



Hyperautomation

The Race to Control Corporate Chaos

February 2023

Greenwich

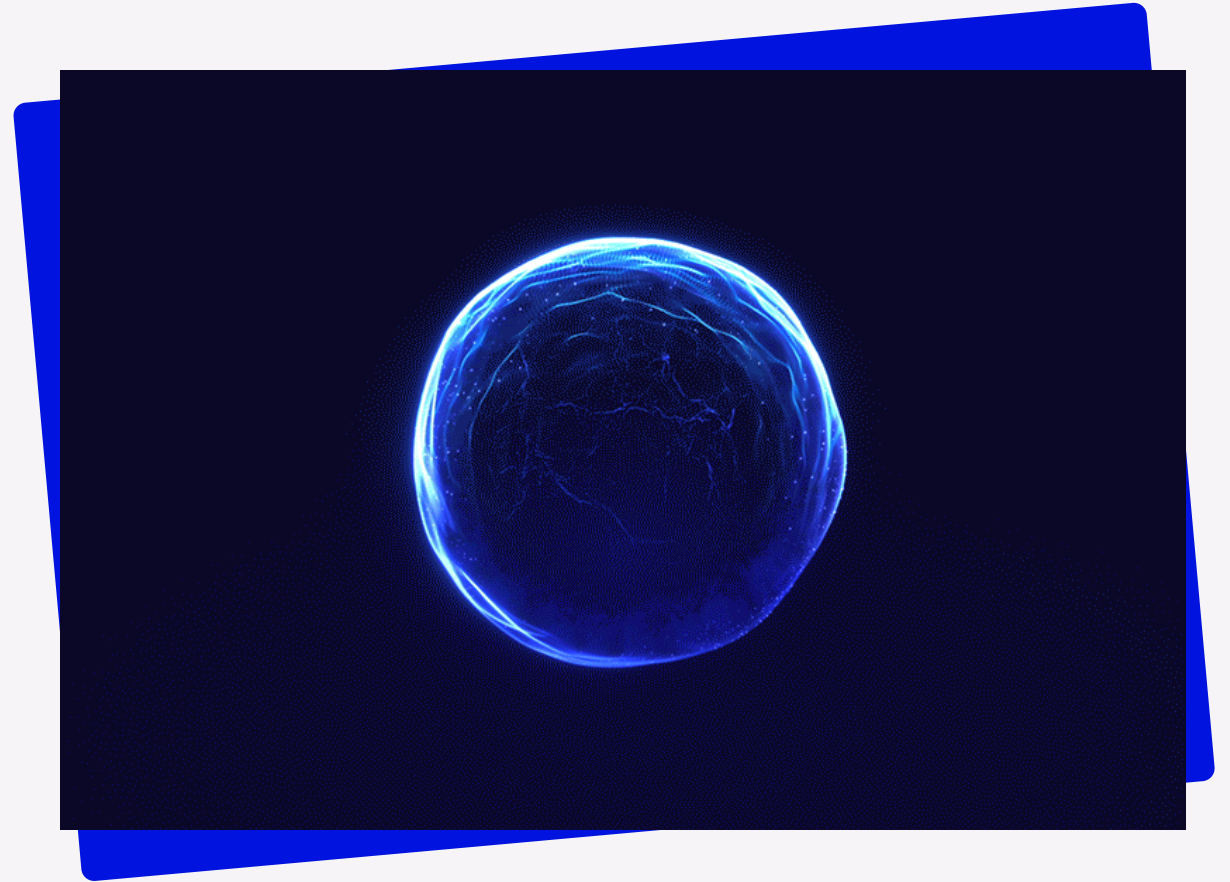
New York

Berlin

Cape Town

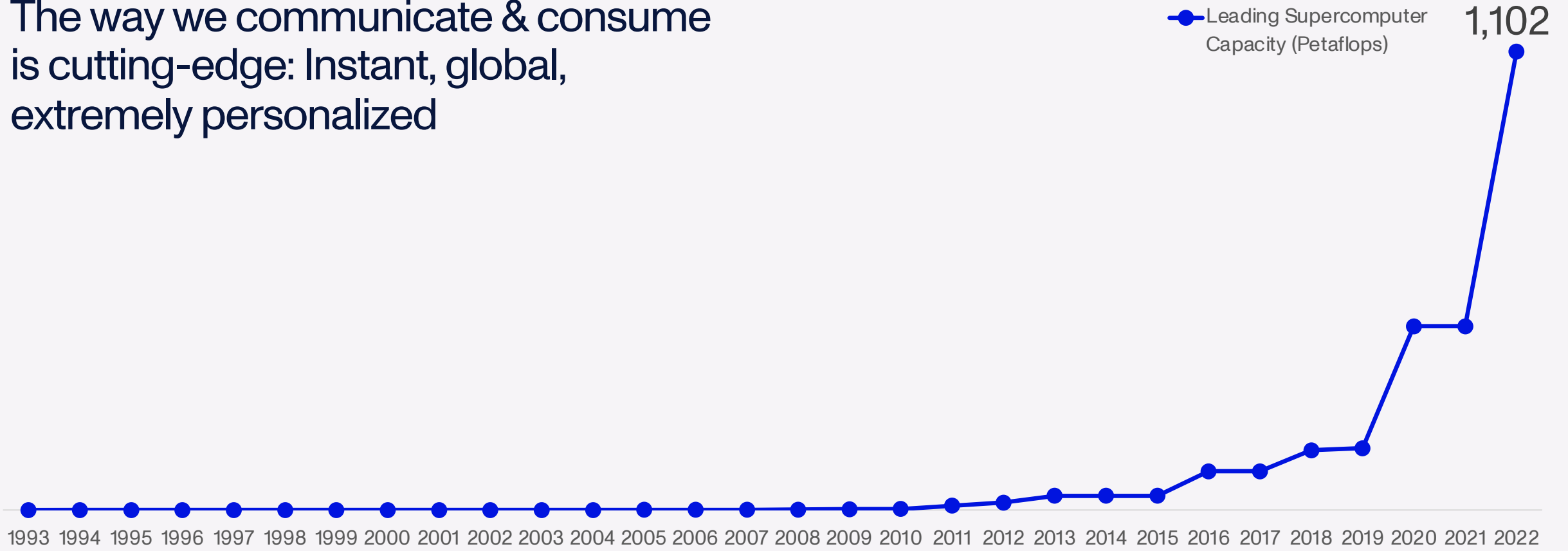
Section 1

Why are we here?



The power of technology is increasing exponentially

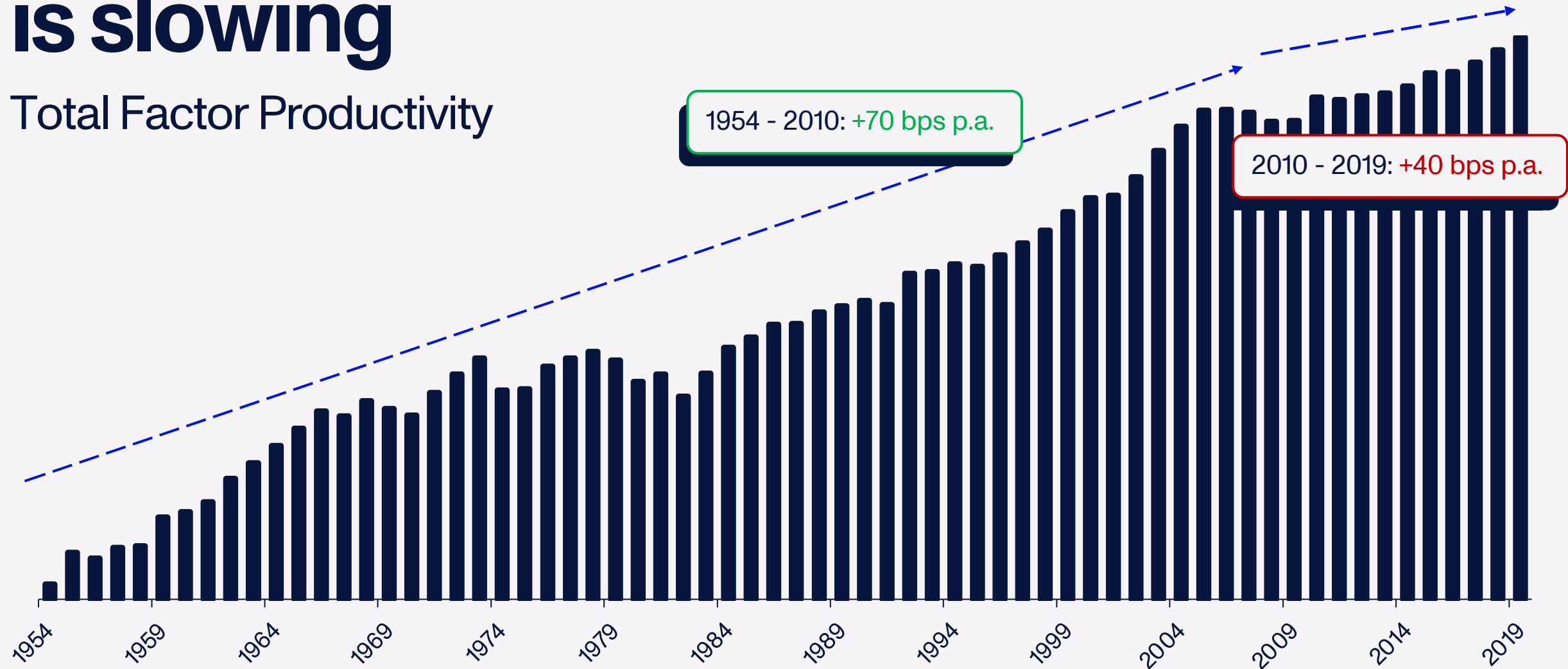
The way we communicate & consume is cutting-edge: Instant, global, extremely personalized



