BTO

World CxO 2020
Survey report

Executive summary

«BTO CxO» explored the technological trends that mostly influenced global companies in 2020 and during the **covid-19 global pandemic**. We interviewed digital leaders, top managers and executives of top tier companies. Our sample mostly includes companies from the **Finance** and **Consumer** industries, but also from **Health**, **Telecommunication** and **Energy**.

The current level of Digitalization and Automation holds at intermediate levels, with lower maturity observed in the financial sector.

A drill down on the specific technologies shows that **CyberSecurity**, **Customer Relationship Management** (CRM) and **Cloud Computing** solutions are generally widely adopted. At an intermediate level we find **Big Data** & **AI** technologies, where most of the companies are still in an evaluation or piloting phases, with an average lower interest from the financial industry. However, AI is expected to gain more importance due to the impact of the coronavirus emergency by more than 40% of respondents. **IoT** and **Augmented & Virtual Reality** technologies are the less mature in terms of adoption, with less than 30% of the sample enterprises having them in place. From the point of view of the adopted **Project Management** methodologies we observe a large preference of **Agile and Mixed** approaches (in more than 85% of the sample), compared to traditional waterfall approach.

Most of the companies (67%) are worried about skill gaps. The professional skills mostly desired are in the fields of **Data Science**, Software Development, Cloud Computing and Security.

Because of the Covid-19 pandemic some significant changes have been observed. One of them is reflected in most of the interviewed enterprises, where **organizational restructuring** initiatives have been put in place, especially in the finance sector. Another effect will be the increase in the IT annual spending, which is expected by around 40% of the interviewed executives.

Vision & Mission

Our mission is to connect enterprise world with academia.
World CxO aims to provide an independent reference point of the state of the art of certain key elements of digital transformation.

THE BRIDGE BETWEEN ACADEMIA AND ENTERPRISES
TO ACCELERATE DIGITAL REINVENTION

ACADEMIA
VALUES
Methodologies
Innovation
Talents

COMPANIES
NEEDS
Flexibility
Know-how
Business Orientation

Standpoint on: Technology Adoption

BTO

Marco Castelli
BTO Head of Research

The process of digital transformation is to build new or current business processes, culture, and consumer interactions by using digital technology to meet changing business and market requirements. Many companies have accelerated their plans to become digital-first businesses over the past few years, building the foundations needed for a complete transformation. The global pandemic has only amplified this urgency.

Indeed, the year 2020 has seen profound and far-reaching change throughout society and the global economy. It seems that every industry and sector has been upended in some way, creating a shift that has changed the trajectory of large, small, and even emerging businesses.

The pace and extent of digital transformation in 2020 has experienced some of the most rapid change as compared to any other year. In the wake of the Covid-19 pandemic, we have seen technological transition occur at a breakneck pace, whether that is pushing forward digital transformation for businesses, connectivity in the shape of 5G, advances in artificial intelligence and augmented reality, and greater use of digital automation to help enable business to run smoothly in times of crisis.

As we move into 2021, digital transformation remains a high priority as both customers and employees increasingly expect digitized and automated processes. In particular, from my point of view, a central role will be played by Artificial Intelligence within service organization (AI-powered chatbots, RPA and cognitive services).

Organizations across the world are coming up with breakthrough innovations in AI. There already are significant implementations in finance, automotive, health care, and smart cities that have altered decision-making process, business models and system performance. This technology is not only impacting the future of every industry and every human being but has also acted as the main driver of emerging technologies like big data, robotics and IoT. Considering its growth rate, it will continue to act as a main technological innovator for the foreseeable future.

We probably still know very little about how AI will impact the way we think, make decisions, and how it will affect our businesses. This uncertainty can be a source of concern but also of opportunities.

Standpoint on: People and Organization

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Roberta Raimondi
BTO Subject Matter Expert

Digital transformation is a great challenge for technology specialists. This survey highlights how the main gaps concern the technical skills on the most innovative digital technologies, their implementation and governance.

Many themes have emerged, such as Security, Cloud, Data, that are common in the current scenario: in the last two decades there have been moments of deep discontinuity in the technological landscape and traditional technical skills are obsolete, completely out of reach with respect to the current technological paradigm.

Outsourcing models are radically changing with cloud solutions, cybersecurity requires broader governance to ensure business continuity and mitigate ongoing threats, the application development lifecycle is changing, and professional development skills are changing consequently.

The research therefore highlights in particular the lack of technical skills. It would be optimal to integrate them with skills of a more organizational and business nature, to be introduced also in the specialist units: for example, business and process analysts, architecture experts, project managers and agile coaches. In the digital world we also need experts of this nature and, above all, people with skills and tools for systemic vision and evaluation.

The challenge for the coming years is linked to a new way of living and working; digital workplace, smart working and team working. This new paradigm requires organizational redesign and deep collaboration between technical specialists, business analysts and organizational experts. The so called "new normality" needs a common language.

Consequently, a more integrated vision with the business is needed, even for non-specialist resources, also for the "users" of digital technologies, which are not detected in the research, but would be complementary: what skills does the company lack to effectively implement digital transformation? What is the cultural availability of non-specialized resources? This is where many of the projects related to digital transformation fail.

Standpoint: Digital Transformation

BTO

Carlo Della Cioppa
*BTO Digital Transformation &
Cloud Journey Manager*

"The Digital Transformation Journey that every single Company is going through regardless of specific size and industry sector, is showing more and more that if you are not Digital you are late.

Digital Transformation is not about technology, it is about changing and reshaping your Business models, defining new ones, redefining your efficiency targets, and catching new revenue streams either interacting with your stakeholders differently or experimenting new Business channels with a disruptive approach.

And within this new Business landscape, digital technologies are enabling the change at a speed and with an effectiveness hardly seen before.

All the different types of applicable digital technologies are now robust and reliable. Some of these as Cloud Computing, CRM platforms, Cybersecurity are massively adopted since have shown all the advantages of

their flexibility and scalability. Others as Artificial Intelligence and related Analytics algorithms and also Robotic Automatization are increasingly gaining consideration in IT investment plans as in the prioritization of IT spending.

