



# Re-shaping the Insurance business post-pandemic

Green, Healthcare-focused, and Cyber safe

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# Introduction

In the last few years, the global society's awareness of risks that were previously ignored have been gaining increasing momentum.

The role that Insurance companies can and will play in this scenario is huge. They must meet the new needs of customers by adapting their offerings in terms of products, business models, and customer experience in order to protect their customers against those new risks that are now perceived as important by a growing part of the population.

Within this paper, we will address how Insurance Companies worldwide are expanding their business models to face these changes and how smaller start-ups and Insurtechs propose changes to traditional approaches within the realm of insurance by leveraging those new technologies. We will divide this topic into 3 essential areas: climate change and sustainability, health-care protection, and cybersecurity.

## References:

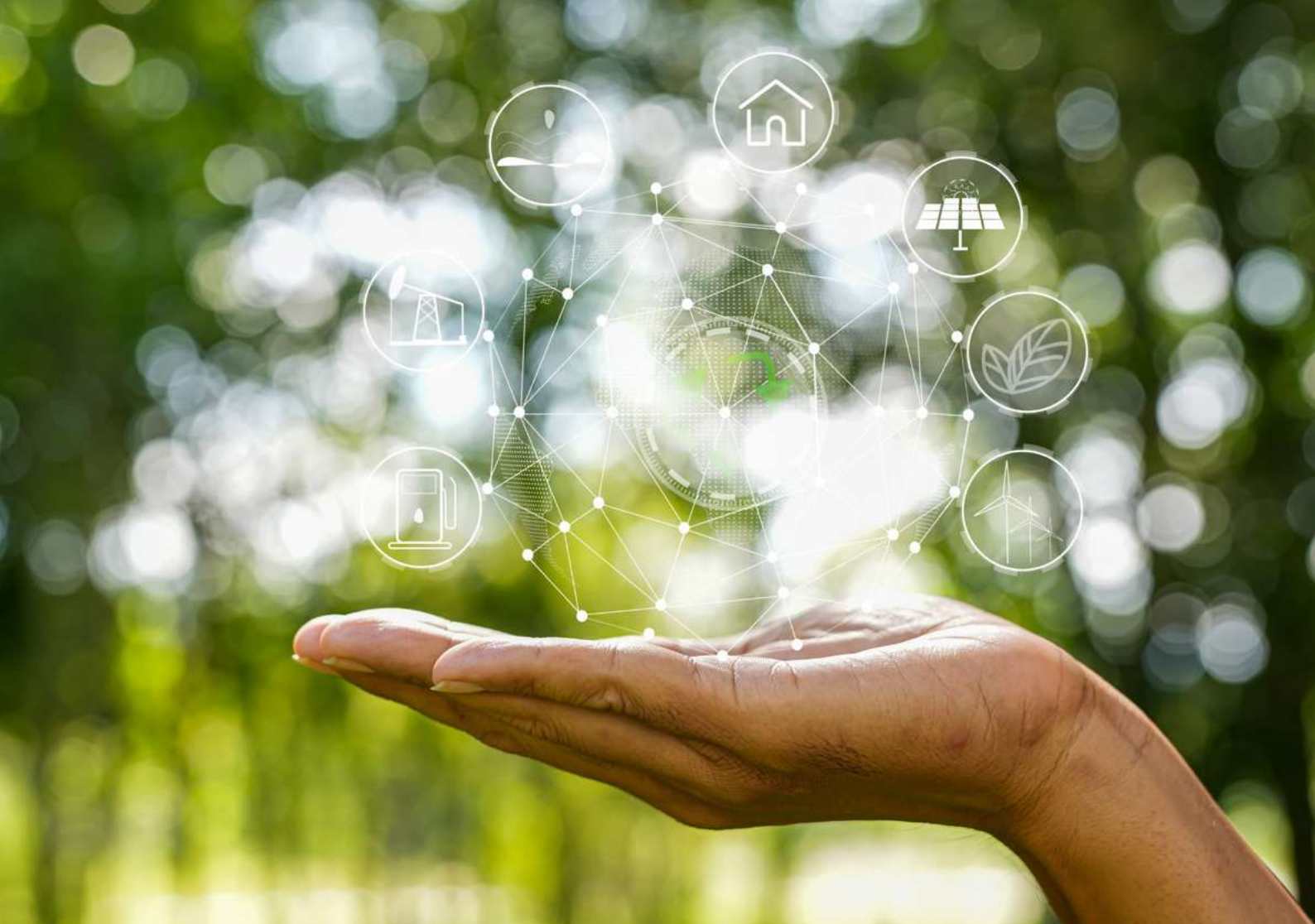
<sup>1</sup> "Global Genetic Testing Market", 2021, Data Bridge Market research