Source: Our World in Data, Computational Capacity of the Fastest Supercomputers, 2021; Top500.org, November 2022

But productivity growth is slowing

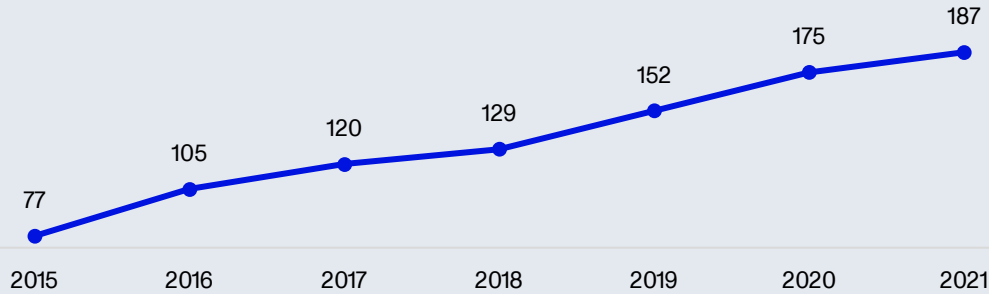
Total Factor Productivity



Source: Federal Reserve Bank of St. Louis, Total Factor Productivity at Constant National Prices for United States, November 2022

The complexity that businesses face is growing exponentially

Average # of apps used by large companies¹

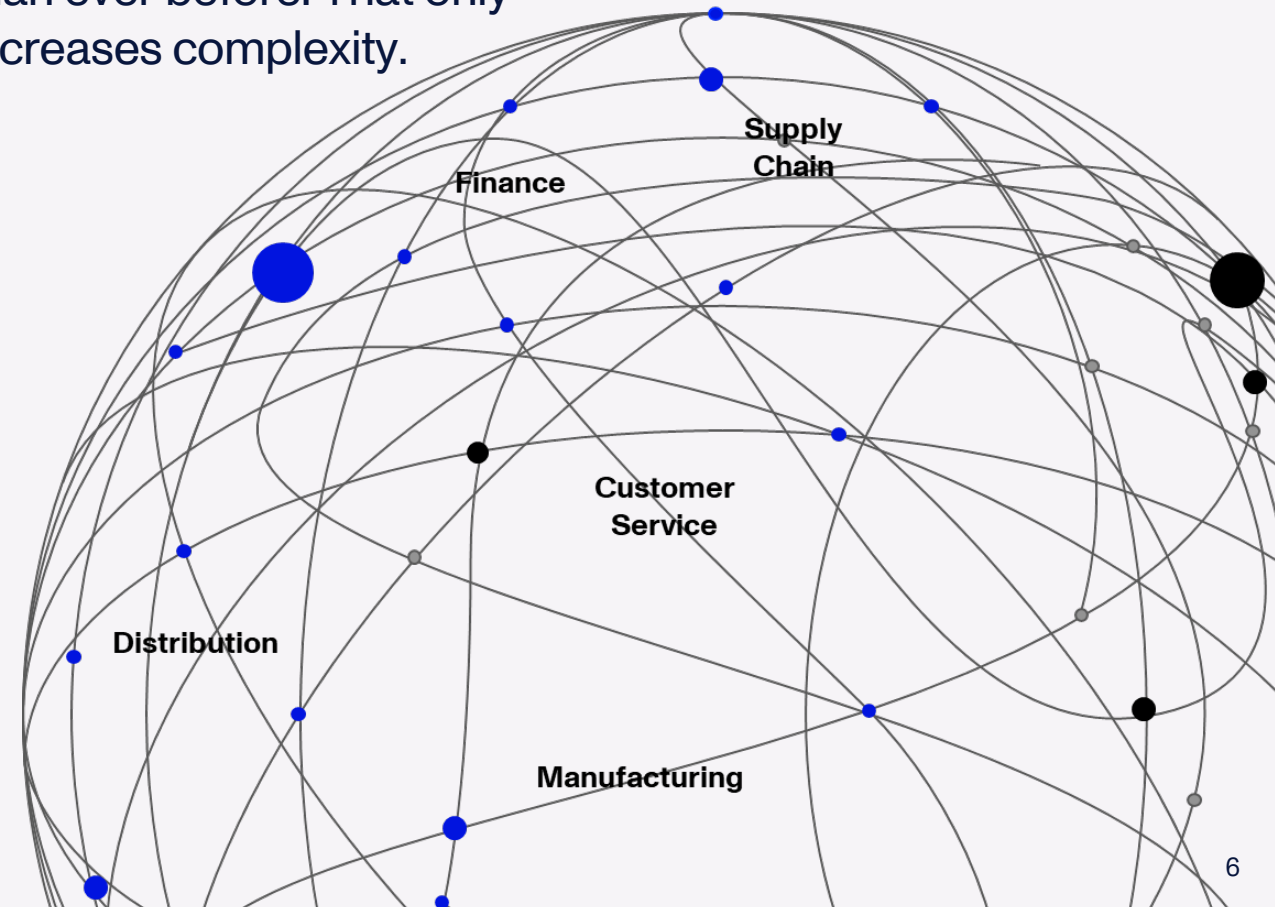


An iPhone is assembled across **multiple continents**, comprising over **100 components**² sourced from more than **200 suppliers** in **43 countries**.³

Its not just our supply chains that are becoming more complex. The difficulty inherent in navigating regulatory, political, geopolitical, and social issues is ever-increasing and constantly changing.

Source: ¹Okta, Businesses at Work, 2018 – 2022; ²Thomasnet, Inside the iPhone, 2020; ³Apple, Fiscal 2021 Supplier List, 2022

The world is more interconnected than ever before. That only increases complexity.



Workers are unhappy

The workforce is more stressed out than ever



Source: Gallup, State of the Global Workforce, 2022

Two Thirds

of employees feel they are not thriving.

At all levels of income, the most important drivers of people's job satisfaction were interpersonal relationships and having an interesting job.

Humans are best at solving problems, being creative, and working with each other. Not being manual process machines.

While the businesses they work in are inefficient

69% of all enterprises have not implemented ANY process automation¹

Automated 31%

Manual 69%

Workflow & data siloes lead to inefficiencies & pain

Hundreds of millions of dollars in efficiency gains left on the table at each enterprise³

Not despite technology, but because of it

*The average enterprise has **187 software tools**²
Their processes run across **10+ IT systems**⁴*

Change management is a strategic imperative but today's businesses are built as if processes are static. Change is met with friction & resistance.

Businesses should be focused on delivering a better experience for customers & on innovating, not using their teams to process repetitive tasks that are full of errors.

Source: ¹McKinsey, The Imperatives for Automation Success, 2020; ²Okta, Businesses at Work, 2022; ³Celonis, The State of Business Execution, 2021; ⁴Forrester, Trends in Process Improvement and Data Execution, 2022