And this because the Data Strategy is getting at the heart of any successful Digital Transformation proposition. Data is raising the level of a strategic asset. Is becoming a strategic asset itself. Because data is enabling Companies to move both their decision capabilities to be near-real-time based gaining incredible efficiency through preventive analysis and reshaping Business models where data embedded within digital capabilities will allow to catch also new revenue streams.

In this scenario transformed by Digital technologies, CxOs and Digital Leaders are now playing a completely different role. Now they are orchestrators managing the convergence of Business models and way of working with the value of how digital technology can speed up the time-to-market of solutions joint with higher rates of flexibility and scalability. This mix is showing to work incredibly well with higher rates of economical returns.

Therefore, if you are not Digital you are late. And CxOs know it perfectly."

Goal & sources

«BTO CxO» aims at highlighting the technological trends that mostly influence global enterprises in 2020 and during the covid-19 global pandemic. The trustworthiness of the arguments derives from F2F Interviews with digital leaders, top managers and executives of top tier organization belonging to the following industries:
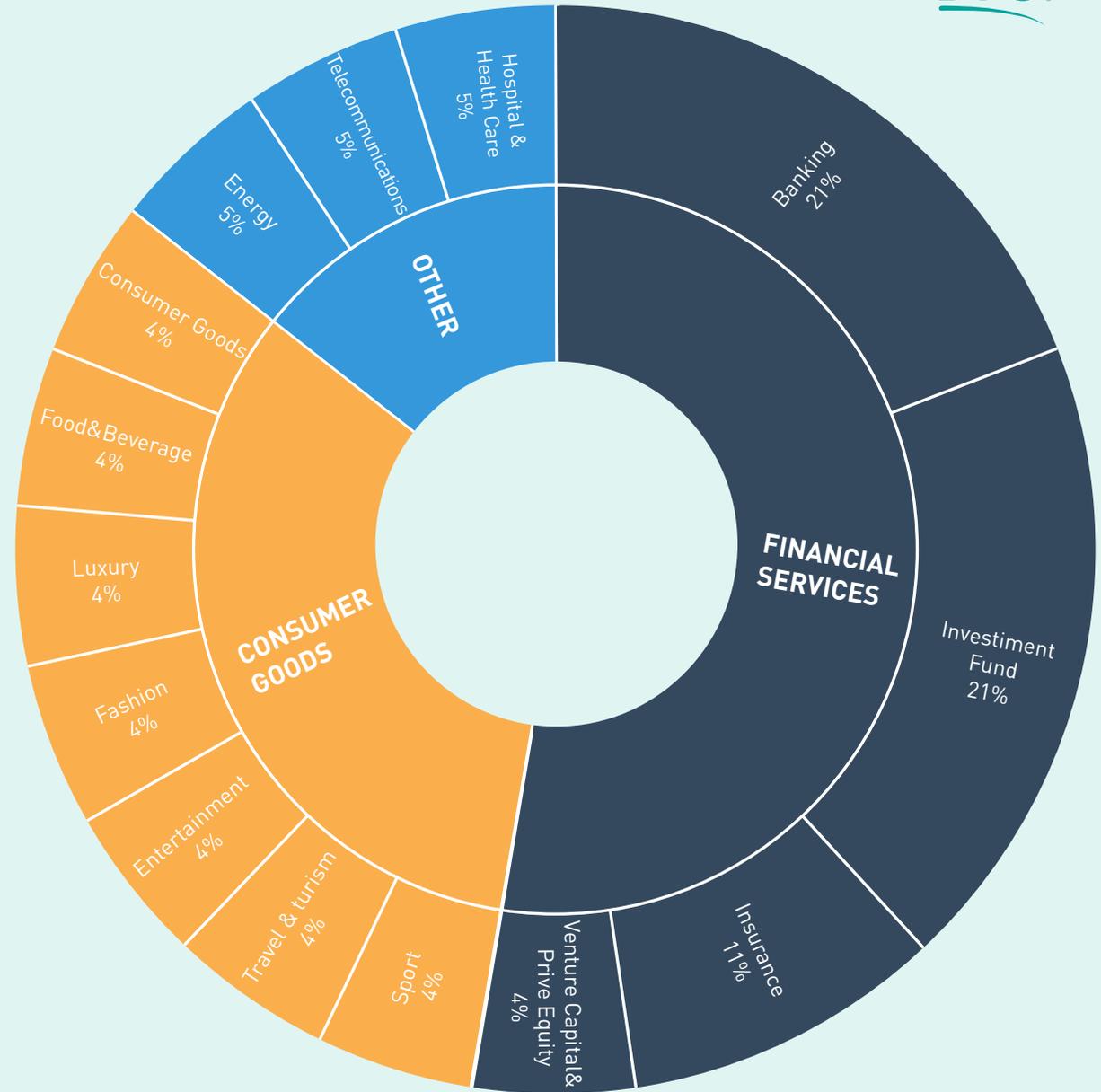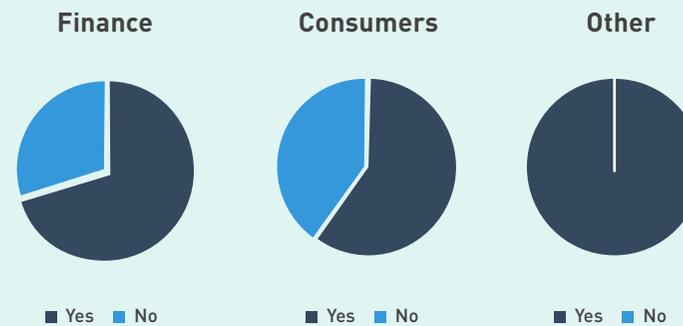
Organization
ORGANIZATIONAL STRUCTURES AND CHANGE MANAGEMENT

BTO

ORGANIZATIONAL STRUCTURE

There is balance between Hierarchical and Matrix organizational structures of the interviewed companies belonging in the consumer and finance sector. Companies belonging to other industries unanimously utilize matrix structures.

