The Future of Low Code

Adrian Leow

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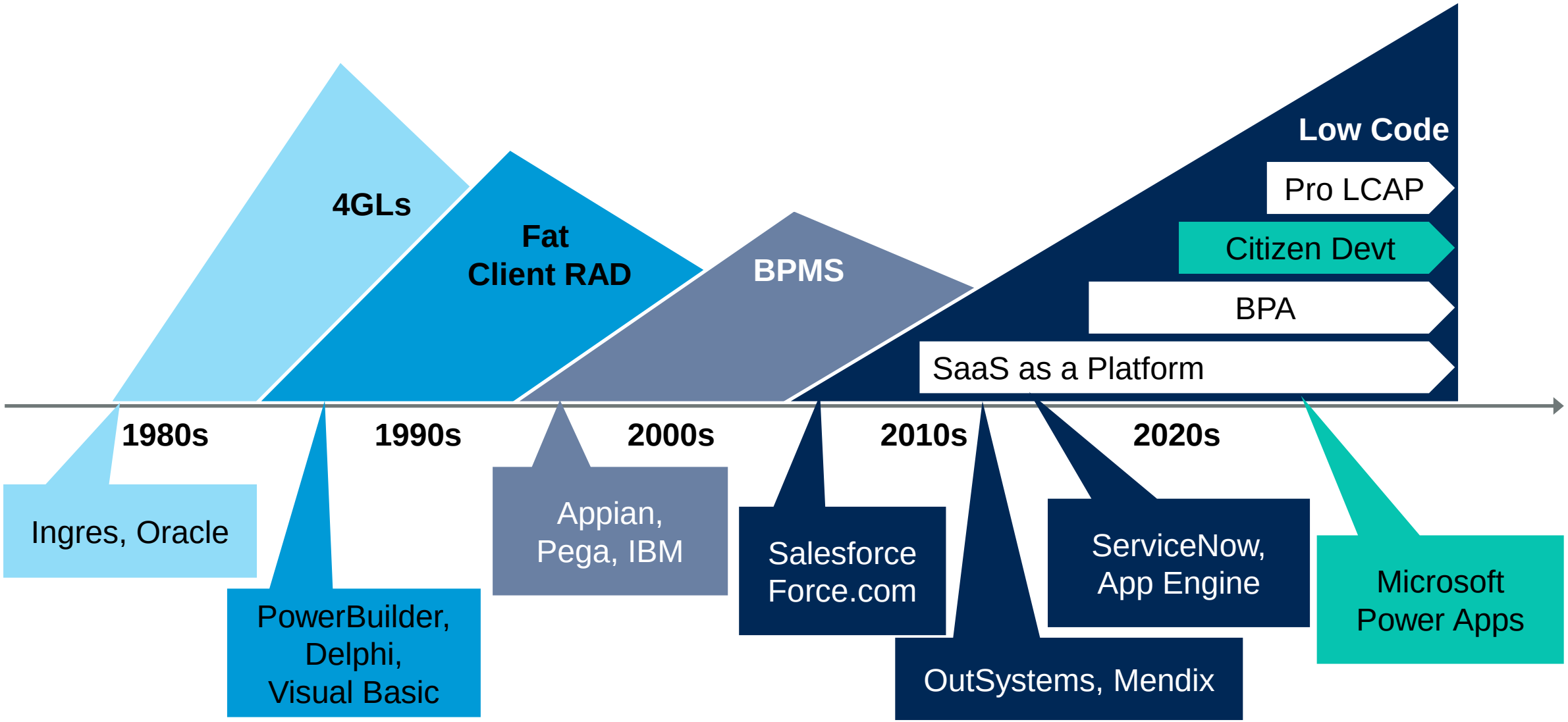
Low Code Is Not New!



BPA = Business Process Automation; BPMS = Business Process Management Suite

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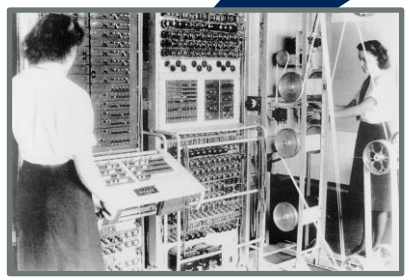
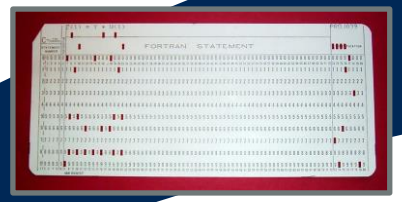
Raised Abstraction in Languages Is Normal IT Evolution



Patch Board

Assembly Language



Early 3GL

Object-Oriented 3GL

Object-Oriented 3GL+ Virtual Machine

Low Code

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Key Issues

1

What are the main low-code technologies?

2

What does enterprise low code usage look like currently?

3

How will low code evolve over the next few years?

