



Lisbon School  
of Economics  
& Management  
Universidade de Lisboa

**MASTERS IN  
MATHEMATICAL FINANCE**

**MASTERS FINAL WORK  
PROJECT**

**THE VALUATION OF A NON-LISTED COMPANY:  
THE CASE OF A CYBERSECURITY FIRM**

**SOFIA ALEXANDRA MINEIRO GOULÃO MARTINS**

**DECEMBER 2023**



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## **Abstract**

The present Equity Research report for Cybersafe Lda, follows the rules for ISEG master's Final Work.

Cybersafe is a small Portuguese non-listed cybersecurity company. Cybersafe's main activity classification, following the classification implemented by Instituto Português de Estatística, is Information Technology consultancy services, with a secondary classification of other information technologies related activities. According to the company's website, there are three main services offered: managed security services, consulting services and staff augmentations. Cybersafe was founded less than 10 years ago but its revenues have been growing exponentially, with its gross sales reaching €4,48m in 2022.

The goal of this research was to understand the main differences and obstacles one may face when applying valuation processes to non-listed companies. The final numbers reached were of an enterprise value of €19 282 825,17 and an equity value of €18 928 356,48. In order to get these results, the Discounted Cash Flow (DCF) method was applied, applying the Weighted Average Cost of Capital (WACC) as a discount factor. To achieve the value for the Beta, the strategy followed was based on the article published in 2007 by Bowman and Bush: "Using Comparable Companies to Estimate the Betas of Private Companies".

JEL classification: G10; G17; G28; G31

Keywords: Equity Research; Cybersecurity; Private companies; Technology, Small and medium-sized enterprises (SMEs).



## Resumo

O presente relatório de pesquisa de equidade para a Cybersafe Lda segue as regras para o Trabalho Final de Mestrado do ISEG.

A Cybersafe é uma pequena empresa portuguesa de cibersegurança não cotada. A principal atividade da Cybersafe, de acordo com a classificação implementada pelo Instituto Português de Estatística, é a consultoria em tecnologia da informação, com uma classificação secundária de outras atividades relacionadas à tecnologia da informação. De acordo com o site da empresa, são oferecidos três serviços principais: serviços de segurança gerenciada, serviços de consultoria e aumento de equipe. A Cybersafe foi fundada há menos de 10 anos, mas suas receitas têm crescido exponencialmente, com vendas brutas de €4,48 milhões em 2022.

O objetivo desta pesquisa foi entender as principais diferenças e obstáculos que se podem enfrentar ao aplicar processos de valoração a empresas não cotadas. Os números finais obtidos foram um Valor da Empresa de €19 282 825,17 e um valor de Equidade de €18 928 356,48. Para obter esses resultados, foi aplicado o método do Fluxo de Caixa Descontado (DCF), utilizando o Custo Médio Ponderado de Capital (WACC) como fator de desconto. Para obter o valor do Beta, a estratégia seguida foi baseada no artigo publicado em 2007 por Bowman e Bush: "Using Comparable Companies to Estimate the Betas of Private Companies".

Classificação GEL: G10; G17; G28; G31

Palavras-chave: Equity Research; Cibersegurança; Tecnologia, Empresa Não Cotada; Pequenas e Médias Empresas (PME).



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## 1. RESEARCH SNAPSHOT

Equity research projects, when applied to non-listed companies, have their challenges. Within my assumptions and methods, that I will proceed to explore throughout this document, I believe Cybersafe could be valued with an Enterprise Value of €19 282 825,17 and an Equity Value of €18 928 356,48.

Cybersafe is a Portuguese cybersecurity company with its three main business lines including Products, Managed Security Services and Staff augmentation services.

After a thorough analysis, in my opinion Cybersafe has a promising future ahead. The reasons behind include increasing market demand, growing competitive advantage and good growth prospects fueled by new EU regulations and Portuguese Government growing investment in cybersecurity. The industry's CAGR was 11,60% in the last five years and it's projected to increase to 12,30% in the next five years.

Cybersafe operates mainly in Portugal and most of its clients come from the energy sector.

Overall, I have projected an average growth of 11,88% per year for the next five years. This is because, as the business is maturing, it is expected to slow down its growth rate. There are also several risks that support these projections, including a war within the EU and inflation rising worldwide.

The valuation approach used was the discounted cash flow method, along with CAPM and WACC.

## 2. BUSINESS DESCRIPTION

### Company



## CYBERSAFE, Lda.

Lisbon, Portugal

Figure 1: Cybersafe Lda. logo

Source: Cybersafe official website

	Cybersafe, Lda.	Industry
Annual Growth (2017-2021)	66,32%	11,60%
Net profit margin (2021)	17,47%	9,88%
ROI (2021)	82,51%	24,48%

Figure 2: Cybersafe Lda. Historical Performance 2017-2022

Source: Author analysis, Informa DB Report

Cybersafe Lda is a cybersecurity company located in Portugal. Established in 2015, the company specializes in delivering cybersecurity solutions and services to its clients. With a wide range of offerings, the company's services can be broadly summarized as staff augmentation, consulting, and managed security services.

Cybersafe Lda is headquartered in Alfragide, a parish in the outskirts of Lisbon, Portugal. As per the company's official website, there are two other offices, one in Felgueiras, Porto and another one in Maputo, Mozambique.

The company is spearheaded by four partners, two individuals and two one-man companies. Currently, Dinis Fernandes, the founder of Cybersafe Lda, serves as the managing partner.

## Business

Cybersafe's main activity classification, following the classification implemented by Instituto Português de Estatística, is Information Technology consultancy services, with a secondary classification of other information technologies related activities.

According to the company's website, there are three main services offered: managed security services, consulting services and staff augmentations.

The managed security services area offers a technical approach to cybersecurity. This includes cybersecurity incidents support and analysis through a security operations center, managed detection and response services, vulnerability management support, firewall implementation and management services and security solutions management. Consulting services provide an assessment of the client's cybersecurity situation, along with pretesting compliance analysis. This allows for a complete and thorough diagnosis, which consequently leads to detailed solutions.