<sup>2</sup> <https://www.sanitainformazione.it/lavoro/telemedicina-l86-degli-italiani-lha-utilizzata-per-la-prima-volta-durante-la-pandemia/>

<sup>3</sup> "Digital Therapeutics Market", 2021, Verified Market Research

<sup>4</sup> "Global Wealth 2019 Reigniting Radical Growth", 2019, BCG





## Green protection, for everyone

Green sustainability is a central theme for the current generations who perceive the problem of climate change and the importance of sustainable policies. Customers know that a sustainable policy is important not just for them, but also for future generations.

Insurance companies are aware of this mindset-change and are on the front line to intercept and support these new emerging trends. These include Smart home, Smart Mobility, electric mobility, and shared Mobility.

Companies must also be able to propose innovative offerings covering these risks, while providing services and products capable of fighting climate change. Examples of such offerings are:

- monitoring systems for buildings and the environment resulting from the damage of climate change; and
- how to expand their service offerings and reduce to settlement of claims.

## Sustainability: new sensitivities and economic models

The green awareness of modern society implies different behavioural and, more generally, life goals than in the past. Today one of its objectives is environmental responsibility adopting behaviours capable of combating climate change. These new goals include a greater focus on energy saving and a particular focus on environmental protection in all areas from forest to air protection.

People want to reduce pollution in cities and enhance them aesthetically with fewer cars on the road in historic centres, fewer traffic, and better air quality. People try to reduce waste in daily habits and their actions are increasingly paying attention to environmental regulatory issues. It can be seen within Figure 1 that this trend is occurring across the globe.



New habits derive directly from the goals that people have set for themselves: pursuing the goal of energy saving means that people must pay greater attention to home consumption, while seeking environmental protection implies attention towards sustainable and shared vehicles. The need for reduction of pollution in cities and the desire to enhance them for all the citizens means that people look more carefully at electric and hybrid cars to be able to use them in the city, lowering pollution and saving on the use of fossil fuels. A greater focus on sustainability means that companies can offer products and devices such as smart meters that provide information on energy use and recommend smarter habits or usage of objects that help save energy and money.

The focus on sustainable and shared vehicles has led to the spread of smart mobility and micro-mobility. People living in cities are looking for apps and services accessible through a single touchpoint, a paradigm shift compared to mere public mobility services like buses or subways. They look for services that allow them to avoid motor vehicles and substitute those vehicles that fall into micro mobility, which

includes scooters and bicycles. If in the past cars or motorcycles were the natural choice for any journey without concerns about pollution, today citizens make this choice by placing greater attention to environmental sustainability.

This idea is also carried over into homes. Today, homes are increasingly turning into smart homes.

Not only private homes are turning into smart homes, but also public buildings and corporate headquarters are adapting smart technologies. Companies build smart buildings and homes that can match energy consumption with the habits of the inhabitants and provide information that allows them to save energy and minimize costs and CO<sup>2</sup> output.

Finally, attention to sustainability is no longer just a push from people and citizens, but from regulators that are imposing well-defined rules on these issues. Governments and regulatory agencies are pushing companies to behave in a more sustainable way not just through recommendations and invitations but through regulations such as ESGs. In this way they oblige companies to adapt to these new social paradigms by adhering to specific laws.