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“Market” Model for Low-Code Development Technologies

LCAP
Low-Code
Application Platforms

BPA
Business
Process Automation

MXDP
Multiexperience
Development Platforms

RPA
Robotic
Process Automation

iPaaS
Integration Platform
as a Service

CADP
Citizen Automation and
Development Platforms

Other Low-Code Development Technologies

Low Code Is a Paradigm Not a Product Category

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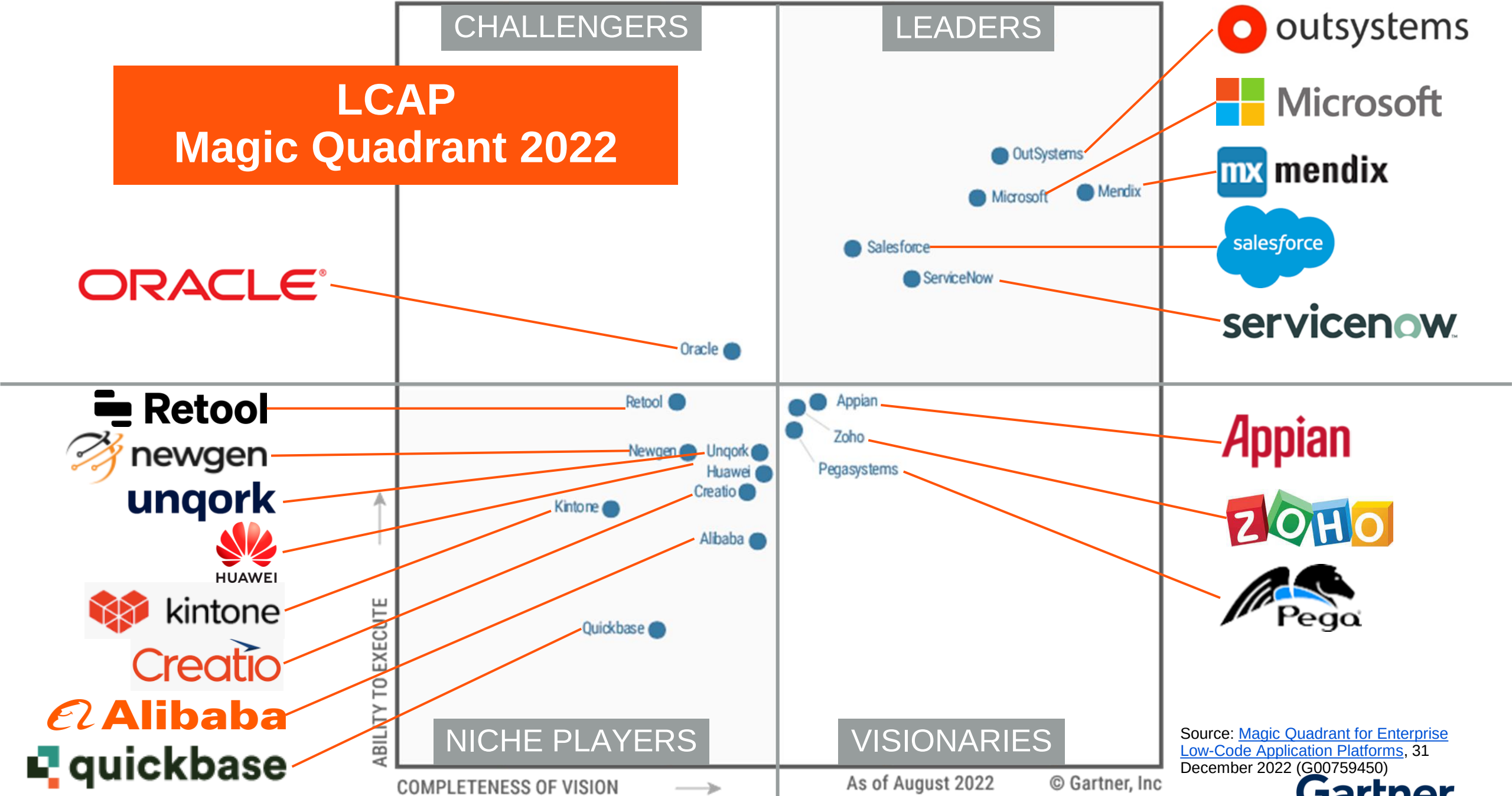
LCAP
Magic Quadrant 2022



Source: Magic Quadrant for Enterprise Low-Code Application Platforms, 31 December 2022 (G00759450)

Huge Market of Vendors

Low-Code Application Platforms

UX + Data + Business Logic, Embeds Database

17 Vendors

200+ Vendors

Low-Code Development Tools

for Any of UX, Database, Business Process, AI, IoT …

400+ Vendors

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Does Low Code Deliver?

New Key Technologies Procured to Build Digital Business Platforms by Success Groups

Multiple Responses Allowed

▲Statistical Significant Difference Toward Low-Success Group

	Low Success (n = 57)	Medium Success (n = 97)	High Success (n = 52)
New Data Management Technologies (E.g., In-Memory Databases, Caching, Data Lakes, Analytics)	60%	51%	73%
API Platforms (E.g., API Management, API Gateways, API Marketplaces)	53%	61%	69%
Internet of Things (IoT) Platforms (E.g., Communications, Device Management, Security, Edge Platform, OT Gateways)	70%	71%	69%
Modern Application Platforms (E.g., PaaS, Microservices, Serverless Functions, etc.)	40%	59% ▲	67% ▲
New Integration Platforms (e.g., iPaaS, ESBs, ETL, Messaging)	33%	58% ▲	54% ▲
Multiexperience Development Platforms (MXDP)	**39%**	**40%**	**48%**
Event Stream Processing (E.g., Streaming Analytics, Complex Event Processing, Event Driven Applications)	33%	38%	48%
Low-Code Development Platforms	**7%**	**22% ▲**	**35% ▲**
Average No. of New Technologies	3.4 →	4.0 →	4.6

5x More High Success vs. Low Success

n = Varies; All Respondents, Excluding Not Sure

Q: What key new technologies is your organization procuring to build its digital platform?
Source: 2020 Gartner Building Digital Platforms Survey