This presents an enormous opportunity

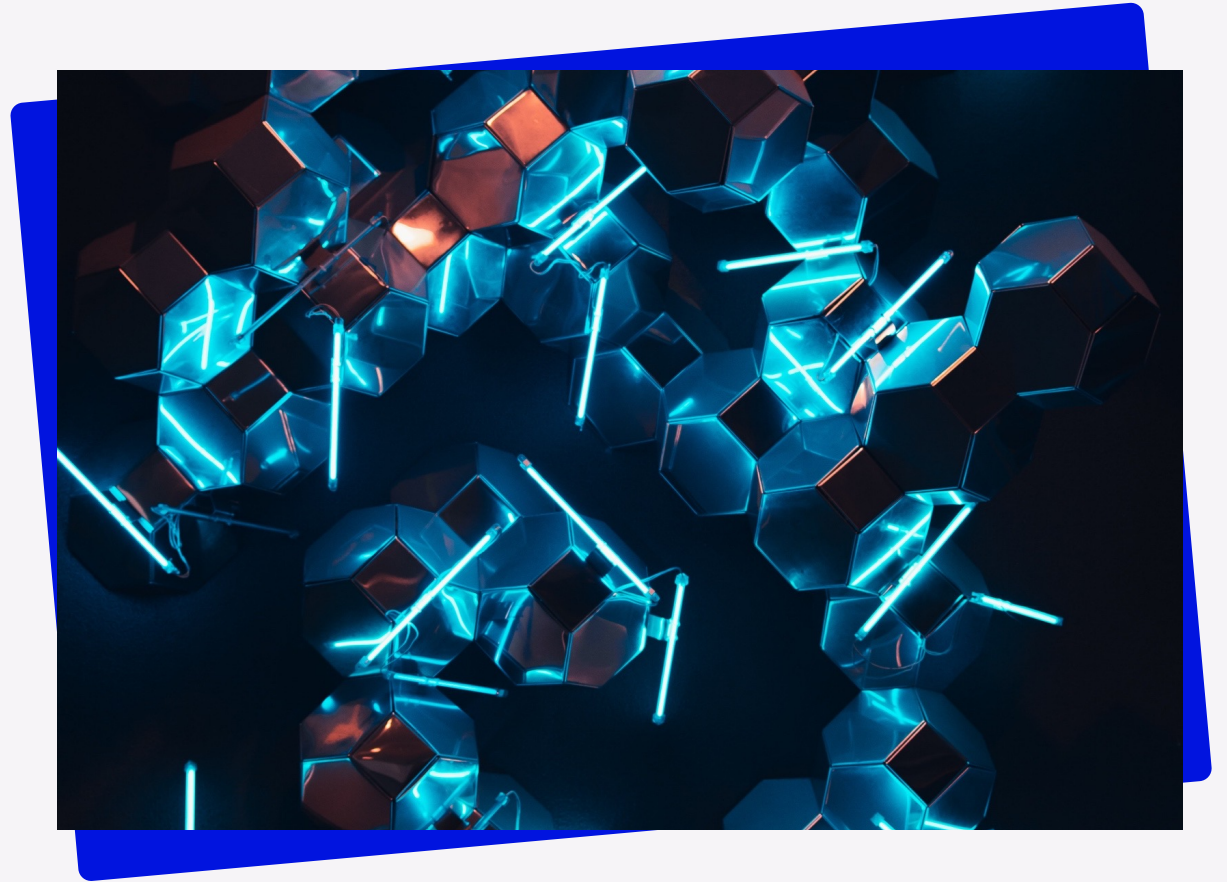
Total Addressable Market Estimates



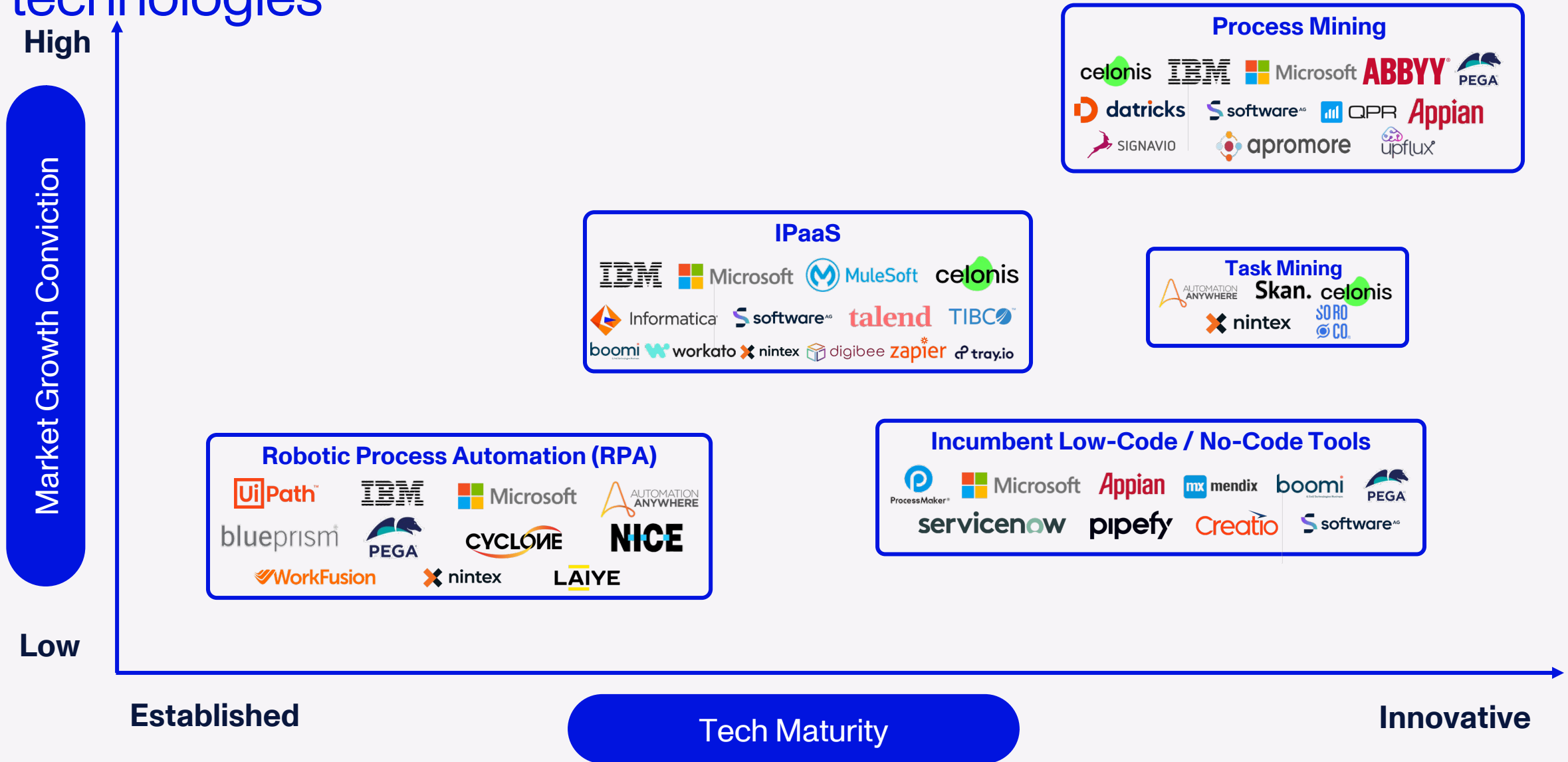
Source: ¹Forrester, The RPA Market Will Grow To \$22 Billion By 2025, 2022; ²Fortune Business Insights, Process Mining Software, 2022, ³IDC, Worldwide Intelligent Process Automation Software Forecast, 2021–2025, 2021, ⁴Gartner, Hyperautomation Enablement Software, Worldwide, 2021

Section 2

The Automation Market



Automation-enabling technologies



Companies are investing in new technologies to take action against inefficiencies and drive automation

RPA

Robotic Process Automation, or RPA provides users with the ability to automate repetitive, rules-based tasks with a screen recorder and a low-code build environment.

IPaaS

Integration platforms connect different business applications, enabling data transfer & workflow automation.

Low-Code/No-Code Tools

Low/No-Code tools allow users of varying technical ability to create workflow automations and custom applications using simple and intuitive features like drag & drop flow-builders.

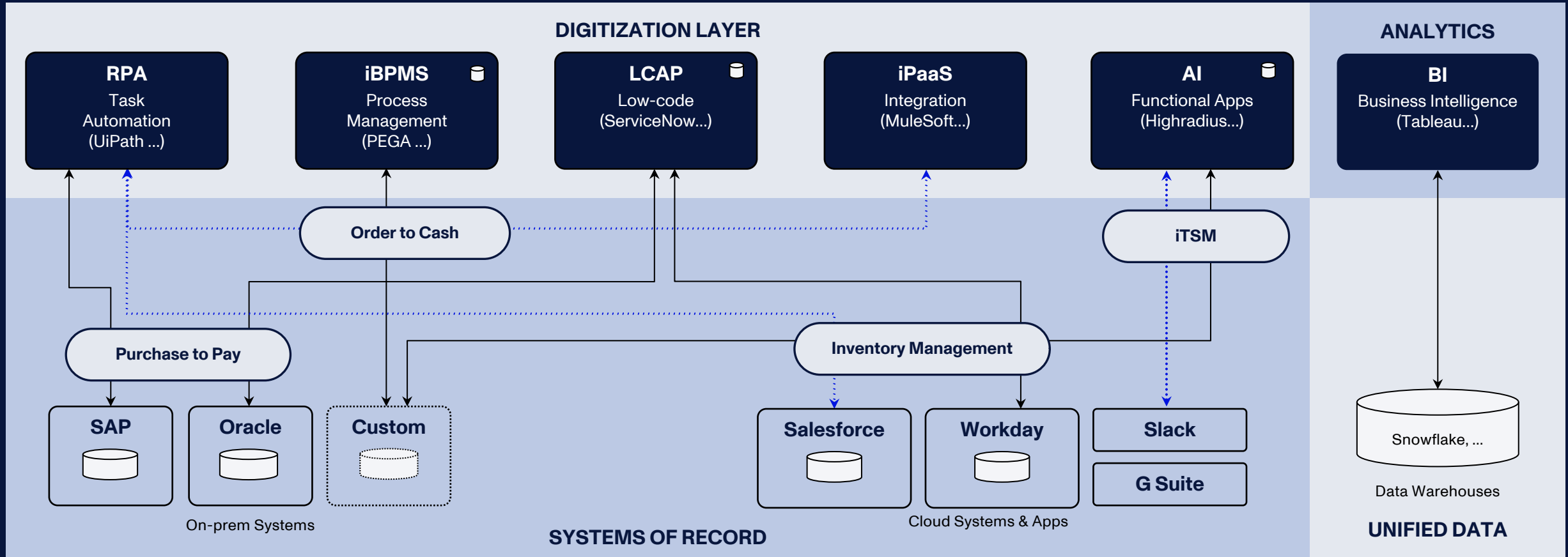
Task Mining

Task Mining captures all of the data created by a user interacting with their desktop, like clicking and typing. It allows businesses to see how their employees get work done so that they can improve it.