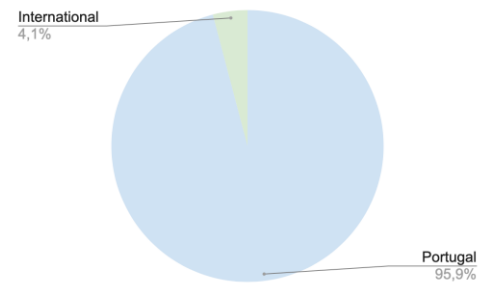


Figure 3: Cybersafe Lda. sales distribution in 2021 (International vs. Portugal)

Source: Informa DB report

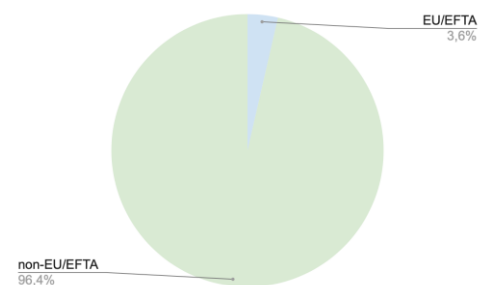


Figure 4: Cybersafe Lda. international sales distribution in 2021 (EU/EFTA market vs. non-EU/EFTA market)

Source: Informa DB report

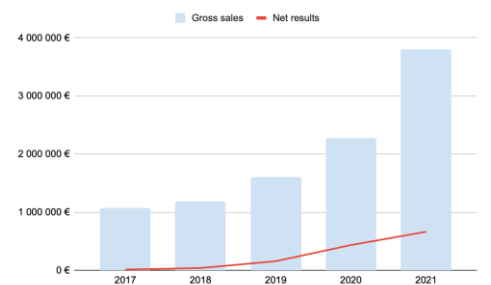
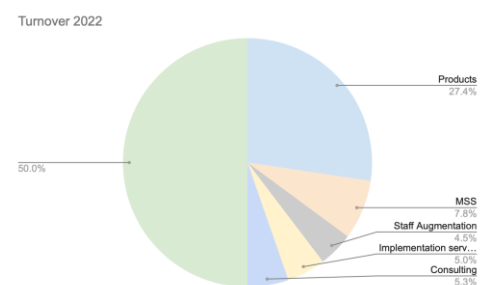


Figure 5: Cybersafe Lda. gross sales and net results evolution from 2018 to 2021

Source: Informa DB report



Staff augmentation services are specific to the cybersecurity and network area, since this is a very technical field, it is important to have the right staff. For this, Cybersafe can either help the client recruit or provide their specialized staff for the projects needed.

## Profitability and Growth Analysis of Company Services from 2020 to 2022

From 2020 to 2022, there has been a clear trend in turnover within the different services that the company has to offer. Looking at figure 7, we can see that Products is consistently the most profitable business line, gathering more than half of the revenue. Managed security services follow, but with a large difference. Throughout the last three years, the main source of revenue remained the same, but its weight has been slowly decreasing, giving the other services room to grow. In 2022, new business lines were introduced, as of the following:

- Products;
- Cyber Defense Services;
- CyberOPS Infrastructure Services;
- Staff Augmentation;
- Managed Security Services;
- Consulting Services;
- Cybersecurity Solution Services;
- Offensive Security.

More than 90% of turnover is coming from Portugal, however this number has been decreasing from the past three years, being that there is a growing number of clients in other European countries and other parts of the world.

As of the sector that constitutes the majority of Cybersafe's revenues, it has been the Energy sector, however the financial sector also represents a large part of the revenues (see figure 8).

Figure 6: Turnover 2022

Source: Cybersafe LDA

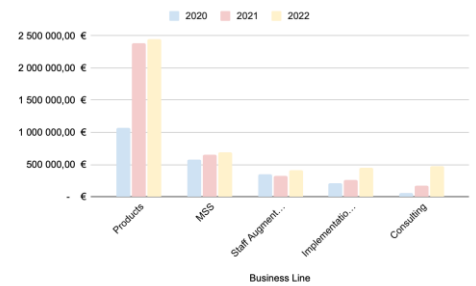


Figure 7: Turnover by business line (2020, 2021, 2022)

Source: Cybersafe LDA

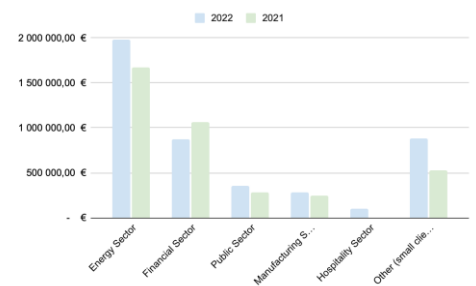


Figure 8: Turnover by sector 2022 vs. 2021

Source: Cybersafe LDA

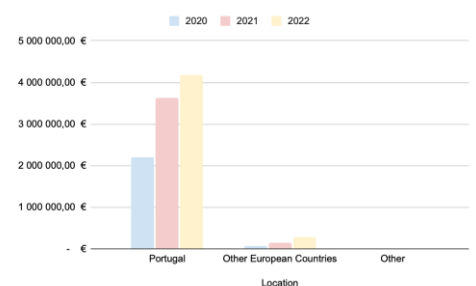


Figure 9: Turnover by Location (2020, 2021, 2022)

Source: Cybersafe LDA

### 3. INDUSTRY OVERVIEW

## Macroeconomic outlook

### Global Macroeconomic Outlook

Since February 2022, Ukraine and Russia have been at war. This conflict has been bringing uncertainty to European citizens and markets, which lead to rising prices in energy and gas, but also many supply chains broke down, meaning prices for many raw materials, intermediate products and transportation services have increased significantly.

According to Izzeldin, Muradoğlu, Pappas, Petropoulou and Sivaprasad in *The impact of the Russian-Ukrainian war on global financial markets*, stock markets and commodities are the most affected assets by this situation, being that wheat and nickel are the most affected commodities being that Russia is one of the main exporters of these materials. This conflict has been one of the most impactful events of the recent years, being that as of February 2023, there is no sign of its ending. China's zero-COVID policies have also impacted the world's economic stability. Being the largest economy since 2016 in terms of purchasing power parity and the second largest when it comes to nominal GDP, it is important to review the current situation of the country when accessing the world's economy. The country implemented severe measures in order to keep COVID-19 cases as close to zero as possible, which included strict lockdowns that can span entire cities. Although this policy had a high impact in several industries throughout 2022, in 2023 China decided to abandon this approach.

Following the forecast of the International Monetary Fund, the global growth estimate is forecasted to fall from 3,4% in 2022 to 2,9% in 2023 and rise to 3,1% in 2024. Central bank rates have been increasing regularly to fight inflation, being that the

### Latest World Economic Outlook Growth Projections

(real GDP, annual percent change)	ESTIMATE		PROJECTIONS	
	2022	2023	2024	
<b>World Output</b>	<b>3.4</b>	<b>2.9</b>	<b>3.1</b>	
<b>Advanced Economies</b>	<b>2.7</b>	<b>1.2</b>	<b>1.4</b>	
United States	2.0	1.4	1.0	
Euro Area	3.5	0.7	1.6	
Germany	1.9	0.1	1.4	
France	2.6	0.7	1.6	
Italy	3.9	0.6	0.9	
Spain	5.2	1.1	2.4	
Japan	1.4	1.8	0.9	
United Kingdom	4.1	-0.6	0.9	
Canada	3.5	1.5	1.5	
Other Advanced Economies	2.8	2.0	2.4	
<b>Emerging Market and Developing Economies</b>	<b>3.9</b>	<b>4.0</b>	<b>4.2</b>	
Emerging and Developing Asia	4.3	5.3	5.2	
China	3.0	5.2	4.5	
India	6.8	6.1	6.8	
Emerging and Developing Europe	0.7	1.5	2.6	
Russia	-2.2	0.3	2.1	
Latin America and the Caribbean	3.9	1.8	2.1	
Brazil	3.1	1.2	1.5	
Mexico	3.1	1.7	1.6	
Middle East and Central Asia	5.3	3.2	3.7	
Saudi Arabia	8.7	2.6	3.4	
Sub-Saharan Africa	3.8	3.8	4.1	
Nigeria	3.0	3.2	2.9	
South Africa	2.6	1.2	1.3	
<b>Memorandum</b>				
Emerging Market and Middle-Income Economies	3.8	4.0	4.1	
Low-Income Developing Countries	4.9	4.9	5.6	

Source: IMF, World Economic Outlook Update, January 2023

Note: For India, data and forecasts are presented on a fiscal year basis, with FY 2022/23 (starting in April 2022) shown in the 2022 column. India's growth projections are 5.4 percent in 2023 and 6.8 percent in 2024 based on calendar year.