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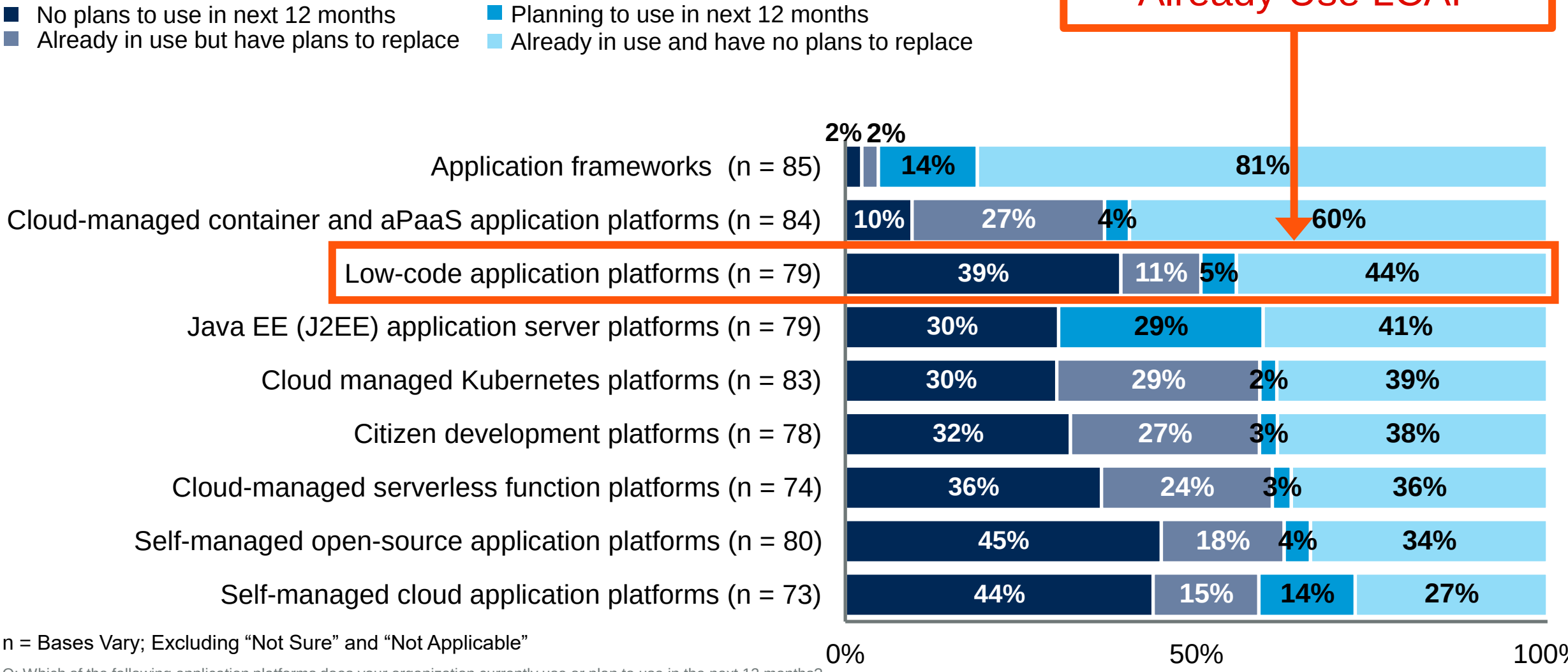
LCAP Usage Is Already High

44% of Those Surveyed Already Use LCAP



n = Bases Vary; Excluding “Not Sure” and “Not Applicable”

Q: Which of the following application platforms does your organization currently use or plan to use in the next 12 months?
*Note values 2% and below not shown
Source: 2021 Gartner Platforms for Software Engineering and Delivery Survey

