
IDC FutureScape

# Navigating the Winds of Change in a Digital-First Europe

IDC's European FutureScape Predictions for 2022 and Beyond

IDC

## Contents

## Navigating the Winds of Change …

In the past two years, European organizations experienced a number of challenges and opportunities coming from the market — the so-called **winds of change.**

The winds of change are external forces that can push or pull organizations in different directions. In this case, organizations are experiencing three main winds:

**TAILWINDS** are driving industry acceleration.

Examples:
- Consumer demand
- Digital innovation
- Government stimulus

**CROSSWINDS** are causing a major industry shake-up, requiring continuous recalibration.

Examples:
- Changing stakeholder expectations
- Digital sovereignty
- Cybersecurity
- Ecosystem disruption

**HEADWINDS** are leading to industry slowdown.

Examples:
- Pandemic management
- Skills shortage
- Supply chain constraints
- Geopolitics

Peculiar of these winds of change is that they can be organization or industry specific, meaning that what may be a headwind for one organization or industry could be a tailwind for another. For example, the transition to net-zero emissions can be a headwind for some manufacturers but could be a tailwind for companies that have sustainability built into their business models. In addition, crosswinds and headwinds can be turned into tailwinds by leveraging technologies.

**Thomas Meyer**
Research Group VP
IDC EMEA

**Philip Carter**
Chief Analyst
IDC EMEA

## … In a Digital-First Europe

Regardless of which winds organizations are experiencing and how fast they are able to overcome the challenges brought or leverage the opportunities opened, the thread that connects every organization in Europe is the belief that we are now living and competing in a digital-first world. The COVID-19 pandemic has been a point of no return for digital investments, accelerating the digital trajectories of many organizations.

90% of organizations in EMEA recognize that having a digital-first strategy is now a must-have.

As a result, the CEO and the entire C-suite are increasingly looking at digital technologies as a primary driver to achieve business outcomes and overcome business challenges — in other words, the primary driver to thrive and scale. But digital-first goes even beyond that, looking at how digital is impacting the broader economy and society and changing our lives.

The three key numbers that help understanding the relevance and the concrete impact of digital-first in Europe are:

- Financial impact. In 2021, there was a 10% increase in the number of companies delivering ROI from digital investments.
- Economy. In 2021, the digital spend is growing at four times the gross domestic product (GDP), with a proportion of 16%:4%.
- Society. Of the €750 billion granted by the European Union via the NextGenerationEU Recovery Package, approximately 25% will be focused on digital.

Therefore, "digital first" means "value first." Value realization grows exponentially as organizations move the needle of their strategies from an internal to external focus — expanding to customers, the ecosystem, and society.

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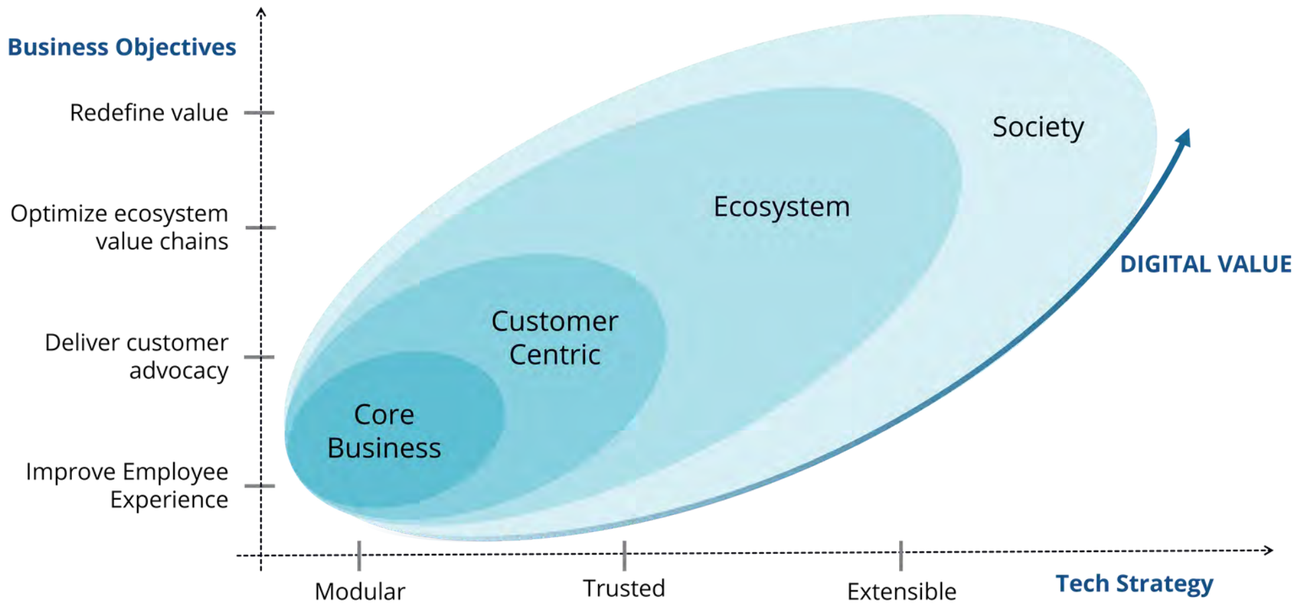
Source: IDC's *European Future Enterprise Resilience and Spending Survey*, 2021, wave 8 (September) and wave 9 (October); IDC's Worldwide Digital Transformation Spending Guide, October (V2 2021); IDC European Macroeconomic Center of Excellence, 2022

## The Digital-First Value Framework




**VALUE-GENERATING TECH ARCHITECTURE**

As just shown, digital first means value first, clearly pointing at the need to deliver digital value. To achieve this objective, organizations need to understand the relationship between business objectives and the technology strategy that set the basis for a value-generating tech architecture.

While business objectives move from being internally focused to redefining the notion of value, the technology architecture supporting the organization also needs to evolve. In this context, IT is not only a cost center; it also contributes to the delivery of digital value. IT helps align and coordinate actions across the full spectrum of business objectives — from employee experience and customer advocacy to ecosystem value chains and value redefinition — to the value-generating technology architecture and technology strategy.

Being modular, trusted, and extensible, the value-generating technology architecture can assist organizations in together addressing different business objectives without leaving anything behind.

## The Value-Generating Tech Architecture in Action:
## The Delivery of Innovative Digital Products, Services, and Experiences

**Covéa Insurance** in partnership with **Vitality** recently launched "VitalityCar," a direct-to-consumer car insurance offering that incentivizes and rewards drivers for good driving behaviors. The intelligent product enables U.K.-insured motorists to measure and improve their driving behavior trip after trip, earning rewards for the improved behavior and for driving safely. Drivers can also achieve rewards for making greener choices. At the core of VitalityCar is the Good Driving Programme, created to guide drivers to offset bad driving behaviors that caused around half of the U.K.'s road accidents (e.g., harsh acceleration, braking, cornering, distracted driving, and speeding). To secure sustainable driving behavior, Vitality engages in offsetting up to 100% of carbon emissions from each trip.

*"We created a microservices-backed architecture called 'insurance as service.' It's event driven and API driven as well but we can send and receive events.*
*Thanks to this architecture, we are now live with the policy admin services for VitalityCar. This is a different product compared with many others and is challenging the marketplace.*
*This new model of insurance is based on reward strategies, green approach, and a way to offset carbon emissions."*

**Graeme Howard**
CITO at Covéa Insurance

## Moving Toward Digital Business Models

The importance of betting on digital-first business models is clear.

**44% of CEOs**

**consider it the most impactful driver of change for their organization in 2021.**

Indeed, thriving in a digital-first world requires CEOs to shift from digital for saving money to digital for generating money. An increasing number of companies are betting on new tech-driven business models in which the primary focus is profitability and the generation of new revenue streams.

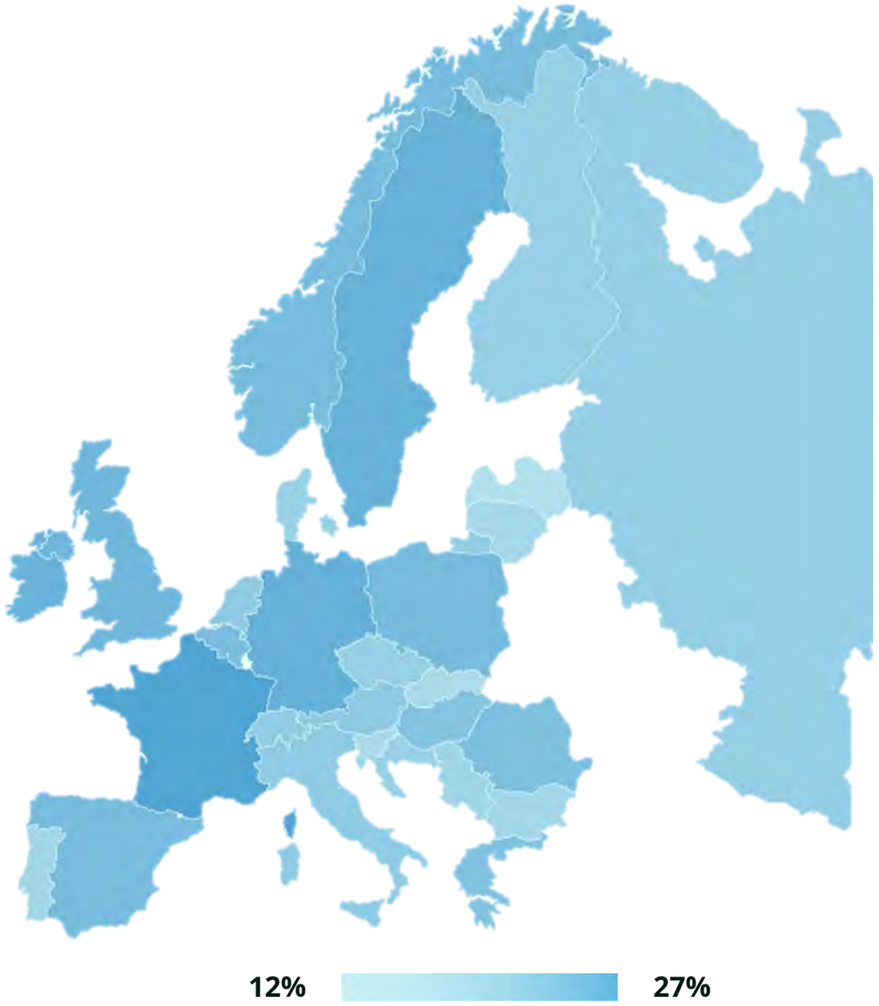
## Digital Business Models Supporting Growth in Europe

CEOs are expected to express clear commitment to their boards, setting clear targets on digital revenue generation through new digital business models. To achieve this target, CEOs will use different levers, from increasing their digital investments (including for acquiring tech start-ups) to reorganizing internal structure.

Therefore, as more organizations leverage digital solutions and new digital business models to generate revenues, technology will generate an increasing share of wealth.

**70% of CEOs** of large European organizations will be incentivized to generate at least 40% of their revenues from digital by 2025, driving more than **€4 trillion** of gross value added (GVA) in Europe.