INTERNATIONAL MONETARY FUND IMF.org  
Figure 10: World Economic Outlook Growth Projections

Source: International Monetary Fund

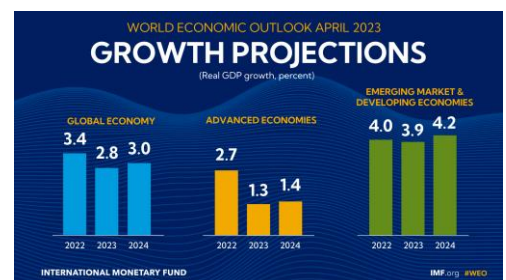


Figure 11: Global Growth Projections

Source: International Monetary Fund

war still has a significant weight on economic activity. In 2022, the peak of COVID-19 in China, which led to strict policies, also impacted the global growth estimate. Global inflation is expected to fall from 8,8% in 2022 to 6,6% in 2023 and 4,3% in 2024.

### European Macroeconomic Outlook

Throughout 2022, the euro area had less growth and higher inflation rates than projected by the European Central Bank. The ongoing energy crisis and uncertainty caused by the war have been strongly impacting these numbers, as well as the post-pandemic reopening.

According to Eurostat, in 2022 the Euro area experienced a 9,2% inflation rate, being that the main contributors for this number were food, alcohol & tobacco and energy. As of February 2022, the European Central Bank expects inflation rates to decrease to 5,9% in 2023 and 2,7% in 2024.

In 2022, European Union countries overall spent less in cybersecurity. The proportion of the Information Technology budget invested in Information Security dropped from 7,7% (2021) to 6,7% (2022). According to the International Data Corporation (IDC)'s *Worldwide ICT Spending Guide: Enterprise and SMB by Industry*, European Information and Communication Technology spendings are expected to grow 4,2% in 2023, driven by the Scandinavian countries and the United Kingdom, although this trend is not verified in Russian, mainly due to the sanctions imposed.

### Portuguese Macroeconomic Outlook

The Portuguese Macroeconomic sphere has been highly influenced by the ongoing war. As stated in the Economic Outlook Note - Portugal, published by the OECD in November 2022, the pandemic triggered a deep recession in the country while putting its healthcare system under pressure. Although the Recovery and Resilience plan implementation will help in

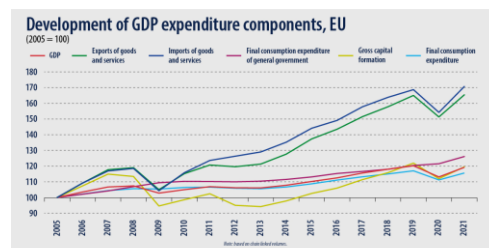


Figure 12: Development of GDP Expenditure components, EU

Source: European Commission - European Union

addressing some of the challenges, fiscal policies are expected to become more restrictive.

In 2022, Portugal's estimated growth was of 6,7%, being that according to the European Commission, this value is expected to dramatically fall to 1% in 2023 and 1,8% in 2024. As for inflation rates, in 2022 the country experienced an estimate of 8,1% and the forecasts indicate that in 2023 the rates will start to decrease to 5,4% and 2,6% in 2024.

The Portuguese government's investments to improve cybersecurity have been fruitful, being that the country is now number 8 within the European scoring of the Global Cybersecurity Index.

## Industry

### Cybersecurity Industry Trends

In recent years, the world has witnessed a disruptive surge in the digital economy, fueled primarily by the pandemic, which has led to an exponential increase in cyber-criminal activities. As businesses and individuals alike have become increasingly reliant on digital platforms and online communication, cyber-attacks have emerged as a major threat to global security and stability. According to Steve Morgan in “2022 Cybersecurity Almanac: 100 facts, figures, predictions, and statistics”, at the present pace, damage from cyberattacks will experience a 300% increase between 2015 and 2025, totaling \$10.5 trillion annually by 2025.

The industry has been growing at a compound annual growth rate (CAGR) of 10,8% as of 2021 and is forecasted to show an annual growth rate of 11,6% between 2023 and 2027.

Delving into the diverse segments of this ever-evolving industry, we can highlight the following, organized according to the current rate of market penetration:

- Data protection;

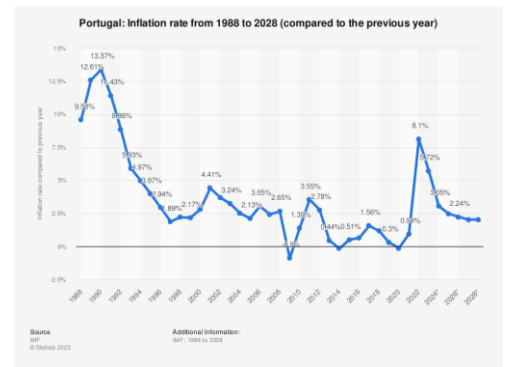


Figure 13: Portugal inflation rate change (1968-2028)

Source: International Monetary Fund, Statista

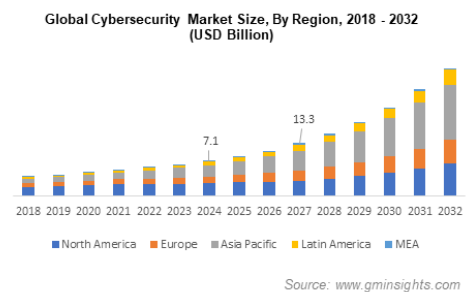


Figure 14: Global Cybersecurity Market Size by region (2018-2032)

Source: International Monetary Fund, Statista

- Governance, risk and compliance;
- Identity and access management;
- Network security;
- Security consulting;
- E-mail security and awareness;
- Managed security service provider/outsourcing;
- Endpoint security;
- Cloud security;
- Internet of Things (IoT);
- Application security;
- Security and operations management.

Within the different segments, data protection and governance, risk and compliance are the leading, with a current market penetration between 30-35%. Following up, identity and access management with 20-25% market penetration.

According to Forbes, the top five cybersecurity trends that we will see in the industry in 2023 include: cloud security and Internet of Things (IoT), work-from-home cybersecurity solutions for business, international attacks will affect both businesses and governments, artificial intelligence with an increasingly prominent role in cybersecurity, and building a security-aware culture.