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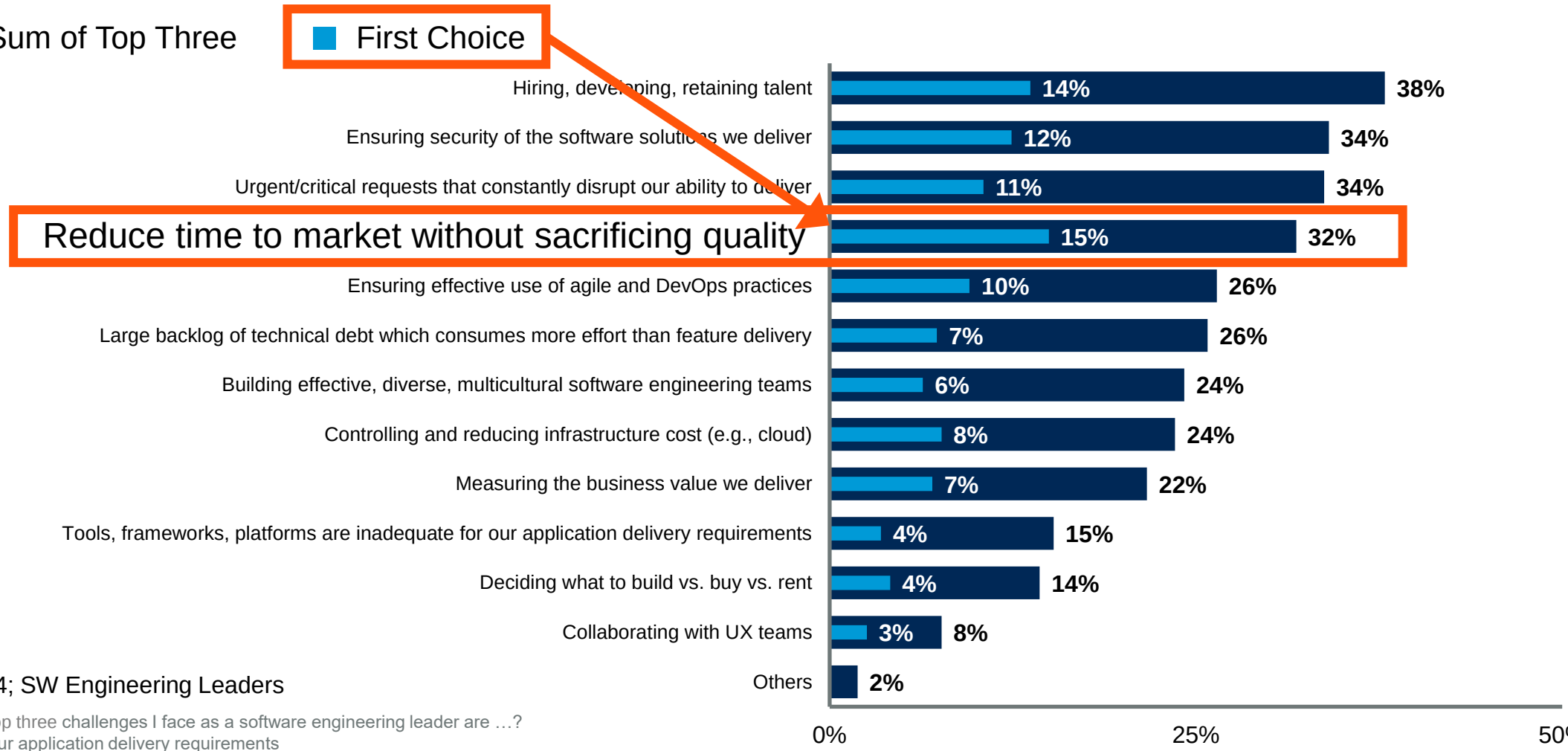
LCAP Helps With the Top Challenge in SWE

Top Three Challenges Software Engineering Leaders Face

Rank Up to Three



n = 314; SW Engineering Leaders

Q: The top three challenges I face as a software engineering leader are …?
* … for our application delivery requirements
Source: 2021 Gartner Software Engineering Leaders Survey

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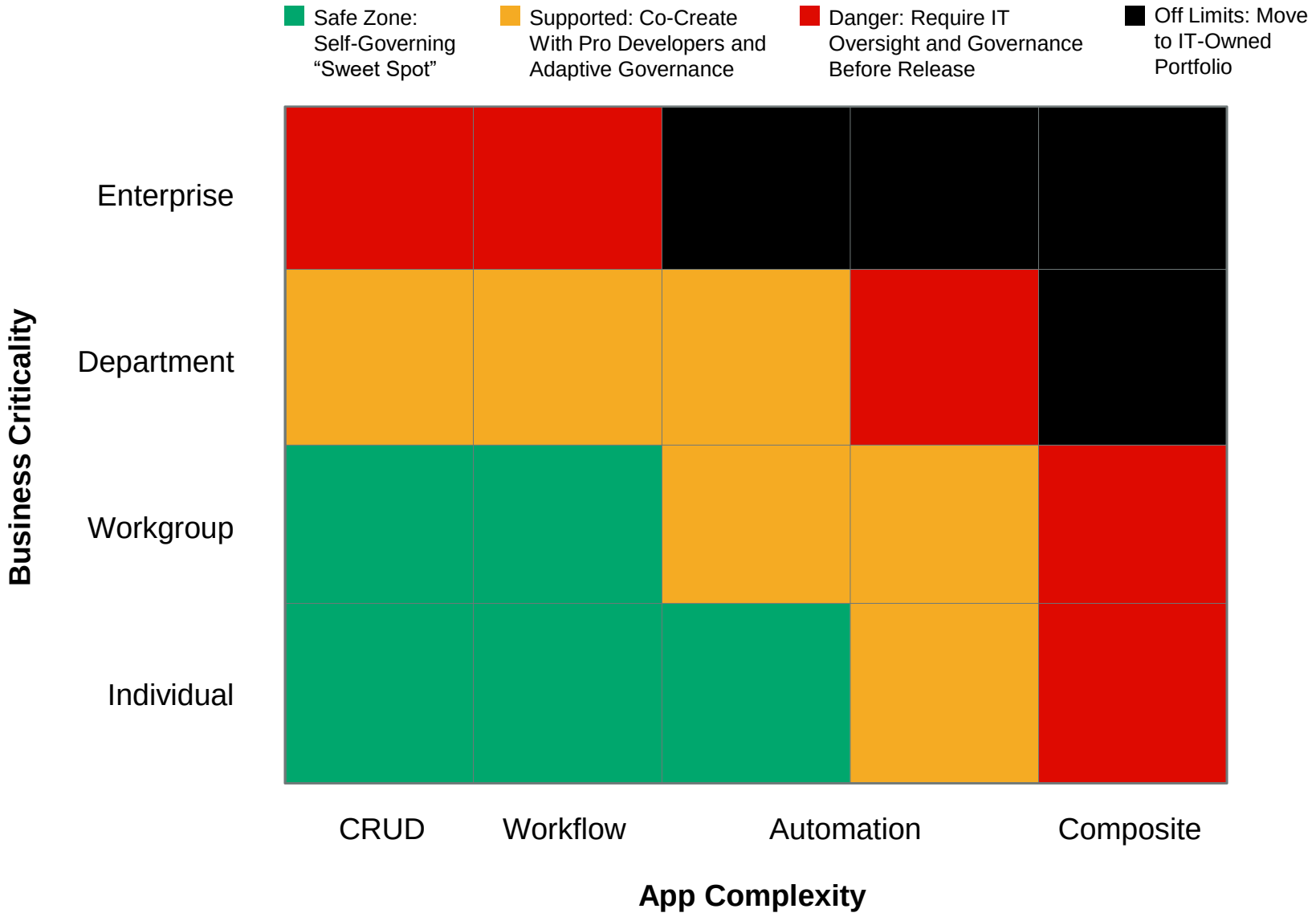
Citizen Developers Need Adaptive Governance