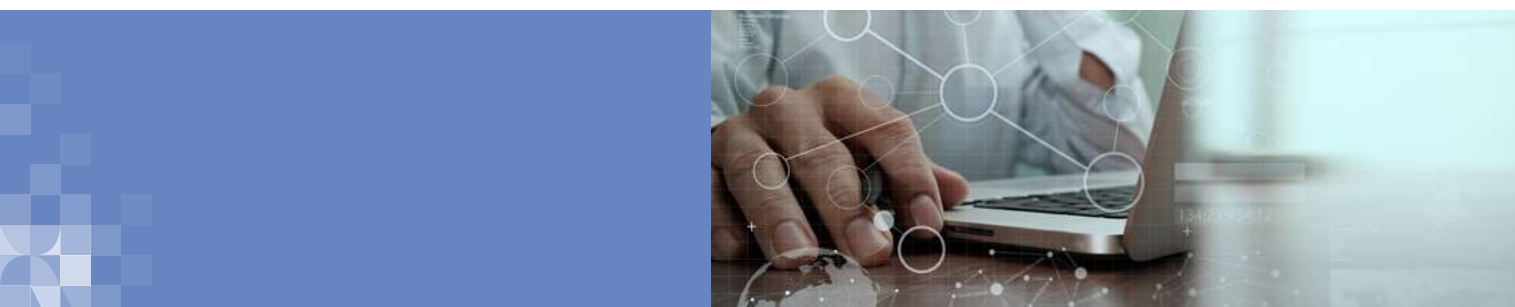
# The role of Insurance companies

What can insurance companies do today? What role should they assume to exploit these new trends and sensitivities of their customers? What can they offer to attract them and not lose their trust? Being natural lifetime partners of consumers and having the mission of protecting them against ever-changing risks, insurance companies are playing an active role in this arena, developing business models, products and services that try to adapt to customers' habits and sensitivities.

Insurance companies must leverage the use of new technologies to implement actions that allow them to attract new customers and satisfy their needs. The ideas put in place must be designed in such a way as to exploit the full potential of technologies such as artificial intelligence IoT, Cloud, Satellite Images and blockchain Machine Learning

Insurance companies must ask themselves what actions they must concretely implement to allow them to continue their traditional business while expanding their market.

- **Products:** Insurance companies must commit to creating and developing insurance products that have a focus on sustainability. New products must not use sustainability as advertising and showcase for their customers but must be thought and developed from scratch with the precise aim to be perceived by customers as sustainable and green, yet affordable in terms of premium and advantageous in terms of service provided (claims management, assistance, etc.)
- **Services:** Insurance companies must focus on providing services related to green energy and smart mobility. They must devise services that can interconnect public and private services and, at the same time, offer micro-mobility and shared mobility services. These services must then be integrated within their insurance offers in such a way as to offer a product that not only covers risks, but monitors and prevents risks related to sustainability. New devices can be a vehicle for the sale of insurance policies and should be leveraged for the core business of the Companies.
- **Ecosystems:** The products and services conceived must be able to create Ecosystems able to offer customers a 360 degree offering: no longer just claims settlement, but managers of an integrated offer in which customers can take advantage of services and tools capable of measuring, analysis, and helping consumers transition to a more sustainable lifestyle. They must also be able to offer these tools themselves by aggregating them into a single offering.
- **Internal changes:** Insurance companies must not only change externally but must also undertake a change internally. The company itself must become sustainable by adapting their processes and investments to ESG. It should in the first place become an example and instrument of the sustainability it wants to offer to its customers. Companies, for example, should move towards Cloud infrastructure and services in such a way as to be able to leverage energy savings and avoid pollution.





insurance



# Health: what disrupted the industry in the last year?

Since Covid-19 spread around the globe, we faced changes at different levels that impacted the health-care industry and therefore this is likely to change the rules of the game in the Insurance field.

Three main changes pushed to powerful innovation and benefit within the industry:

- **New technology:** The cost of DNA sequencing fell dramatically in the last year, and made DNA tests available to a much broader number of patients for a lower and affordable price.
- **Habits change:** Forced social distancing during the pandemic increased the adoption of smartphone, PC, and video call software, especially in the older population, allowing people to get closer to Telemedicine – a mandatory choice for those who could not leave their houses during the pandemic.
- **Market move:** Telemedicine leaders saw the opportunity to integrate their platforms with smart health devices that could complete the telemedicine platform and its diagnostic automation, with the goal of monitoring patients 24h/7.