■ Hierarchical   ■ Matrix

	Hierarchical	Matrix
FINANCE	67%	33%
CONSUMERS	50%	50%
OTHER		100%
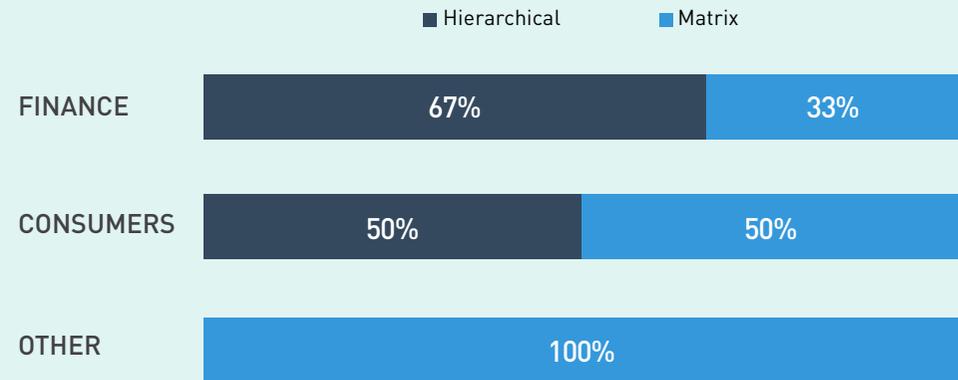
The majority of the interviewed companies has undergone restructuring initiatives lately because of the Covid-19 pandemic.

Finance

■ Yes   ■ No

Consumers

■ Yes   ■ No

Other

■ Yes   ■ No

"We shifted to management by objective style.
Clear goals, results, and measures"
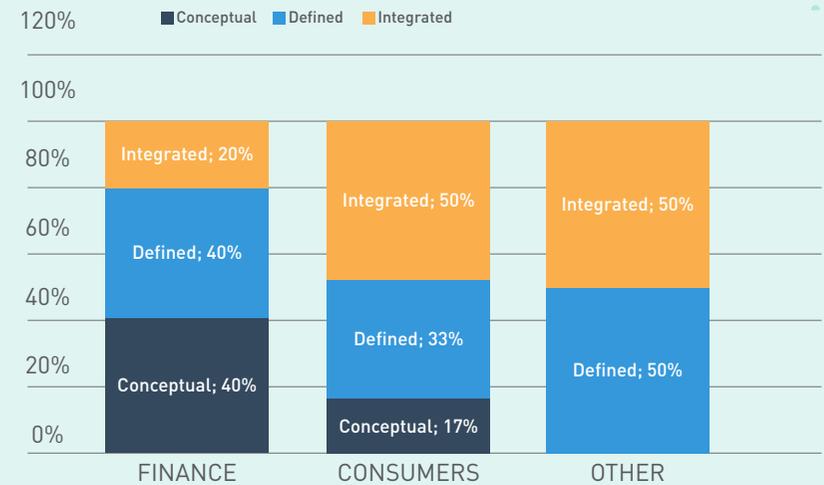
CIO FROM ENERGY INDUSTRY

Organization

PROCESSES: MAPPING, MEASUREMENT, REPORTING

Level of Digitization

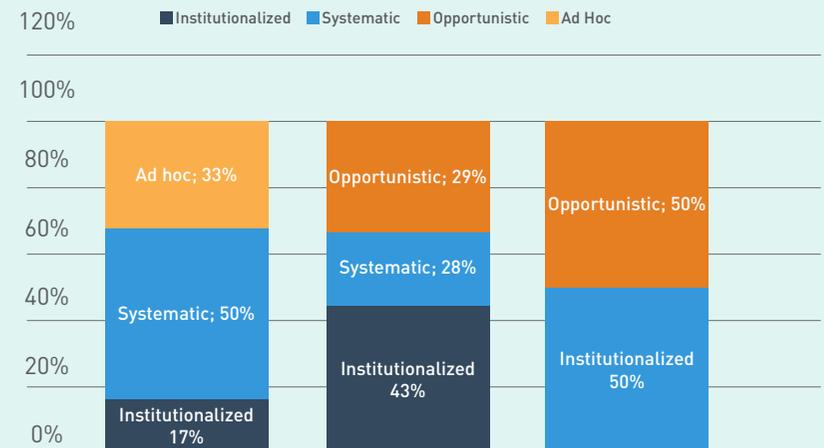We can observe that the all the interviewed enterprises are placed in an intermediate level of digitalization.

1. Unaware
2. Conceptual
3. Defined
4. Integrated
5. Transformed

Chart — Level of Digitization
Legend: Conceptual, Defined, Integrated

FINANCE:
- Integrated; 20%
- Defined; 40%
- Conceptual; 40%

CONSUMERS:
- Integrated; 50%
- Defined; 33%
- Conceptual; 17%

OTHER:
- Integrated; 50%
- Defined; 50%

Level of Automation

The level of automation reflects the above level of digitalization.

1. Ad hoc
2. Opportunistic
3. Systematic
4. Institutionalized
5. Adaptive

Chart — Level of Automation
Legend: Institutionalized, Systematic, Opportunistic, Ad Hoc

FINANCE:
- Ad hoc; 33%
- Systematic; 50%
- Institutionalized 17%

CONSUMERS:
- Opportunistic; 29%
- Systematic; 28%
- Institutionalized 43%

OTHER:
- Opportunistic; 50%
- Institutionalized 50%

"Digitization and Automation are two sides of the same coin. Tech is not the challenge; priorities depend on how mature the business requirements are"

