

A close-up portrait of a woman's face, focusing on her eyes and smile. The image is overlaid with several rectangular frames: a large orange frame on the left side, a white frame in the center, and another orange frame on the right side. The background is a soft, out-of-focus green and white.

**Gartner**<sup>®</sup>

**Leadership Vision for 2022**

# Top 3 Strategic Priorities for Software Engineering Leaders

### From Chris Howard, Chief of Research, Gartner

As we head into 2022, we continue to feel the human toll of the global pandemic, but we already know it has been a watershed period in which attitudes and norms have permanently shifted — in our everyday lives and at work.

Living through COVID-19 has increased social awareness — as have growing demands for equity for those who are underrepresented.

Businesses have also changed. For many organizations, the pandemic has catalyzed digital business initiatives as we adapt to the demands of employees, customers and other stakeholders, who were forced into new digital options that they have now come to favor.

B2B purchasers are happy to buy digitally, without a sales representative; B2C consumers are buying off social media platforms; employees are physically distributed and communicating asynchronously — and IT infrastructures must secure the organization despite this “anytime, anyway, anywhere” way in which we’re operating.

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You and your team may be burning out, and it’s never been more important to prioritize your time and energy.

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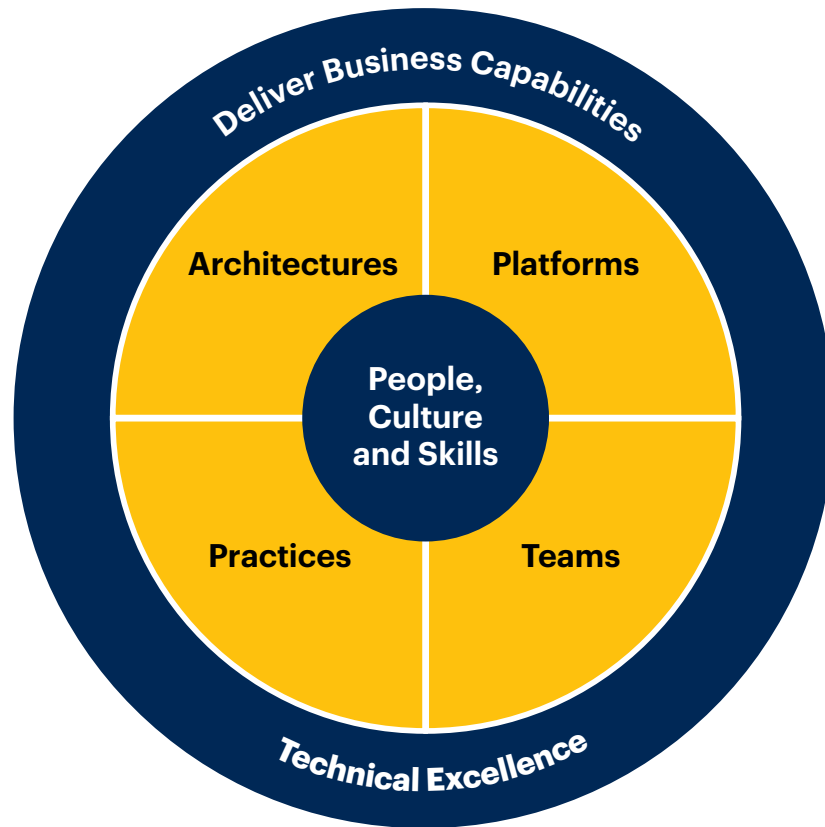
In your role as a leader, you’ve now spent months adapting to change and delivering new solutions at speed. You and your team may be burning out, and it’s never been more important to prioritize your time and energy. To help with that, Gartner Leadership Vision provides top-level guidance to leaders and their teams on where to focus — based on our data-driven research.

We’re providing detailed insights to our clients across dozens of roles, and we’re now excited to share excerpts with the business community beyond our clients. We hope this will help you to focus discussions with your teams, peers and other leaders, so you can more quickly and effectively diagnose priorities and actions, especially as you solidify your strategic plans for 2022.



