Capgemini invent

CXO INSIGHTS

CXO TECH BRIEF FOR INSURANCE

1. SECTORAL EXEC SUMMARY

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COVID-19 IS CHANGING PARADIGMS AND INSURERS SHOULD BE READY TO TACKLE THE CHANGING EXPECTATIONS

- **From unbridled growth to a slower day-to-day pace**: consumers are seeking a deeper meaning to life. This coincides with more self-care and new standards in approaching daily events, searching for maximum well-being, instead of an unstoppable quest for efficiency
- **From blind authority to a quest for truth**: authorities that were previously trusted blindly are gradually losing consumer trust. The capabilities of institutions are being questioned as knowledge is now global. In a sense, power is back with the consumer: this can be seen in the rise of self-medication, the digitization of services and the personal use of data
- **From being self-centered to becoming heroes**: consumers have slowly started understanding the impact of their choices on the rest of the world. This will lead to more and more systemic approaches as well as greater collaboration to seek more global well-being, especially by leveraging data

To avoid losing their value and a strong customer relationship, insurers need to move from a traditional compliance-centric approach based on risk-evaluation and rigid distribution models to a human-to-human approach that is more personalized and engaging, with dynamic and holistic offerings built within an open ecosystem

1. SECTORAL EXEC SUMMARY

DATA AND TECHNOLOGY WILL HELP YOU THRIVE

The insurance industry is **"by design" a data business** that **already captures and manages a large amount of data of all sorts**

Profitability and **customer retention** depend on statistical methods and financial decisions where data **collection, quality and processing are key**

By properly producing and handling a wealth of data **through technology and increased touchpoints** (e.g., market, financial and customer interactions, claims, etc.), insurers will be able to **improve the relevance of their interactions**

Today more than ever before, **customers are evaluating potential insurance providers and making deep comparisons** at every stage. Therefore, capturing insights from the end-to-end customer experience is **critical**

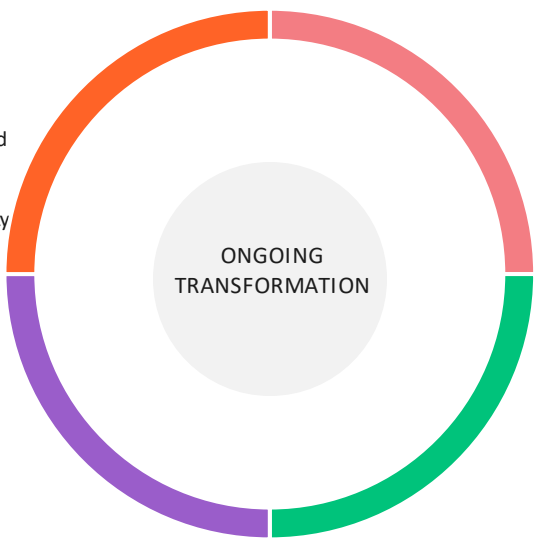
Now is the time to act and reflect on the 4 key pillars of this much-needed transformation, driven by the changing paradigms

1. RELEVANCE
ADDRESS THE CUSTOMER'S LIFE EVENTS

- Leverage new sources of data to understand your customer's life (family, location, education, and job change)
- Detect life events to trigger personalized marketing strategies and next best actions (predictive and prescriptive)
- Build strong ecosystems with partners of various sizes and maturity levels to build innovative products and services

2. PROXIMITY
BE THERE WHEN IT MATTERS

- Access insights across various touchpoints, both owned (websites, apps) and third-party (paid searches, sponsorship)
- Operate as a unified customer facing brand, with consistent messaging and experience to build recall
- Leverage a phygital approach and do not underestimate the importance of call centers and agencies



3. EFFICIENCY
STREAMLINE YOUR OPERATIONS

- Leverage algorithms and automation whenever possible to speed up operations
- Combine operational performance management with regulatory impact management
- Leverage Insurance-as-a-Service solutions and modernize your core systems

4. SUSTAINABILITY
BECOME STRONGER, TOGETHER

- Sustainable customer interactions through a planet-centric design to create products and services that do not harm the planet
- Sustainable operating model and operations (leveraging Green IT, IT for Green)

2.1 HOW IS THE VALUE CHAIN DISRUPTED BY TECH?

Product Development	Distribution, Sales & Marketing	Underwriting & Pricing	Operations	Claims management	Capital, Risks & ALM