**Share of GVA from Digital Business Model over Total by Country**




Note: Darker colors represent a higher share of GVA from digital business models over total.
Source: IDC European FutureScape 2022

FUTURE OF
Work

# Work Transformation Necessitates Collaboration Within CXOs, Integration of HR into Strategic Initiatives

# Investment Becomes Necessary to Radically Change Working Models

To truly succeed in work transition, change needs to start at the very top — with the individuals who set strategy and allocate resources. The entire C-suite is tasked to play a vital role in driving culture change to become a success. They need to work together to identify and change processes and policies that no longer serve the company well.

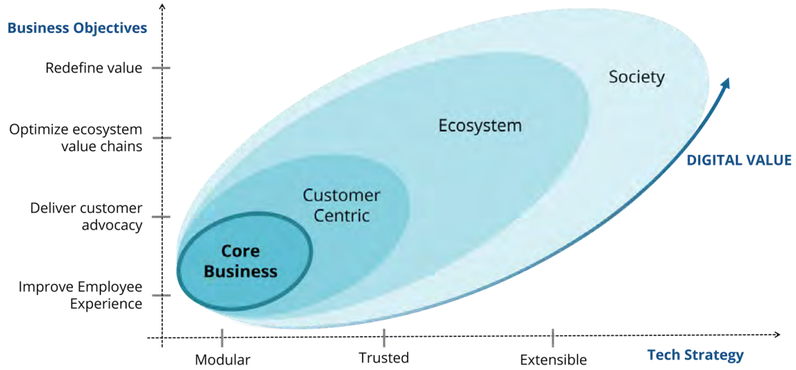
## IDC PREDICTION

*By 2023, $200 billion will be invested by European enterprises in future-of-work solutions to enable hybrid working, with 60% of organizations achieving holistic transformation thanks to collaboration across the C-suite.*

## CONTEXT

Total European investments in workspace digital initiatives are growing fast. The shift to a hybrid work environment will require offices to turn into a collaboration environment that drives a flexible working culture and enhances creativity while continuing to ensure productivity. According to IDC's Return-to-Work Forecast, nearly a third of office workers will not return to the office anymore, while at least another third will only go to the office a few days a week. This requires a physical office space that is augmented with collaboration tools, digital whiteboards, and ideation spaces that support a hybrid work-anywhere world.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Percentage of remote or hybrid workers

Cross-team/hackathon innovation rate

**34%** of C-suite respondents identified the ownership of DX by one single department as a top obstacle in DX.

Source: *IDC WW C-Suite (CXO) Survey*, December 2020

**17%** of CXOs identified lack of leadership vision as the top challenge in work transformation.

Source: IDC Pre-event FoW Summit survey, 2021

# The IT Skills Gap: A Major Headwind in the Digital-First Europe

Currently, few organizations are getting the most out of their technology skills development initiatives. Digital skills training for the sake of training alone will not suffice to close the digital skills gap currently disadvantaging European companies compared with overseas competitors. The Digital Economy and Society Index (DESI) shows that four out of 10 adults and every third person who works in Europe lack basic digital skills .

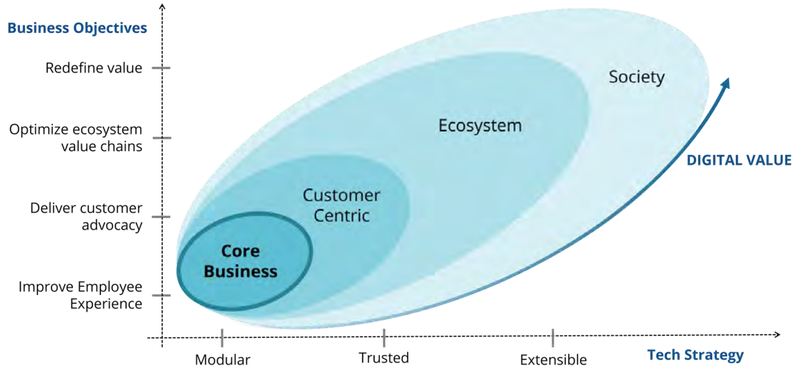
## IDC PREDICTION

*In 2022, one in two European organizations will fail to connect digital skills development with DX objectives, resulting in a revenues loss of €133 billion.*

## CONTEXT

Companies with misaligned tech and skills programs will face employee disengagement and might end up with expensive tech but no ROI. In some cases, they will lose clients/revenue by offering subpar customer experience. A successful transition to digital should include Identifying skills needed, creating gap analysis, deciding on necessary training for each role, and measuring success through user *and* client engagement/satisfaction scores.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Employee digital proficiency

Low/no-code tool usage

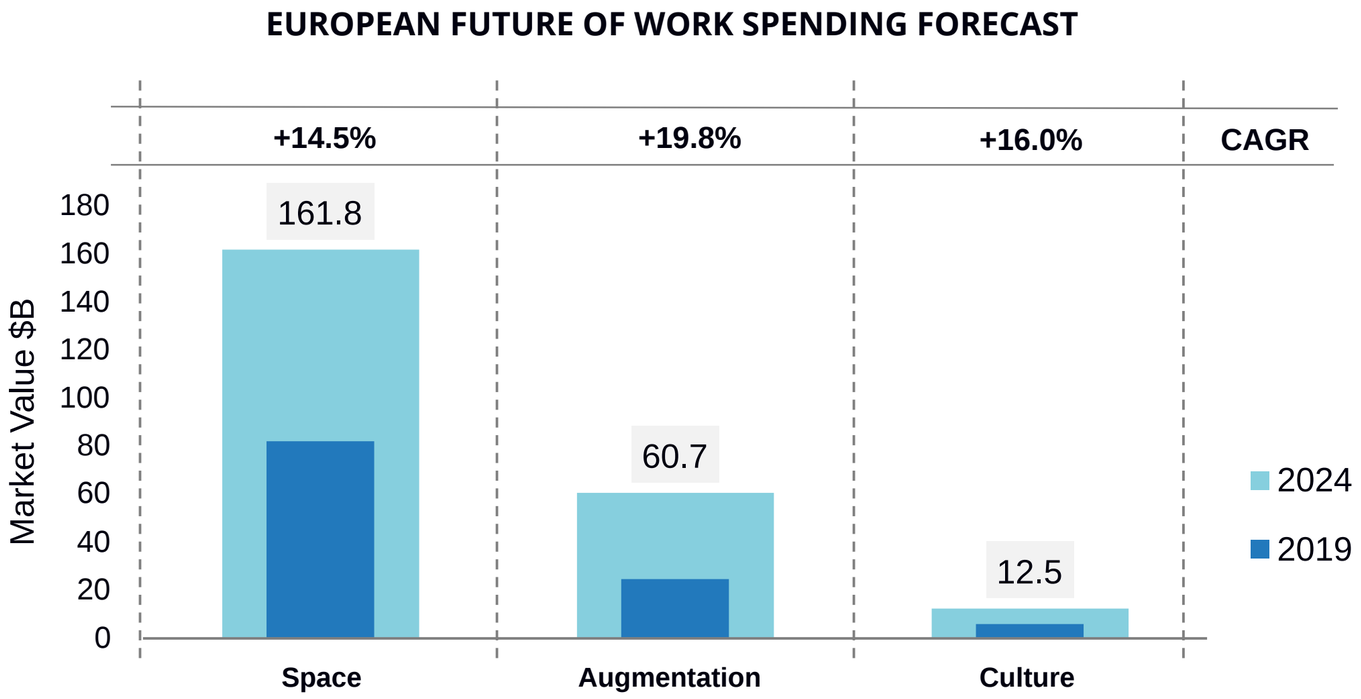
**75%** of European companies agree ongoing changes such as automation will impact existing jobs and skills. However, one in two are not prepared to meet the new demand.

Source: *IDC Worldwide Future of Work Survey*, April 2021

**8** **months** delay in DX projects is already happening in Europe due to lack of skills.

Source: *IDC Digital Resiliency Benchmark Survey*, April 2021

# Growing Digital Investment to Support Work Transformation




Source: IDC's Worldwide Future of Work Spending Guide, June 2021

The total European investment in Future of Work will reach $235 billion by 2024, with most of it spent on connected and secure work environments.

With a four-year CAGR of 20%, European firms will spend more than $37 billion on **interconnected collaborative workspace, remote team enablement, and smart identity management** use cases alone to support hybrid working between 2019 and 2023.

FUTURE OF

# Customer Experience

Increase in Automation will Create a Huge Market, But In-Person Customer Engagement still has its Place

# Physi-Digital Experiences Driving the Future of Customers

Recently, there has been an explosion in the use of digital channels such as chat, messaging, mobile apps, online communities, and video support at the expense of in-person experiences. There is a thirst for in-person contact and digital fatigue is pervasive. Rising consumer expectations require a personalized physi-digital mix for consumer offers based on in-moment circumstances, personal preferences, and relevant context.

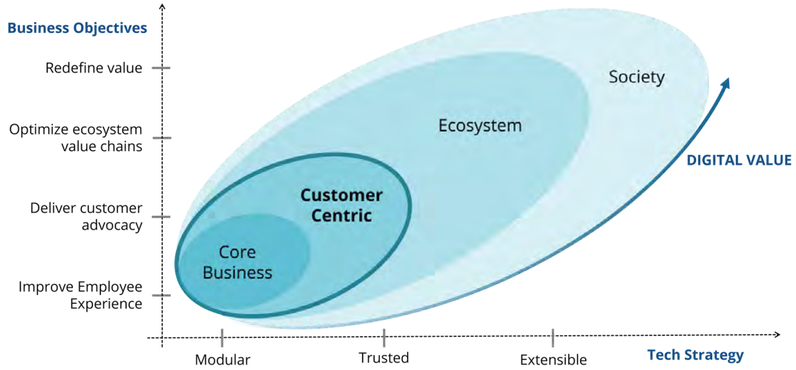
## IDC PREDICTION

*The rise of physi-digital experiences will drive 35% of top European enterprises to establish physi-digital design innovation teams by 2024, with a focus on CX that provides strategic differentiation and customer lifetime value.*

## CONTEXT

Experiences in the future will be crafted, personalized, and physi-digital, created by dedicated experience designers in internal teams or in blended collaboration with external design experts. The quality of the user experience will be the key battleground for the next generation of customer experiences. As Maya Angelou said, "people will forget what you said, people will forget what you did, but people will never forget how you made them feel."

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Customer lifetime value

Customer conversion rate

**72** **billion-dollar** CX technology market in EMEA will increase to 118 billion dollar in 2024 at a CAGR of 17.8%.

Source: IDC's Worldwide Digital Transformation Spending Guide, 2021

**8.4** **billion dollars** will be spent on agency experience design services alone by EMEA companies in 2024.

Source: IDC's Worldwide Digital Transformation Spending Guide, 2021

# Automation Is not All: In-Person Engagement Still Matters

Advances in enterprise confidence and competence in deploying AI, analytics, and automation technology in customer-facing scenarios and use cases are surging, both in B2B and B2C. AI, analytics, and automation are now typically being fused into next-generation CX applications such as customer journey management and customer data platforms (CDPs) to enable a step change in ease of use, functionality, and fitness for purpose.