DIGITAL LEADER FROM A SUPRANATIONAL BANK

People
GAP BETWEEN DESIRED AND ACTUAL PROFESSIONAL SKILLS

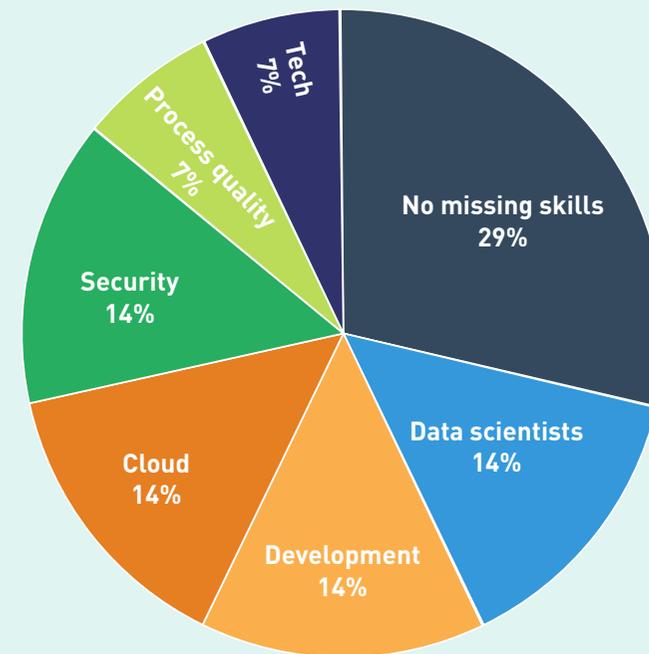### Do companies miss any professional skills?

67% of enterprises is worried of the gap between desired skills and current skills at disposal. Multinational companies can easily transfer knowledge from one country to another.

No 33%

Yes 67%

■Yes ■No
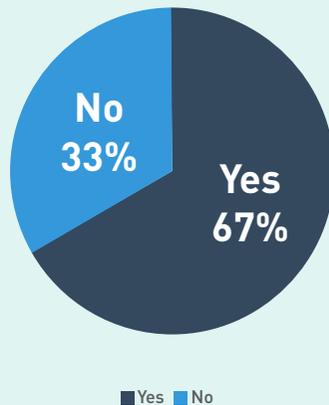
"Managing blurred boundaries between private and corporate life is a top challenge now"
GROUP CFO FROM A PACKAGING COMPANY

Which professional skills are companies currently missing?

Tech 7%

Process quality 7%

Security 14%

Cloud 14%

Development 14%

No missing skills 29%

Data scientists 14%

■No missing skills ■Data scientists ■Development ■Cloud ■Security ■Process quality ■Tech

"We completely reshaped the way global trainings are delivered"
FINANCIAL OFFICER FROM BANKING HOLDING
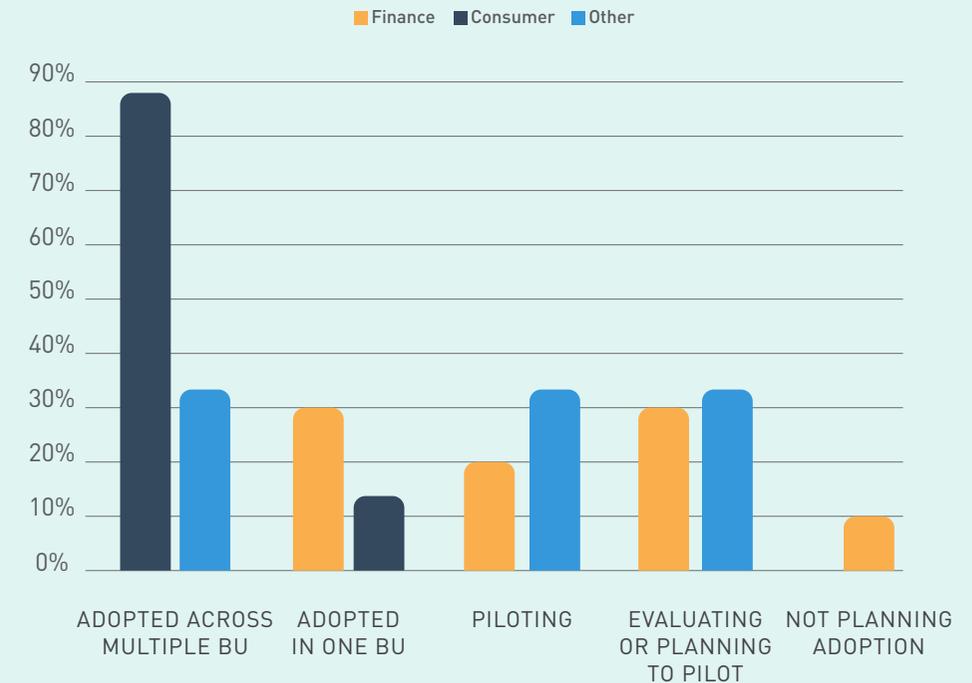
Technology
TOP TRENDS BY MATURITY

Level of maturity of Big Data & AI

37% of companies have already adopted Big Data & AI in at least one business unit, while another 27% are piloting new solutions. Only some companies from the finance industry showed reluctance in the adoption.

■ Finance ■ Consumer ■ Other
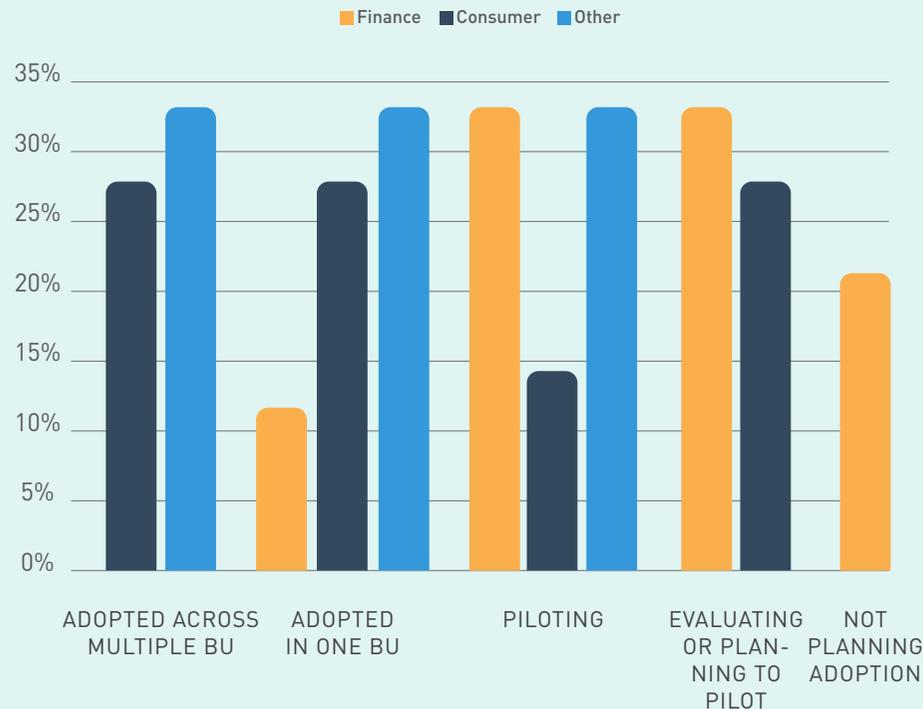
Level of maturity of CRM