CHALLENGES

Product Development
- Develop a range of suitable products
- Determine the appropriate insurance premiums

Distribution, Sales & Marketing
- Develop relationships with potential buyers and secure growth and retention
- Expand distribution channels to reduce costs and increase sales

Underwriting & Pricing
- Evaluate the insurable loss exposure of potential customers
- Accept or reject the potential customer
- Classify and find ways to lower risks

Operations
- Customer service and a functioning technology infrastructure
- New service capabilities

Claims management
- Ensure fair settlements
- Evaluate and settle claims by or against the policy order or settlement process

Capital, Risks & ALM
- Invest in assets and manage them to earn profits on premiums before paying out benefits
- Ensure the optimal structure of the balance sheet and risks

TRENDS (1)

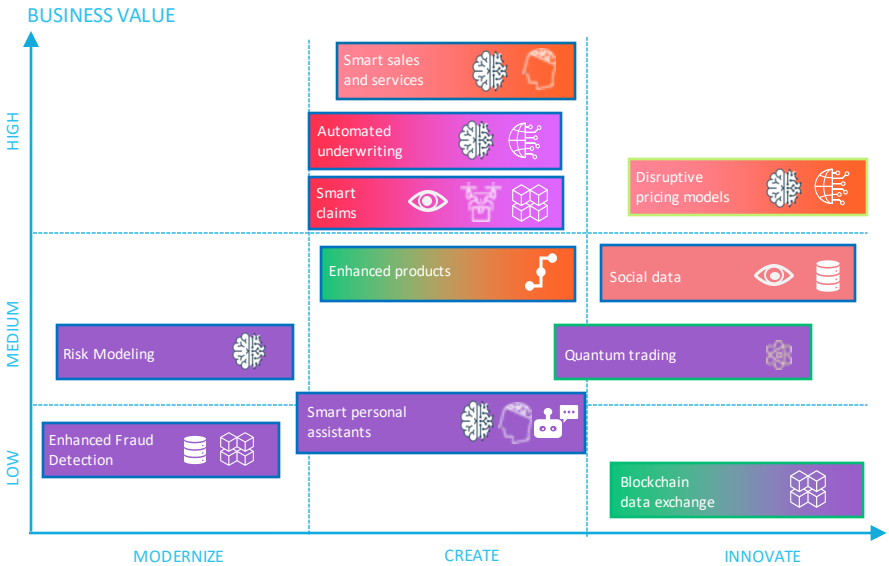
51%
of customers are interested In usage-based insurance

+19%
of customers are willing to buy insurance from BigTechs today, compared to 2016

25%
of customers think that insurers aren't there for them when needed

+1%
Most insurers wish to improve their fraud detection rate by more than 1%

2.2 FOCUS ON TECH DELIVERY MATURITY & BUSINESS VALUE



Transformational pillars addressed

Relevance	Proximity	Efficiency	Sustainability

Timeframe — < 2 years — 2-3 years — > 3 years

API · Drones · Blockchain · Deep Learning · Quantum

IoT · Chatbot · Machine Learning · Visual Recognition · Unstructured data analysis

TAKEAWAYS FROM TECHNOLOGY ROADMAPS

From a technology perspective, we identify 3 main groups :

- **Must-have technologies:** AI (including machine learning and deep learning) as well as APIs and automation are at the heart of the value chain, especially to address **efficiency** and **sustainability challenges**
- **Future must-have technologies:** Blockchain, and in the longer term, augmented reality, will improve the volumes of data transferred and the computing power, mainly to improve **proximity**; AI coupled with IOT will bring intelligence into the whole value chain to improve capabilities that help ensure **relevance**
- **Highly disruptive technologies:** other technologies also need to be considered depending on the insurer's context to disrupt the value chain and **address all challenges**