**Chris Howard**  
Chief of Research, Gartner

# Broad Mandate for Software Engineering Leaders



The **imperative** for software engineering leaders is to **build software to deliver business capabilities** and adapt software to changing business needs over time.

Software engineering extends beyond writing code and emphasizes technical excellence. It factors the **platforms** to run the software, including automation and low-code development, assembling **teams**, including cross-functional teams from across the organization, adopting the right **architectures** and **designing** high-quality experiences, and employing **practices** that guide you in building high-quality software efficiently.

The **software engineering leader** leads a team of software engineers and provides guidance in all of these areas. They support the business and help their team acquire and maintain the necessary **skills**, while fostering a **culture** for success.

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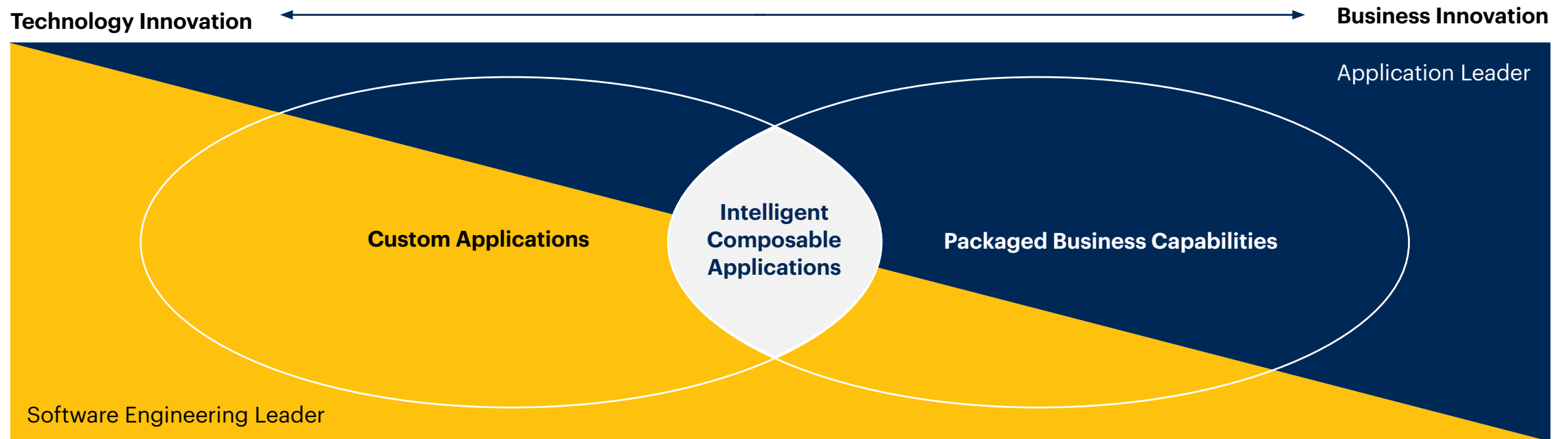
Over time, a lack of technical excellence diminishes your ability to deliver business capabilities.

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Source: Gartner

# Application Leaders and Software Engineering Leaders Deliver Intelligent Composable Applications

The intersection of applications and software engineering



Source: Gartner

# Three Challenges and Actions for Software Engineering Leaders



## Building and delivering quality software at scale

**47%** of software engineering leaders say delivering secure software features among their performance objectives.



### Actions

Focus on automation across the full delivery life cycle and maximize composable architecture.



## Delivering scalable and secure digital products

Application programming interfaces (APIs) open access to data and application functionality to more users and ecosystem partners, but API security is a top concern.



Leverage APIs to provide the ecosystem with functionality, but install countermeasures against threats related to app integration.



## Building, developing and retaining high-performing teams

High-performing teams deliver **53% better** outcomes in employee experience and productivity and **37% better** outcomes in attracting and retaining external customers.