Source: Gartner

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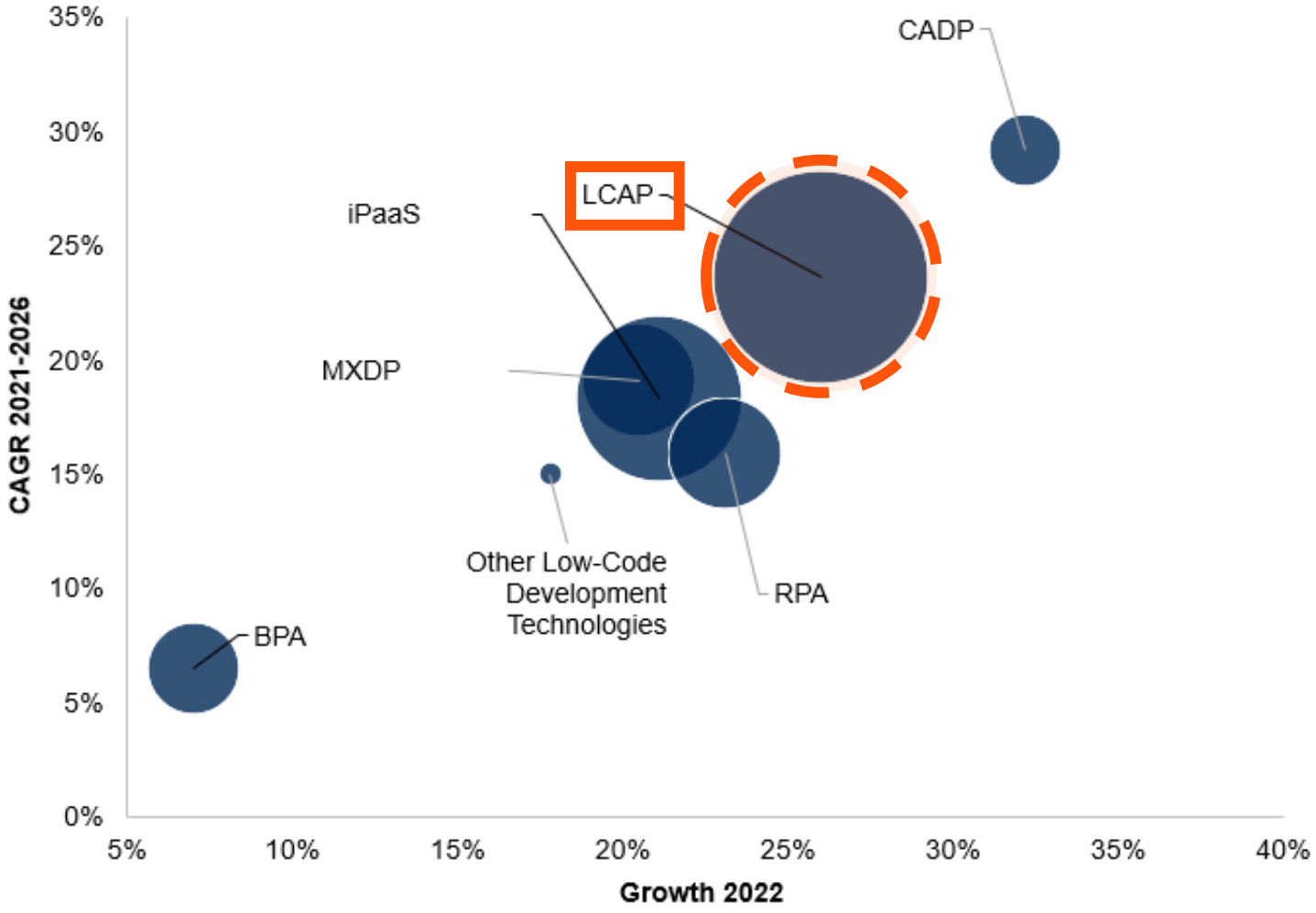
Low-Code Development Technologies Growth Forecast