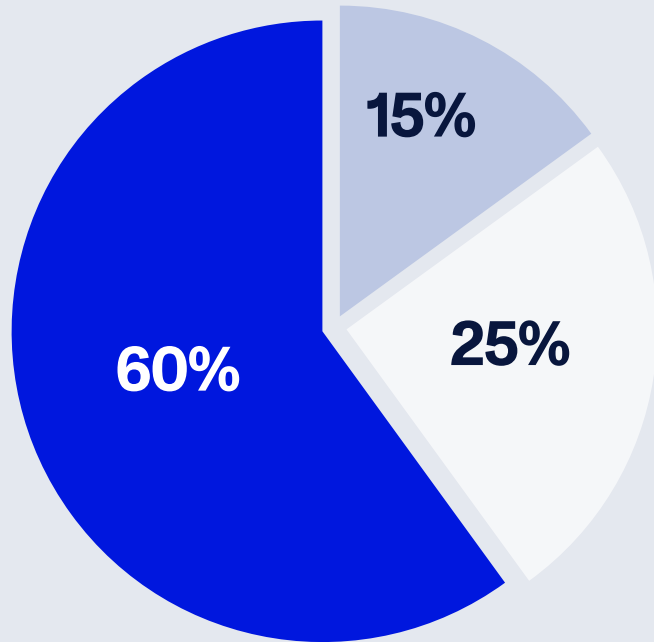
Process Mining

Process Mining is the x-ray for business processes. Time-stamped, event-log data is collected from business systems, to reveal exactly how a business is performing, where inefficiencies exist, and how to fix them.

But adding more tools can make complexity worse...



...automation tools need orchestration. That's *Hyperautomation*



CIO perception of tech debt over the past 3 years

Adding automation tools without baseline process understanding just **adds tech debt.**

■ Decreased ■ Consistent ■ Increased

Source: McKinsey, Tech Debt: Reclaiming Tech Equity, 2020

97% of organizations have failed to scale their RPA efforts because automating parts of a broken process won't fix the underlying issues. The automation journey needs to start with first understanding the problem, and then applying the right technology.

Source: Deloitte, The Robots Are Ready, Are You?

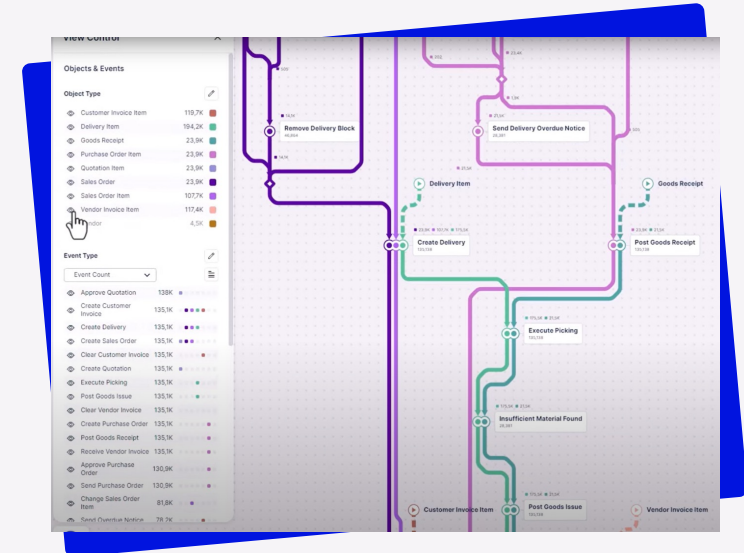
A hyperautomation journey starts with true visibility into operational processes.

Process mining means *gaining visibility & perspective*

Before process mining, understanding a process relied on interviews. This was highly manual, time-consuming, and prone to error.

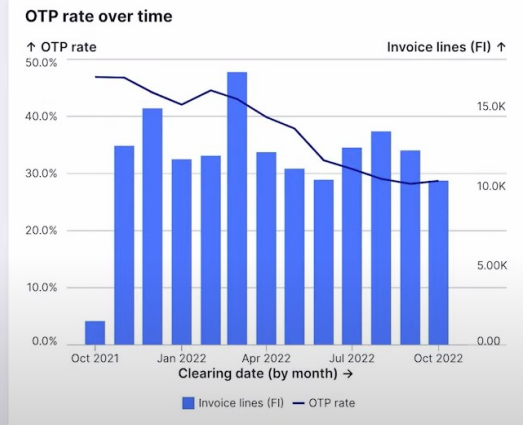
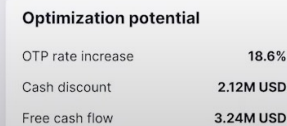
Today, process mining provides an automated, real-time view of the operations of a business. Creating a digital twin of the business to understand **how processes function and how the business is performing.**

This digital twin provides the **foundation for both analysis and automated actions across the business...**

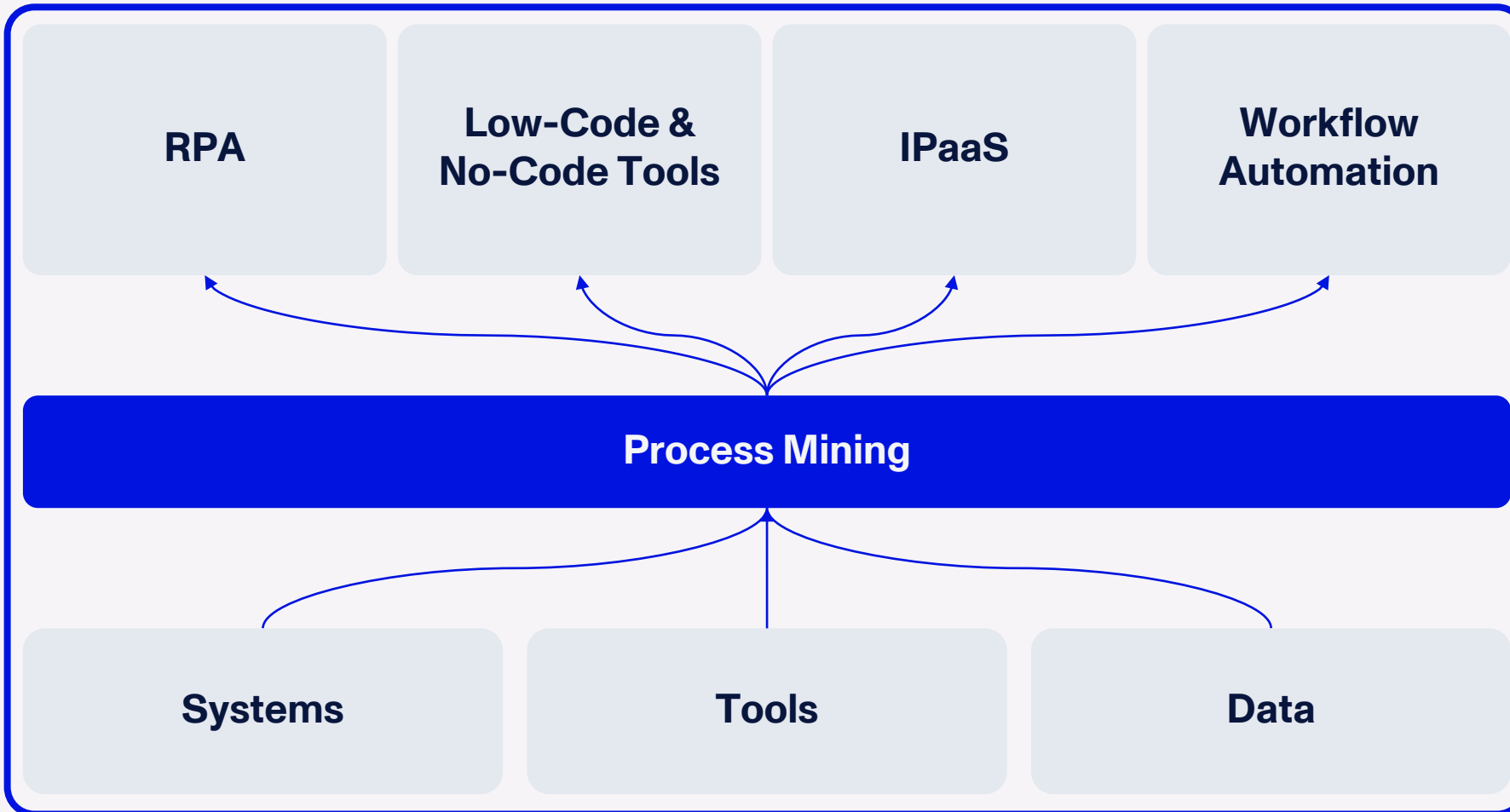


“Trying to understand a business was inefficient and inaccurate. Then we discovered process mining – we had this idea to build an x-ray for a company. That was revolutionary because suddenly you don’t have to talk to people anymore to understand where the problems are, you can figure it out by looking at all the logs this company produces.”