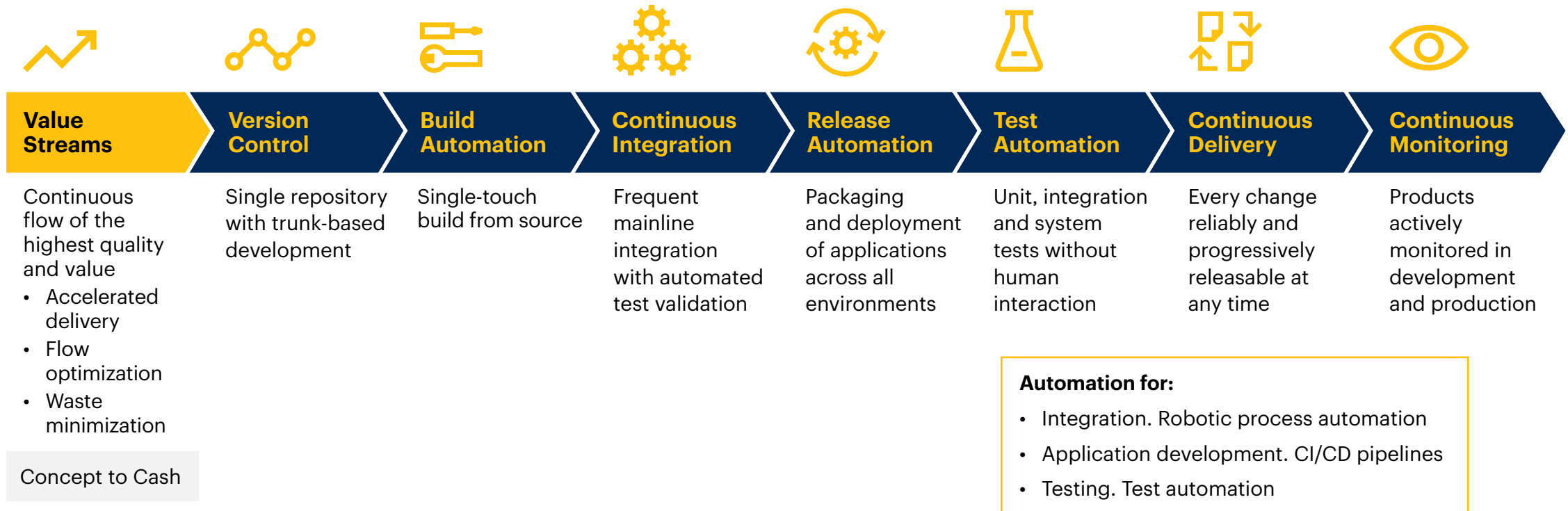


Adopt cross-functional fusion teams and establish a talent development program.

Source: Gartner 2021 Software Engineering Leaders Survey, Gartner strategic assumptions, 2020 Gartner Software Engineering Team Effectiveness Survey