Low-Code Development Technologies' Spending by Segment



Source: Gartner

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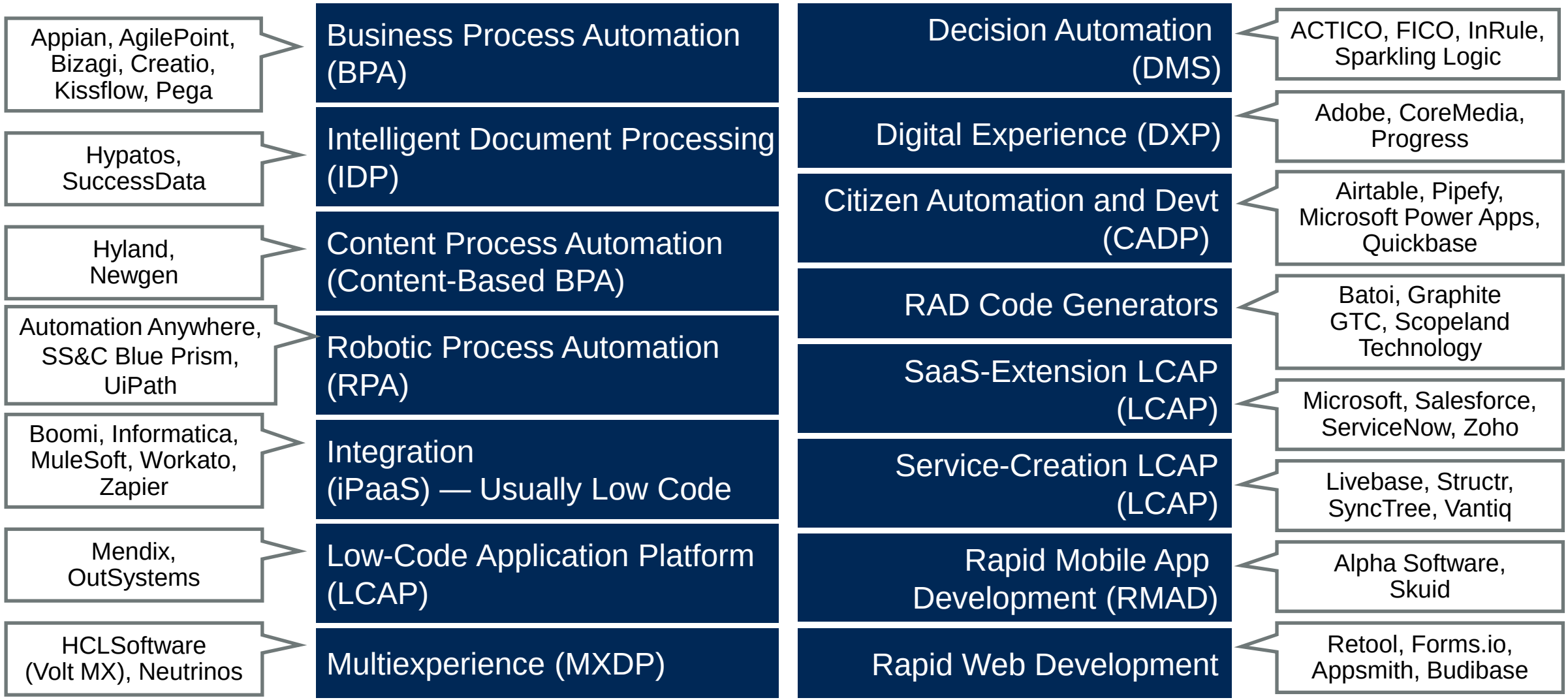
Result Is a Large Variety of Low-Code Platform Types



Vendors for Illustration Only
Vendors May Map to Multiple Platform Types

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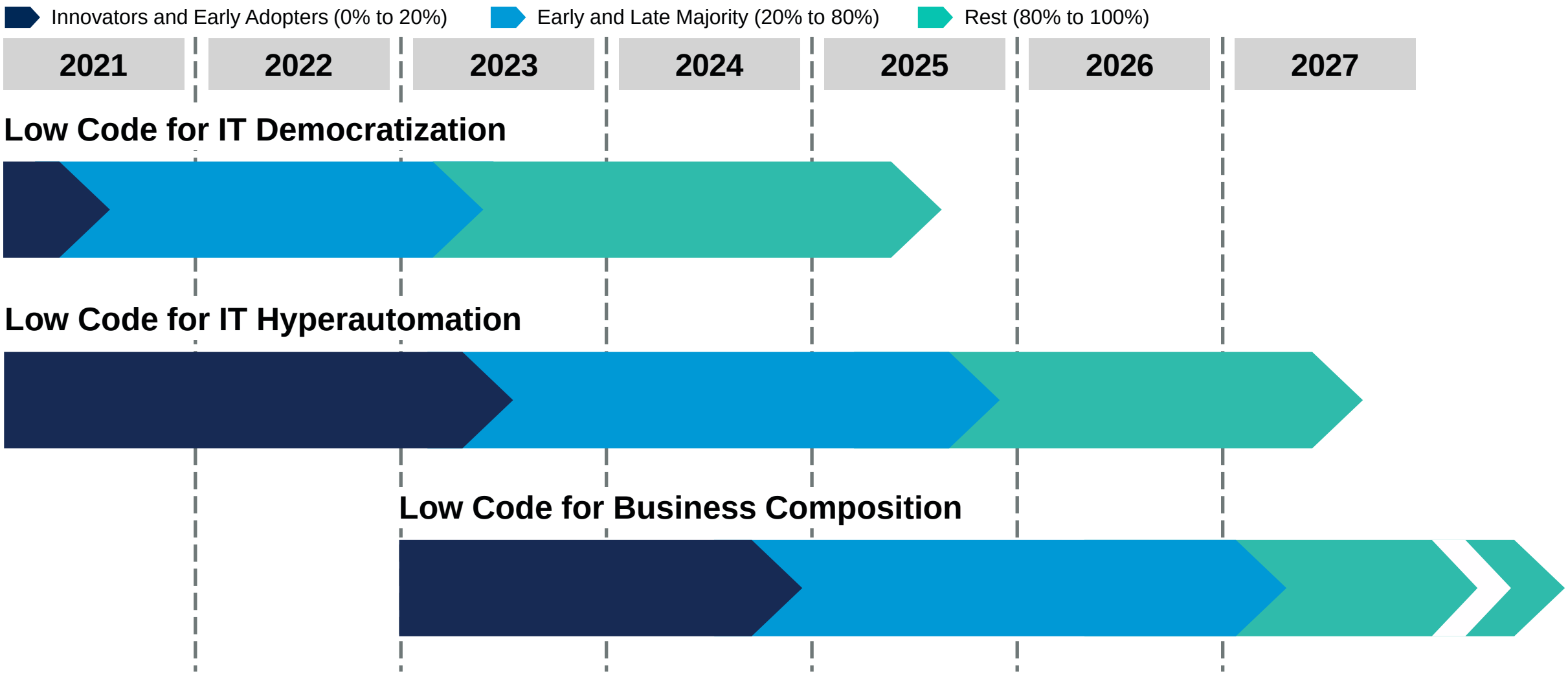
Low-Code Evolution Spectrum