[1] Capgemini | Efma, "World Insurance Report 2020", May 14, 2020

3. FOCUS ON VALUE CHAIN BLOCKS ALONG WITH USE CASES

PRODUCT DEVELOPMENT

83% of insurers are investing or will invest in APIs

Easily creating new products

Thrive through diversification or die

API and Blockchain

- **Challenges and why now:** Digitization is changing customer expectations with a need for immediacy and service diversity. New competitors, including BigTechs, are transforming the "client-producer-distributor" value chain, and disruptive innovations enable data sharing with innovative third parties while respecting technical regulatory standards
- **How tech can help**: through platformization and the use of APIs, insurers can open their legacy systems to a wider ecosystem to attract, select and collaborate with suppliers and consumers. By orchestrating their interactions, they can securely deliver enhanced products and services following the white label model, that wouldn't exist otherwise
- **Examples of emerging use cases:** "La Parisienne Assurances", which only markets white label products, has multiplied APIs and developed a platform that relies on blockchain. E.g.: An "always on time" API will be used by distributors to reimburse consumers in the event of a plane or train delay

DISTRIBUTION, SALES & MARKETING

30% of customers are satisfied with their insurers [3]

Re-enchant the customer

Ready-to-use technologies

AI and Mobile

- **Challenges and why now:** Proximity and trust are at the very heart of insurance relationships, yet they are rapidly eroding. A huge volume of insightful data could be leveraged to make this better, yet it is hard to differentiate from the noise. With COVID-19 and its long-term impacts on consumer behavior, there is an opportunity to re-engage with customers
- **How tech can help:** For renewed success, it is necessary to understand emotions through behavioral triggers linked to specific events. These insights will then be leveraged to better identify with customers, build brand capital and enhance product and service appeal for a given target population. Technology allows us to analyze what a customer feels, says and does through small data (needs and pain points), social data (from social networks) and customer data (contact points, conversion rates and feedback). It takes artificial intelligence to understand patterns, and mobile technology to adequately respond to triggers and deliver a smooth customer experience
- **Examples of emerging use cases:** Bloom teams are experts in producing actionable insights from social media leveraging an AI platform. This recently helped to better understand the impact of Covid-19 on the savings appetite of French banking customers

UNDERWRITING & PRICING

73% of consumers would like a personalized contract

Contracts based on consumption or lifestyle behaviors

IoT technologies are cheaper than years ago

IoT and 5G

- **Challenges and why now:** Consumers want to pay for services tailored to their consumption. Insurers, through technology, need to find ways to record behaviors, while at the same time addressing potential ethical concerns
- **How tech can help:** IoT technologies are now reliable and accessible thanks to 3 main factors: reduced cost of IoT sensors, availability of 4 major technologies and more than 20 protocols (5G, 3GPP, Short range LPWAN), and a gradual adoption of Data and Cloud platforms.
  Given that lots of startups are offering personalized pricing to their customers, it is time for traditional insurers to learn how to quickly adapt to demand.
- **Examples of emerging use cases:** Some insurers have created a "Pay as you drive" insurance policy to reward customers with bonuses for safe driving or to impose penalties in the event of dangerous driving, thanks to sensors located in the car. This can be applied to life insurance too, for example, with connected bracelets.

[3] Capgemini | Efma, "World Insurance Report 2020", May 14, 2020

3. FOCUS ON VALUE CHAIN BLOCKS ALONG WITH USE CASES

OPERATIONS

60% of consumers still use call centers[8]

Be everywhere, at any time

Mature technologies and eager consumers

Automation, AI, Chatbot and Blockchain

- **Challenges and why now:** Insurance firms face intense competition, and therefore, operating model innovation is critical for them, to get a sustainable competitive edge. Many companies struggle to make automation a success, failing to scale up and deliver value.
- **How tech can help:** it is necessary to carry out a comprehensive and detailed program with feedback loops and iterative steps to enable an intelligent automation transformation. The right technology will depend on the use case being explored: for example, chatbot for customer requests, RPA for automated classification, OCR and NPL for seamless KYC procedures.
  Blockchain is also leveraged in innovative use cases to accelerate data exchange and speed up operations between insurers
- **Examples of emerging use cases:** contact centers with conversational AI, as deployed by MGEN, enables advisors to focus on value-added tasks while quickly satisfying standard customer requests using chatbots or voice bots, conversational IVR, Intelligent Routing and personalized conversations

CLAIMS MANAGEMENT

1% of fraud detection on an average [9]