# Focus on Automation Across the Full Delivery Life Cycle and Emphasize Value Streams

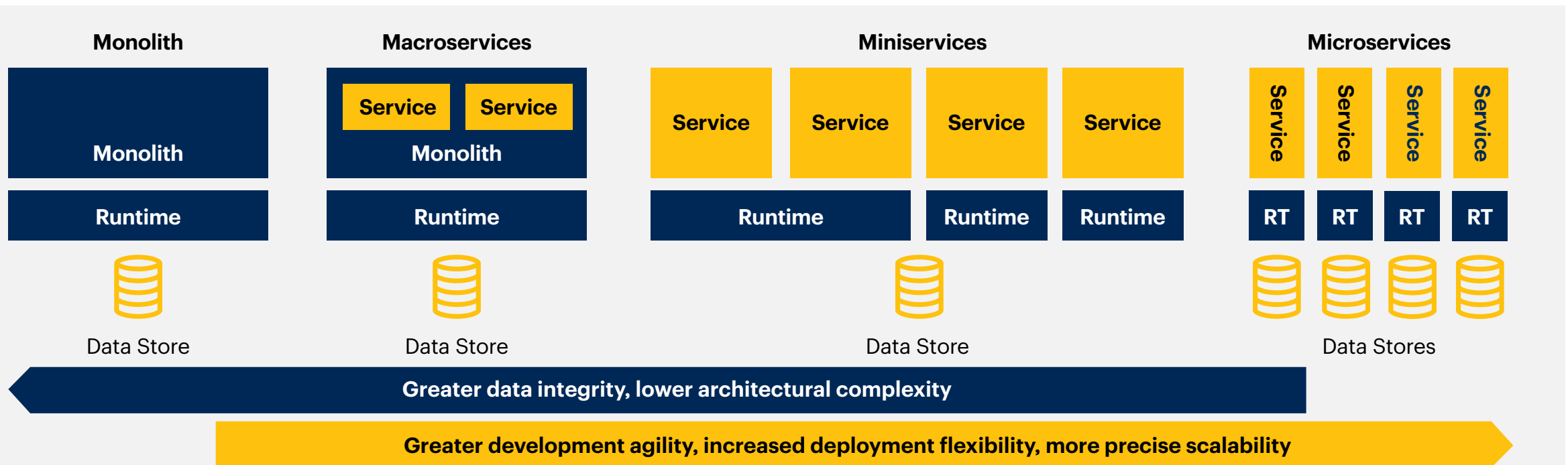
## Creating frictionless pipelines



Source: Gartner

# Emphasize Granularity to Maximize Composability and Optimize Architecture

## Spectrum of options for microservices architecture



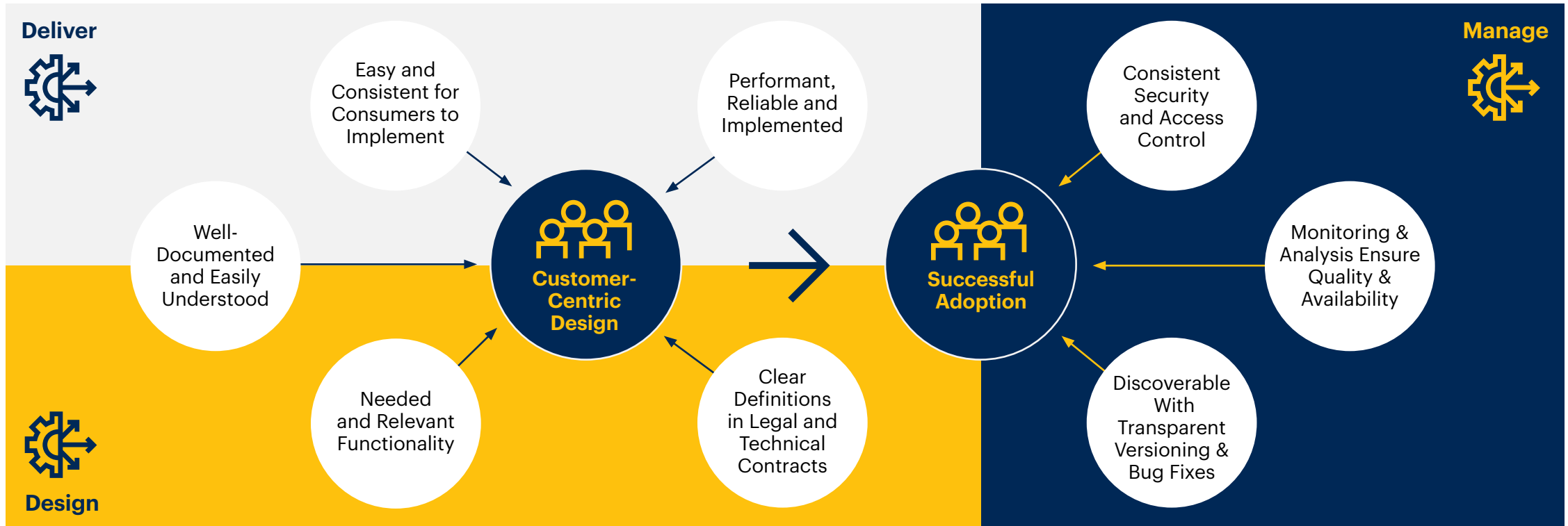
Source: Gartner



# Leverage APIs to Provide Ecosystem Access to Functionality ...

 API Consumers

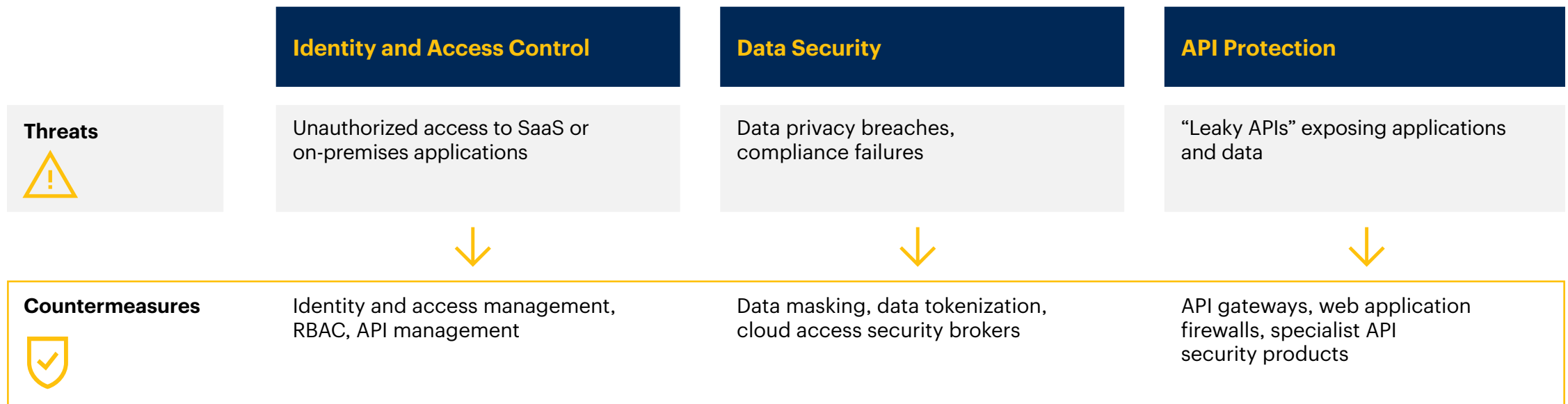
 API Provider