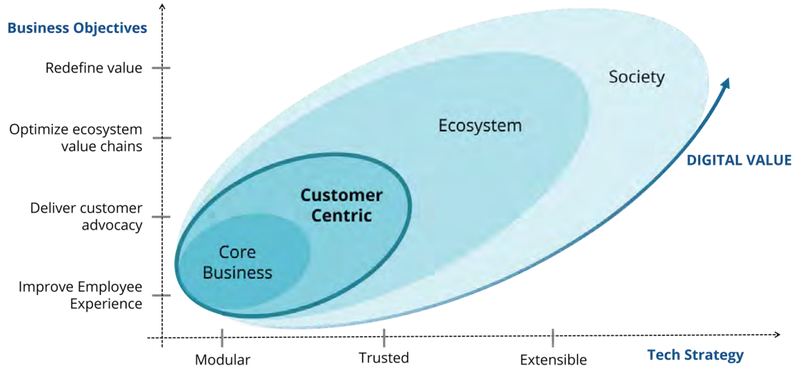
## IDC PREDICTION

*By 2024, CX augmentation technologies will enable staff in 90% of top 500 European enterprises to put a human focus on the 20% of interactions that deliver 80% of customer value.*

## CONTEXT

A new 80:20 rule is emerging. AI, analytics, and automation technologies will complete the front-end tasks associated with customer engagement such as managing FAQs, addressing pricing enquiries, and routing calls to contextually relevant human operatives. This will comprise 80% of the customer journey. The remaining 20% will be the back-end case-close activities that may require a detailed practical grasp of products, services, and organizational nuances.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Net Promoter Score (NPS)

Customer loyalty

**70%** of European companies noted that the highest departmental automation investments are in the customer-facing departments.

Source: IDC European CX Practice, 2022

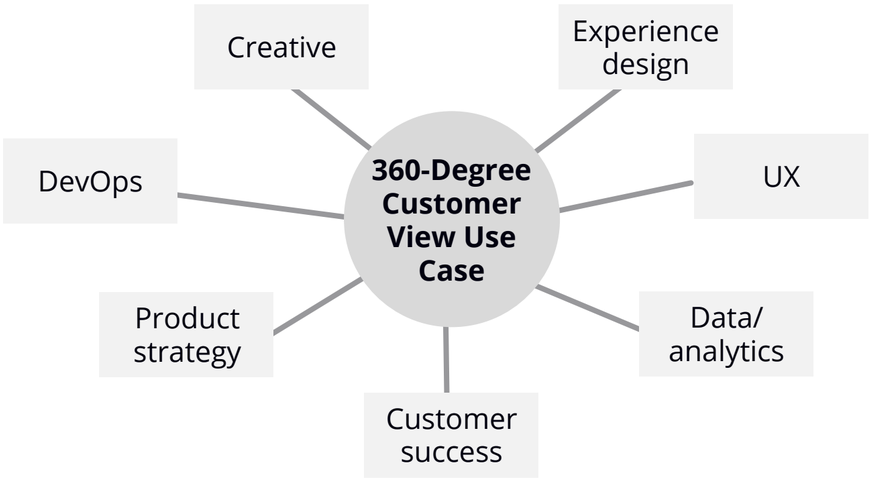
**53%** of European organizations are investing in CDPs and customer journey management to deliver end-to-end CX.

Source: IDC European CX Practice, 2022

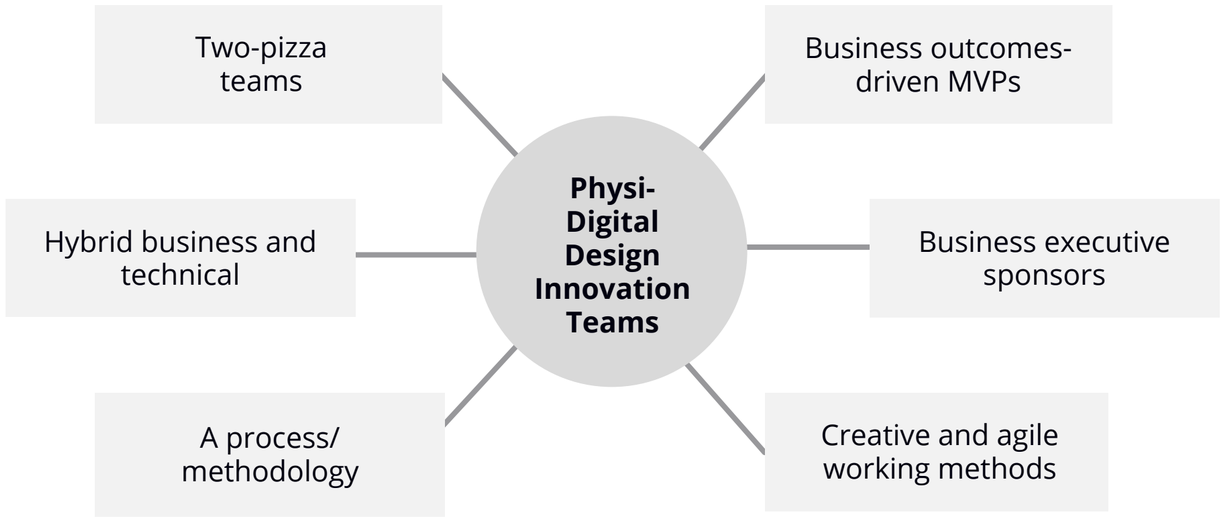
# Physi-Digital Design Innovation Teams

Europe-based grocers Tesco, ALDI, and Lidl are piloting physi-digital stores. Tesco has opened its first checkout-free store in Central London that uses cameras and weight sensors to determine what products customers pick and charge them through an app as they leave the store.

Designing physi-digital experiences require diverse, cross-disciplinary teams combining **soft skills** with **engineering**.




Successful co-innovation requires a **framework**.



FUTURE OF

# Operations

## Getting Ahead of Supply Chain Disruptions

# Driving Real-Time Visibility as Part of the Future of Operations

Digital solutions enable organizations to anticipate and predict potentially upcoming supply chain disruptions, change of market conditions, or supply availability and volatility.

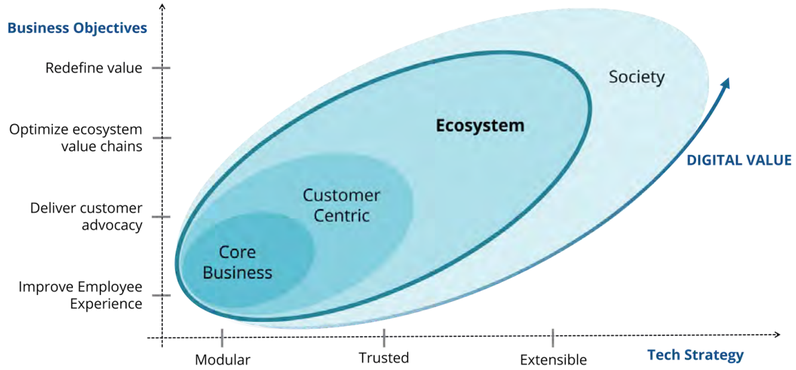
## IDC PREDICTION

*In 2022, 30% of European companies will be utilizing supply chain control towers to get real-time visibility into the supply chain within their businesses and beyond, enabling them to see disruptions earlier and make better mitigation decisions.*

## CONTEXT

A digital-first business in the Future of Operations requires cloud-based IT infrastructures and platforms to create the foundation for an end-to-end real-time view of operational data from various internal and external data sources. This also requires tighter integration with relevant internal applications to analyze data from different sources, such as ERP, supply chain management applications, and control towers

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

- Perfect order rate
- Customer order cycle time

**32%** of organizations already invested in real-time supply chain and plan to allocate more resources over the next year.

Source: IDC's *European Industry Acceleration Survey*, April 2021 (n = 1,535)

# Digital Twins for more than Simulation Optimization

Designing products, machines, production assets, operations and infrastructures in a way to make them operate more energy efficient will be pivotal for achieving the next level of efficiency and net-zero emission.

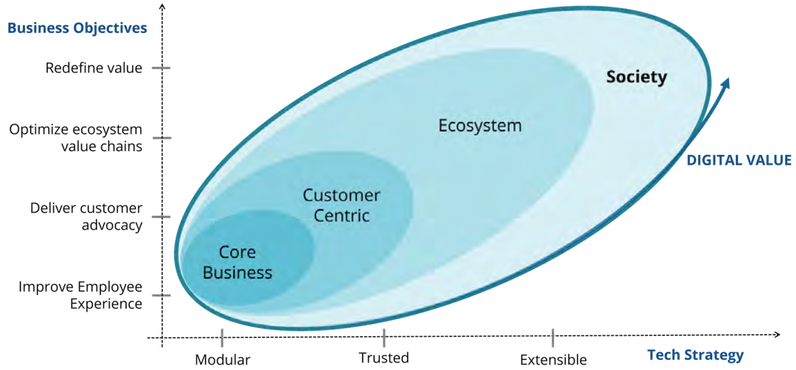
## IDC PREDICTION

*By 2024, 50% of European organizations will have developed digital twins to simulate operations, products, and infrastructure design and construction, accelerating by 70% the time to net zero transition.*

## CONTEXT

One measure to transition towards net zero is to reduce energy consumption from fossil fuels. One way to achieve this is through making products, machines, production assets, infrastructures, etc. operating more energy efficiently. Digital twins can help to simulate impact of various parameters on energy consumption, thereby optimizing design and construction of products, machines, production assets, infrastructures etc.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Carbon footprint reduction

**50%** of European organizations expect to move supply chain control towers to the cloud by 2022.

Source: IDC's *EMEA Supply Chain Survey*, April 2020 (n = 356)

# thyssenkrupp Materials Processing Europe: Ensuring Supply Chain Flexibility and Resilience Through Control Tower

## CONTEXT

In the past two years, the COVID-19 crisis has posed new challenges to businesses, such as lack of raw materials and components shortages (e.g., microchips). Organizations are therefore investigating new digital solutions to anticipate or even predict upcoming supply chain disruptions, change of market conditions, and volatility of supply.

## CASE STUDY

**thyssenkrupp Materials Processing Europe**

thyssenkrupp Materials Processing Europe is establishing Control Towers along the supply chain, thus enabling the organization to collect significant amounts of data from customers and gain a clearer overview of the entire supply chain in terms of adherence to delivery dates, quality monitoring, and forecasting of the various plants and suppliers. This enables thyssenkrupp to react quickly and find alternatives if, for example, a supplier of input materials shows bottlenecks.

**Thomas Wölk**
Head of Business Development,
Thyssenkrupp Materials Processing Europe

***"With our Control Tower, we offer a complete package that enables optimal coordination of supply flows."***

FUTURE OF

# Digital Infrastructure

## A New Parameter on the Radar: Digital Sovereignty

# Digital Sovereignty Driving the Next Phase of Workload Prioritization for the Cloud

IDC defines digital sovereignty as the capacity for digital self-determination by states, companies, or individuals. Meeting the digital sovereignty criteria is a long-term process and involves adapting to new IT requirements (in terms of infrastructure, strategy, governance framework, and skills), becoming a key criteria for cloud selection.