More fraud and more complexity

Powerful algorithms for fighting fraud

Unstructured data analysis, Blockchain, AI, API, and Drones

- **Challenges and why now:** customers still see claims as a problem and not just because of the emotions attached. Insurers here have an opportunity to generate efficiency and effectiveness, while also combating the increasing fraud cases, through the transformation of their claims management processes. To make the transition from a manual, offline and costly world to an automated and instantaneous world that is trustworthy by default, it is necessary to effectively leverage data and artificial intelligence
- **How tech can help:** consumers have become increasingly demanding, and insurers may have to respect the claim processing time of 24 hours to remain competitive. Fortunately, technologies have become more and more sophisticated, making it simpler to identify fraudulent claims. Today, with drones and IoT sensors, it is possible to capture data during an incident, while AI allows for unstructured data/input analysis, Blockchain for fact checking and APIs pave the way for quickly triggering the compensation process or getting support from specialized 3rd parties
- **Examples of emerging use cases:** the French company Shift Technology leverages AI to scan social media and detect health insurance frauds, while the Chinese company Ping An's One Connect solution allows the automatic checking of the vehicle model, damages and estimated compensation by the click of a single button after a car crash

CAPITAL, RISKS & ALM

21% of growth expected in capital markets for 2021[10]

Complex products, more computing power

Experimenting begins now

Quantum computing

- **Challenges and why now:** Financial services institutions are under increasing pressure to balance risk, hedge positions more effectively, and perform a wider range of stress tests to comply with regulatory requirements. Upcoming regulations, market volatility and the strong willingness to perform better than their peers are factors that are making the usual stochastic approach insufficient.
  Uncertainties need to be simulated by leveraging more complex models.
- **How tech can help:** Complex models for constantly changing values and markets trigger the need for huge computing power, made possible thanks to quantum computing
- **Examples of emerging use cases:** executing arbitrage opportunities in microseconds for complex market products such as currencies, to maximize gains and make profitable trades most of the time. Simulating large numbers of potential investment scenarios in real time.

[4] Capgemini | Efma, "World Insurance Report 2020", May 14, 2020

4. FOCUS ON USE CASES AND ASSOCIATED TECHNOLOGIES

ENHANCED PRODUCTS THROUGH PLATFORMIZATION

PRODUCT DEVELOPMENT

- Open Insurance is a secure way for insurers to provide third-party service providers open access to consumer data and other relevant data using application programming interfaces (APIs).
- 3 major positionings can be adopted to develop Open Insurance:
  - The insurer aggregates and distributes some of the partner products and services following the white label model
  - The insurer brings together an ecosystem of partners and orchestrates their interactions to capture some sort of value
  - The insurer delivers some products and services that will be distributed by partners following the white label model (example: La Parisienne Assurances)
- **Players:**
  - La Parisienne Assurances

MARKET TECHNO IMPACT

EVALUATING RISK MORE ACCURATELY THANKS TO MACHINE LEARNING

PRODUCT DEVELOPMENT

- Akur8 is the only solution in the market that combines the worlds of machine learning and actuarial science. With Akur8, the duration of risk modeling for insurance companies is ten times less and profitability improves by 2% to 4%.
- **Players:**
  - Akur8

MARKET TECHNO IMPACT

TECHNOLOGIES API

Why now

- Digitization is changing customer expectations, with a growing need for immediacy
- New competitors (InsurTechs, BigTechs) are transforming the "client – producer – distributor" value chain
- Disruptive innovations such as open interfaces (APIs) enable data sharing while respecting technical regulatory standards

TECHNOLOGIES MACHINE LEARNING

Why now

- In this new world that demands complete transparency, this technology represents "AI for Good" using reliable and controllable data to empower employees

4. FOCUS ON USE CASES AND ASSOCIATED TECHNOLOGIES

SMART PERSONAL ASSISTANTS FOR AGENTS AND AI-ENABLED BOTS TO FIND POTENTIAL DEALS FOR CLIENTS

DISTRIBUTION,
SALES & MARKETING

- Insurance advisors / sales reps are at the crossroads of ever-changing customer expectations and the constant transformation of insurers
- AI is redefining how customers interact with insurance providers. There are more than 50 AI use cases already in operation for insurance companies, and nearly one in five insurers has already implemented at least one AI technology, according to McKinsey. By enabling Conversational AI to handle customer interactions, insurers have improved the speed and accuracy of the services they deliver.
- Given the wide variety of insurance use cases for AI, organizations must be cognizant of how best to deploy this technology. In some cases, AI-based agents — sometimes referred to as Digital Colleagues or Digital Employees — can serve alongside their human colleagues as assistant agents or "Whisper Agents."