Alexander Rinke - CEO, Celonis



...and that's where an Execution Management System fits in



Process mining is powerful, though limited on its own.

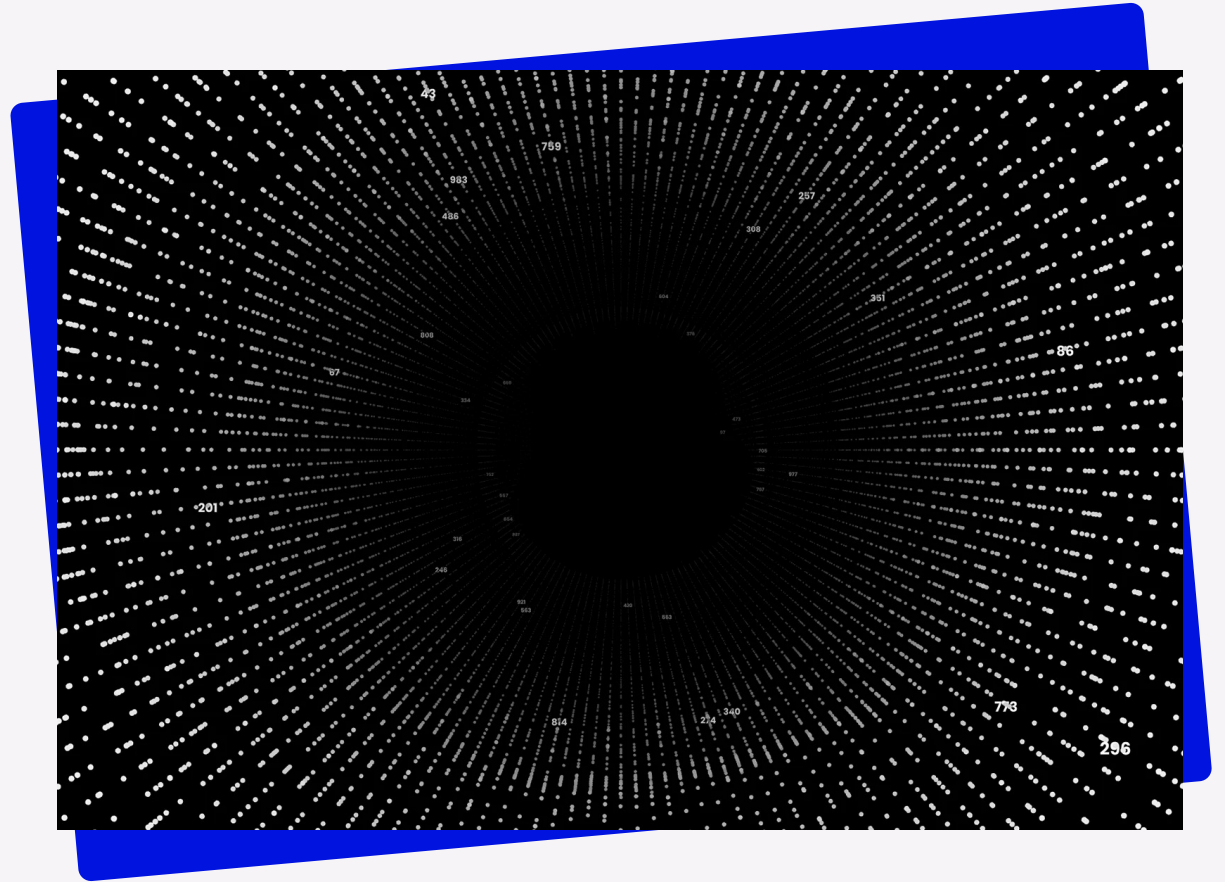
An Execution Management System uses **Process Mining** to find inefficiencies and takes action to fix them, orchestrating other technologies where needed.

Gluing together disparate systems and providing the baseline and continuous visibility that drives all automation activity.

**And that's why we think that
*process mining and execution
management is the best solution to
drive automation in the enterprise***

Section 3

Why we invested in Celonis



We've partnered with the global leader in process mining & execution management

When Celonis began, they unlocked true visibility into operational processes. Today, Celonis are so much more. With the Execution Management System, **they provide an end-to-end platform with the ability to not only reveal inefficiencies in real-time but also take the actions required to correct them.** It is an operational engine for the enterprise.

And the EMS continues to improve, with new additions like Process Sphere enabling cross-process analysis or the Business Miner democratizing process mining for non-technical users.



“ We have known the team at Celonis for over five years now, and it's so impressive to see how they are constantly reinventing themselves and pushing the boundaries. They are building a truly generational company, and we're incredibly excited to be a part of this journey. ”

Maximillian Mayer - Partner, Activant

Celonis Valuation

From a University project to a \$13bn business. Celonis founders Alex, Martin & Basti have relentlessly executed on their vision. **And they're just getting started...**



Gartner, IDC, Forrester, Everest Group, Nelson Hall and HFS unanimously agree

Celonis is the undisputed market leader in process mining & execution management

Celonis are continuously improving a powerful, end-to-end business execution product

2013 Process Mining

- **Celonis 3.0:** The “X-Ray” for business processes identifies inefficiencies

2017 Process Intelligence

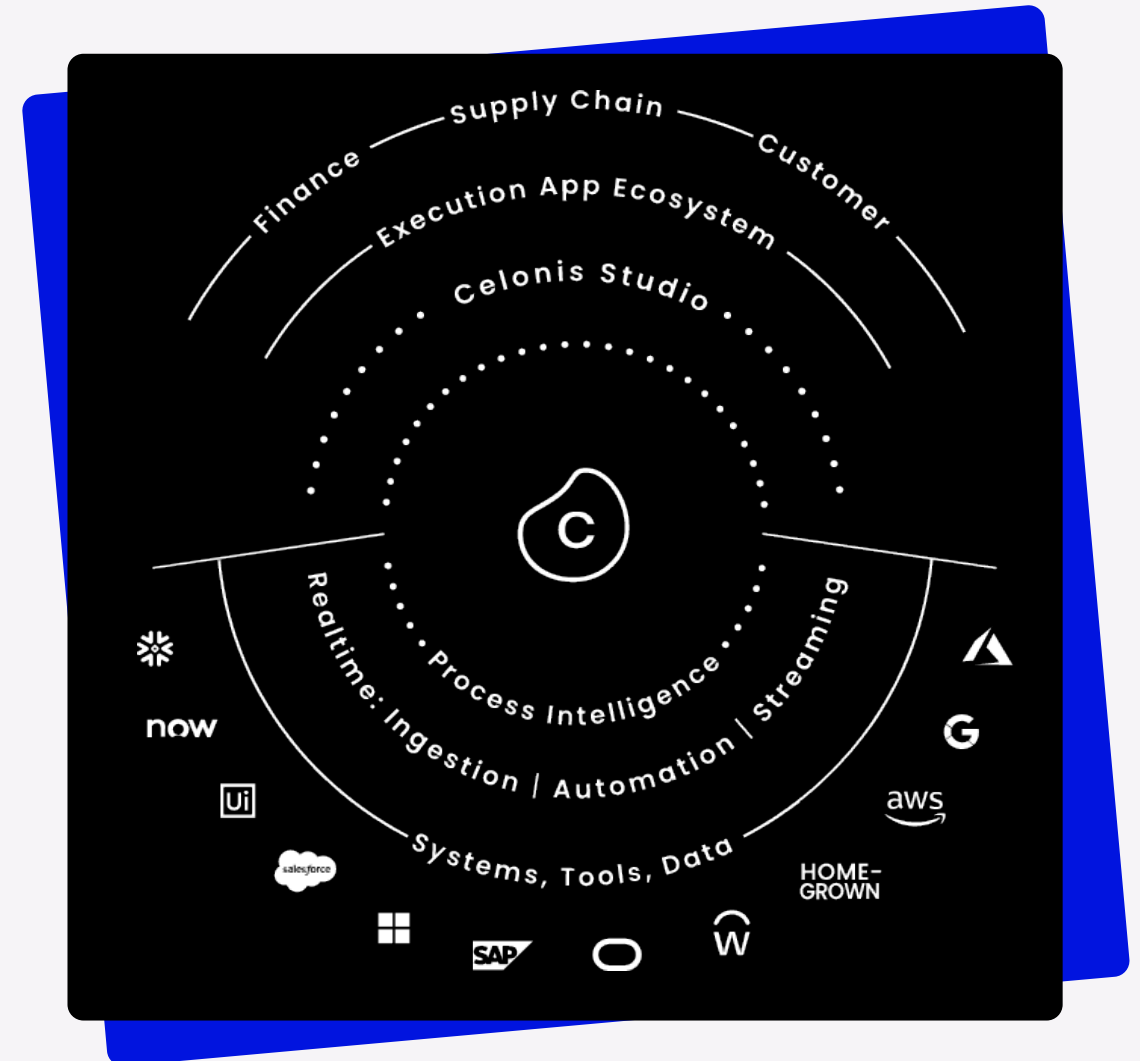
- **Use of AI** continuously processes data across the organization
- **Intelligent Business Cloud** – the first cloud-native process mining solution
- **Celonis Studio** allows customers to create and reuse pre-packaged analytics and automation capabilities, capturing their industry knowledge