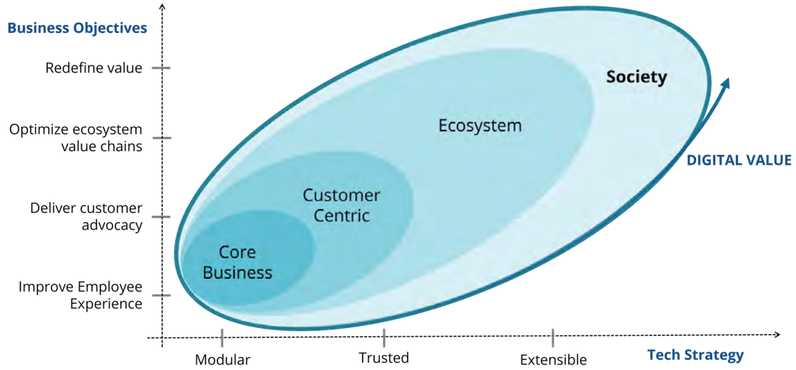
## IDC PREDICTION

*By 2024, 50% of European organizations will spend 10% of their ICT budget to cover additional costs and time on infrastructure, data, processes, governance framework, and skills to adhere to the digital sovereignty principles adopted in the EU.*

## CONTEXT

Digital sovereignty focuses on control over data, infrastructure, and software that are created and relied upon to operate in the digital world. To cover all these elements, organizations must balance the necessary costs with potential benefits, transform current cloud strategies, update data governance, redesign processes to easily run business internationally, and deploy a comprehensive management platform.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Compliance expense per issue

Percentage of data record under governance

**60%** of European organizations agree that digital sovereignty increases the cost of doing business internationally.

Source: IDC's Eu*ropean Future Enterprise Resilience and Spending Survey*, 2021 (wave 8, n = 430)

# Digital Sovereignty as a Trust Enhancer for Cloud Adoption

Successful organizations will deploy, operate, and scale digital infrastructure in such a way as to ensure consistent security, privacy, and compliance across all resources. For this to happen, a trusted ecosystem is a key contributor to guarantee that all data sovereignty requirements are met.

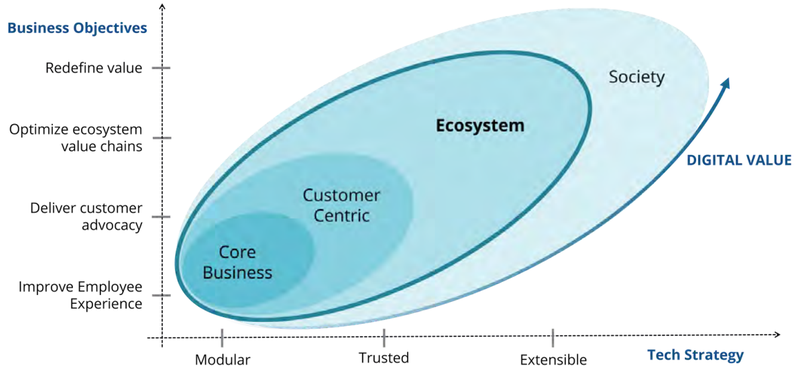
## IDC PREDICTION

*By 2024, 40% of European enterprises will include digital sovereignty requirements in their RFPs and choose to adopt cloud services from providers that adhere to digital sovereignty principles to increase customer, partner, and government trust in the organization.*

## CONTEXT

For European organizations, enhancing ecosystem trust is a key priority on the short to medium term. Adopting cloud services that align with digital sovereignty principles of transparency, choice, control, and data residency can boost trust. This is why their cloud provider's adherence to these principles will become a key criteria organizations look for as they build their cloud-first operations.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Customer loyalty

Ecosystem loyalty

**69%** of European organizations agree that digital sovereignty enhances customer and stakeholder trust in organizations.

Source: IDC's *European Future Enterprise Resilience and Spending Survey*, 2021 (wave 8, n = 430)

**57%** of European organizations agree that digital sovereignty helps prevent unfair competition in digital markets and encourages rules-based ecosystem partner co-operation.

Source: IDC's *European Future Enterprise Resilience and Spending Survey*, 2021 (wave 8, n = 430)

# Digital Sovereignty Framework for Data, Infrastructure, Software, Processes, and Operations Control

| | Legislation | Uncertainties |
|---|---|---|
| **DATA** | GDPR and free flow of non-personal data | • Data transfers<br>• Interoperability and portability |
| **INFRASTRUCTURE/ SOFTWARE** | ✕ | • Ownership and protectionism<br>• Interoperability and portability |
| **PROCESSES/ OPERATIONS** | ✕ | • Control and stability<br>• Unauthorized access |

Source: IDC European FutureScape 2022

**European cloud companies are partnering with global cloud players to build "sovereign clouds" across Europe.**

THALES Building a future we can all trust & Google Cloud

Starting October 2021, Thales and Google Cloud have announced a strategic partnership to jointly co-develop a sovereign cloud offering in France, called "Trusted Cloud." The aim of this partnership is to enable both public and private French organizations to deploy and benefit from innovative cloud solutions, while keeping their data confidential, secure, and fully sovereign.

Source: Thales Group website, 2022

FUTURE OF
Trust

# Security: Cyber-Resilience Is Critical to Resolving the Crisis of Trust

# Cyber-Resilience Is Crucial to Organizations' Digitalization Strategies

Sophisticated cyberattacks are more prevalent than ever and are causing significant business disruption. To avoid overwhelming business costs and reputational impact from such outages, organizations must raise their security postures to be able to continuously deliver intended digital outcomes despite adverse cyberevents.

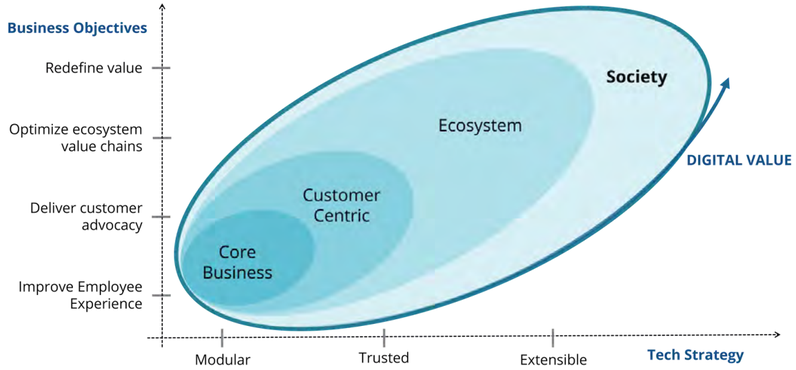
## IDC PREDICTION

*By 2024, 60% of major European enterprises will have increased their annual spend in cyber resiliency by 20% to secure their digital first investments against cyberrisk — driving an additional €5.9 billion in new security spend in 2024.*

## CONTEXT

European organizations expect a wide range of political, social, and economic risks to affect their digital transformation and technology investment plans.
Cyber-resilience is not only about company value and reduced business risk but also about national economic security. Organizations must demonstrate satisfactory cyber-resilience against a broader digital risk environment.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

- Intrusion attempts
- Mean time to detect (MTTD)

**65%** of European organizations include digital trust programs (security, privacy, and compliance technologies to improve risk posture) in their top priority technology investment.

Source: IDC's *European Future Enterprise Resilience and Spending Survey*, 2021 (wave 8, n = 430)

**73%** of European organizations experienced business interruption for more than few days due to ransomware incidents.

Source: IDC's *European Future Enterprise Resilience and Spending Survey*, 2021 (wave 11, n = 430)

# Cyber-Resilience to Underpin Digital Trust Credentials Within Ecosystems

Cybersecurity resilience is about having a wider plan, going beyond the internal culture, and covering customers, partners, and stakeholders as well. To build a security-first culture, European organizations also need to address supply chain risk by driving greater resilience and trust across their supplier ecosystems.

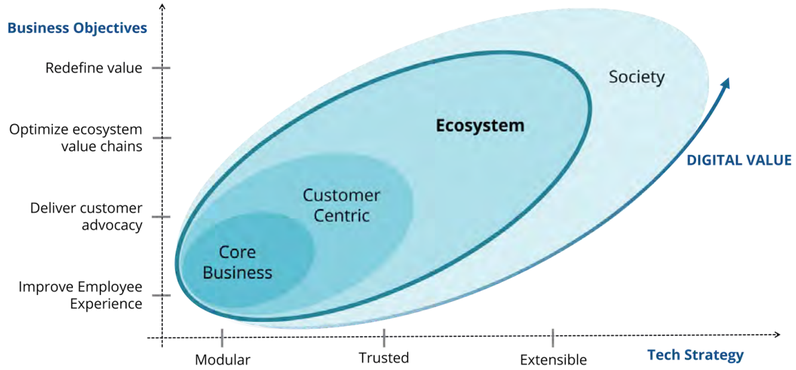
## IDC PREDICTION

*By 2023, 40% of large EU enterprises will implement mandatory security auditing of IT suppliers to provide designated internal security certification and increase the overall trust-worthiness of the supply ecosystem.*

## CONTEXT

Increasing globalization, digital ecosystems, and digital-first strategies mean more organizations seek to leverage more partners and suppliers to grow their business. In this context, European organizations must figure out how to mitigate their exposure to supply chain risk and vulnerabilities that might proliferate throughout ecosystems. This will bring multiple consequences in terms of factors such as audits, tools, certifications, cyber-insurance, and validation.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

- Number of cybersecurity incidents reported (supplier side)
- Days to patch (supplier side)

The European Union Agency for Cybersecurity (ENISA) mapping on emerging supply chain attacks finds **66%** of attacks focus on the supplier's code.

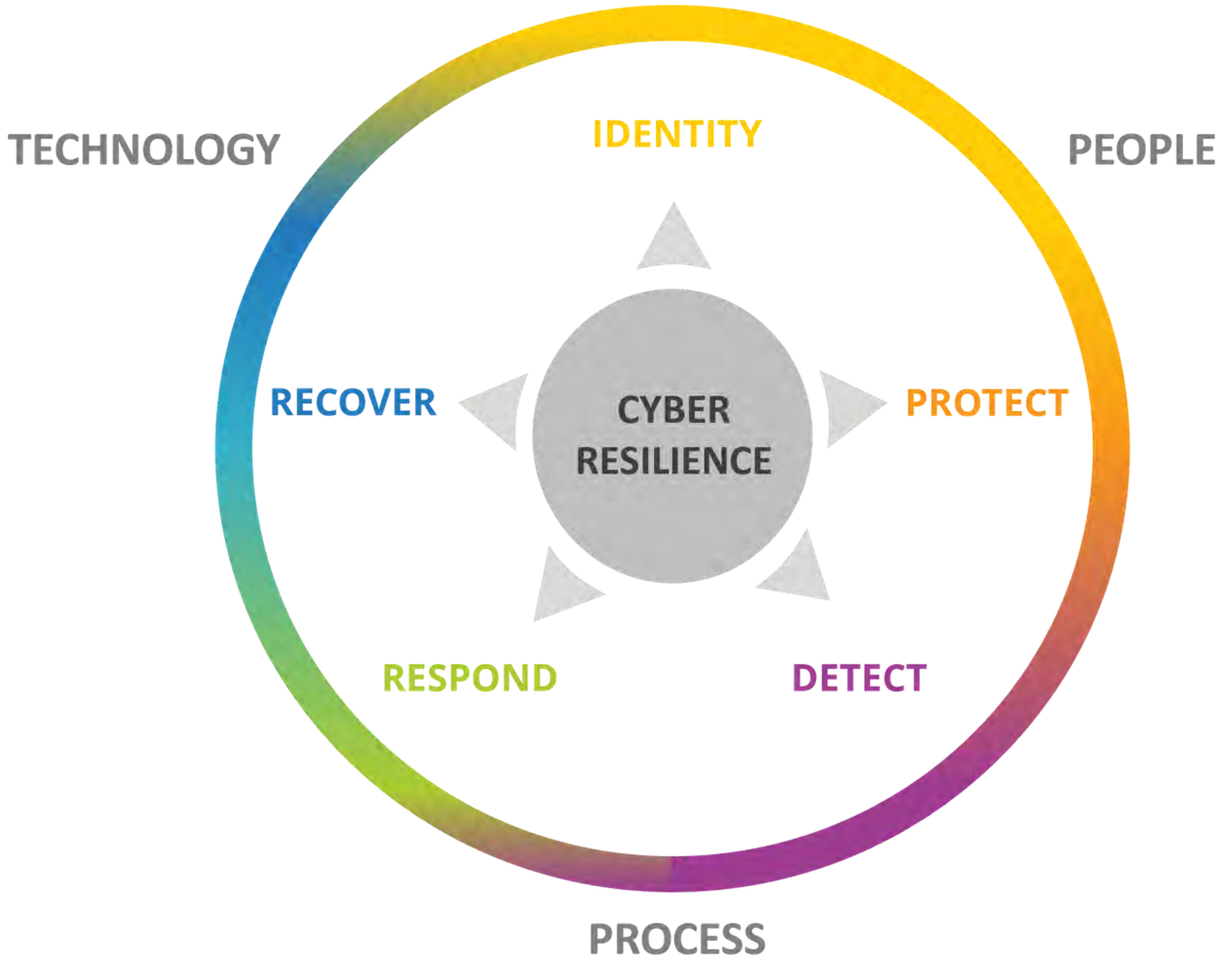
Source: ENISA website, 2022

In Europe, **supply chain attack is the third-most significant source for ransomware incidents**, after malicious email attachments and compromise of internet browsing activities.