Source: Gartner



# ... But Install Countermeasures Against Threats Related to Application Integration



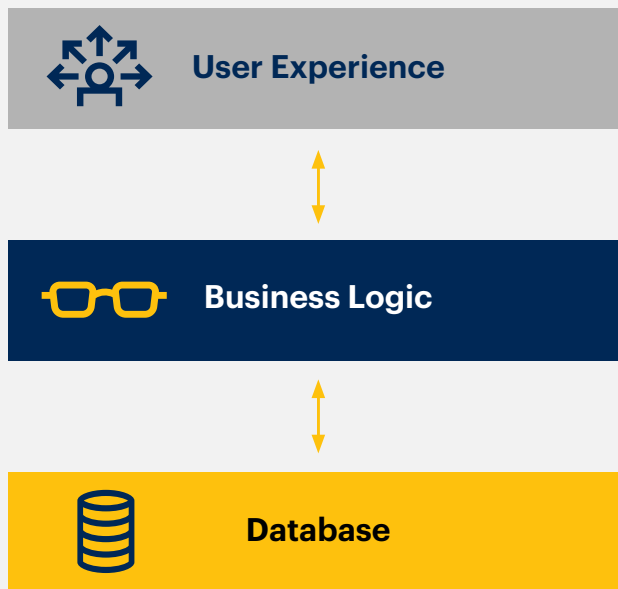
Source: Gartner

Note: RBAC: Role-Based Access Control

# Adopt Cross-Functional Fusion Teams

## Functional teams versus cross-functional teams

### Functional teams



### Cross-functional teams

	“Orders” Service Team	“Customers” Service Team	“Inventory” Service Team	“Search” Service Team	
					Logic
					Data
					UX
					Ops
Service	Service	Service	Service	Service	