2020 Execution Management System

- **Real-Time Data** powers real-time operational visibility & automation
- **Action Flows** automate identified inefficiencies autonomously and with a low-code user interface
- **Celonis Marketplace** lets users download and deploy pre-packaged analytics & automation applications from the Celonis ecosystem
- **Task Mining** enhances the insights from process mining with UI interaction data

2022 Process Sphere & Business Miner

- **Process Sphere** breaks down functional siloes by allowing process analysts to analyze both events & objects across the business
- **Business Miner** brings process mining to the masses with an intuitive, question-&-answer based user experience and pre-defined analysis



Creating enormous business value

The Celonis Execution Management System is **mission critical** and in tough times where management teams need to do more with less – **it's more important than ever**



\$1.3bn

free cash flow
improvement

Accounts payable process

NESTE

€55m

monthly cash flow
impact

Procurement process

T-Mobile®

€66m

annual cash
savings

Procure-to-pay process

accenture

\$35m

working capital
benefit

Procure-to-pay process

And driving strategic priorities



...we have been on about a ten-year journey to digitize the totality of the upstream. We are a long way down that, and we are now able to watch procurement flows across the globe with a tool called **Celonis** that sits on top of our SAP system and find out where inefficiencies exist in the system – both bidding inefficiencies and process inefficiencies – and that is dragging cost out materially. **It is quite an amazing thing to be able to do.**

Murray Auchincloss – Chief Financial Officer,
BP Q2 2021 earnings call



Managing the disciplined execution of the transformation agenda is a key part of the transformation office, ... So in just 6 to 8 weeks, we can identify tangible measures to improve processes, client experience and efficiency, something that would have taken us 6 months previously. We're doing this in partnership with ... **Celonis**. By 2022, we expect process engineering to deliver over EUR 60 million in cost efficiencies just from the 40 processes we will engineer first, as you heard already from my colleague.

Fabrizio Campelli – Chief Transformation Officer,
Deutsche Bank December 2020 Investor Presentation



Let's look at how Celonis helped Deutsche Telekom gain true visibility

1

The Problem

Deutsche Telekom needed to digitalize their entire procurement process. ***But where does one even begin?***

2

A Lack of Visibility

Most businesses don't know what is happening deep under the surface. They simply cannot visualize their processes.

3

Enter Process Mining

Celonis connected to 10 different systems like the ERP & CRM, turning event log data into process flows and operational metrics.

4

To Total Visibility

The process explorer tool allows companies to see how their processes are genuinely functioning, and measure inefficiencies with real-time KPIs.

“We had this ‘Wow’ moment. For the first time, we saw our processes as they really are and could directly point out inefficiencies”

~Peter Tasev, Deutsche Telekom

and became the management control panel

5

Identifying the Problems

1. Duplicate Payments
2. Late & Blocked Payments
3. Time wasting on low-value tasks

6

Now to Automate

With clear vision into the process, the Deutsche Telekom team could start to drive automation through the business.

7

Automation Outcomes

Intelligent document processing prevents duplicate payments.

Workflow automation in the payments **flow improved the on-time payment rate to 90%; unlocked cash savings of €40m and improved the invoice no-touch rate to save €12m.**

8

Orchestrating Operations

“The vision I have is that in five years’ time, **nobody will need to touch our transactional systems unless Celonis suggests it**”

~Peter Tasev, Deutsche Telekom

9

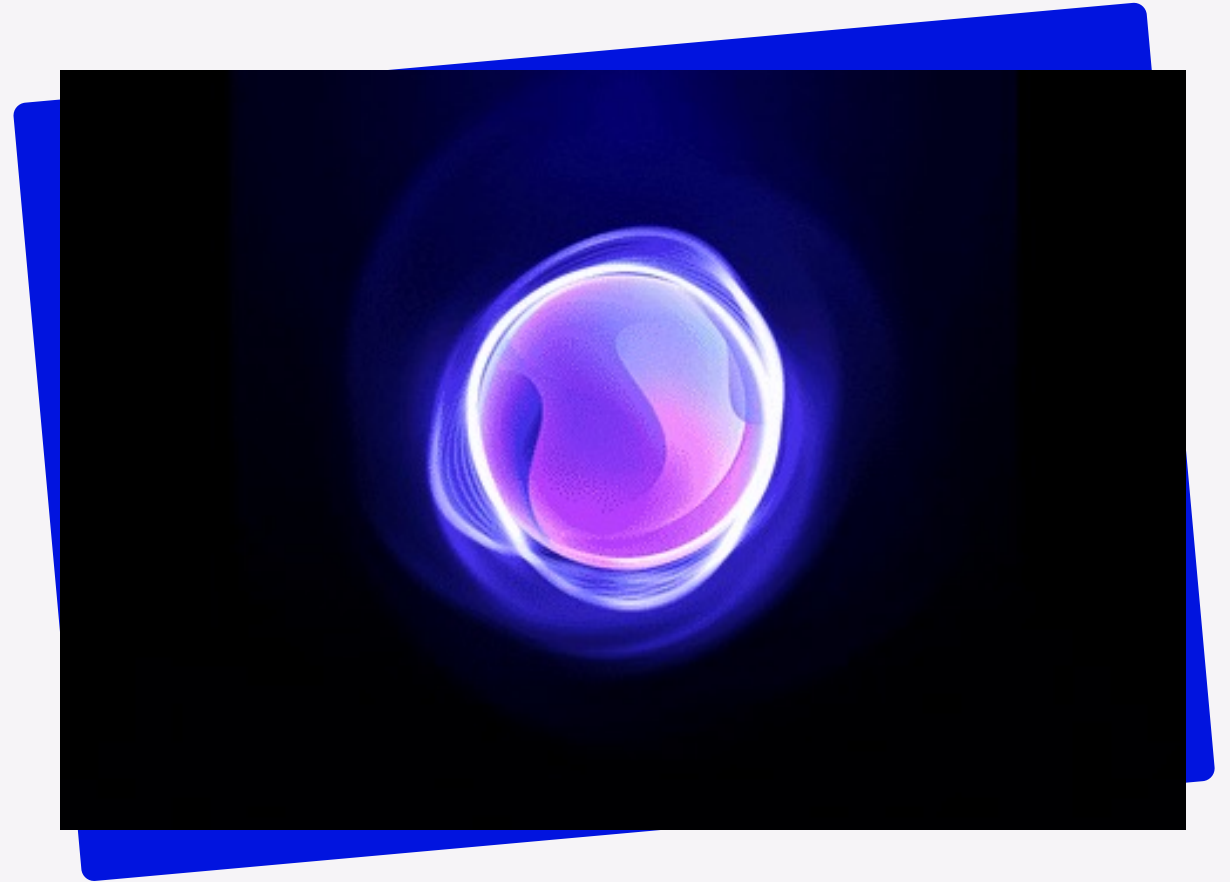
A Continuous Journey

Process mining **becomes the control panel** for continuous monitoring.

“Now I start the day by opening up Celonis, not outlook.”

