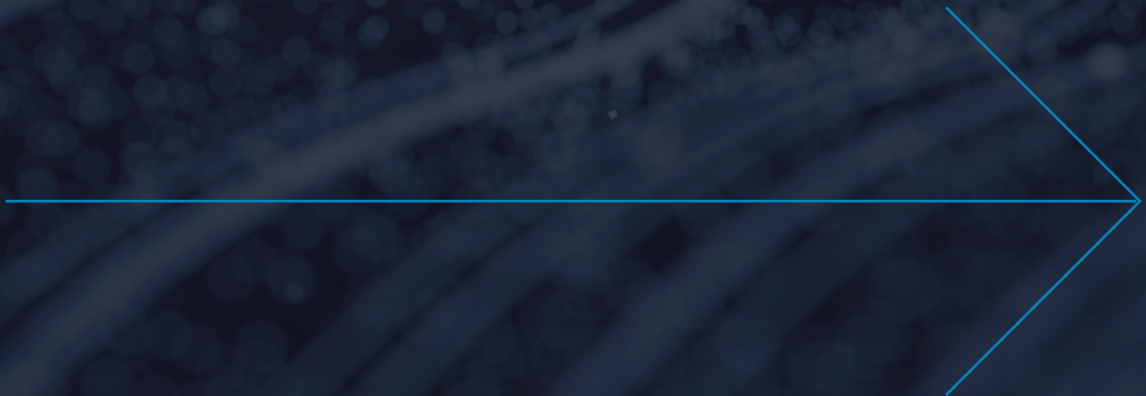


The *dual transition*

The path to a digital and sustainable economy

Perspectives from Capgemini





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WHY SOFTWARE
IS THE NEW
COMPETITIVE
DIFFERENTIATOR
ACROSS
INDUSTRIES

Perspectives from Capgemini

Software is now a fundamental component of product development, innovation, and maintenance. Across industries, organizations are integrating software into their designs to drive a more intelligent, connected, and autonomous product ecosystem and accelerate innovation, revenue growth, and value.

Software is no longer an “add-on” to the product lifecycle and value chain. Rather, it’s the key to staying ahead of the competition and unlocking new revenue streams. In short, software is the new competitive differentiator across industries.




EVERY COMPANY IS A SOFTWARE COMPANY NOW

It’s been more than a decade since Marc Andreessen wrote his essay: “Software is eating the world.” Despite this, the sentiment has never been truer. Our recent research report, *The art of software: The new route to value creation across industries*, shows that an overwhelming majority of organizations see a software-driven future for their industries. The report notes that as many as 1350 of the 1500 organizations surveyed (90%) are developing software-driven business strategies.

Not only is software the future of industries, but most organizations are also seeing software-driven benefits today:

- 86% of organizations generate new revenue streams based on software-defined products (including the roll-out of new services).
- 73% of organizations achieve faster R&D in existing products and services.
- 62% of organizations gain a competitive advantage (e.g., an increase in market share).
- 52% of organizations generate cost savings.
- 50% of organizations have seen an improvement in customer experience (e.g., higher NPS/CSAT score).

We also found that organizations are, on average, investing 18% of their R&D budgets in software initiatives, a percentage that we



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expect to continue to rise. This growing investment has impacted revenue models in multiple ways.

In order to increase software and digital revenue, organizations must transform how they handle customer contracts and payments. This will require them to integrate and scale leasing, micro-payments, on-demand, and subscription models to take advantage of software-based capabilities and features.

Further, to transform into software companies, organizations must reconstruct their business models around software, resetting their revenue models, business processes, and organizational structures.

All aboard the software bandwagon

In particular, industries that involve a high degree of mechanization (e.g., manufacturing and transportation) stand to gain by embracing software-driven transformation. The research shows that 90% of automotive organizations have generated new revenue streams by deploying software-driven products and services, while 59% of industrial and capital goods companies have cut costs by implementing a successful software transformation strategy.

Further, the report found that 67% of industrial and capital goods organizations, 66% of life sciences organizations, and 64% of hi-tech manufacturing organizations cite competitive advantage as a key benefit of software-driven transformation.

Low-cost airline EasyJet has invested in new aircraft software from Airbus that is designed to increase jet fuel efficiency. It is projected

that the software will enable the airline to save more than 98,000 kg of fuel per year per aircraft across its European network.

Experience-based industries (e.g., banking, retail, e-commerce) also stand to benefit from a software-centric approach. According to the report, 77% of banking and insurance and 75% of hi-tech organizations saw a reduction in R&D time required to market their existing products and services, while 59% of retail and 55% of banks and insurers have reduced costs as a result of software-driven transformation efforts.