The above three changes brought the following **innovation and benefits** to the industry:

## DNA testing:

Starting from \$250, it is now possible to test several genes for prevention or curative purposes including: cancer, pre-natal issues, cardiovascular diseases, carrier disorder, drugs allergies, and many more. This implies a cheaper and more effective way to cure and prevent diseases. The global genetic testing market is expected to reach 49.6 B€ in the next 5 years<sup>1</sup>. Nowadays, most popular tests are carrier Testing, Diagnostic Testing, New-born Screening, Predictive and Pre-symptomatic Testing, Pre-natal Testing, Nutrigenomics, Pharmacogenomics. In Europe, regulation and health plans coverage for this form of testing is still in the early days. Comparatively, within the U.S. most insurances cover these services.

## Telemedicine:

This new way to have a consultation with a doctor is now possible online, in a faster and cheaper way. All medical records are online for each patient and the process for doctor visits and analysis are much more efficient. Italy is among the European countries that stated it will use telemedicine more in the future (71%) after France (72%) - compared to Germans (65%) that seem to be more sceptical. 86% of Italians and 78% of Germans used telemedicine for the first time in 2021, after COVID started.<sup>2</sup>

## Smart devices:

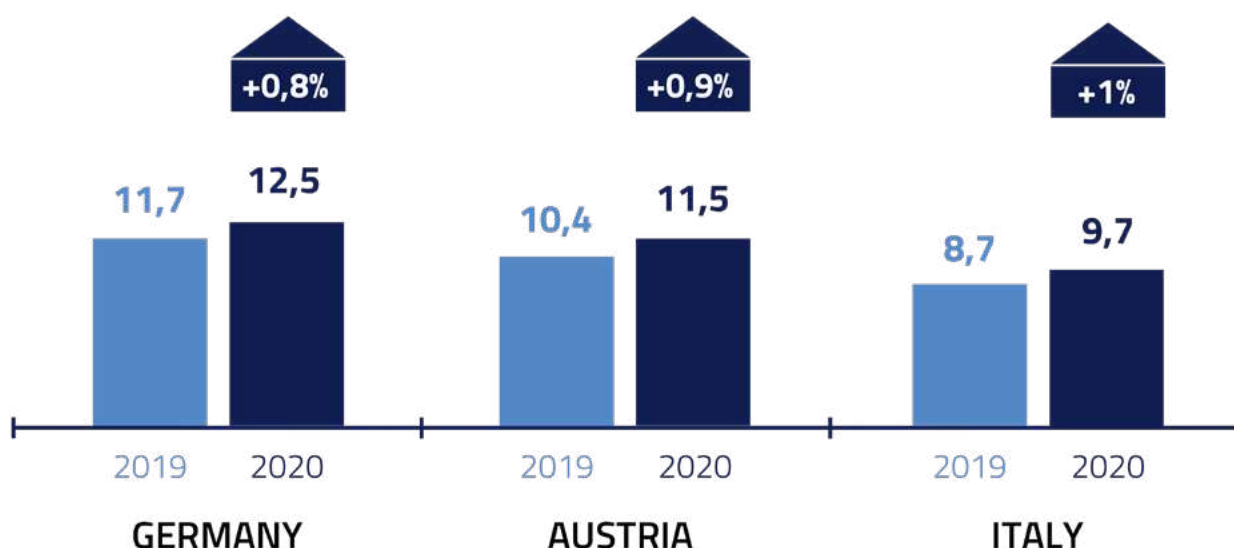
Chronical diseases like diabetes or heart problems can now be managed and monitored 24h/7 thanks to smart devices that constantly control the patient's health status and send automatic data to their Telemedicine account, where a doctor can intervene in case of need. This business integration between the telemedicine platform and smart devices created a more accurate and cheaper way of monitoring and curing patients. Diabetics who use dedicated smart devices noticeably lowered their glucose levels and had a 17% reduction in diabetes-related medical costs, an 11% drop in all medical claims, and 21% fewer ER visits. Chronic illnesses account for 70% of U.S.'s \$3.5 trillion in health care costs. Global Digital Therapeutics Market size was valued at USD 121.1 Million in 2020 and is projected to reach USD 1,365.5 Million by 2028.<sup>3</sup>



## Health: the public health spending

Health-care spending is a big part of the GDP spending of a Country and, post Covid, the budget for health increased around the globe. Below are some key numbers of **health-care spending** by country.

The health spending of a country as a share of their GDP rose sharply because of the pandemic (2019 to 2020).