Section 4

Emerging Tech



There is still work to be done

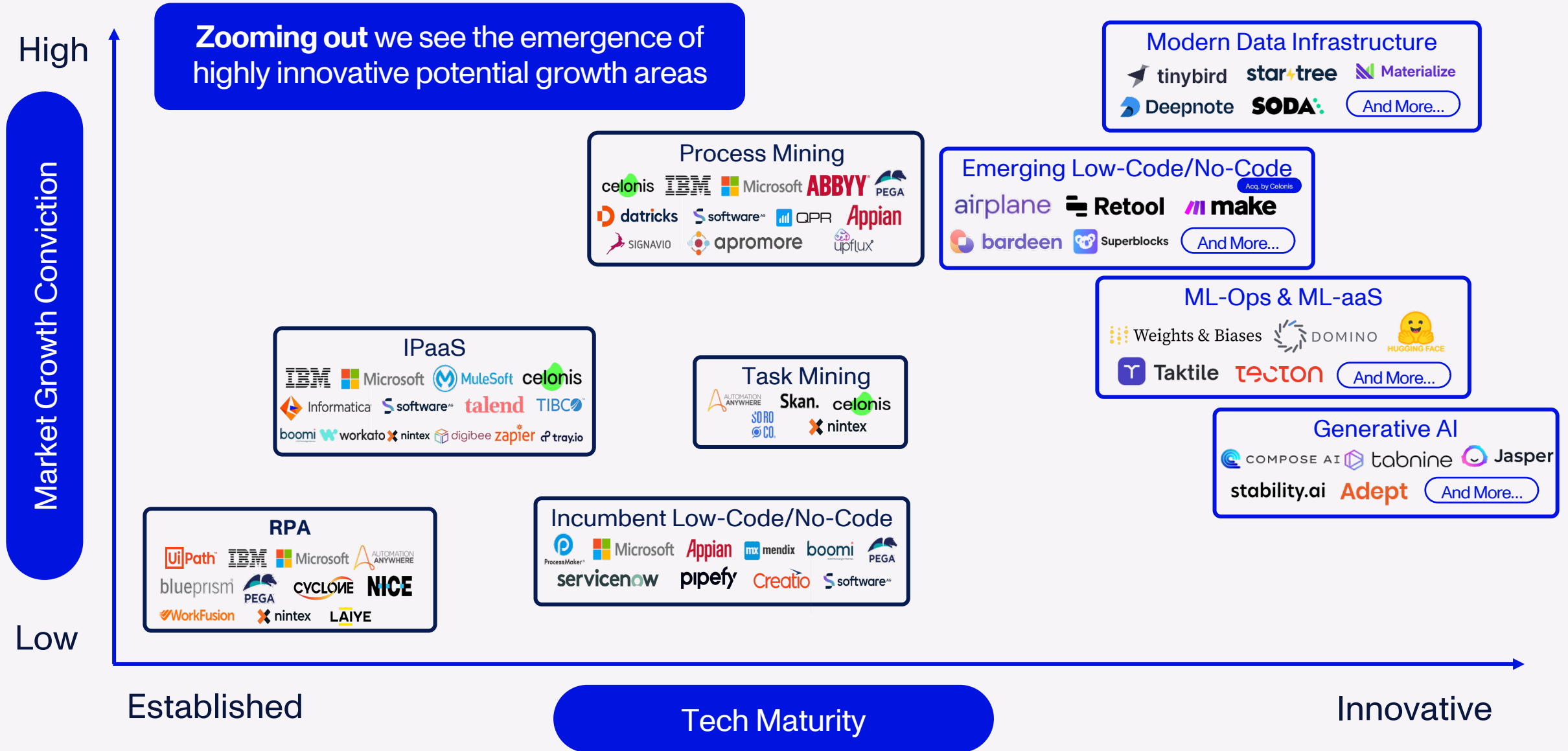
Remember: At least 69% of enterprise processes are still manual. We expect large software companies to be a mainstay in the hyperautomation market, but innovation in the space is high, and there are a host of new solutions emerging to play a part in the automation journey.



Automated 31%

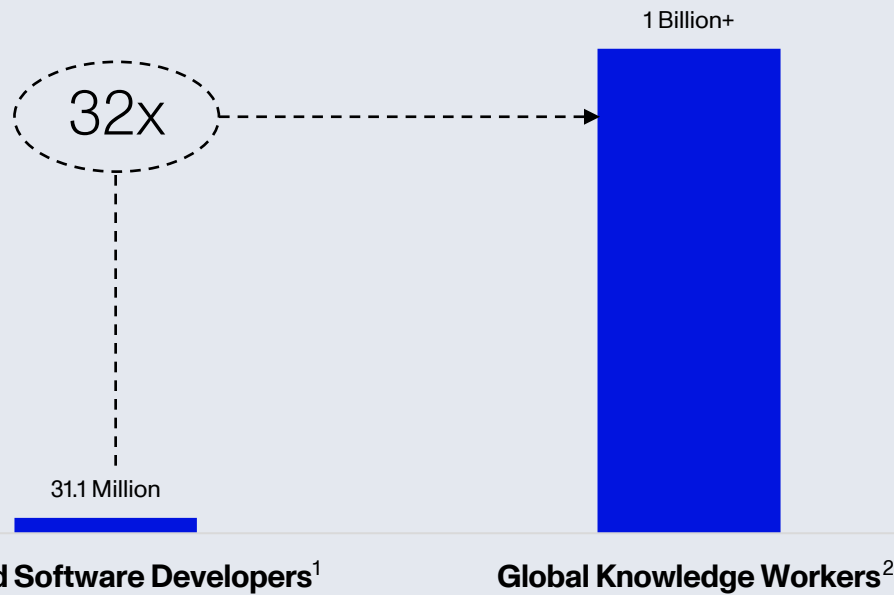
Manual 69%

Automation-enabling technologies



A new crop of low-code & no-code tools are emerging

Total number of global developers and knowledge workers,
in millions



- As they seek to digitize and automate operations, companies face unique challenges that off-the-shelf software just can't solve. That's why **over 30% of developer time is spent on internal tools**³
- But with no clear link to revenue generation and weak user feedback, **these tools are often sub-optimal**
- **Low-code** tools focused on internal problems are emerging and rapidly improving to **multiply the efforts of skilled developers** while,
- **No-code** tools are **democratizing access** to software development for 1bn+ knowledge workers

airplane

Retool

make
Acq. by Celonis

bardeen

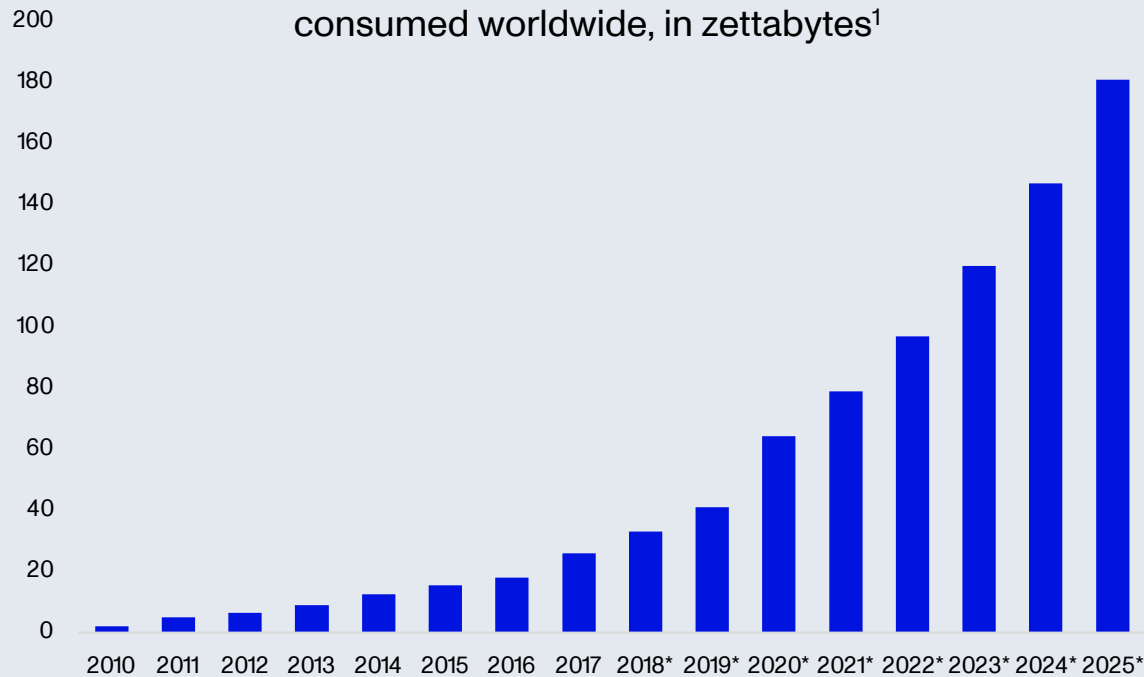
Superblocks

And More...

