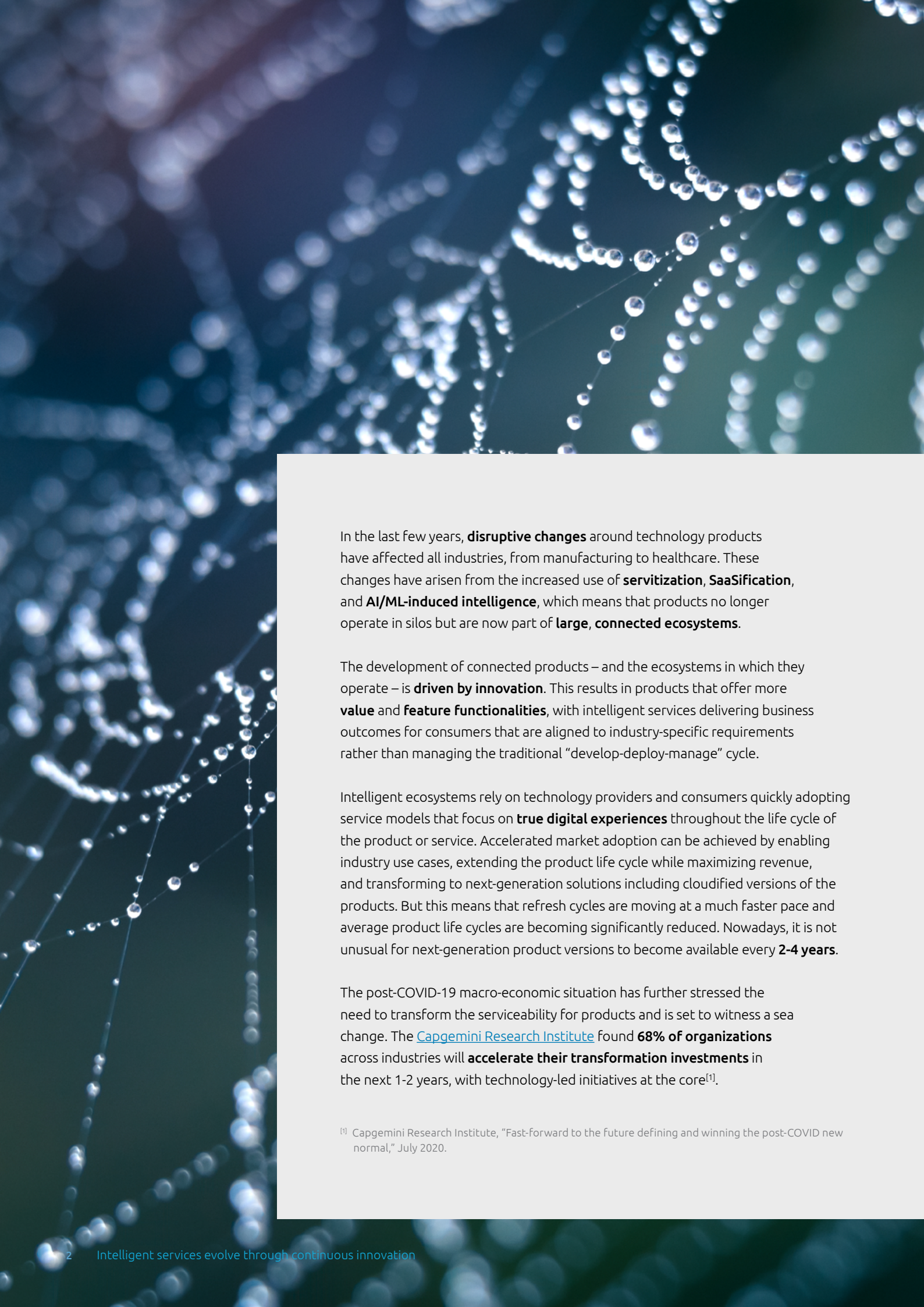


The Capgemini logo is positioned in the top left corner. It features the brand name 'Capgemini' in a white, elegant serif font, followed by a white icon of a stylized leaf or drop. The background of the entire page is a vibrant blue with a complex, abstract pattern of white and light blue dots and lines, resembling a molecular structure or a data network. A prominent blue line curves across the middle of the image, passing through several of the larger dots.

Capgemini

# INTELLIGENT SERVICES

EVOLVE THROUGH  
CONTINUOUS INNOVATION



In the last few years, **disruptive changes** around technology products have affected all industries, from manufacturing to healthcare. These changes have arisen from the increased use of **servitization, SaaSification, and AI/ML-induced intelligence**, which means that products no longer operate in silos but are now part of **large, connected ecosystems**.

