transformation to the next level.

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