74% of companies have already adopted or are piloting CRM solutions. Companies in the consumer industry have 86% of adoption in multiple business units.

■ Finance ■ Consumer ■ Other

"Innovation should come from everyone. When someone has an idea, we run a POC, find a project sponsor and go ahead with it"

IT EXECUTIVE FROM FUNDS INDUSTRY

Source: based upon BTO's internal and secondary sources

Technology
TOP TRENDS BY MATURITY

Most interesting case study on AI

An international Energy company leverages AI based image recognition in order to improve maintenance of assets. The device employed consist of a drone on which a camera equipped with vision technology is mounted; the drone scans the entire asset to spot damages and send alerts to request an intervention, which is made possible by deep learning algorithms continuously reinforced with images of breakages. This application is particularly useful in case of hardly reachable points or hazardous environments.

Most interesting case study on Big Data

Large commercial banks have millions of customers and can operate effectively thanks to big data analytics leveraged on increasing number of unstructured and structured data sets. Big data analytics helps a major Bank in Europe to identify the best set of products they can deliver to their customers. In addition, the analytics systems analyse internal bank records and relate them with other sources of information so that the financial institution can draw better insights from the data to get a clear perspective of their customers-by predicting which customers are credit-worthy and prospective buyers of novel financial products or services.

Technology
TOP TRENDS BY MATURITY

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Level of maturity of Cloud Computing

74% of companies have already adopted or piloted Cloud Computing Solutions.

Legend: ■ Finance ■ Consumer ■ Other
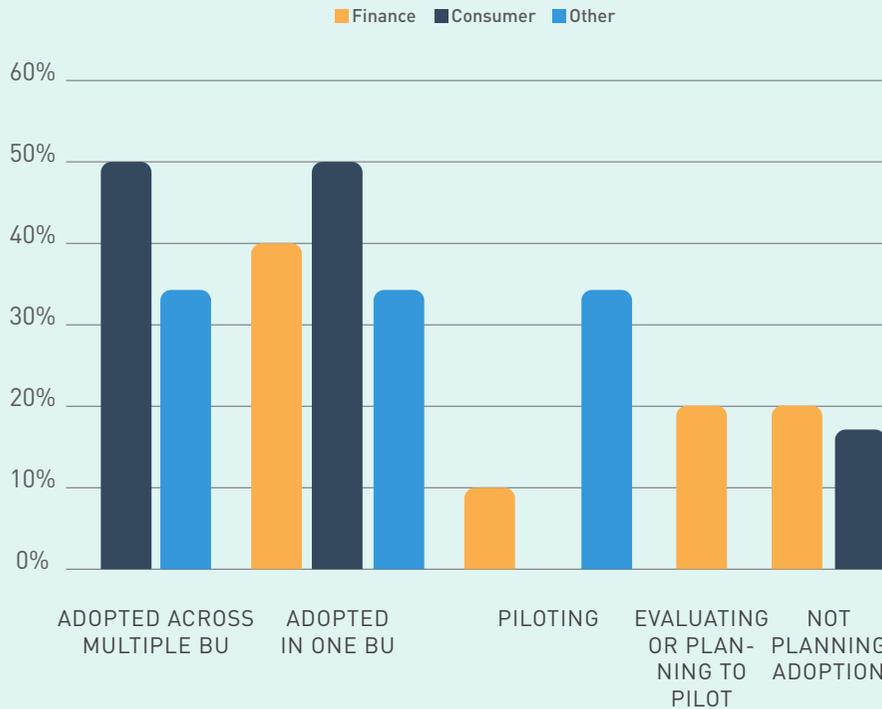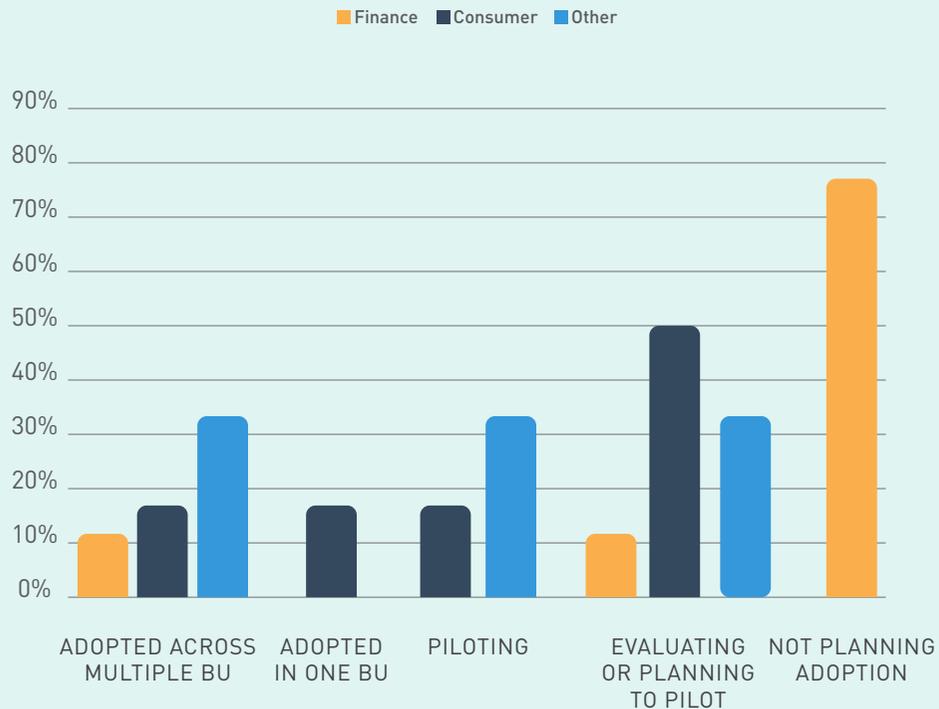

Level of maturity of CyberSec

CyberSec is the technology which scored the highest level of adoption.

