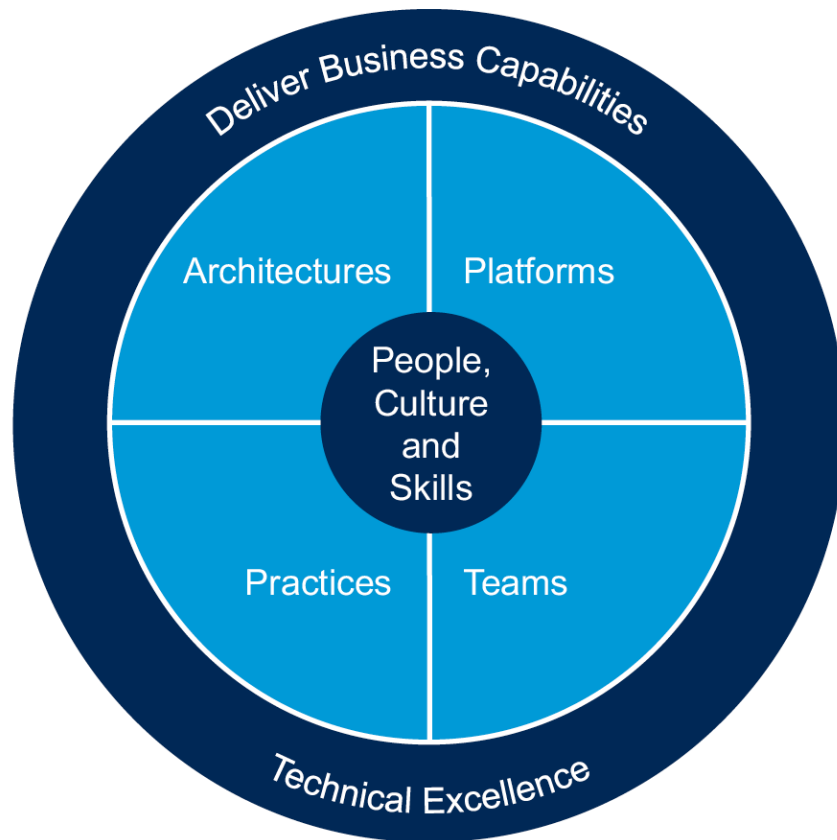# Leadership Vision for 2022: Software Engineering

> To meet business needs, software engineering leaders must build and deliver high-quality software solutions quicker than ever before. A lack of technical excellence and skill will diminish a team's ability to deliver business solutions, this will worsen as technology diversity continues to increase.

Overview

Software engineering leaders seek to deliver customer value by leading their teams in building high-quality custom software. This requires leaders to help their teams acquire and maintain the necessary skill set, while also giving them the support they need to choose the best platforms, practices and architectures for building the software.

The Software Engineering Discipline

Source: Gartner
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Gartner.

This document will cover the challenges and opportunities that software engineering leaders will face in the next 12 to 18 months. It will also cover key trends impacting software engineering leaders and provide actionable guidance on how software engineering leaders can help their teams build better software.

Challenges for Software Engineering Leaders

Over the next 12 to 18 months, software engineering leaders will face challenges with:

■ Building, developing and retaining high-performing teams in the face of significant technological diversity.

- Delivering high-quality and secure software quickly using the optimal combination of platforms, tools, practices and architectures. This will occur in the face of mounting technical and legacy debt that hinders the ability of their teams to deliver quality software quickly.

- Building a scalable, dependable and secure digital platform that meets business needs and provides a superb customer experience.

Priorities for Software Engineering Leaders

To meet these challenges, software engineering leaders will need to understand the trends that will guide their decisions, such as:

- A workforce that will continue to be remote and diverse

- An emphasis on automation

- The importance of application security

- The impact that new infrastructure (i.e., cloud) will have on software architecture

Recommended Actions

Software engineering leaders should focus on the following actions:

- Build APIs to more easily isolate change and enable faster creation of new composable solutions.

- Enable skills development to help team members gain the knowledge necessary on latest technologies.

- Embrace fusion teams to help increase the versatility of the team and develop skills outside their core area of expertise.

- Automate across the life cycle to increase efficiency and avoid mistakes.

- Optimize architectural granularity to ensure the software meets its nonfunctional requirements and aligns with the deployment model.

- Adopt a user experience mindset to help improve the effectiveness and productivity of their users.

How to Use Leadership Vision

This research is in the form of a presentation deck and provides Gartner's overall point of view on the important things that you, as a leader, should focus on. This deck is designed for you to download and use with your peers, your team or others who might benefit from it. You can also integrate it into your own materials. It is meant to provide input into your strategy or plans for the future.

The attached presentation will provide guidance that will help software engineering leaders devise a strategy for building and delivering high-quality software — using proven practices and emergent trends such as agile methodologies, modern architectures, fusion teams and more.

Evidence

Gartner's 2021 Software Engineering Leaders Survey was conducted online from April through June 2021 among 314 respondents from North America (49%), Western Europe (33%) and APAC (18%).

Respondents were screened to be responsible for at least one team of software engineers at organizations of over $20 million in worldwide revenue across organizations from all industries except construction, natural resources, energy, some manufacturing subindustries, local or regional government, and wholesale.

The survey was developed collaboratively by a team of Gartner analysts and was reviewed, tested and administered by Gartner's Research Data and Analytics (RDA) team.

Results of this study reflect the sentiments of the respondents and companies participating in this survey, not the market as a whole.

Recommended by the Authors

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How to Help Software Engineering Teams Modernize Their Application Architecture Skills

Infographic: Top 10 Technology Trends Impacting DevOps

Ensure Your API Management Solution Supports Modern API Trends Such as Microservices and Multicloud

10 Essential Practices for Success in Implementing the Scaled Agile Framework (SAFe)

Strategic Architecture Roadmap for Composable Enterprise Applications (Presentation)

How Are API Management Platforms Priced?

How to Establish a Reskilling/Upskilling Talent Development Program for Software Engineering

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