Source: IDC's *European Future Enterprise Resilience and Spending Survey*, 2021 (wave 11, n = 430)

## Cyber-Resilience Framework

Trust is more than just security; it implies synergy between technology, people, and processes to be able to build cyber-resilience. It also includes sustainability considerations, ecosystems, employee and customer experience, and ethics.




Source: IDC European FutureScape 2022

FUTURE OF
# Intelligence

## Creating a Trusted and Intelligent Enterprise with Augmentation and Ethical AI

# From Actionable Insights to Responsible Intelligence

European organizations are increasingly investing in AI and AI-powered technologies and platforms to build on them AI models and algorithms. However, organizations are increasingly required by customers to make sure that their models are unbiased, explainable, fair and that techniques and scoring systems are bias free.

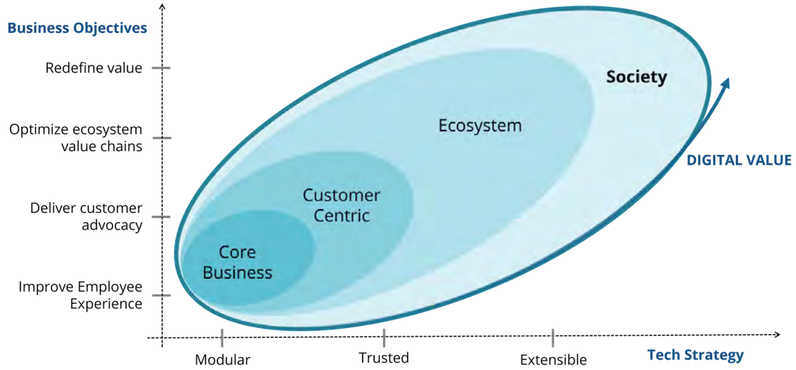
## IDC PREDICTION

*By 2024, the 50% of European organizations that use an AI ethics playbook will garner greater customer trust, reducing customer churn by up to 30% compared with their competitors.*

## CONTEXT

The European AI Act, currently being negotiated, is expected to come into force in 2023-24. Although the details are still being worked out, the act will compel organizations doing business in Europe to pay attention to the processes by which they design and implement AI wherever it has a material business impact. We also see early signs of vendors aiming to differentiate through ethical behaviors. IDC expect that AI penetration in 2024 will be around 65%.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Reduction of customer churn percentage

Reduction of costs for regulator compliance

**19%** of European organizations have a team dedicated to drawing AI ethics-related policy and strategy.

Source: IDC's *EMEA Emerging Technologies Survey*, July 2021 (n = 465)

**29%** of European organizations see cost and efficiency as main driver of adoption of AI systems.

Source: IDC's *EMEA Emerging Technologies Survey*, July 2021 (n = 465)

# Filling the Coding Skills Gap with Low-/No-Code Tools

Modern data and analytics platforms, processes, and tools bring the promise of creating new kinds of "intelligence applications" and enabling more diverse groups to be directly involved in using data and AI to drive business outcomes.

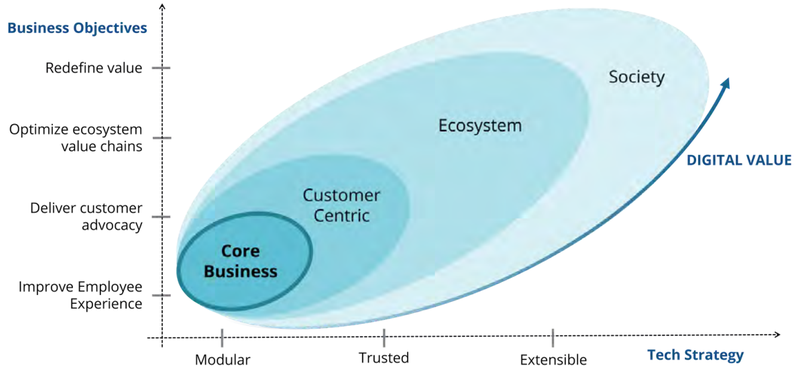
## IDC PREDICTION

*By 2023, 50% of European organizations will use low-code analytics and ML tools, empowering businesspeople to shape data-driven business and enabling them to increase data related innovations by 50%.*

## CONTEXT

Advanced analytics is finding more applications in European organizations — driving not only reports and dashboards, predictions and recommendations in decisions and workflows, personalization in apps and experiences, and more. However, there is a colossal data science and data engineering skills gap in Europe. Low-code approaches that enable broader teams to collaborate around the use of data and advanced analytics in decision making are being rapidly rolled out by dozens of vendors.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Employee productivity

Cost reduction

**29%** of European organizations will invest in automating and augmenting the workforce via enhancing intelligent technologies such as AI/ML and automation solutions.

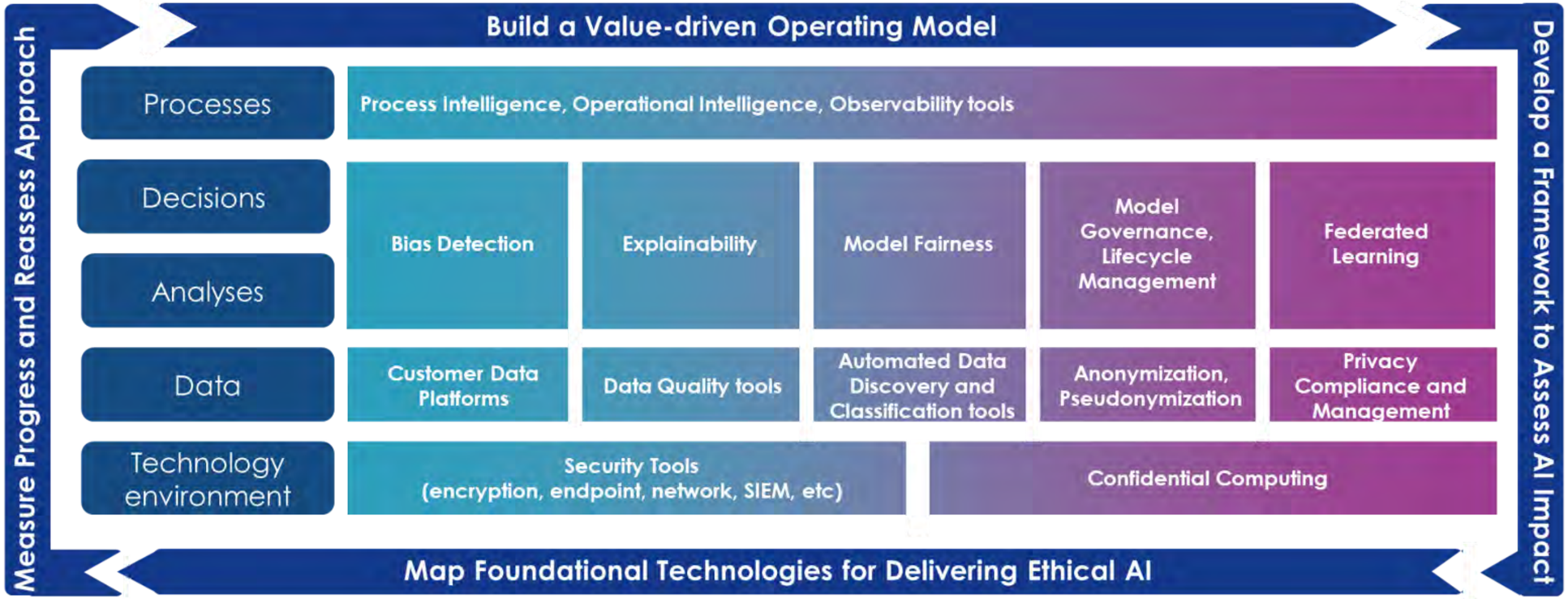
Source: IDC's *European Industry Acceleration Survey*, April 2021 (n = 1,535)

**60%** of European organizations have already invested in codeless development software for line-of-business workers to digitally enable themselves and their teams.

Source: IDC's *European Future Enterprise Resilience and Spending Survey*, August 2021 (wave 7, n = 430)

# The Framework for an Ethical AI Playbook

AI regulations have actually highlighted unacceptable-risk AI systems that will prohibit the use of AI technologies with exploitative techniques and social scoring. Bias detection, explainability, and model fairness will become very critical.




Source: *How Ethics, Privacy, and Trust Shape the European Future of Intelligence* (IDC #EUR147644621, May 2021)

FUTURE OF

# Industry Ecosystems

The Next Digital Value-Generating Frontier for European Organizations

# European Digital Use Cases Are Increasingly Operating in Ecosystem Business Models

Organizations are seeking more ecosystems participation to address competitiveness issues. To become more resilient, reduce costs, and innovate faster in the digital realm, organizations are looking at collaborating with external stakeholders. Successful ecosystem business models help end users establish competitive advantage through collaboration.

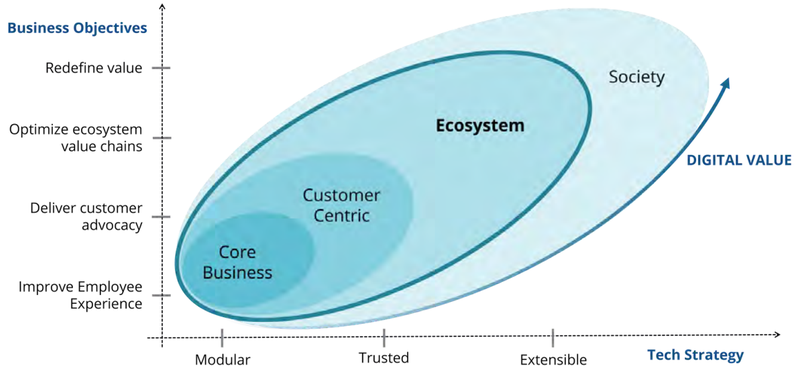
## IDC PREDICTION

*By 2023, $334 billion (the GDP of Denmark!) of European digital spending will be driven by ecosystem-empowered use cases.*

## CONTEXT

The future of industry ecosystems is open, dynamic, and shared, evolving like a biological ecosystem that changes in response to pressure, competition, or disruption.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Percentage of ecosystem participation within an industry

New digital revenues generated

**39%** of European enterprises expect to share more data with the ecosystem after COVID-19.

Source: IDC's *European Future Enterprise Resiliency and Spending Survey*, April 2021 (wave 3, n = 530)

**29%** of European enterprises expect to be both a participant and an orchestrator in ecosystems.

Source: IDC's *European Future Enterprise Resiliency and Spending Survey*, April 2021 (wave 3, n = 530)

# Trust Is Key for Digital Industry Ecosystems' Success

As the complexity of ecosystems increases and the ecosystem of digital technologies rapidly changes, the need for trust structures in the ecosystem relationships is becoming evident. Well-managed digital industry ecosystems have clear rules for trusted collaboration, such as data governance and contracting. Open architectures may be a viable way to address IP governance issues as they ease the pain of integrating value from different ecosystems that comply with a set of agreed principles (such as digital sovereignty principles).