It is consensual that this industry offers significant potential, but it is important to understand the key drivers for that growth to happen in order to make the best of it. McKinsey &

Company identifies these drivers as the following:

- Growing number of attacks targeting smaller companies;
- Increase in regulations which require companies to take measures to protect their customers;
- Chief information security officers want to solve the discrepancy between the logs generated by an organization's IT systems and the ability of the organization's security team to effectively collect, store,

and analyze those logs (also known as the log visibility gap);

- The existing global cyber-talent shortage and service offerings;
- Higher levels of customer engagement.

The main segments affected by these trends include data protection, to comply with regulations and security consulting, which can help companies not only implement regulations but also reduce the log visibility gap by customizing solutions to the company. Although this is not a segment of the industry, staff augmentation is also a service provided regularly by cybersecurity companies which will benefit from these trends. Cybersecurity has emerged as a pressing concern in Portugal, with increasing frequency of cyber-attacks in recent years. In fact, in 2022, Portugal experienced the highest number of cyber-attacks among all European countries, underscoring the urgent need for enhanced cybersecurity measures to protect against cyber threats. A few of the most relevant ones include:

- Vodafone (February 2022);
- Sonae (March 2022);
- Order of the Engineers (May 2022);
- TAP (September 2022);
- National Social Security Services (November 2022);
- INEM- National Institution of Medical Emergencies (December 2022).

Therefore, there is a clear need for cybersecurity services in Portugal.

### Tech Industry Trends

2023 had an unfavorable beginning in the tech industry since many companies announced significant downsizing. A few of the major corporations that proclaimed large-scale workforce reductions include Facebook, Google, and Microsoft. However, more than an increase in unemployment rate, these events

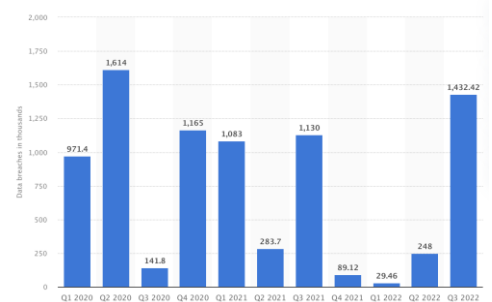


Figure 15: Number of incidents of data breaches in Portugal from 1st quarter 2020 to 3rd quarter 2022

Source: Statista Research Department

can lead to new players in the market since many of the ex-employees are now starting their own companies.

A few of the trends identified for the industry in the next year include:

- Combination of different technologies in order to achieve innovative findings;
- Mass adoption of technologies like 5G, cloud and artificial intelligence;
- More workload on tech staff (caused by the layoffs);
- Security automation and improvement, specially focused on Cloud services;
- Decentralised AI tools.

Despite the growth of the industry in the last few years (that was exponentially accelerated by the pandemic), it is expected that geopolitical and economic uncertainty will likely affect the tech industry development. However, it is possible to conclude that there is an overall pattern in investing in cybersecurity, not only because of the regulations being implemented, but also driven by innovation of new processes.

In Portugal, Information Technology is now representing nearly 10% of the Portuguese GDP.

Lisbon has been the stage of multiple tech events, including Web Summit, the largest European Tech conference.

The country has the third highest rate of Engineer graduates in the European Union, with an average of 90 000 students graduating each year. Instituto Superior Técnico, the largest school of engineering in Portugal, is also considered one of the best Engineering schools in Europe.

The country also implemented a program, “Advanced Computing Portugal 2030”, that aims to position Portugal as a leading center for advanced computing technologies in Europe and beyond. “Advanced computing Portugal 2030” goal is to promote the development and adoption of advanced computing technologies in Portugal. The initiative also seeks to

enhance the country's cybersecurity capabilities through investment in research and development, digital skills development, and advanced computing infrastructure. The strategic program will likely drive innovation and economic growth in the country since it aims to position Portugal as a leader in advanced computing and security.

Overall, knowing the services provided by Cybersafe Lda., it is possible to conclude that the trends in the tech industry are favorable for the company, since there is a strong emphasis in cybersecurity and a need for specialized staff. The headquarters in Lisbon are also valuable for the organization since there is a clear investment in the tech scene.

### **Regulatory Environment**

The Information Security budgets in Europe are highly impacted by the NIS directive. In short, the NIS Directive (Directive on Security of Network and Information Systems) was enacted by the EU in May 2018 with the primary goal of improving the cybersecurity capabilities of EU member states and to ensure protection against cyber threats. This legislation requires specific companies and organizations to implement cybersecurity protection and management programs within. Therefore, companies and organizations that fall under the scope of the Directive are obligated to invest in cybersecurity measures in order to comply with regulations, which includes new technologies, hiring cybersecurity experts and implementing new processes and procedures within the field. With the development of new technologies, new and stricter regulations within the field are expected. In order to implement said regulations, the services of companies like Cybersafe will be required, both in an analysis approach as well as to apply the needed knowledge.

# PESTLE Analysis

Political	Economic	Social
<ul style="list-style-type: none"> <li>Portugal is a European Union member, which means the country is subjected to EU regulations;</li> <li>There's been a trend of an increase in the Portuguese government investment in cybersecurity initiatives, which may provide partnership opportunities to Cybersafe or even funding opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>The economy of the country has been growing steadily for a few years, however the projections for the future are not very optimistic. However, it is still expected for the country to grow and provide a favorable business environment for the company, especially since Cybersafe is located in Lisbon, the capital of the country which has been developing several programs within the Tech segment;</li> </ul>	<ul style="list-style-type: none"> <li>Online transactions and remote work are a growing reality in our society, which brings an increasing need for cybersecurity both for organizations and individuals;</li> <li>Past events brought new awareness to data privacy, which may drive demand for the company's services.</li> </ul>

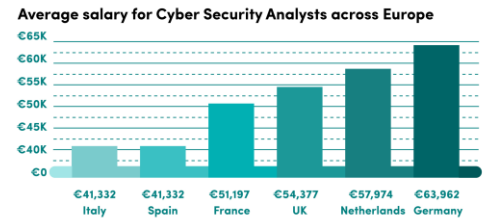


Figure 16: Average salary for Cyber Security Analysts across Europe

Source: International Monetary Fund, Statista

	<ul style="list-style-type: none"> <li>The economy has been strongly impacted by the COVID-19 pandemic and the war, which may lead to companies cutting back on cybersecurity expenses.</li> </ul>	
<b>Technological</b>	<b>Legal</b>	<b>Environmental</b>
<ul style="list-style-type: none"> <li>Fast-pacing environment, with increasingly growth in technology and connectivity which leads to a higher likelihood of cyberattacks;</li> <li>New and evolving technologies like artificial intelligence and IoT can present an opportunity for the company to offer new related services.</li> </ul>	<ul style="list-style-type: none"> <li>All the companies that deal with personal data are subject to the EU's GDPR regulation;</li> <li>The NIS Directive, as well as other laws related to cybersecurity can also impact Cybersafe's operations'</li> </ul>	<ul style="list-style-type: none"> <li>Since the company is a service-based company, environmental factors do not present a significant impact. However, the company can adopt sustainable practices to attract more clients. One emerging trend that can be explored is carbon neutral websites, for instance.</li> </ul>