The development of connected products – and the ecosystems in which they operate – is **driven by innovation**. This results in products that offer more **value and feature functionalities**, with intelligent services delivering business outcomes for consumers that are aligned to industry-specific requirements rather than managing the traditional “develop-deploy-manage” cycle.

Intelligent ecosystems rely on technology providers and consumers quickly adopting service models that focus on **true digital experiences** throughout the life cycle of the product or service. Accelerated market adoption can be achieved by enabling industry use cases, extending the product life cycle while maximizing revenue, and transforming to next-generation solutions including cloudified versions of the products. But this means that refresh cycles are moving at a much faster pace and average product life cycles are becoming significantly reduced. Nowadays, it is not unusual for next-generation product versions to become available every **2-4 years**.

The post-COVID-19 macro-economic situation has further stressed the need to transform the serviceability for products and is set to witness a sea change. The [Capgemini Research Institute](#) found **68% of organizations** across industries will **accelerate their transformation investments** in the next 1-2 years, with technology-led initiatives at the core<sup>[1]</sup>.

<sup>[1]</sup> Capgemini Research Institute, “Fast-forward to the future defining and winning the post-COVID new normal,” July 2020.

# CONSUMPTION-DRIVEN SERVICES DEMAND RAPID DEPLOYMENT

Traditionally, programmable products were sold in one of two ways:

- **Licensing.** With licenses available for perpetual or non-perpetual use.
- **Boxed software and products.** For infrastructure equipment, such as communication gear like routers, switches, and firewalls, IoT devices, and gateways. Compute and storage for private cloud can be delivered as boxed products or **enterprise software solutions.** Upgrading existing assets is typically considered a capital expenditure.

However, over recent years, there has been a shift toward a **consumption-based service model.** This transition was led by hyperscalers, who introduced pay-as-you-go models for cloud-based IT infrastructure.

Consumption-based models have proved popular with consumers – and providers across industries have been transitioning their product offerings to this model. Whether it is communication providers providing 5G or SD-WAN security, contact centers offering network-as-a-service or enterprise applications, or the gaming sector presenting software-as-a-service models, the industry around consumption-based models is rapidly growing. The network-as-a-service industry alone is expected to reach \$78.38 billion USD by 2028<sup>[2]</sup>.

Consumers benefit from a consumption-based service model's **flexibility to scale** and **limited capital expenditure.** While the advantages for technology providers include predictable **recurring revenue** and a consolidated **easier-to-manage** install base. At the same time, technology providers are posed with the challenges of a heterogeneous technology stack, revenue recognition contingency, and service deployment and activation.

As intelligent services increasingly follow consumption-based service models, it is pertinent to accelerate deployment/consumption cycles. Using an Agile-based simplified BizDevOps methodology speeds up time-to-market against competitors, reduces time-to-revenue, and maximizes monetization.

[2] [Network as a Service Market Share & Share Analysis – Growth Trends & Forecasts \(2023-2028\)](#), Mordor Intelligence



## A BOTTOM-UP APPROACH

When designing intelligent products and services, technology providers from an IT background may think it's best to take a top-down approach that focuses on their IT capabilities. But employing a **bottom-up strategy** that focuses on the technology and the product itself is far more beneficial. This means taking a **solution-focused approach** and going up the integration layers instead of starting at the integration layer and moving down to the product.

A bottom-up approach puts **data at the center of development** and uses **continuous feedback** to refine the product. This approach goes beyond just creating the product. It also takes into consideration the deployment and maintenance of the product; these crucial factors are often not thought about from an IT perspective. Organizations need to build systems that help them with deployment and maintenance and clearly separate the IT part from the product engineering part.





## A COHESIVE LIFE CYCLE MATTERS MORE THAN EVER

The success of intelligent products and services lies in understanding both the **product life cycle** and **market dynamics**.

Product life cycle in this new paradigm is a full circle with different phases intertwined and contingent on each other.

For example, the **pre-chasm** and **go-to-market phases** of product development are where compelling use cases, accelerators for adoption, and serviceability – during launch, in-market, and late life cycle – are all defined. Insights and data generated through the chasm are used to continually enhance and transform the product for maximized monetization and to extend its life as the product becomes mature.

A sharp spike in sales generally follows a successful product launch as more consumers discover and adopt the product. However, this initial period of rapid growth subsides over time as the markets continue to evolve.

Without adapting to market changes, and lateral expansion of use cases across industries, products will be fast overtaken by competitors with more innovative products. This means that it's essential to effectively manage and maintain the products to keep pace with the market's ever-changing demands and elongate the useful life of these products for better monetization.