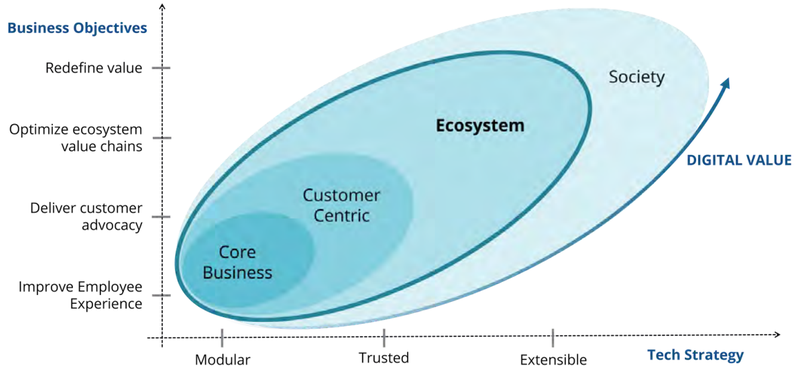
## IDC PREDICTION

*By 2024, 50% of European industry ecosystems will be federations with multiple orchestrators, linked by interoperable trusted platforms.*

## CONTEXT

The shift from linear channels to more interconnected models creates new trust-related concerns. Ecosystems leverage knowledge, assets, IP, and other resources in a shared way.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Trusted shared assets contracts

New products and/or services created in co-developments

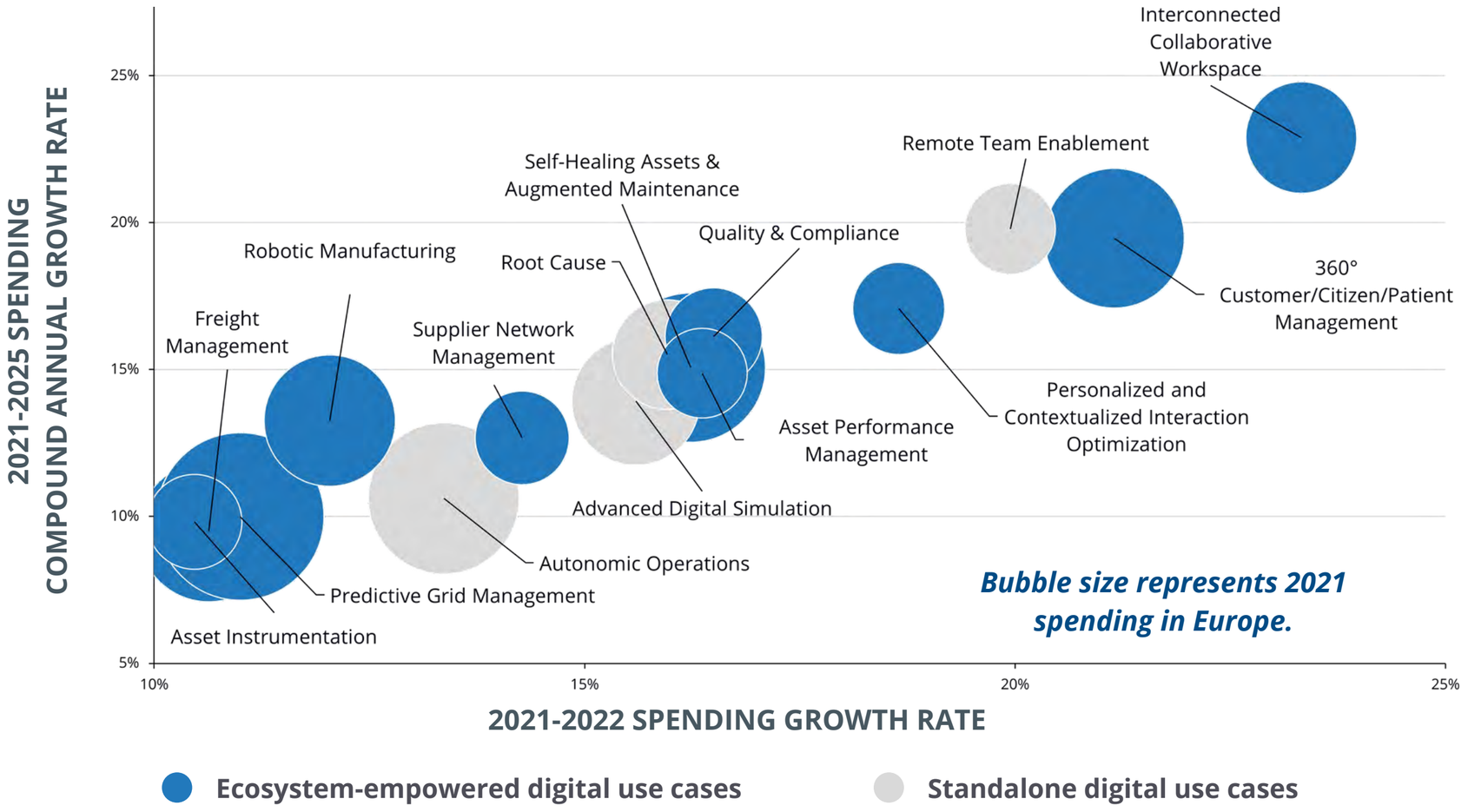
**26%** of European organizations indicate that their second-most important organizational and cultural consideration is "developing/creating structures to create trust amongst ecosystem participants."

Source: IDC's *European Future Enterprise Resiliency and Spending Survey*, April 2021 (wave 3, n = 530)

**47%** of European organizations say that their preferred business model for industry ecosystems is "hybrid – elements of transaction and joint development."

Source: IDC's *Worldwide Future of Industry Ecosystem Survey*, 2021

# Digital Use Cases with the Largest Spending in Europe




Source: IDC's Worldwide Digital Transformation Spending Guide, October 2021 (V2) — European data

**11 of the 15**
largest digital use cases of European organizations are driven by ecosystem business models.

**25% growth rate**
Ecosystem use cases of European organizations are growing at up to 25% annually.

FUTURE OF
# Connectedness

## The Low-Latency Evolution and the Impact of 5G

# Hyper-Connected Ecosystems Need Extreme Connectivity

5G will remove the limitations and bottlenecks of existing networks, delivering data to new/future applications running in the cloud and boosting interconnect-based ecosystems.

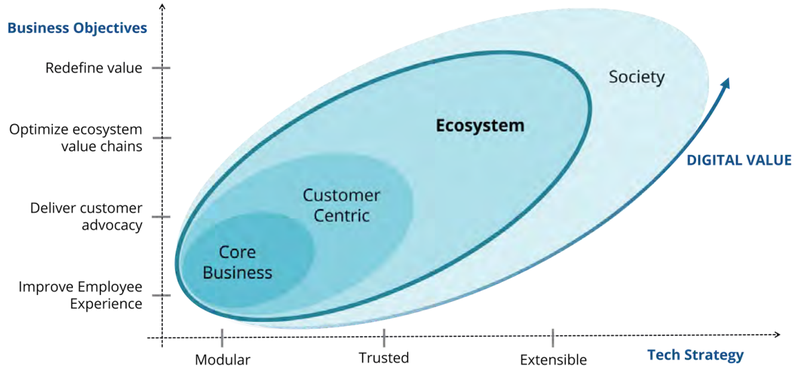
## IDC PREDICTION

*5G connections in Europe will grow more than 8x from 2021 to 2025, reaching 600 million; 5G monetization will depend on delivering innovative real-time, data-intensive use cases for hyper-connected ecosystems.*

## CONTEXT

The real potential of 5G will come with standalone networks that deliver ultra-low latency, high connection density, and network slicing. Standalone networks will enable real-time, data-intensive use cases to emerge. In the meantime, enterprises should be looking at their own partner ecosystems. Telcos, SIs, industrial players, and cloud providers are converging on this opportunity and will both compete and cooperate for the attention of customers.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Generation of new 5G-enabled revenue streams

**10%** of European organizations have already invested in 5G having in place standalone companywide initiative.

Source: IDC's *EMEA Emerging Technologies Survey*, July 2021 (n = 465)

**35%** of European organizations say that the factor driving the organization to upgrade to 5G is the ability to enable new use cases or applications previously not possible.

Source: IDC's *EMEA Emerging Technologies Survey*, July 2021 (n = 465)

# Government Stimulus Supporting the Rise of 5G

5G investments will increase, led by the government and European stimulus and funding and boosted by the potential of coupling 5G technologies primarily with edge. The low latency and high velocity of 5G combined with edge will open opportunities for new use cases build on other emerging technologies such as AR/VR and AI.

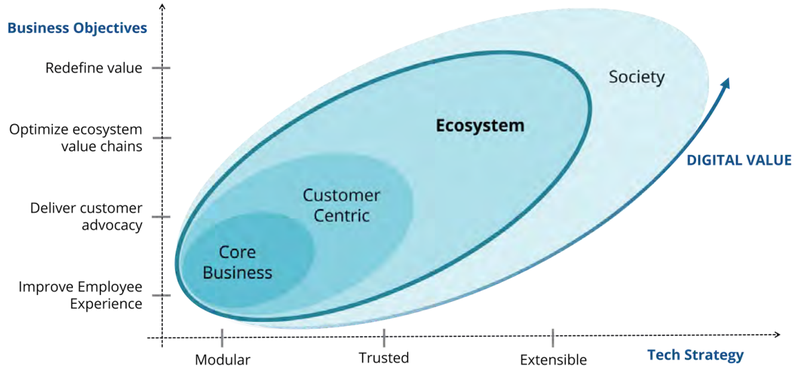
## IDC PREDICTION

*By 2023, 90% of European digitally mature companies will benefit from government stimulus of 5G ecosystems in the areas of process efficiency, product and service quality, and customer engagement.*

## CONTEXT

The NextGenEU stimulus allocates €30 billion for connectivity, which will accelerate 5G rollouts (supply). But equally important is the €130 billion package to help modernize/ digitalize all industries, which will — as 5G will increasingly underpin digital initiatives — accelerate 5G uptake (demand). This will greatly accelerate the adoption of 5G connectivity and applications by enterprises and SMEs. Companies of all types will also benefit from important ecosystem-related spillover effects.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Time efficiency

Process quality

**30%** of European organizations will drive 5G investments to boost innovation (time to market for new products, services and experiences) and drive operational/economic performances.