Nevertheless, according to Bertelsmann Foundation, all DACH countries, together with other EU countries from South of Europe, have a lot of catching up to do when it comes to digitizing the healthcare system (Austria 10th, Switzerland 14th and Germany 16th – out of 17 countries).

The United States spent by far the most on health care, equivalent to 16.8% of its GDP – well above Germany, the next highest spending country, at 11.7%. Italy follows in 3rd place with only 9.7% of its GDP. It is predicted that global spending and market size for the health industry will increase up to 1 trillion EUR by 2026.

# Health: the impact of innovation on insurance

Overall, the three Innovations above imply huge challenges and impacts for the Insurance companies:

## DNA Testing

### **New Challenges:**

- Insurance companies are pushing their clients to get tested, so they know about potential medical concerns in advance with much deeper detail and choose or suggest the most suitable prevention actions for the specific case. The global genetic testing market is expected to reach 49.6 B€ in the next 5 years. Nowadays, most popular tests are carrier Testing, Diagnostic Testing, New-born Screening, Predictive and Pre-symptomatic Testing, Prenatal Testing, Nutrigenomics, Pharmacogenomics.
- A DNA screening can help cure diseases more effectively, thus reducing risks for Insurance Companies. For example, the same type of Cancer can be cured in different ways according to how that person reacts to specific drugs or remedies. DNA testing could allow doctors to choose immediately the most effective cure/drug for that person.
- Insurance Companies can leverage data results: through DNA testing they will accumulate a huge amount of data and manage statistics on risk of diseases for any demographic (age, territory, lifestyle, etc.).

### **Impacts on Insurances:**

- The approaches to prevention will reduce the risk of disease and the costs connected to curing it.
- New tailor-made insurance plans will be issued with better pricing and better risk management.

## Telemedicine

### **New Challenges:**

- Insurance companies will speed-up the deployment of cost-effective provisioning of Telemedicine services to increase speed and lower costs.
- Telemedicine providers will likely act as new key partners in the health industry (own data, first point of contact for patients, etc...).

### **Impacts on Insurances:**

- Companies will see a decrease of cost per visit and faster access to consultations.
- Telemedicine will be a new possible distribution channel for insurance companies.
- Recording visits, invoices, and payments will be easier and cheaper than before.

## Smart Health-device

### **New Challenges:**

- Insurance companies will have the opportunity to manage Chronic disease remotely and fully digitally in an automated way thanks to smart devices.
- In-home and self-diagnostic devices can analyse chronic disease parameter (glycemia, hypertension, etc.).

### **Impacts on Insurances:**

- Cost saving for monitoring and managing chronic diseases.
- Real time and higher level of prevention of diseases and possible complications.

# Cybersecurity

Cybersecurity is one of the emerging risks that comes with modern technologies.

The numerous networked devices and personal information posted on the networks by companies and people make cyber-attacks particularly dangerous for everyone. Moreover, Cybersecurity is one of the areas most affected by the crisis. The crisis scenario has profoundly changed our habits and forced modern societies to work exclusively digitally, leading to greater exposure to IT and cyber-attacks.

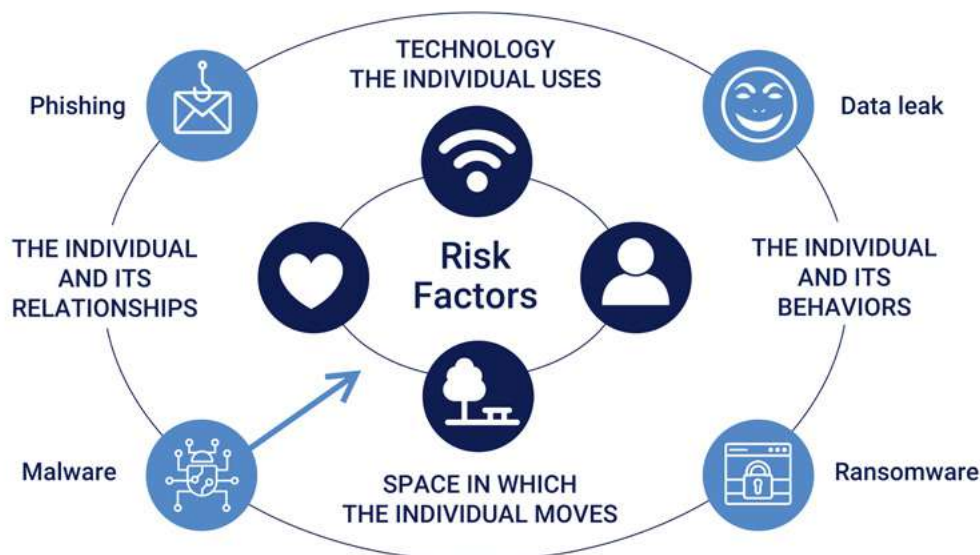
From an enterprise perspective, IT risks top the list of current and future global risks. They are witnessing a very rapid mutation of threats, actors, and attacks that are capable of causing increasingly serious and effective impacts on targeted objectives. As a result, service disruptions or cyber-attacks can lead to significant downtime costs and increased operational costs, as well as lost revenue and fines. Ultimately, reputation can also be affected. In this scenario, it is important to consider the role of risk management. It is crucial