Legend: ■ Finance ■ Consumer ■ Other

Source: based upon BTO's internal and secondary sources

Technology
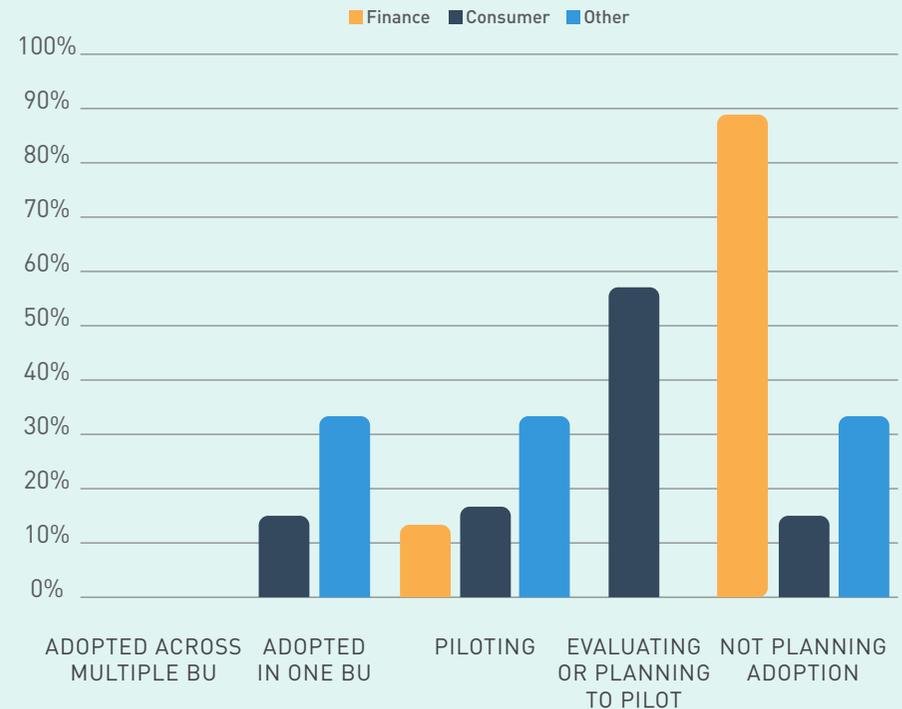## TOP TRENDS BY MATURITY

BTO®
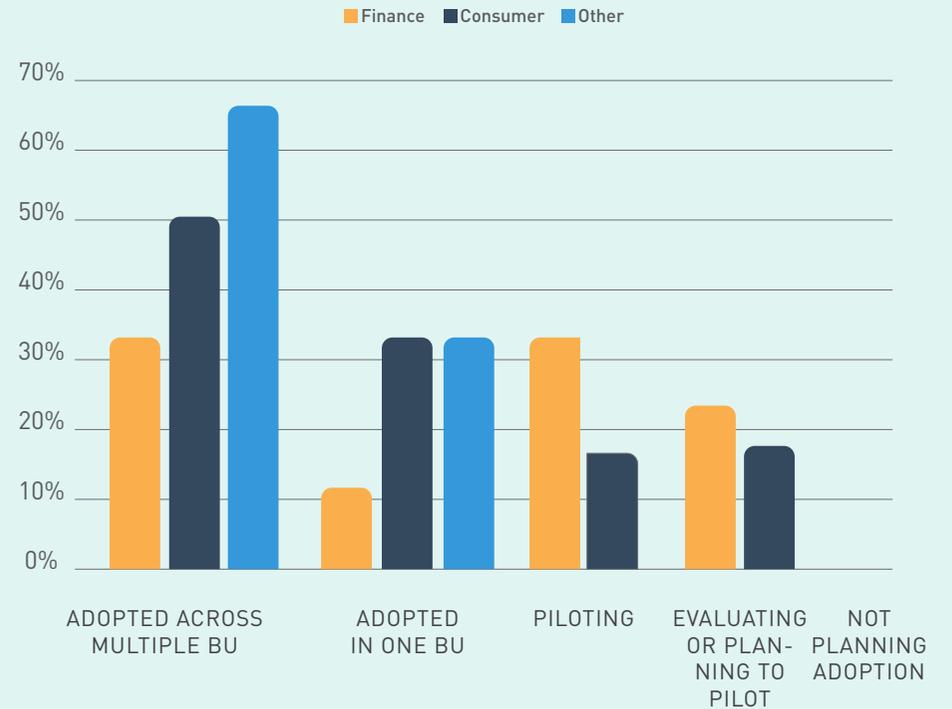
Level of maturity of IoT

Only 21% of companies have adopted IoT solutions in at least one business unit and 78% of the companies operating in the finance industry aren't interested at all.

■ Finance ■ Consumer ■ Other

ADOPTED ACROSS MULTIPLE BU | ADOPTED IN ONE BU | PILOTING | EVALUATING OR PLANNING TO PILOT | NOT PLANNING ADOPTION

Level of maturity of Augmented & Virtual Reality

Only 11% of companies are adopting AR and VR solutions. The above-mentioned technology doesn't seem a priority for the finance sector.