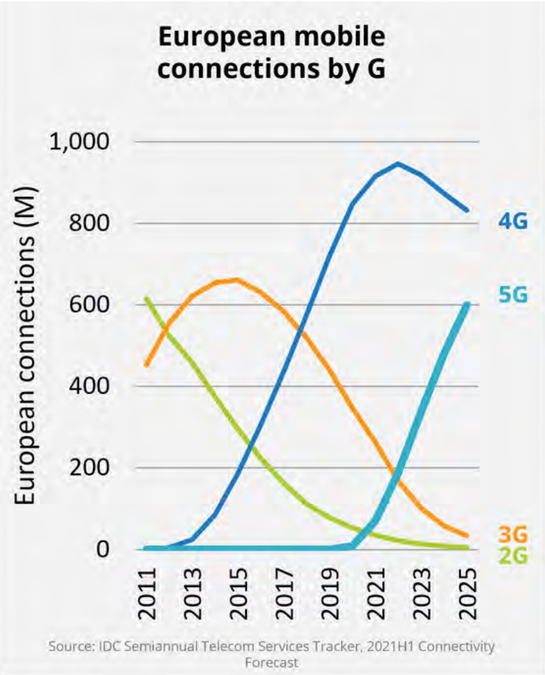
Source: IDC's *EMEA Emerging Technologies Survey*, July 2021 (n = 465)

**24%** of European organizations have invested and will invest in 5G technologies to implement private mobile networks and to operate mission-critical site connectivity.

Source: IDC's *EMEA Emerging Technologies Survey*, July 2021 (n = 465)

# The Impact of the 5G Revolution

The potential of 5G will come with standalone networks that deliver ultra-low latency, high connection density, and network slicing, driving innovation, performance, cost, and efficiency.






## €30 Billion

is the budget allocated to European companies and institutions to support the development of next-generation connectivity technologies (mostly 5G) via the EU Budget Package.

Source: IDC Macroeconomic Center of Excellence, 2022

FUTURE OF
# Trust

## Sustainability: A New Driver for Digital Spending

# Pushing on Technology for a Sustainable Future

As CEOs consider sustainability as extremely or very important for their strategies, organizations are increasing their investments in digital solutions for sustainability.

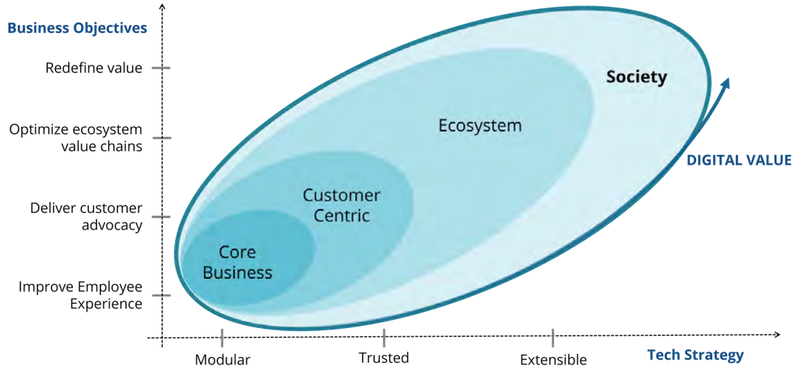
## IDC PREDICTION

*In 2023 60% of European organizations will prioritize digital investments for sustainability-related goals, driving more than $60 billion in digital spending.*

## CONTEXT

Embracing sustainable practices contributes to projecting a more attractive company image to both consumers and shareholders: the former being keener to move toward goods and services in line with sustainable guidelines, and the latter being more likely to trust and champion organizations that embrace sustainable practices.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Environmental, sustainability, and governance (ESG) scoring/social impact

**60** **billion dollar** of digital investment in Europe will be driven by sustainability.

*Source: Sizing the European Market Opportunity Behind IT Investments in Environmental Sustainability* (IDC #EUR148834922, February 2022)

**4.5** **times investors** are more likely to trust, buy, and support organizations voted to social responsibility

Note: ESG index is composed considering the MSCI ESG rating.
Source: IDC European FutureScape 2022

# Sustainability Redesigning Business Processes

Sustainable practices are quickly gathering pace across Europe, with technology users and IT vendors building and/or implementing assets, processes, and operations to transform organizations into sustainable businesses.

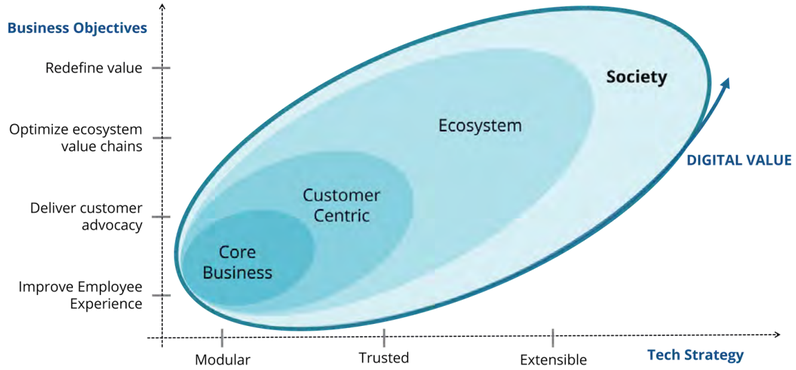
## IDC PREDICTION

*60% of publicly listed European organizations will redesign business processes and operations to be able to generate value from sustainability initiatives.*

## CONTEXT

As end users are faced with the necessity to meet their environmental, sustainability, and governance goals (which will be largely determined by regional and local regulations), vendors, service providers, and datacenter providers will need to respond to this increased demand by re-architecting their portfolios and designing them around sustainable supply chains, products, and services.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

- Percentage of sustainability awareness training penetration
- Percentage of innovations driven by sustainability goals

**60%** of publicly listed European organizations will redesign business processes around sustainability.

Source: IDC Europe's Technology for Sustainability and Social Impact Practice, 2022

# Tracking Environmentally Related KPIs

Businesses seek to investigate data-driven decision making and transparent reporting on sustainability, which remains difficult due to decentralized data management practices, lack of unified standards, and insufficient levels of automation.

## IDC PREDICTION

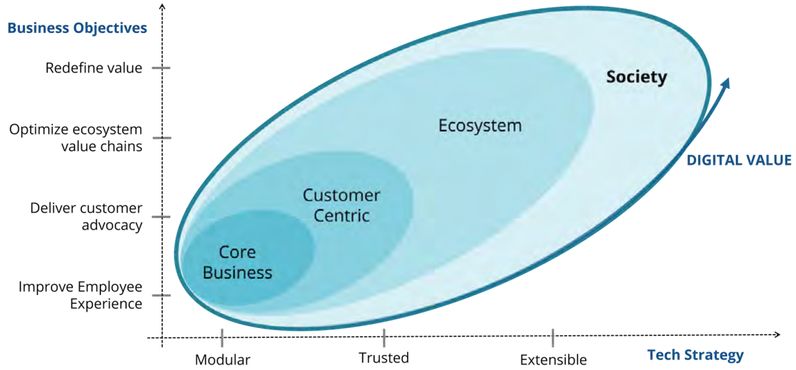
*By 2024, 50% of European organizations will adopt industry collaborative solutions to track their environmentally-related KPIs in a trustworthy manner.*

## CONTEXT

The desire to attract customers and investors by differentiating through sustainability is becoming an increasingly important driver for sustainable investments and initiatives, on par with regulations.

The forthcoming Corporate Sustainability Reporting Directive will accelerate companies' need for a single version of the truth regarding their sustainability credentials. All these combined will act as a tailwind driving organizations' attitude toward sustainability.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Supplier environmental sustainability index

Average ESG compliance investigation cycle time

**50%** of European organizations in 2022 will adopt shared data platforms to track their environmentally related KPIs in a trustworthy manner.

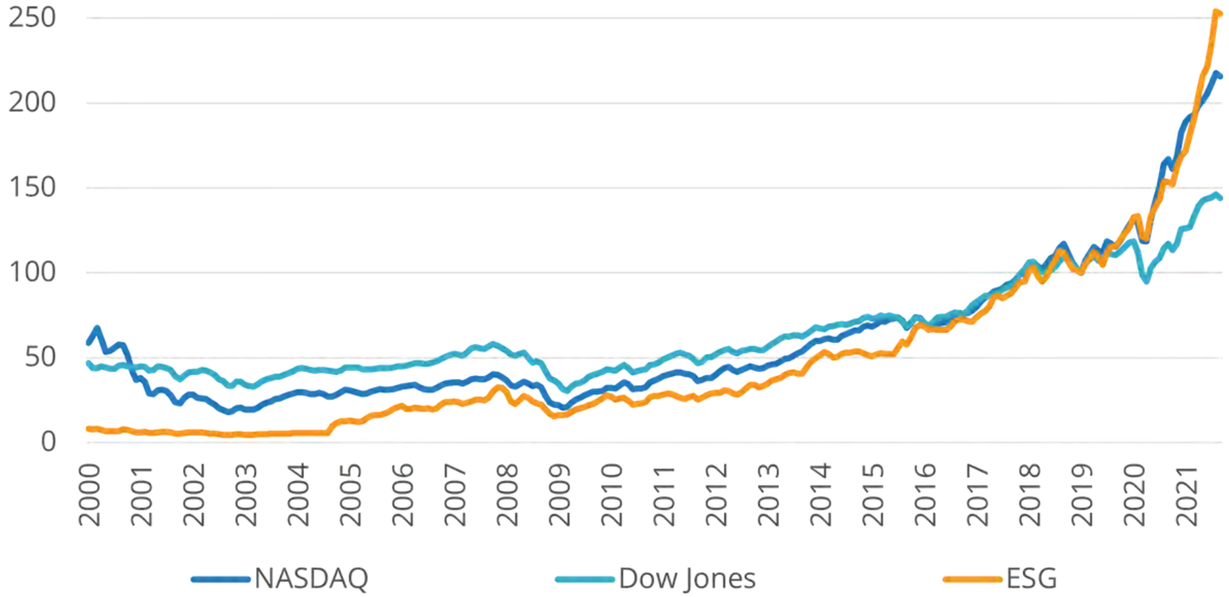
Source: IDC Europe's Technology for Sustainability and Social Impact Practice, 2022

# ESG Company Performances and European Commitment to Sustainability: Toward Greater Value Generation

## CONTEXT

By embracing the sustainability cause and allocating more resources to achieve more sustainable business models, organizations will improve their images of the company, ultimately attracting more investors. This dynamic is clear when comparing the stock performances of ESG companies with major indexes.

**STOCK INDEX PERFORMANCES:**
**ESG COMPANIES VERSUS TRADITIONAL STOCK MARKETS**




Although the chart shows publicly listed U.S. companies, it is important to consider that Europe also plays a crucial role in pushing organizations down the sustainability path. All initiatives that took place in recent years, from the Green New Deal to NGEU (which will allocate at least €280 billion to sustainability-related projects over the next five years) are a great testament of EU's commitment.

Note: ESG index is composed considering the MSCI ESG rating.
Source: IDC European FutureScape 2022

FUTURE OF

# Digital Innovation

## Unified Strategies and Co-Development to Accelerate Digital Value Realization

# A Unified Automation Strategy Is Key to Accelerate Innovation Cycles

A unified automation strategy better supports organizational agility, responsiveness, and development and deployment flexibility (digital value creation). The automation strategy is a critical component of modernization and digital-first strategies. IDC also identifies automation as an "innovation catalyst," reducing time-to-innovation cycles for app development and delivery teams and acting as a core contributor to business value delivery.