to identify and analyse the potential risks to the business, evaluate them, and then determine the best strategy for the company's chosen industry line and financial capabilities.

Several risk factors related to human action and attributes create a cybersecurity vulnerability.

- The **technology** each individual uses is one of these factors, particularly when they use systems that are not secure or install malware.
- Another risk factor is the **individual's behaviour**, including a bad choice of passwords or the lack of usage of multi factor authentication.
- In addition, the virtual **spaces in which the individual moves** and its **personal relationships** play major roles when it comes to cyber risks. For example, surfing on unsecure websites or sharing too much information out of carelessness can turn employees into easy victims of phishing attacks and cause data leakage, which may cause irreversible damages.

By exploiting these human weaknesses, different types of cyber-attacks may effectively be executed.



Over the years, our society has increased its use of technology, expanded its presence in virtual spaces and built additional personal relationships over the Internet. Yet, we have not always been capable of adopting behaviours that could help avoid or mitigate cyber risks. This tendency has been globally accelerated by the spread of the Covid-19 pandemic, placing cybersecurity as one

of the biggest challenges of the next years for both people and companies.

Insurance companies, while being affected by the same risks as any other industry (and being particularly vulnerable, treating any kind of personal and private data of their customers), can play a big role to protect people and companies by cyber risks.



## Cybersecurity: some data

Some data can give a quick overview of the global increase of cyber risks issues, and how this should be taken seriously from an insurer's perspective:

- The risks of cybersecurity have a global scope that has been accelerated, amongst other reasons, by increasing digitalization. 37% of companies worldwide have been targeted by ransomware attacks in 2021, which resulted in rectifying costs of 1.85 M Euro on average. The damage of a cyberattack is not only limited to the monetary costs but also other resources such as time. Once a cyber-threat has taken place, 287 days are needed on average to identify and contain a breach.

Top 3 attack types in 2021		Top 3 attack vectors in 2021	
1°	Ransomware	1°	Phishing
2°	Server acces	2°	Vulnerability exploitation
3°	BEC	3°	Stolen credentials

- Research on the trends in the finance sector showed that 70% of all cyber-attacks were targeted on banks. In 2021, this industry experienced 14% of attacks on server accesses and phishing was the most common infection vector. Overall industries, phishing was the most common attack vector in 2021, followed by vulnerability exploitation and stolen credentials.
- Looking at the data insights in the Italian market of 2021, the number of cyber-attacks has increased by 36% compared to the previous year. This amounts to a total of 903 attacks on Italian companies every week, out of which 74% had a critical impact. The resulting damages were accordingly high (13 B EUR), with a tendency to increase up to 92% by 2024. The most common type of attacks in Italy were ransomware attacks, from which 1.9% of all Italian organizations were affected every week. With these high numbers, it is justifiable for Check Point Research to rank Italy second for the countries most affected by cyber-attacks, after Spain.
- According to ANIA (Italian association of Insurers), 60% of the Italian insurance companies have experienced a cyber-attack in the past five years and the vast majority was indeed aware that their sector is at high risk of cyber threats.
- Further sources showed that the sheer number of new malware variants increased to 144M in the DACH region, which represents a 22% increase compared to 2020. Web filters of the government networks blocked around 74.000 websites and 44.000 e-mails containing malicious programs. Also, 14.8M messages were sent to German network operators by the Federal Cyber Security Authority in 2021, which was an increase of 111% compared to 2020.