Source: Gartner

# Establish a Talent Development Program

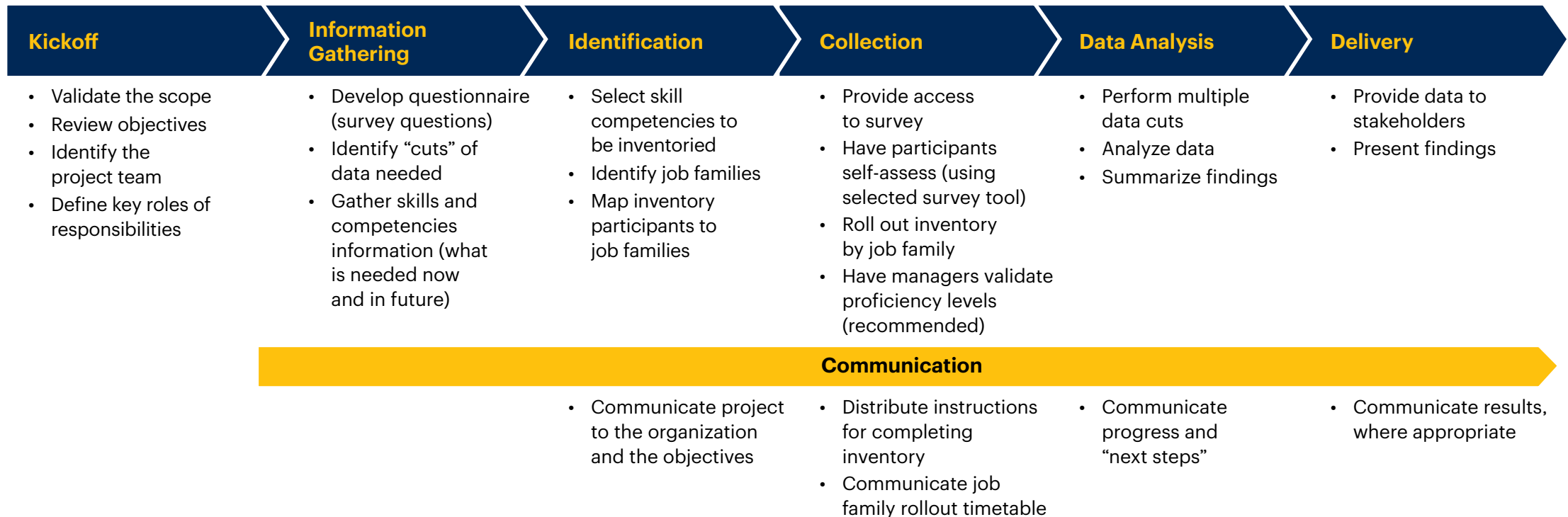


## IT skills inventory process

Week 1

Duration

Week 8



Source: Gartner

# Action Plan for Software Engineering Leaders in 2022



**Build APIs**



**Enable skills  
development**



**Embrace  
fusion teams**



**Automate across the  
life cycle**



**Optimize architectural  
granularity**







**Adopt a UX  
mindset**

Source: Gartner

# Actionable, objective insight

Explore these additional complimentary resources and tools for software engineering leaders:

 <p><b>Tool</b> Gartner IT Score</p> <p>Benchmark key processes and activities to advance your function.</p> <p><a href="#">Learn More</a></p>	 <p><b>Tool</b> Gartner BuySmart™</p> <p>Reduce costs, avoid pitfalls and buy technology with confidence.</p> <p><a href="#">Learn More</a></p>	 <p><b>eBook</b> 3 Key Goals for Software Engineering Leaders to Sustain Digital Momentum</p> <p>Learn key strategies to accelerate your digital transformation.</p> <p><a href="#">Download Now</a></p>	 <p><b>Resource Hub</b> How to Lead, Innovate and Optimize Your Software Engineering Teams to Drive Digital Business</p> <p>Learn about the trending insights and tools for software engineering leaders.</p> <p><a href="#">Read Now</a></p>
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