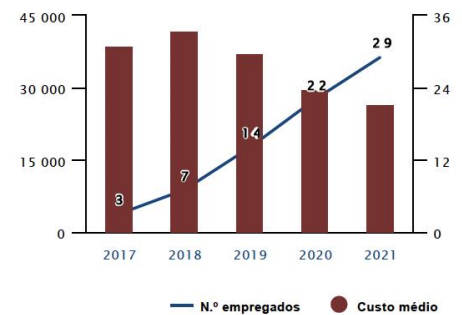


Figure 17: Cybersafe's evolution of the number of employees (blue) and the average salary (red)

Source: Informa DB report

Table 1: Cybersafe Lda. PESTLE analysis

## SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>● Specialization on different areas that work alongside each other;</li> <li>● Located in Lisbon, which is rapidly becoming a major technology hub in Europe;</li> <li>● Strategic partnerships with other companies in the industry that not only allow for a better service but are also in line with the industry trends. In February of 2023, the company had already announced two major partnerships: Cloudflare (company that provides cloud-based network services) and Delinea (provider of cloud-ready access management solutions).</li> </ul>	<ul style="list-style-type: none"> <li>● Limited resources compared to other large competitors;</li> <li>● Limited brand recognition in the market due to being a smaller company.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>● Increasing demand in cybersecurity, led by both new legislation and technological developments;</li> <li>● NIS 2 Directive. This legislation will likely increase demand on cybersecurity services as operators of essential</li> </ul>	<ul style="list-style-type: none"> <li>● Cybersecurity threats;</li> <li>● NIS 2 Directive. Cybersecurity companies need to ensure that their own services are meeting the NIS 2 Directive requirements in order to maintain their credibility to their clients.</li> </ul>

<p>services and digital services providers will seek to improve their security measures in order to comply with the new regulations.</p> <ul style="list-style-type: none"> <li>• Expansion to new markets, either within Europe or beyond, in order to grow the business and customer base;</li> </ul>	<ul style="list-style-type: none"> <li>• Growing numbers of qualified Portuguese young people are emigrating;</li> <li>• Hiring costs. Since Cybersafe needs highly skilled staff in order to operate, not only is it difficult to find people who fit the requirements but also these people require high wages.</li> </ul>
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Table 2: Cybersafe Lda. SWOT analysis

Source: Author analysis

## Porter's 5 forces

### Threat of New Entrants: Low

The cybersecurity industry has several barriers to the entrance of new competitors; therefore, the threat of new entrants is low. Not only a strong technical knowledge is required, as also the initial investment in the industry is high in order to be able to offer effective cybersecurity options. Furthermore, the existing companies usually have an established relationship with their customers, which makes it difficult for new competitors to enter the business.

### Bargaining Power of Suppliers: Moderate

There is a growing demand for cybersecurity services, mostly led by technology development and new regulations. As a cybersecurity company, the suppliers consist mainly of hardware and software suppliers. These types of products are relatively standardized and there are many alternatives in the market. Therefore, suppliers have a moderate chance of bargaining their prices.

### Bargaining Power of Buyers: Moderate

As stated before, the growth in demand for cybersecurity services has been a relevant factor in the industry. This

situation, aligned with the low threat of new entrants in the market, does not allow for much room for negotiation when it comes to the clients. Therefore, customers have some flexibility, since this service is a requirement for several businesses and switching providers is not an easy task.

#### **Threat of Substitutes: Moderate**

Companies are continuously updating their cybersecurity systems in order to keep up with tech development. In Lisbon, the industry's scene is growing quickly, aligned with a major startup investment from the government. This gives opportunity for new developments in the industry; however, it is not an easy task. In terms of cybersecurity, a client can choose to go for their in-house IT department, cloud-based security solutions and third-party managed security services. There are alternatives but Cybersafe provides services in all of them.

#### **Rivalry Among Existing Competitors: High**

The industry's rivalry between existing competitors is high. However, Cybersafe has been differentiating itself with strategic partnerships and a unique combination of services, therefore it is not expected that this will impact the company significantly.

## **4. FINANCIAL ANALYSIS**

In this chapter, all the benchmark values are taken from the report of DB Informa, which clearly states the average values expected for a company with the same CAE and similar size as Cybersafe in Portugal.

### **Income Statement Analysis**

Starting by examining the revenue patterns displayed by Cybersafe, it is possible to conclude that there is an upward trend. For the past five years, gross sales have been growing significantly, displaying approximately a 258,7% growth since

2017. There can be multiple reasons behind the progress in revenue, mainly changes in prices, volumes, or customer mix. When it comes to the benchmark of the sector, this value is usually very different, being that by 2021 the industry average for small business is around € 715 564,23, which means Cybersafe's gross sales are, approximately, 5 times larger than average.

In order to analyze gross profit, we must compute it first. For that, we subtract the value of "Costs of Goods Sold" to "Gross sales". Between 2017 and 2019, the company experienced an increase in gross profit, however, from 2019 to 2020 this value actually decreased, since there was a significant rise in the costs of goods sold in 2020. Taking into account the type of services provided by the company, it is possible to assume that the cost of goods sold includes mainly direct material costs, such as software licenses, hardware, and other equipment. The increase in this account during the year of 2020 (the year in which the COVID-19 pandemic started) might be related to material needed in order to make sure the whole team was able to perform from home. Compared to similar companies, Cybersafe spends a lot more in absolute value to obtain its final products, but this is also verified percentually. In 2021, the average cost of goods sold in the industry for small companies is about 9% of the gross sales, while for Cybersafe this value represents approximately 53%. This can be a red flag in the future, and it is important to understand why it happens. From 2017 to 2021, Cybersafe's cost of goods sold represented an average of 43% of the gross sales.

Regarding operating profit (EBIT), there is a clear upwards trend, being that the biggest growth was experienced from 2018 to 2019. Since then, although the operating profit continues to increase, it has been increasing at a much slower pace. This can be explained by the product life cycle, as the years go by, the services offered by Cybersafe now will be



Figure 18: Cybersafe operating profit historical values (2017-2022) and forecasts (2023-2027) in Euro

Source: Author's analysis

closer to maturity. Compared to the industry average in 2021, the results obtained by the company are still higher.

Cybersafe's net income also shows an upwards trend, reaching its peak annual growth rate in 2019. Since then, although still growing, the net income value has been increasing at a slower pace. Compared with the industry average in 2021, Cybersafe's result is almost double what is expected, which is again a good indicator.

The conclusions taken from the income statement analysis are very positive, the company surpasses the benchmark in different indicators. However, the cost of goods sold, and gross margin have alarming values when compared to the industry. We must understand why this happens by examining different financial statements and ratios and conclude if this can be a red flag.

## Balance Sheet Analysis

### Assets

Since 2017 the company's assets have been growing on average about 37% yearly, with the current assets representing the majority of total assets.

The current assets are led by two main accounts, "clients" and "cash and cash-equivalents". The inventory account is always empty except in 2020, in which the company has € 40 772,46. There is a significant increase in debt from the state and other public entities from 2019 to 2020.