## What Insurers can and should do

The rising number of cyber risk breaches and their costly, long-lasting damages is a pervasive issue that every company needs to take seriously.

Thus, active anticipation toward remaining resilient is required and can improve cybersecurity. One main approach to mitigate IT risks associated with the “human factor” is to raise awareness of cybersecurity and to integrate cybersecurity resilience. In fact, comprehensive trainings and constant educational activities on cyber hygiene improve the effectiveness of phishing attack responses by 87% on average. Thus, creating a culture of cybersecurity awareness and spreading it across an entire enterprise can increase resilience significantly.

Simply creating a culture can mitigate risks, but this is certainly not enough. It has also been proven that employing cybersecurity measures alone is not enough. Insurance companies need to be able to develop offerings to protect customers from the consequences of breaches. While many cybersecurity offerings are prepared to prevent and protect against cyberattacks, we know it is not realistic to expect every threat to be blocked. Business owners need to be prepared for the worst and obtain sufficient cyber insurance coverage.

Today, insurers offer “traditional” insurance policies against cyber-attacks, such as:

- Emergency assistance (pre-breach) or crisis management (post-breach);
- Coverage for loss of revenue in the event of business interruptions;
- Civil liability for third-party claims and claims related to cybercrime;
- Payment of recovery costs in the event of data loss; and
- Restoration of operating systems and application programs.

Insurance companies have been offering Cybersecurity products since the early 2000s. Since then, the market has increased in size and has widened in types of products and business models. As a result of rising cyber-attacks and also due to the Covid-19 pandemic, cyber insurance has become one of the fastest-growing segments for P&C insurers. To refine their products, be more effective on the market and cash-in on this huge opportunity, insurers must move within three directions:

- Merge the know-how from IT Companies and the competence from Insurers to develop infrastructural systems in response to cyber events;
- Develop instruments and competencies to analyse the reference market to which the product is addressed, identify unexpressed needs, and build products that are the best fit for each customer and the reference insurance market;
- Improve cybersecurity awareness to make the organization more secure and less vulnerable to cyber risks.



# Conclusion

A new generation of consumers is growing with different sensitivities than the current ones, which will soon expand to all the others. Insurance companies can adapt the structure and services offered to address these changes and meet the needs of their consumers or run the risk that others will do it for them. They must consider that it is not just an economic choice in which costs / benefits are considered, but impacts the future of the society. In NTT DATA we work every day to build a more sustainable society, based on the Society 5.0 model, born in Japan and inspired by the UN's 17 global development goals (<https://sdgs.un.org/goals>). An intelligent society, which puts human well-being at the center and integrates growth with not only environmental but also social sustainability. A society with fewer inequalities, in which access to resources is guaranteed and inclusion is favored. We also place ourselves as a reference player for the IoT industry and for the development of AI, essential tools for improving prevention systems for climate risks, sustainability and health. NTT DATA is also a leading player in Cybersecurity with dedicated Business Lines in every country where NTT DATA is present.

## Key takeaway

**1** The market and consumers are changing and it is necessary to adapt. The role played by Insurance Companies is central, to offer protection to new risks related to new habits and new sensitivities. To do this, it is necessary to evolve Insurance model and offering towards consumers.

**2** Sustainability and climate risk are already current issues and will be given even greater consideration in the future. Building a sustainable society capable of mitigating and addressing climate risks is an objective to which Insurance must contribute, in terms of products and services.

**3** In the last 2 years the health industry has been transformed by technological and behavioral major changes. The pandemic period forced patients and doctors to interact remotely, creating and strengthening new way of communication like Telemedicine platforms and Smart Health devices. These new technologies, together with the liquid biopsy genetic test innovation, are forcing Insurances to rethink their risk management structure and products catalog.

**4** The market of Cybersecurity is increasing in size and has widened in types of products and business models, as a result of a pervasive and ever-growing usage of smart devices and technology. Besides being exposed to this risk as any other sector, this can be a huge opportunity for insurance companies to offer a wide range of products and services to their clients, and guarantee protection to them.



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