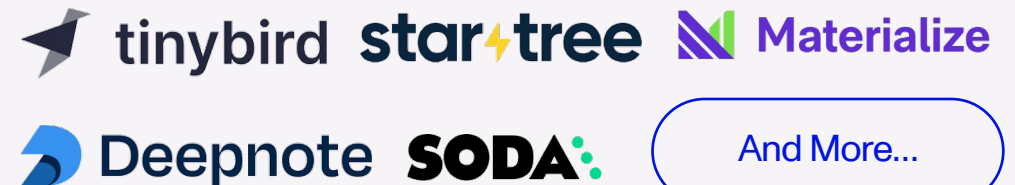
Source: ¹Developer Nation Pulse, Developer Nation Report, 2022; ²Gartner, 2019: When We Exceeded 1 Billion Knowledge Workers, 2019; ³Retool, State of Internal Tools, 2022

Data infrastructure is shifting to meet real-time demands at petabyte scale

Volume of data created, captured, copied, and consumed worldwide, in zettabytes¹



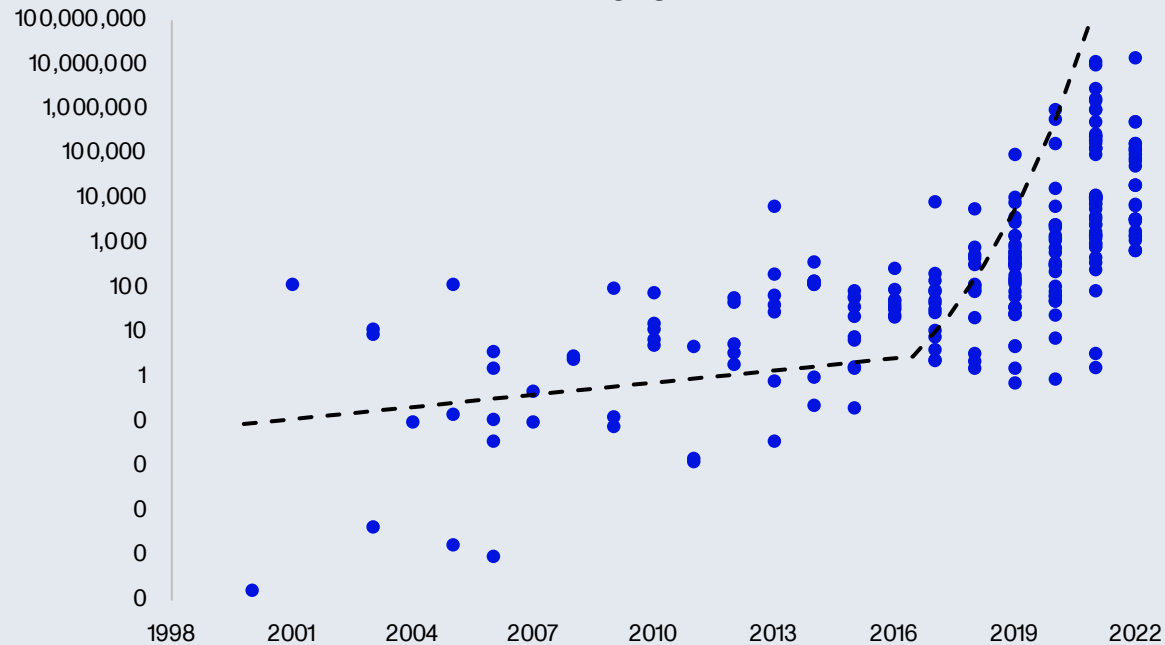
- Data is at the core of automation, yet **87% of data science projects never make it into production**²
- Modern data infrastructure needs to break down data siloes with scalable data warehouses, data lakes and data mesh architecture
- Data ingestion through to analytics engines need to move to real-time
- Finally, data teams need tools to manage data quality, discovery, security and quality



Source: ¹IDC Global Datasphere Report, 2021; ²Venturebeat, Why do 87% of data science projects never make it into production, 2019

Hype is turning to reality as AI/ML adds intelligence to automation

Parameter count in machine learning models by year, in millions



- The **capabilities of machine learning are exploding**, and the future of automation software is intelligent
- But to build intelligence into software, **engineers need the right tools** to build, deploy and scale ML fast
- And at the same time ML models need to be accessible by business users
- We're seeing the emergence of MLaaS platforms to simplify the ML lifecycle while MLOps companies appear to professionalize areas from feature management to model explainability

 Weights & Biases

 DOMINO

 HUGGING FACE

 Taktile

 TECTON

And More...

Source: Epoch AI, Parameter Counts in Machine Learning, 2021

Generative AI is transforming the tasks that knowledge workers perform



- While its no secret that AI /ML powers a big chunk of our lives, we've waited a long time for these tools to be in the hands of everyday business users
- Today, **we're seeing the emergence of AI-powered tools to transform the nature of work fundamentally**
- Companies like Compose AI and Jasper allow writers to turn a text prompt into a first draft in minutes, while Tabnine writes chunks of code for developers
- Stability AI started a craze around AI art and Adept is seeking to be a knowledge worker's personal assistant

 COMPOSE AI  tabnine  Jasper

stability.ai

Adept

And More...

Jason Allen's A.I.-generated work, "Théâtre D'opéra Spatial," took first place in the digital category at the Colorado State Fair

Many are asking how the future will play out

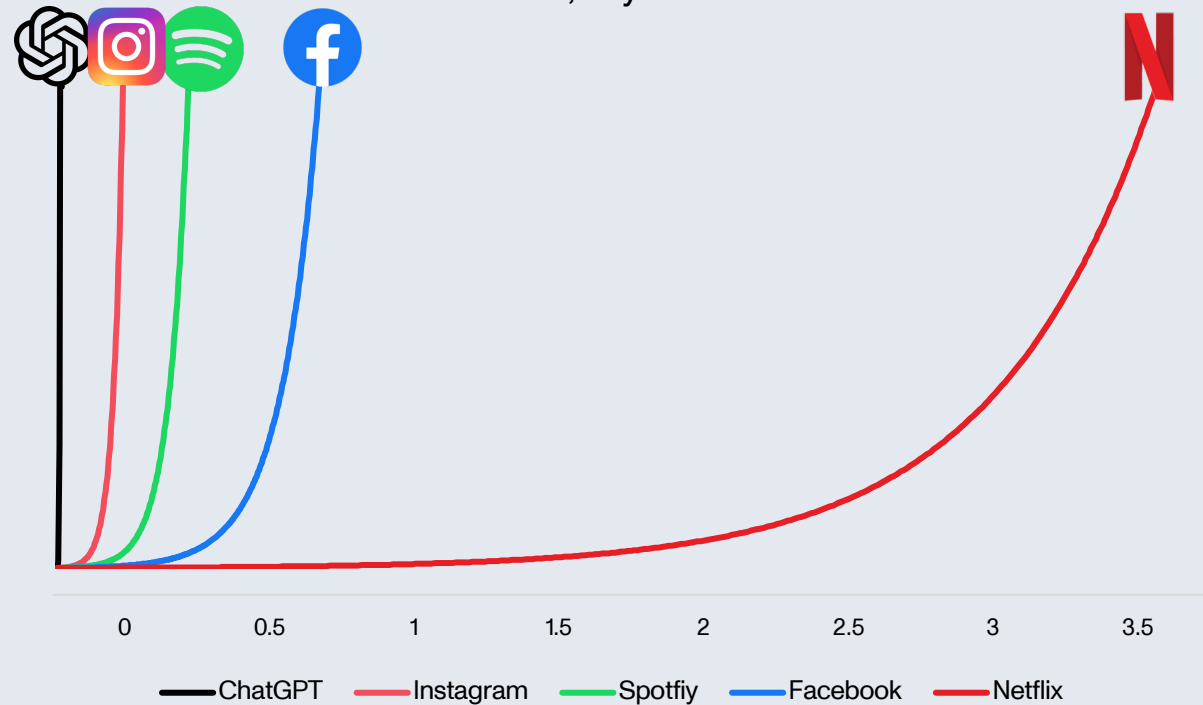
OpenAI's ChatGPT hit one million users in five days. Other consumer-facing applications like Midjourney & Jasper are seeing viral adoption.

It appears that we are entering into a new technology paradigm.

But ChatGPT's accuracy has been widely criticized. There are many **unanswered questions** about how AI will impact businesses in the future.

The generative AI businesses of today must fight to shift from being features to platforms. In the way stand incumbents, whose distribution advantage measures in the billions of users. We see Adobe rolling Generative AI into Photoshop and Microsoft announcing that their Designer app will be powered by DALL-E 2.

Time taken for popular platforms to reach one million users, in years



Source: Open AI, 2022; Business Insider, 2012

Ultimately, *“the model is not the product”* and AI is an enabler, not a business itself. As TikTok was the most successful “AI company” of the past decade, we believe that the greatest value will accrue to companies who make AI invisible to the user but leverage it to deliver differentiated product experiences.

Wrapping Up

1

Organizations are inefficient.

Digital transformation is a buzzword, but it's a critical management objective. **The question for management teams is: where to start?**

Process mining has unlocked the next wave of growth in enterprise automation, and the sector is evolving rapidly. We can't wait to see what gets built next.

2

Process mining is the X-ray for a business.

With insight into the root of inefficiency, businesses can drive change.

3

Activant have partnered with the global leader in process mining & execution management, Celonis.

The team at Celonis took process mining from an academic idea to Germany's first decacorn. Today, Celonis empowers thousands of customers to be more efficient, sustainable and focus on what matters: serving their own customers better.

About the Authors



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Leads Activant marketing and works with founders to supercharge design & brand



Maximilian Mayer
Partner

Heads up Activant's Berlin office and anchors our European ecosystem



About Activant

Activant is a research-driven growth equity firm investing in commerce infrastructure, B2B software, fintech, and supply chain. We back ambitious entrepreneurs and teams that are changing the way businesses make, move, and sell.

Founded in 2015, the firm has \$1.6B AUM and has offices in Greenwich, New York, Berlin, and Cape Town.

Investments include:



[Full portfolio here](#)

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