- **Players:**
  - Zelros
  - Amelia, an IPsoft Company

MARKET TECHNO IMPACT

TECHNOLOGIES

MACHINE LEARNING

DEEP LEARNING

CHATBOT

Why now

- The need for human interaction does not disappear, and offline channels, such as insurance agencies, continue to remain crucial for most customers

AI TO IDENTIFY NEW SALES AND SERVICE OPPORTUNITIES

DISTRIBUTION,
SALES & MARKETING

- AI can help insurers initiate proactive actions to enable new sales and service opportunities
  - New sources of data can provide information on what has changed in a customer's life (e.g., family, location or education/job change, etc.)
  - This data can help insurers understand the customer's life events, which is essentially knowledge they can use to develop personalized marketing strategies and provide guidance on next best actions: both predictive (detect problems before they occur) and prescriptive (offering specific and actionable next steps on how to solve the issues brought up during the predictive data analytics)

- **Players:**
  - IBM

MARKET TECHNO IMPACT

TECHNOLOGIES

MACHINE LEARNING

DEEP LEARNING

Why now

- Half of humanity is on social networks, i.e., 3.7Bn people, 80% of this market is concentrated with Facebook, Instagram and Twitter. 70% of data comes from comments and interactions

4. FOCUS ON USE CASES AND ASSOCIATED TECHNOLOGIES

AI-BASED REAL-TIME PRICING AND AUTOMATED UNDERWRITING BASED ON CONSUMER BEHAVIOR AND OTHER EXTERNAL FACTORS

UNDERWRITING & PRICING

- For most insurers and MGAs, submission data received from brokers and insurers is riddled with errors and missing values. This leads to inaccurate risk selection and pricing, and subsequently to poor loss ratios and increasing expenses due to inefficient processes.
- For insurers who want to make efficient, data-driven decisions, AI-based technologies automatically include traditional and non-traditional data, such as accurate property, location, weather and rating information, primary and secondary modifiers, enhanced proprietary features, and risk scores based on a solution's custom-built machine learning models. With this approach, insurers can underwrite using granular data to inform decision-making and automate or augment underwriting decisions to improve efficiency.
- IoT sensors of connected objects can also be a large source of data to take into account consumer behavior
- **Players:**
  - Cytora
  - Descartes Underwriting

MARKET TECHNO IMPACT

TECHNOLOGIES MACHINE LEARNING

IOT

Why now

- The quantity of data available today is black gold. With real solutions, we can analyze traditional and non-traditional data to address the personalization needs of customers
- Moreover, the upcoming 5G transition will enable extensive use of IoT and AR solutions

INDISPUTABLE INFORMATION FLOW THROUGH BLOCKCHAIN

OPERATIONS

Leverage Blockchain for data exchange between insurance companies, including:

- Legal constraints linked to consumer contracts such as the French "Hamon" Law, addressed by the Consortium blockchain, which eases the termination of insurance contracts
- Reinsurance operations

- **Players:**
  - The Blockchain Insurance Industry Initiative (B3i), an insurance industry consortium

MARKET TECHNO IMPACT

TECHNOLOGIES BLOCKCHAIN

Why now

- Blockchain technology became widely popular thanks to the cryptocurrency bubble, accelerating the development of accurate and tailored solutions for the insurance industry

4. FOCUS ON USE CASES AND ASSOCIATED TECHNOLOGIES

SEAMLESS INSPECTIONS AND COMPENSATION THROUGH AI

CLAIMS MANAGEMENT

Goals:

- Identify all damages and reduce inspection costs
- Transform manual inspections and handling into an automated process
- Pre-trained AI can help reduce the implementation/processing time and achieve quicker ROI
- Accuracy and repeatability in detection

- **Automated vehicle inspections** to enable touchless claims, reduce manual touchpoints, fraud and loss ratios, and enhance the policyholder's digital experience. With just a single image, the insurance company can receive information regarding the damages, the make and model of the vehicle, and secure the company against fraudulent claims.
  For instance, Ping An's One Connect solution has created a database that allows customers to be automatically compensated after declaring an incident