Source: Gartner

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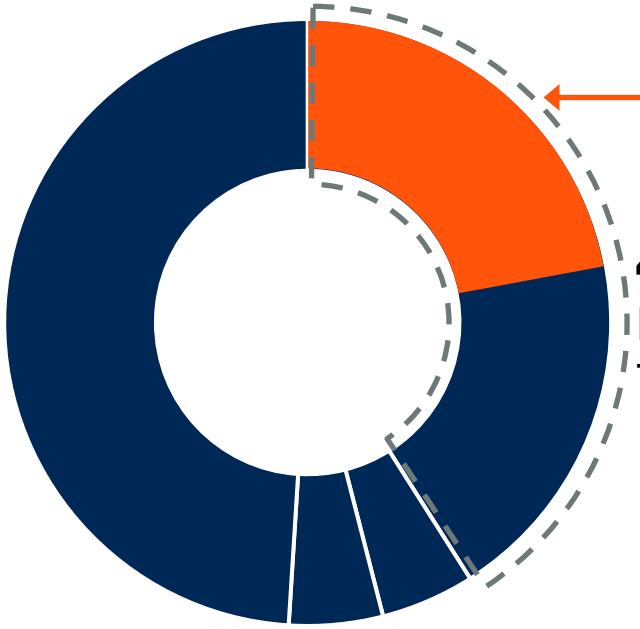
Enabling Citizen and Business Developers

Phase 1: Democratization Support for Business Technologists



Up to 20% of Total Workforce Could Be Citizen Developers

49% Technology "End Users"

41% Business Technologists

Employees Who Report Outside of IT and Customize or Build Data or Technology Solutions

5% Technologists in Central IT Departments

5% Technologists in Business Unit IT and Data and Analytics Departments

n = 4,977; Employees Across the Entire Workforce

Source: 2020 Gartner Digital Friction Survey

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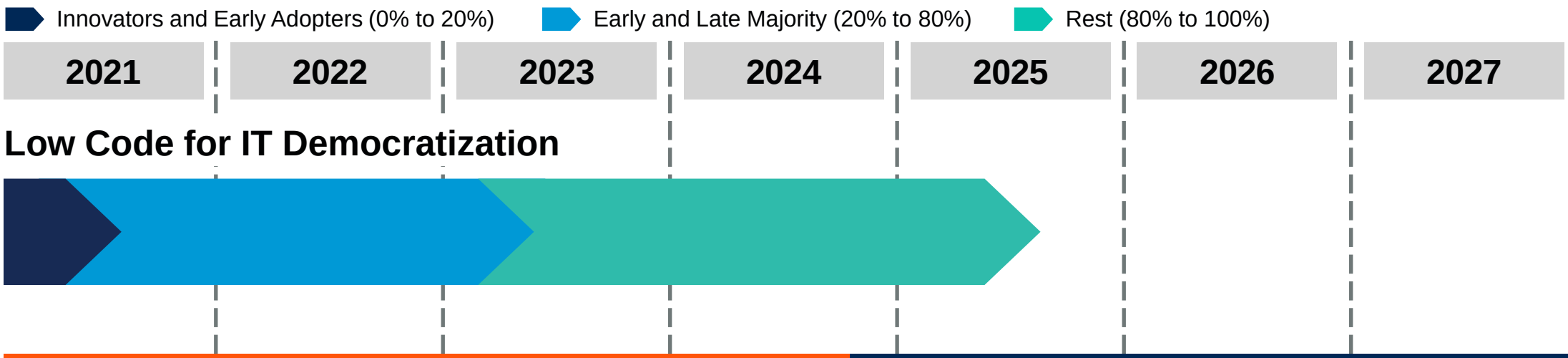
Phase 1: Low Code for IT Democratization



By 2024, developers outside of formal IT departments (citizen developers) will account for at least 80% of the user base for LC technology, up from 60% in 2021.

Technology Characteristics:

- Heavily focused on cloud deployment and self-service subscription-based business models.
- Virtually all successful low-code solutions offer mobile interface design and development targeted at nontechnical developers.
- Modern HTML5-enabled browsers enable developers to deliver “no touch” application deployments.