### Three distinct post-development phases of product life cycle intertwined and contingent on each other:

- Product launch and market penetration
- Product maturity and experience
- Product late life cycle management

## DATA IS THE KEY TO MAINTAINING THE TECHNOLOGY

As product life cycles become progressively shorter, technology that used to be relevant for around seven years may now be considered legacy or even obsolete in less than four years. This means organizations must find ways to maintain the technology needed for intelligent services while dealing with shorter life cycles.

It is in the best interests of both the consumers and the company to increase the **total lifetime value**, so a product's life cycle must be managed and maintained from a sustenance perspective. Consumers who invest

in a product expect to be able to utilize it over an extended period and avoid the need to search for new products and solutions on the market. While companies seek to maintain their products in the market and extend their revenue life cycle. Leveraging **industry-specific data** combined with knowledge of other factors such as geography and international regulations can help to **extend the life cycle** of the product while **delivering continued value** to consumers.



## SHIFTING FROM USER EXPERIENCE TO A PRODUCT EXPERIENCE

Product owners have traditionally focused on managing and maintaining the delivery of use cases and ensuring a smooth and intuitive user experience through graphical user interfaces (GUI), command-line interfaces (CLI), terminal user interfaces (TUI), and application programming interfaces (API).

However, it's important to realize that excellent user experiences and well-managed product deliveries do not guarantee successful **renewal rates, revenue growth, market share, or customer satisfaction outcomes.**

To drive consumption and add value to connected products, technology providers need to shift their focus to the overall **product experience.**

When we talk of user experience, the term "user" can potentially lead to a narrow focus on a specific group of people. In contrast, product experience is more versatile, catering to a broad range of demographics and markets.

A product experience that **resonates with customers** can lead to:

- repeat purchases;
- new revenue streams through monetized services;
- recurring revenue from subscription-based products;
- positive word-of-mouth marketing; and
- brand loyalty.

### **Driving product modernization with enterprise cloud solutions**

An industrial solutions provider encountered challenges arising from fragmented serviceability and sustainability across multiple locations and partners. This led to high costs in product manufacturing. They also faced obstacles related to scalability and capacity, which hindered their ability to shift focus toward **product modernization.**

The entire product life cycle needed to be addressed to tackle these challenges. This involved conducting in-depth **product analysis**, considering the **market landscape**, implementing **deployment automation** through CI/CD pipelines, introducing regression automation, adopting **Agile frameworks**, and implementing **sprint planning** and **backlog tracking.**

As a result, they achieved an **18% reduction in the cost** of product sustenance and support over three years. They also experienced process improvements, automation benefits, enhanced engineering efficiency through shared resources, increased productivity, and greater efficiency driven by assets and frameworks.



## MINIMIZING THE CHALLENGES OF INTELLIGENT SERVICE DEVELOPMENT

Evolving the product through an intelligent services paradigm, including delivering in an **“as-a-service”** model, can be a significant challenge for product owners. One major hurdle is leveraging the momentum generated by early adopters and using it to achieve greater adoption of the product. To accomplish this, organizations should focus on building strong customer relationships and continuously enhancing the product experience and user experience to meet evolving user needs.

Once the product has been adopted, there are two key aspects to ensure relevance and growth:

1. **Continue to deliver high-quality digital experiences**, including the product and user experience, for maximization of the customer’s ROI, and the preservation and growth of the subscription-based recurring revenue
2. **Realign engineering and services investments** for the innovation of next-generation products and enhanced services models

Building intelligent services across different technologies and with technology experts from different domains and organizations can be another challenging task. To navigate the technology landscape, organizations should partner with a provider that can offer end-to-end solutions. This approach can help to match the appropriate tools to the desired outcomes and ensure effective monetization of the complete product life cycle and drive improved consumption with a focus on delivering exceptional product experience.

By establishing long-term partnerships with our clients, Capgemini has gained the experience and expertise needed to overcome challenges quickly throughout the iterative and incremental service life cycles. Organizations need to have customized solutions that are tailored to both their requirements, yet some common challenges impede growth, including scaling, driving faster consumption, enforcing unique security and compliance needs, and gaining a competitive edge.





## About Capgemini

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided every day by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of over 360,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering, and platforms. The Group reported 2022 global revenues of €22 billion.

Get the Future You Want | [www.capgemini.com](http://www.capgemini.com)

### Contact our Experts:

#### **Nikhil Gulati**

Vice President, Head of Sales,  
Capgemini Engineering  
[nikhil.gulati@capgemini.com](mailto:nikhil.gulati@capgemini.com)