The non-current assets values from 2020 and 2021 are led by "Other financial assets", which can include a variety of financial assets that do not fall under other specific categories of financial assets, for instance: investments in affiliated or controlled companies, participations in investment funds, debt securities not classified as available for sale or held to maturity, long-term loans granted to third parties, advances to

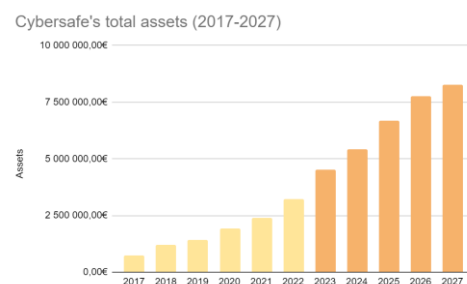


Figure 19: Cybersafe's total assets historical value (yellow) and forecasts (orange)

Source: Author's analysis

suppliers for the acquisition of goods or services, etc.. In 2018 and 2019, the value was led by intangible assets. Looking at the balance sheet, we can see that Cybersafe has probably acquired some new equipment in 2020 and 2021, since before that there was nothing in the “fixed assets” account since 2017.

Compared to the benchmark, the non-current assets of Cybersafe are lower than expected, however, both the current assets and total assets surpass the average largely.

### **Liabilities**

Cybersafe does not have any non-current liability from 2017 to 2021. As for the current liabilities, in 2017 most of the current liabilities are from the suppliers. From 2018 on, there are significant values attributed to deferrals, possibly related to future vacation allowances.

In 2018, the company has contracted a loan with a total value of € 90 461,07. Being that the value is registered in the current liabilities, according to NCRF, this should be a short-term loan that should be paid within a year after the contract. However, by looking at the same account for the following years, it is possible to conclude that the loan is being slowly paid in the course of 3+ years. Cybersafe could have agreed with a bank in a different timeline for the loan or even proceeded in a debt restructuring, but the loan should possibly have been reclassified as a non-current liability in 2019, since it was not liquidated in a year (it depends on multiple factors that should be evaluated by an accountant or auditor).

When compared with the benchmark, according to Informa D&B, the values for liabilities of Cybersafe are lower than other companies in the same industry with the same operation size. The difference is especially noticeable when it comes to the non-current liabilities. Being that, so far, we have more assets and less liabilities than average, we can assume that this is a good sign for the company.

## Equity

When it comes to Equity, only three balance sheet accounts have relevant values. First, there have been no increases in paid-up capital since 2017. Other than that, only retained earnings and legal reservations show values.

From 2017 to 2021, legal reservations were augmented almost every year (apart from 2020), this is because in Portugal, according to Código das Sociedades Comerciais Português, companies must attribute 5% of their net profit to legal reservations. However, in 2020, the Portuguese government approved an exceptional measure which allowed companies to temporarily reduce their legal reserve by 50%. This measure was approved by Decree-Law no. 10-A/2020, of March 13, which established a set of exceptional and temporary measures to combat the pandemic.

Compared to the average for companies in the same sector and of similar size, Cybersafe's equity results in 2021 are slightly lower than expected. Since the assets are higher and liabilities are lower than the benchmark, this can mean that the company is financing their assets with more debt instead of equity. In order to see if that is happening, computing the debt-to-equity ratio is helpful which we will do later on this chapter.

## Liquidity Analysis

In order to evaluate the liquidity of Cybersafe, it is important to examine ratios like the current ratio and the quick ratio.

The current ratio is computed to the following formula:

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The values obtained for this liquidity ratio from 2017 to 2021 ranged between 1,10 (2018) and 1,63 (2022). Generally, this ratio is considered a good indicator when the value is greater or equal than 1,5, because this means that the company has €1,50 of current assets for every €1 of current liabilities. Since the value has been improving in the last few years and it is

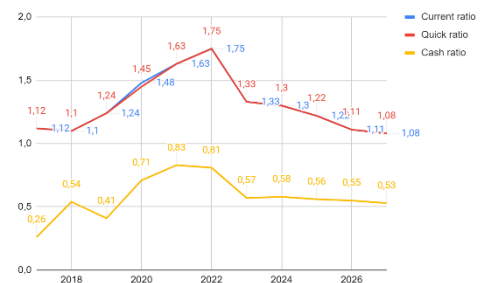


Figure 20: Cybersafe's Liquidity Analysis

Source: Author's analysis

always above 1, this means that Cybersafe is able to pay its current debts as they come due. In order to understand the current ratio, we also need to compare it with other companies in the industry, since a “good value” fluctuates according to the operations. The benchmark for this ratio in 2021 was about 1,56, which means that the company has a slightly better ability to pay short-term obligations than average.

For the next 5 years

The quick ratio is computed using the formula:

$$\text{Quick ratio} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}}$$

From 2017 to 2021, the quick ratio of cybersafe was very similar to the current ratio. This happens because the company’s balance sheet shows that usually they don’t keep inventories, with the exception of the year 2020. Therefore, only in 2020 it is possible to see that the quick ratio differs from the current ratio but not a lot. The average value for this indicator within Cybersafe’s competitors was 1,53 in 2021, so it is possible to conclude that the company has a slightly better ability to meet short term obligations with its most liquid assets. Additionally, in order to get a better perspective of the company’s liquidity situation, analyzing the cash ratio can be useful. The cash ratio formula applied is the following:

$$\text{Cash ratio} = \frac{\text{Cash \& Cash Equivalentents}}{\text{Current Liabilities}}$$

The obtained ratio has been growing for the past five years, with an exception in 2019 in which the ratio decreased slightly when compared to 2018. A high cash ratio means that the company can easily pay off debt using only cash and cash equivalentents. Since 2020 Cybersafe has a cash ratio larger than 0,5, which is considered a good value especially when we compare it with the industry standard that lands about 0,43. Overall, Cybersafe has better liquidity than most of its competitors, but it is also important to understand if this liquidity is being effectively managed, and for that we can

compute the cash conversion cycle metric. This metric tells us how many days the company needs to convert its investments into cash flows from sales. In 2020, the company needed about 59 days but in 2021 0 days were needed, since the value is negative. A trend of decreasing or steady values is usually a good sign for this value, so in order to get a better idea of what is happening, data from 2017-2019 is needed.

### Solvency analysis

To understand the ability of the company to meet its long-term obligations, we will evaluate Debt-to-equity, Equity and Debt ratios.

$$\text{Debt - to - equity} = \frac{\text{Debt}}{\text{Equity}}$$

The Debt-to-equity ratio shows us that, overall, Cybersafe is considered a risky investment. With an average of 5,12 for this ratio in the past 5 years, the company shows values way higher than the sector, in which an average of 1,44 was recorded for 2021. However, this ratio has been decreasing, being that in 2022 the company showed a D/E of 1,32, therefore surpassing its competitors.

$$\text{Equity ratio} = \frac{\text{Equity}}{\text{Assets}}$$

For the equity ratio, we have an average of 26% for the last 5 years, which can be deemed leveraged, however, as the company matures, this ratio is getting higher and more conservative, as expected.

$$\text{Debt ratio} = \frac{\text{Liabilities}}{\text{Assets}}$$

Finally, for the debt ratio we have an average of 74%, however, for 2021 and 2022 respectively, we have a ratio of 60,97% and 56,84%. This shows a downwards trend, which is important for the company and expected, as the company matures.