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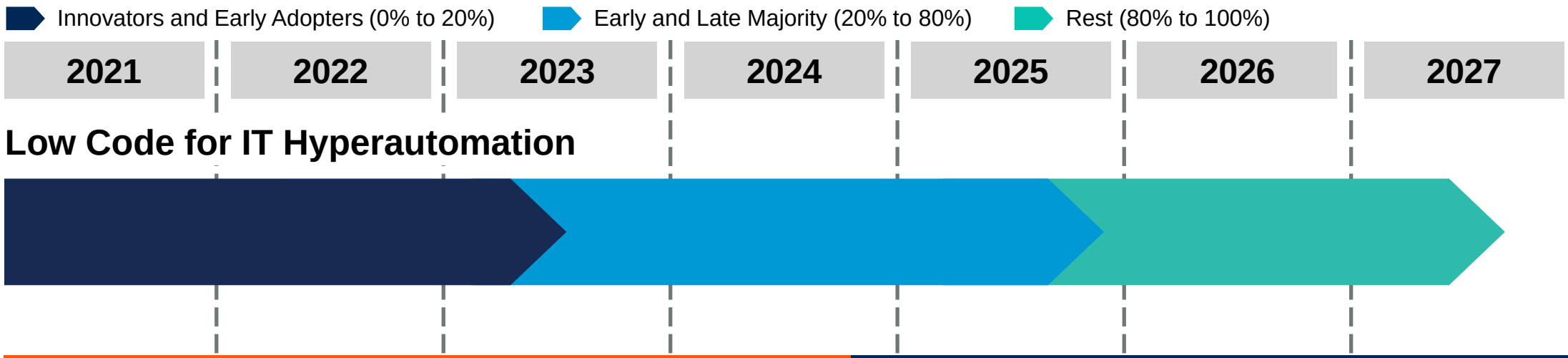
Phase 2: Low Code for Hyperautomation



By 2024, hyperautomation functionality will be the dominant competitive differentiator among LC development tools.

Technology Characteristics:

- Machine learning and AI techniques to transform how software logic is developed, managed, consumed and shared.
- Three levels of automation: **task level, process level and process orchestration.**
- Expanded support for hyperautomation by heavily embracing more advanced process-level automation.

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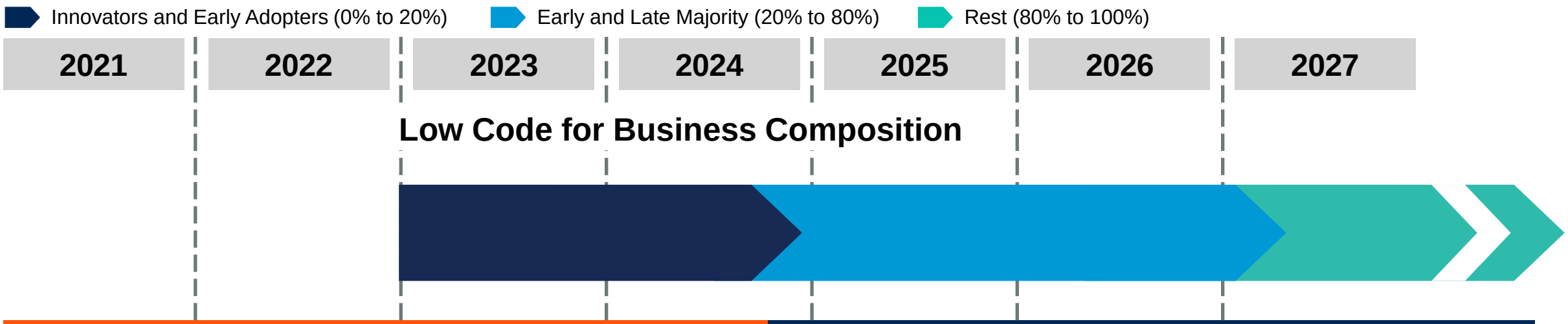
Phase 3: Low Code for Business Composition



By 2027, at least 50% of LC technology investments will be directed at supporting PBCs, up from less than 5% in 2021.

Technology Characteristics:

- Broad industry adoption of composable business strategies.
- Composable business has three key characteristics: **composable thinking; composable business architecture; and composable technologies.**
- Low code becomes the preferred “orchestration platform” that pulls discrete PBCs together.

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Low Code: An Option to Consider Because …

1. **Democratization** increases the pool of developer/developer types.
2. Business units can use **hyperautomation** tooling, especially for departmental use cases.
3. Extending SaaS through (low code) **SaaS-as-a-platform tooling** is very common. E.g., Microsoft, Salesforce, SAP, ServiceNow.
4. Low code will usually **abstract SDLC** tooling. E.g., built-in testing tools.
5. Low-code applications are often **composed from/layered on** services/SaaS via APIs.
6. **Pro, business and citizen developers** are well covered by low-code vendor offerings.

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Recommendations

- **Implement an adaptive governance plan for low-code** app development as it differs to traditional application portfolio governance.
- Shortlist low-code vendors that promote developer experience product investments that **drive opportunities for the abstraction of complexity for business processes** to support both less sophisticated users and future-state acceleration of decision automation.
- Leverage the **low-code market evolution spectrum** to check whether low-code vendors you evaluate are going through structured planning to determine key roadmap and go-to-market investments that align with the market evolution outlined or if they're falling behind.

Recommended Gartner Research

- **Emerging Technologies: The Future of Low Code**
  Mark Driver
- **8 Best Practices for Successful Low-Code Application Platform Adoption**
  Kyle Davis
- **Forecast Analysis: Low-Code Development Technologies, Worldwide**
  Varsha Mehta, Fabrizio Biscotti and Others
- **Harness the Disruptive Powers of Low-Code: A Gartner Trend Insight Report**
  Jason Wong and Kyle Davis

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