■ Finance ■ Consumer ■ Other

ADOPTED ACROSS MULTIPLE BU | ADOPTED IN ONE BU | PILOTING | EVALUATING OR PLANNING TO PILOT | NOT PLANNING ADOPTION

Source: based upon BTO's internal and secondary sources

TOP TRENDS BY MATURITY

Most interesting case study on IoT

A main fashion & luxury manufacturer has introduced RFID tags based on NFC technology in order to keep track of their articles during the logistical phase, starting from production; equipping each item with a tag permits its univocal identification throughout the whole supply chain, and thus verifying that it is within the prearranged distribution channel. This has indeed turned out to be an effective solution to fight against the gray market.

Most interesting case study on AR/VR

An industrial company has implemented immersive reality to create a set for training purposes; VR experts have developed simulations with realistic touch feedback and natural haptic interaction on gloves, while microfluidic technology has allowed to feel shape, texture, movement and weight of virtual objects simulating realistic touch sensation and building real muscle memory. This device is leveraged to set up safe and profitable virtual training scenarios.

Execution
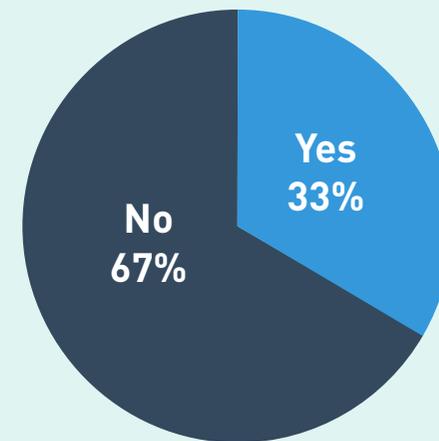## PROJECT MANAGEMENT METHODOLOGIES

PM Methodology

Only 13% of companies use waterfall while 87% prefer Agile and Mixed methodologies.
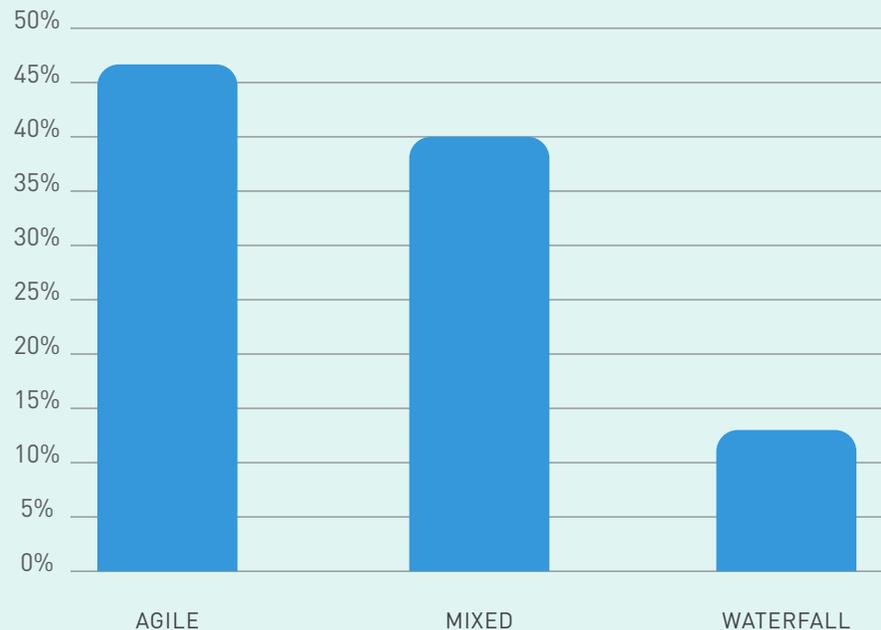
Are PM Methodologies changing to adapt to the new way of working imposed by COVID-19 sanitary emergency?

Large majority of companies didn't change PM methodology because of Covid-19 pandemic.


Yes 33%

No 67%

"Moving to agile methodologies is even more relevant now, but there are several challenges when teams are fully virtual"

Digital Leader from Banking Industry

Covid-19
CHALLENGES & REORGANIZATIONS

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What are the main tech challenges and innovation goals?

Market challenges are considered, by CIOs, less important than organizational, technological and efficiency ones.


ORGANIZATIONAL CHALLENGES	EFFICIENCY CHALLENGES
TECHNOLOGICAL CHALLENGES	MARKET CHALLENGES
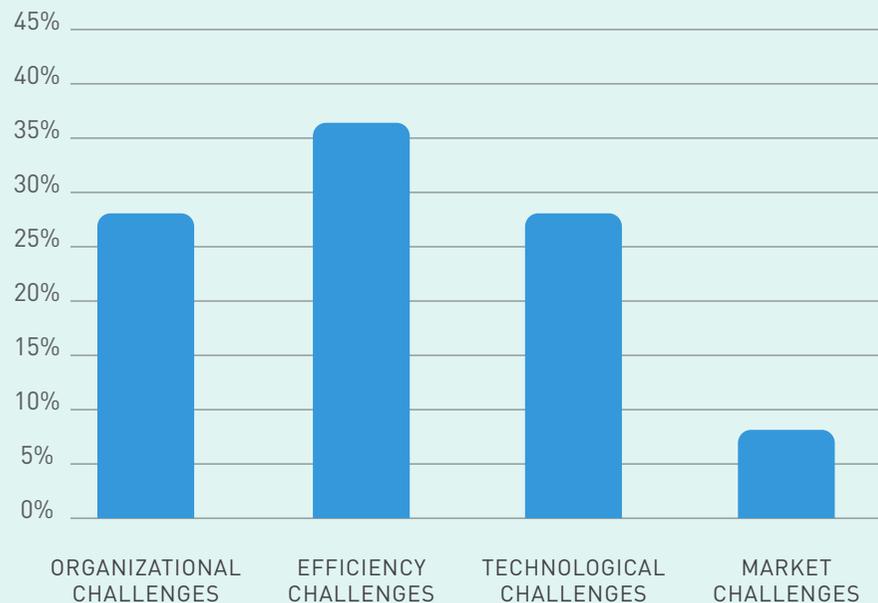
"Remote working was not something in the agenda before but now we consider including 2/3 days a week of remote working indeed"

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Did companies re-organize their structure to face the pandemic?