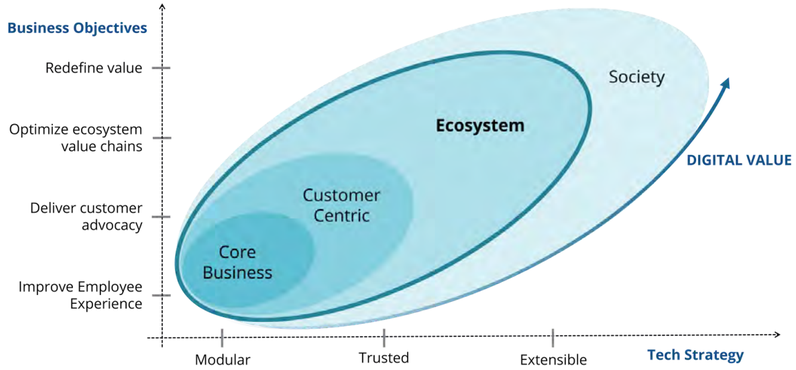
## IDC PREDICTION

*By 2024, 40% of the top 500 European organizations will have established an automation Center of Excellence that unites all product teams helping to define a new era of business and technology collaboration and accelerate innovation cycles by two times.*

## CONTEXT

Unified automation strategies that are organizationwide accelerate the innovation cycle of both internal process workflows and external cycles. Bottom-line impacts come through efficiency gains, while top-line revenue generation comes via productivity improvements.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Retention of skilled employees

Customer engagement

**52%** of European organizations are currently challenged with agile delivery of apps and services.

Source: IDC EMEA Remote Support Survey, September 2021

**44%** of European organizations are challenged to provide effective automation of business processes.

Source: IDC EMEA Remote Support Survey, September 2021

# Innovation Acceleration Driven by Partnership-Centric Digital Value

Open community-centric business models are key to speed up growth and business innovation. Organizations will only achieve disruptive digital value by taking a more community-driven view of the world, but that cannot happen without the right tech talent and capabilities. Defining networks of value will be critical, which elevates focus on tech start-ups.

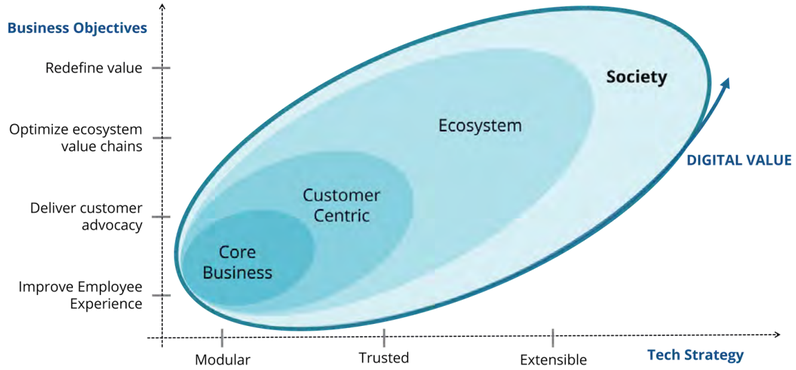
## IDC PREDICTION

*By 2023, 70% of European organizations will create disruptive digital value by partnering, buying, or investing in a digital-native start-up, doubling the return on investment to both parties over three years.*

## CONTEXT

The integrated network economy is growing fast, increasing its total economy share. Through investing in tech start-ups and community-driven innovation, Europe is also increasing its competitiveness. In early 2021, Europe homed over 208 unicorns (start-ups worth more than $1 billion). Organizations are recognizing the need to create a solid strategy for disruptive value creation with tech start-ups and are prioritizing co-creation with start-ups and tech incubators, albeit with more traditional approaches. This entails defining what community-driven value means for each organization.

## DIGITAL-FIRST VALUE FRAMEWORK




## KEY METRICS

Percentage of organizations participating in open source communities

New software created in co-development

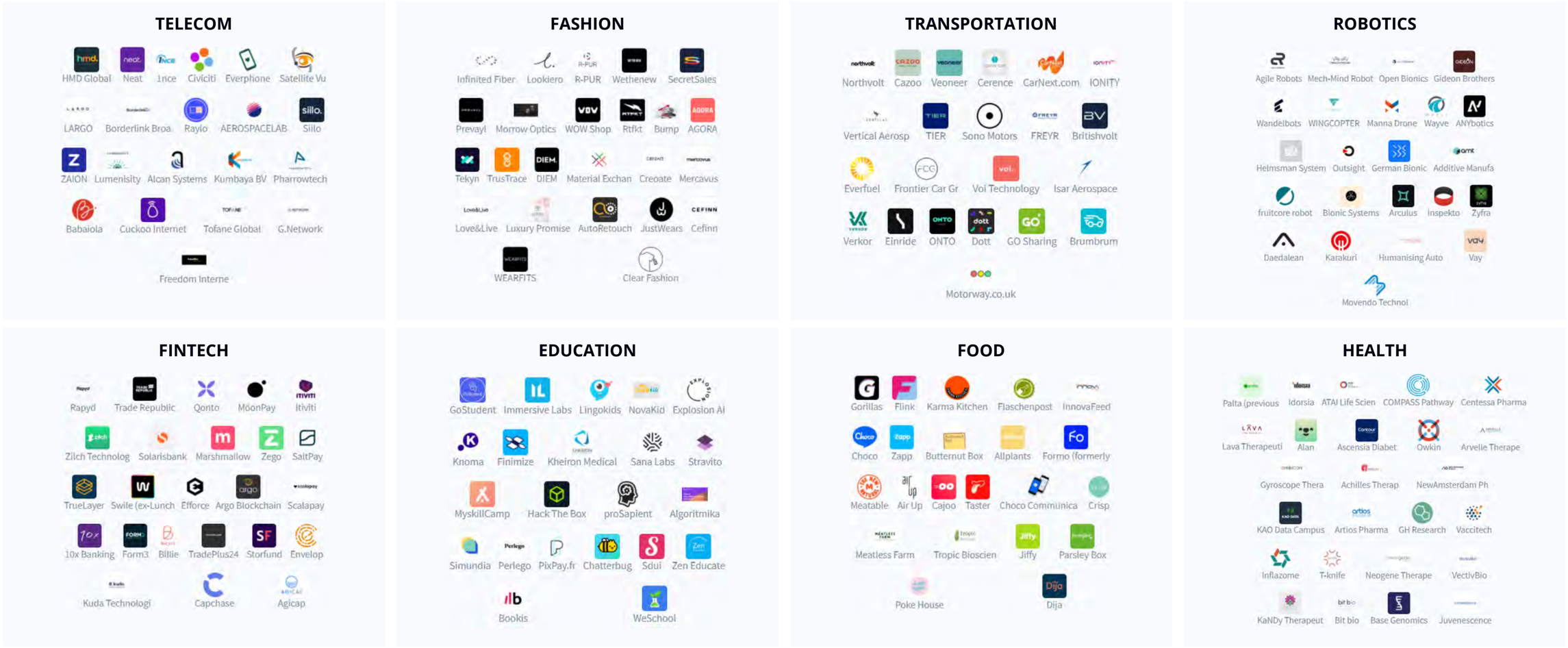
**27%** of European organizations prioritize co-creation with startups/tech incubators in software development.

Source: IDC's *Worlwide Accelerated* App Development Survey, 2021 (n = 411)

**53%** Of European organizations prioritize co-creation and development ecosystems.

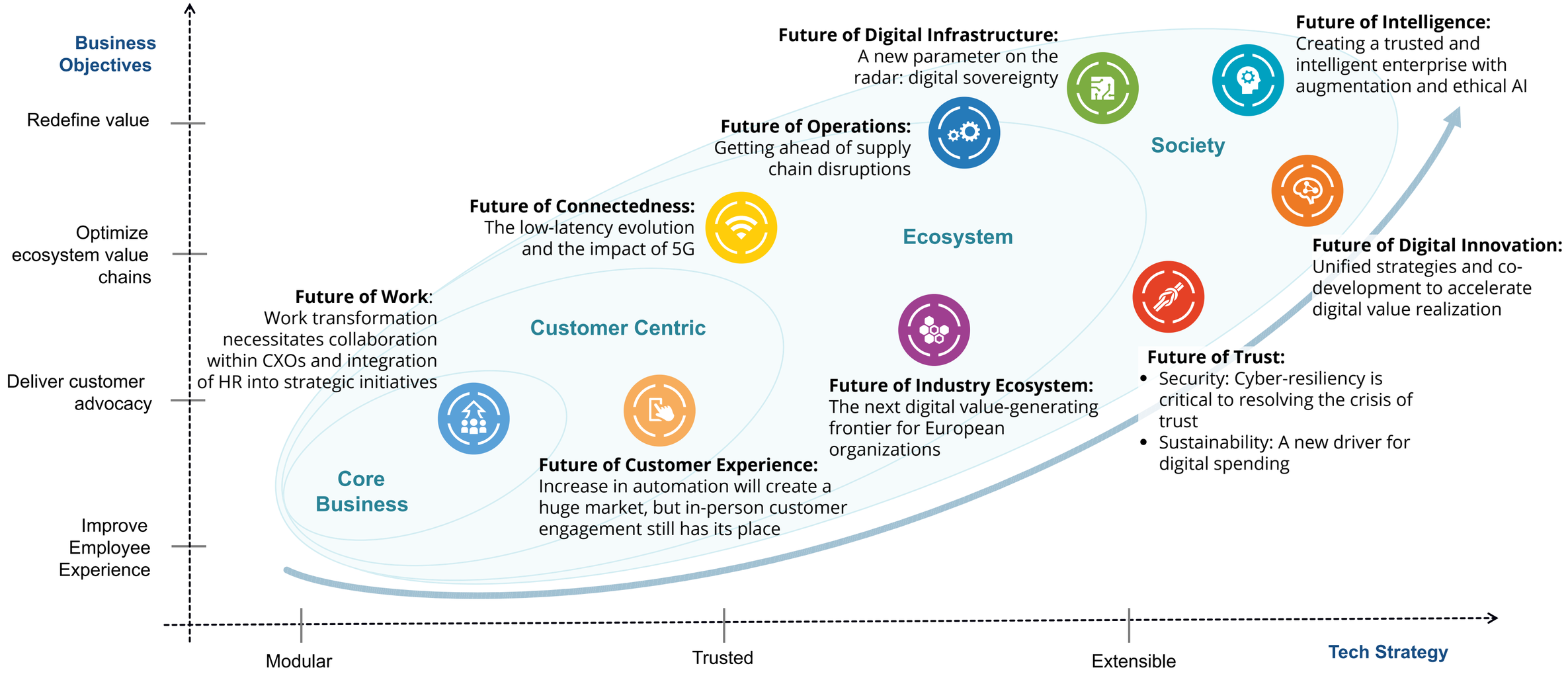
Source: IDC's *Future Enterprise Resiliency and Spending Survey*, 2021 (wave 5, n = 430)

# Scale-Up Digital Natives in Europe




Source: IDC European FutureScape 2022 | Note: Dealtoom.co

# The Digital-First Value Framework



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**Related resources:**

- Navigating the Winds of Change in a Digital-First Europe Webcast
- Navigating the Winds of Change in a Digital-First Europe Infographic

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