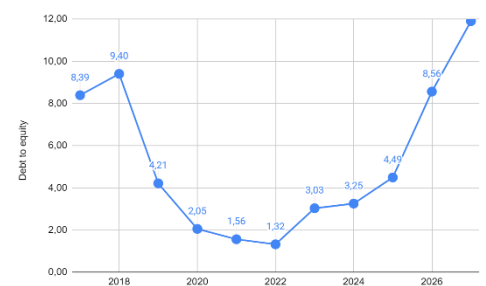


Figure 21: Cybersafe's Debt-To-Equity

Source: Author's analysis

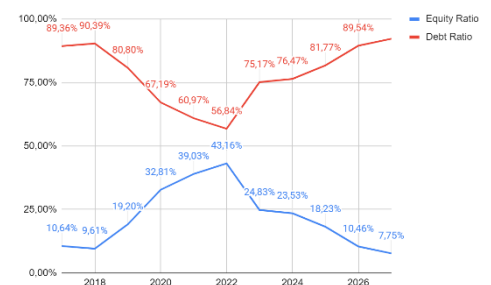


Figure 22: Cybersafe's Solvency Analysis

Source: Author's analysis

## 5. VALUATION

### Methodology & Assumptions

The forecasting period applied to this project is from January 1st of 2023 to December 31st of 2027. The valuation method applied was the Enterprise Discounted Cash Flow model (DCF), a model in which we discount free cash flows (cash flow available to all investors), using as a discount factor the weighted average cost of capital (WACC).

In order to obtain the discount factor, the capital asset pricing model (CAPM) was employed to compute the cost of equity.

The free cash-flows are forecasted applying FCFF.

#### CAPM

$$E(R) = R_f + \beta(m - R_f)$$

For the risk-free rate ( $R_f$ ) value, I used the Yield German 10y Treasury bonds (as of 14th of June of 2023). The market return ( $m$ ) used was the average stock market return yearly from the last century according to the S&P 500 index.

For the Beta ( $\beta$ ), the strategy followed was based on the article published in 2007 by Bowman and Bush: "Using Comparable Companies to Estimate the Betas of Private Companies".

For step 1 (identifying comparable companies), different criteria were applied. First, I selected the peers to compute Beta. The peers selected consisted in a list of 12 leading companies within the Information Technology sector (see appendix 6). The information required for step 2 (obtain estimates for the chosen firms) was entirely taken from Bloomberg, which provided not only the betas for each stock, but also debt-to-equity ratios. For tax rates, I individually got the effective tax rate information from the last report available from the company.

In order to compute the unlevered beta for each stock, I have applied Hamada (1972) and Rubinstein (1973) model, as suggested by the article:

$$\beta_e = \beta_a \times (1 + (1 - T)(D/E))$$

where  $\beta_e$  represents the levered firm's equity beta,  $\beta_a$  the unlevered firm's equity beta, T the corporate income tax rate, D the market value of debt and E the market value of equity. Finally, to obtain Cybersafe Beta, I computed the average value of all the unlevered betas and leveraged using the same model.

## WACC

$$WACC = \frac{E}{E + D} \times E(R) + \frac{D}{E + D} \times R_D \times (1 - T)$$

To compute WACC, the values for Equity and Debt were taken from the financial statements. For the cost of equity, I applied CAPM as previously explained. The tax rate applied was 21%, as it is the one applied for Portuguese companies with taxable income superior to € 50 000,00.

For the cost of debt, it is common to apply the market value of debt. The 1-year Euribor in 2023 has been increasing, being that, until July 2023, the average 2023 Euribor is 3,709%. So, in order to get a value for Euribor, I computed the average Euribor for the last two years, this is because although inflation has been hitting historical values, it is expected to eventually normalize, therefore an Euribor forecast of about 1,95% seemed a reasonable value for the future. As for the spread, I compared last year's data from Banco de Portugal, and gathered the average spread of company loans up to 1M€ for each month of 2022, getting an average spread of 1,98%. Furthermore, I compared this information with the minimum spread of every bank for these types of investments, which led me to believe that 1,98% would be a good fit to forecast spread, being that most banks have a minimum spread of 1%.

$$\text{Terminal Value} = \frac{FCF(1 + g)}{WACC - g}$$

The terminal value tells us the value of the business after the forecasted period.

To determine the terminal growth rate, I applied the Fisher equation to estimate it, taking into account the historical average inflation rate for the last ten years in Portugal, which was 2,03%. Additionally, I incorporated a GDP growth rate of 0,71%, which represents the average yearly GDP growth from 2000 to 2022 in Portugal. This led to the calculation of a terminal growth rate of 2,75%.

$$g = (1 + \pi) \times (1 + r) - 1$$

The Fisher equation was instrumental in factoring in the expected impact of inflation on the real interest rate and the overall economy. By understanding the relationship between nominal interest rates, real interest rates, and inflation rates, I was able to include these factors in my analysis to derive the terminal growth rate.

Specifically, the Fisher equation states that (1 + nominal interest rate) equals the product of (1 + real interest rate) and (1 + inflation rate). By rearranging the equation and solving for the real interest rate, I isolated the impact of inflation on the growth rate.

In this case, the projected average inflation rate of 2,03% and the average yearly GDP growth rate of 0,71% were used to estimate the real interest rate, which in turn determined the terminal growth rate. The resulting terminal growth rate of 2,75% reflects the expected long-term growth rate of the company under analysis, accounting for inflation and other relevant factors.

## Multiples

To evaluate Cybersafe and benchmark it against larger international peers, I calculated two enterprise value multiples: Enterprise Value-to-EBITDA and Enterprise Value-to-Sales.

For Cybersafe, the multiples obtained are:

- Enterprise Value-to-EBITDA: 19,28
- Enterprise Value-to-Sales: 3,59

I then compared these to the weighted averages for Bloomberg Intelligence's Global Cybersecurity Competitive Peers, which consists primarily of larger publicly traded companies.

The peers' averages were:

- Enterprise Value-to-EBITDA (next twelve months): 30.9
- Enterprise Value-to-Sales (trailing twelve months): 7.5

While Cybersafe's multiples are lower than the averages for its much larger peers, this is to be expected given its size as a small Portuguese cybersecurity company. Benchmarking it against international competitors provides useful context, but direct comparisons should be made cautiously given the differences in company scale and maturity.

For further context, I looked at enterprise value multiples for comparable public Portuguese companies. I found that their multiples also tend to be significantly lower than international peers:

- Glintt, an IT systems and equipment company, in 2022, registered an EV/EBITDA of 3.93x and an EV/Sales of 2,57x;
- Novabase, another Portuguese IT services firm, in 2022, registered an EV/EBITDA of 6.93x and an EV/Sales of 0,59x.