- **Aerial intelligence** - drones ensure faster and more accurate inspections and claims settlements. Claim adjusters and roof inspectors can fly an autonomous drone and capture all the data they need in high resolution images to comprehensively determine roof damage. Once the images are captured, the solution uses machine learning and detailed analytics to generate roof wireframes and automatically identifies damages to speed up claim processing

- **Players:**
  - Tractable
  - Kespry
  - Click.Ins
  - One Connect

MARKET TECHNO IMPACT

TECHNOLOGIES

VISUAL RECOGNITION

BLOCKCHAIN

DRONE

Why now

- Apart from improving the customer experience, insurers have an opportunity to generate efficiency and effectiveness through claims transformation
- They have the opportunity of automating simple claims using straight-through processing approaches

FIGHTING FRAUD USING DEEP LEARNING

CLAIMS MANAGEMENT

- Numerous players are teaming up together to fight against fraud, amounting to an estimated 70 billion euros every year

- Paris-based company Shift Technology allows insurance companies to provide information around a claim. Shift then analyzes the data leveraging their mathematical model, algorithms and publicly available data to detect fraudulent behavior. As an example, Generali's goal is to improve its fraud detection rates from 0.8% to 2%

- Then, there are other players who wish to leverage blockchain to certify the authenticity of administrative documents, such as EDF, Engie, La Poste, and CDC in France, through their "Archipels" Blockchain

- **Players:**
  - Shift Technology
  - Archipels

MARKET TECHNO IMPACT

TECHNOLOGIES

BLOCKCHAIN

UNSTRUCTURED DATA ANALYSIS

Why now

- Tremendous savings through faster and more accurate fraud detection
- Need for insurance companies to open their legacy systems to the outside world and use APIs more effectively

4. FOCUS ON USE CASES AND ASSOCIATED TECHNOLOGIES

CLAIMS MANAGEMENT THROUGH SOCIAL NETWORKS

CLAIMS MANAGEMENT

- **AI for social media** – Insurers can use AI to improve claims management by analyzing texts and pictures to identify urgent claims and unhappy customers. AI on social media can ease real-time interactions with a client to better evaluate and advise him/her. It can also decrease the public impact on the brand image.
- **Players:**
  - IBM Watson

MARKET TECHNO IMPACT

TECHNOLOGIES

VISUAL RECOGNITION

UNSTRUCTURED DATA ANALYSIS

Why now

- A huge part of data on social media is public. Nowadays, to get a quicker response from a company, customers do not hesitate to post public messages of dissatisfaction.
- By filtering tweets related to the company and analyzing the words, AI can identify negative tweets with lots of visibility to treat them first.

OPTIMIZED TRADING THROUGH QUANTUM COMPUTING

CAPITAL, RISKS & ALM

- Derivative pricing has been one of the core activities of financial services institutions. Today, the trading activities of financial markets have become very complex with the inclusion of more derivatives for value adjustments, for example, the XVA umbrella, and due to tighter regulations, such as MiFID II that demands greater transparency. We see two direct consequences:
  - the arrival of a large wave of data, likely to be measured in petabytes, because institutions now have to report more information about most trades immediately, including price and volume
  - the increase of constraints to be taken into account in portfolio optimization
- Portfolio optimization is an NP-hard problem, the aforementioned complexities render this problem more difficult to solve by traditional computers. Quantum technology could help cut through the complexity of the trading landscape. Its combinatorial optimization capabilities may enable investment managers to improve portfolio diversification, propose more precise portfolio investments that respond to market conditions and investor goals, and streamline trading settlement processes.
- **Players:**
  - Barclays
  - QuantumAI Trade

MARKET TECHNO IMPACT

TECHNOLOGIES

QUANTUM

Why now

- While quantum computing might be a bit expensive, it is quite easy and affordable to run an application with a cloud-based access.

Capgemini invent

About Capgemini Invent

As the digital innovation, consulting and transformation brand of the Capgemini Group, Capgemini Invent helps CxOs envision and build what's next for their organizations. Located in more than 30 offices and 25 creative studios around the world, its 7,000+ strong team combines strategy, technology, data science and creative design with deep industry expertise and insights, to develop new digital solutions and business models of the future.

Capgemini Invent is an integral part of Capgemini, a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided everyday by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of 270,000 team members in nearly 50 countries. With its strong 50-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 in 2020 global revenues of €16 billion.

Get The Future You Want

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