The covid-19 pandemic has pushed the slight majority of the interviewed companies to put in act a re-organization of the company's structure.


No 45%

Yes 55%
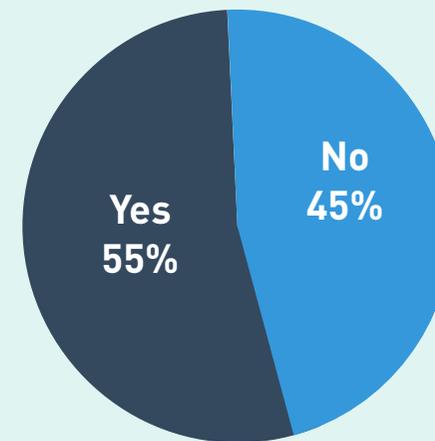
"I personally would like that everybody could work from any country without affecting the salary which should only depend on the skills"

CTO ғʀᴏᴍ Pʀɪᴠᴀᴛᴇ Bᴀɴᴋɪɴɢ

Covid-19
CHALLENGES & REORGANIZATIONS

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Do you expect to increase their IT spending?

During current times only 20% of companies will decrease their annual IT spending and navigate other strategies to succeed.


INCREASE	STABLE	DECREASE
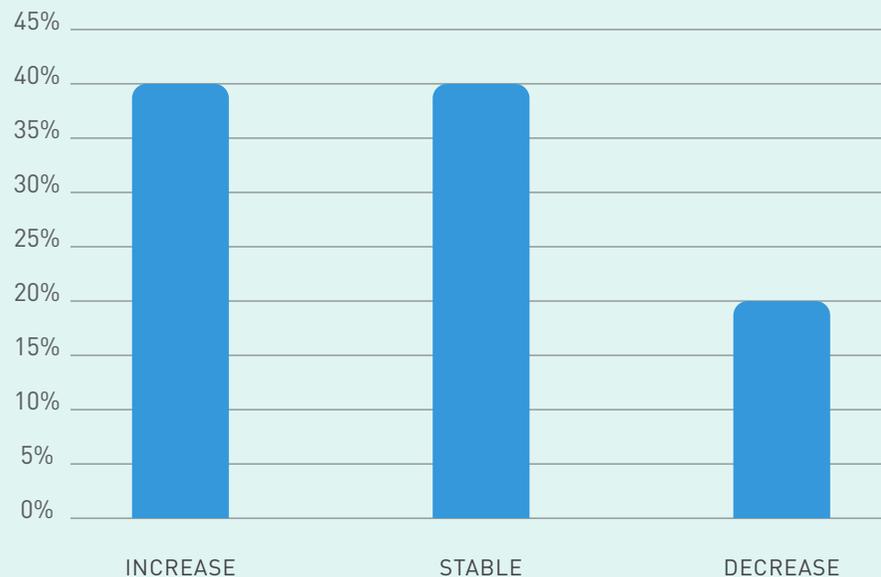
"Every IT saving should be invested in IT. This way you can decrease the TCO of the Application Portfolio"

CIO FROM RETAIL BANKING

Which technologies do you expect will gain more importance due to the impact of the coronavirus emergency?

Artificial Intelligence is predicted to be the technology that will gain most importance due to the pandemic.

AI	OPERATIONAL TECHNOLOGIES	DISTRIBUTED LEDGER	AUTOMA-TION	SECURITY
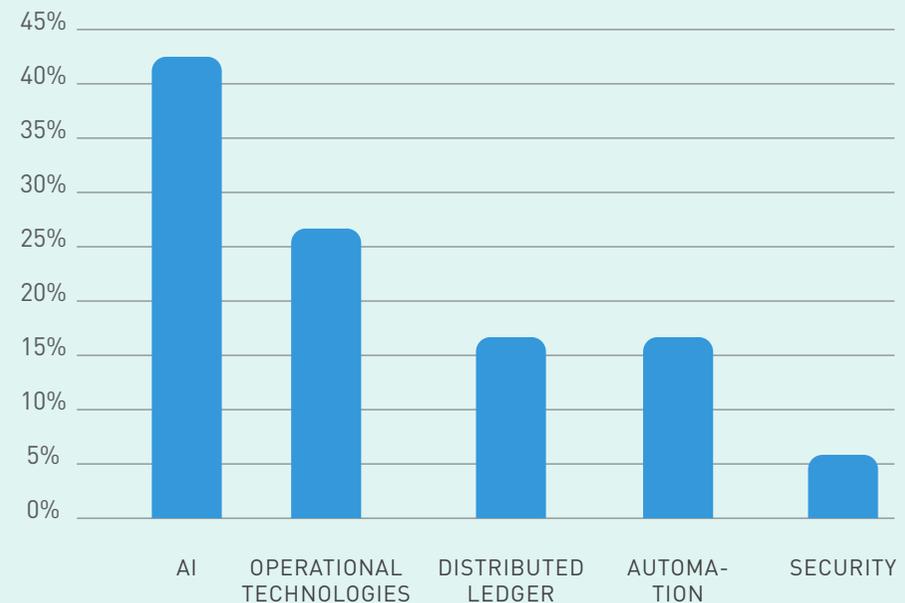
"Communication and collaboration tools – particularly relevant in current context – will also benefit from AI and ML"

CIO FROM RETAIL BANKING

Source: based upon BTO's internal and secondary sources

Project Team

Martino Scanziani

Alessia Bonanno

Margaux Owczarek

Gerhard Jensen

Alessandro Poli

Marco Castelli

Carlo Della Cioppa

Roberta Raimondi

Federico Latella

Guglielmo Naccari Carlizzi

Project created in collaboration with **prof. Vijay Gurbaxani** from the University of California Irvine

Visit our website

Please contact us at:
info@btoresearch.com

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Digital Reinvention!

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