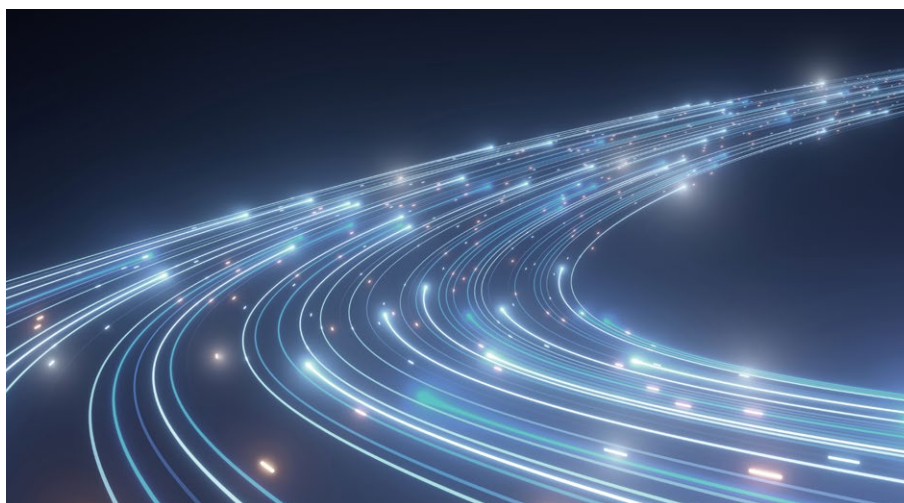
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HOW TO MAKE SOFTWARE-DRIVEN TRANSFORMATION A REALITY

Drive from the top

Our research found that nearly 60% of organizations agree that software-driven transformation is now a board-level topic. However, only 40% have a comprehensive software-driven transformation strategy, incorporating timelines, roadmap, dedicated resources, and funding. In addition, 56% of respondents rank leadership-related challenges among the top-three barriers impeding software-driven transformation.

As well as the redesign of business models and engineering processes, software-driven transformation requires the redesign and creation of business models. In addition, organizations must optimize data analytics, boost cybersecurity, improve performance on sustainability, and harness the potential of their ecosystems.



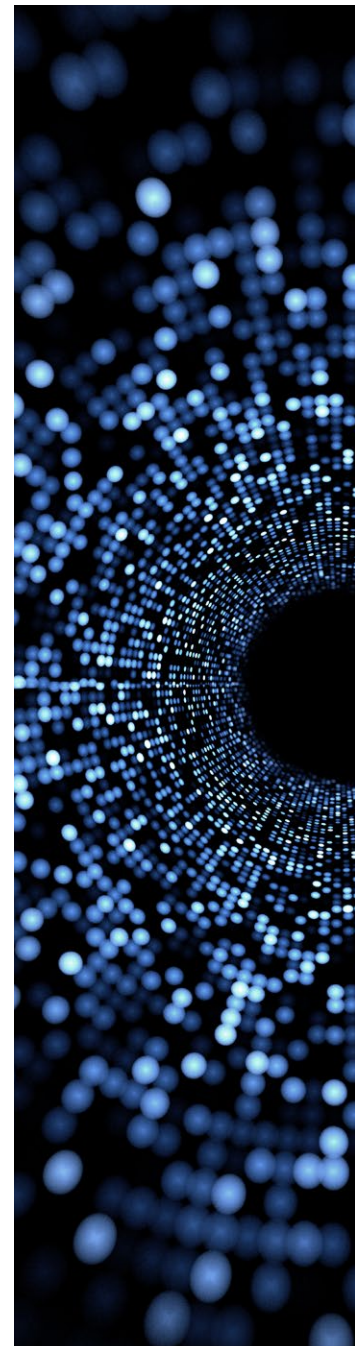
Build a future-proof architecture

Software-driven transformation requires leadership to re-evaluate the entire business architecture. New software initiatives must be scalable and capable of interacting with other systems across the organization, such as communication channels, software stacks, computing infrastructure, hardware platforms, and analytics.

Organizations must build a centralized architecture that can be adapted to the unique needs of individual business teams. This architecture must be standardized, flexible, and scalable. Leaders should ensure the organizational roadmap is clearly defined, as the implications of this choice are far-reaching and long-lasting.

Leaders should consider several key factors when selecting a business architecture:

- **Design to common standards and using universally applicable solutions:** Organizations should select a system design that adheres to widely followed standards, as custom solutions increase uncertainty.
- **Flexibility and scalability:** Organizations should select a software solution that offers flexibility and interoperability across platforms (i.e., cloud, edge, on-premises). These solutions should be future-proofed and equipped to adopt new features.
- **Modularity:** Organizations should select a modular design that facilitates upgrades and troubleshooting and supports multiple design roadmaps, while avoiding overly modular design and unnecessary complexity.
- **Reliability and resilience:** Organizations should select architecture of proven reliability and strong uptime.
- **Testing and performance optimization:** Organizations should select a design that aligns with its testing and performance-optimization methods.



Build a digital-native culture and process

To become digital-native, organizations must rethink their structures and evolve their cultures. By repositioning software products at the center of their organizational structure, leaders can ensure accelerated time to market, increased scalability, and safety.

Building a software-centric business is not easy and requires the transformation of existing processes and methodologies in order to deliver the heightened standards of experience, quality, velocity, and scale associated with today's software. Organizations need to drive consistency in their tooling, optimize development KPIs, and continuously improve developer productivity through assets and automation.

Many organizations lack the necessary software engineering expertise to manage a successful transformation. The competition to hire new software talent is fierce – organizations must invest in programs to upskill their existing workforces with software expertise, as well as calling on their ecosystem partners to help bridge the gap. Software is the new framework in which organizations must learn to operate and appropriately skilled people are the key to driving the best outcomes in this new environment.

Conclusion

While software transformation may appear to be a daunting business initiative, it offers an enticing opportunity for organizations to unlock untapped value streams and become leaders in the new digital era.

Leaders should view software as a strategic asset for transforming their industry and evaluate how they can begin to augment their business, operations, and revenue models to begin that journey. Put software transformation high on your priority list for 2024. Start your planning now and evaluate how to incorporate software-driven transformation into your roadmap.