This suggests Portuguese public companies in the technology sector generally trade at a discount to their international peers.

Cybersafe's multiples, while lower than global cybersecurity averages, are still relatively high compared to other listed Portuguese firms.

Benchmarking Cybersafe against both global cybersecurity competitors and local Portuguese technology companies provides a more well-rounded perspective. While its valuation leaves room for expansion against global peers, within the context of the Portuguese market, Cybersafe appears competitively valued for its sector and stage of development. Overall, Cybersafe appears reasonably valued relative to larger players in the global cybersecurity industry, though continued growth will be important to reduce the valuation gap over time.

## 6. FINAL RESULTS

By applying the discounted cash flow method explained previously, I obtained an Enterprise Value of €19,114,666.66 for Cybersafe.

To further assess valuation, I employed Enterprise Multiple Valuation methods using Enterprise Value-to-EBITDA and Enterprise Value-to-EBIT ratios. While comparable firms in Portugal are limited, benchmarking against international cybersecurity averages provided useful perspective.

Cybersafe's multiples were below global industry competitors as expected given its smaller scale. However, within the local market context, Cybersafe showed stronger valuation fundamentals compared to listings like Glintt and Novabase. Taking both international and domestic benchmarks into account, Cybersafe appears reasonably valued at this stage relative to peers of similar size and maturity. While a gap remains against larger global cyber leaders, this differential is reasonable given constraints of Cybersafe's home market and

growth phase. As the company continues expanding revenues and penetrating new opportunities, the valuation discrepancy should narrow over time.

Looking ahead, the cybersecurity industry landscape signals enormous growth potential that Cybersafe is well-positioned to capture. Not only do the financial analyses conducted indicate an optimistic future, but the market outlook confirms escalating demand for cybersecurity solutions globally. Studying industry trends illustrates the vast opportunities available for firms like Cybersafe to scale their operations and create shareholder value in the coming years.

In conclusion, a holistic evaluation incorporating appropriate international and domestic benchmarks suggests Cybersafe presents a competitively priced investment opportunity that promises solid returns as both the firm and cybersecurity sector continue strong projected expansion.

## Appendix

### Appendix 1: Balance Sheet (historical years)

	2017	2018	2019	2020	2021	2022
<b>ASSETS</b>						
<b>Non-Current Assets</b>						
Fixed assets	731,77 €	0,00 €	0,00 €	667,44 €	5 761,89 €	7 734,12 €
Intangible assets	0,00 €	1 498,97 €	749,60 €	0,00 €	0,00 €	0,00 €
Other financial assets	45,86 €	359,01 €	571,94 €	4 819,27 €	8 394,77 €	11 338,49 €
<b>Total non-current assets</b>	<b>777,63 €</b>	<b>1 857,98 €</b>	<b>1 321,54 €</b>	<b>5 486,71 €</b>	<b>14 156,66 €</b>	<b>19 072,61 €</b>
<b>Current Assets</b>						
Inventory	0,00 €	0,00 €	0,00 €	40 772,46 €	0,00 €	0,00 €
Accounts receivable (clients)	538 411,93 €	618 244,79 €	890 181,50 €	828 870,78 €	1 037 274,57 €	1 363 630,67 €
State and Other Public Entities	1 870,00 €	3 198,00 €	9 150,00 €	42 285,00 €	88 350,00 €	153 780,00 €
Other receivables	944,04 €	944,04 €	1 373,05 €	429,01 €	429,01 €	429,01 €
Deferrals	16 000,00 €	0,00 €	43 686,00 €	78 537,22 €	43 686,00 €	214 419,92 €
Cash and cash-equivalents	167 073,81 €	590 960,78 €	473 277,51 €	916 700,07 €	1 224 315,74 €	1 485 170,95 €
<b>Total current assets</b>	<b>724 299,78 €</b>	<b>1 213 347,61 €</b>	<b>1 417 668,06 €</b>	<b>1 907 594,54 €</b>	<b>2 394 055,32 €</b>	<b>3 217 430,55 €</b>

<b>TOTAL ASSETS</b>	<b>725 077,41 €</b>	<b>1 215 205,59 €</b>	<b>1 418 989,60 €</b>	<b>1 913 081,25 €</b>	<b>2 408 211,98 €</b>	<b>3 236 503,16 €</b>
<b>EQUITY &amp; LIABILITIES</b>						
<i>Equity</i>						
Paid-up capital	58 800,00 €	58 800,00 €	58 800,00 €	58 800,00 €	58 800,00 €	58 800,00 €
Legal reserves	295,00 €	925,00 €	2 825,00 €	2 825,00 €	11 700,00 €	11 700,00 €
Retained earnings	5 578,47 €	19 162,15 €	55 176,81 €	132 497,98 €	207 215,26 €	239 242,91 €
Sum	64 673,47 €	78 887,15 €	116 801,81 €	194 122,98 €	277 715,26 €	309 742,91 €
Net income	12 504,22 €	37 914,66 €	155 664,99 €	433 592,28 €	662 129,81 €	1 087 120,61 €
Prepaid dividends	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €
<b>Total equity</b>	<b>77 177,69 €</b>	<b>116 801,81 €</b>	<b>272 466,80 €</b>	<b>627 715,26 €</b>	<b>939 845,07 €</b>	<b>1 396 863,52 €</b>
<b>LIABILITIES</b>						
<i>Current Liabilities</i>						
Suppliers	438 371,11 €	465 887,43 €	372 315,84 €	522 403,72 €	707 770,67 €	581 834,75 €
State and Other Public Entities	58 610,94 €	103 369,74 €	194 008,36 €	165 430,06 €	249 610,90 €	277 700,73 €
Borrowing and financial liabilities	0,00 €	90 461,07 €	71 083,26 €	51 298,51 €	31 098,32 €	10 500,36 €
Other payables	150 917,67 €	195 803,51 €	205 035,78 €	130 357,10 €	235 408,24 €	942 113,85 €
Deferrals	0,00 €	242 882,03 €	304 079,56 €	415 876,60 €	244 478,78 €	27 489,95 €
<b>Total current liabilities</b>	<b>647 899,72 €</b>	<b>1 098 403,78 €</b>	<b>1 146 522,80 €</b>	<b>1 285 365,99 €</b>	<b>1 468 366,91 €</b>	<b>1 839 639,64 €</b>

<b>Total liabilities</b>	<b>647 899,7 2 €</b>	<b>1 098 403, 78 €</b>	<b>1 146 522, 80 €</b>	<b>1 285 365, 99 €</b>	<b>1 468 366, 91 €</b>	<b>1 839 639, 64 €</b>
<b>TOTAL EQUITY &amp; LIABILITIES</b>	<b>725 077,4 1 €</b>	<b>1 215 205, 59 €</b>	<b>1 418 989, 60 €</b>	<b>1 913 081, 25 €</b>	<b>2 408 211, 98 €</b>	<b>3 236 503, 16 €</b>

## Appendix 2: Balance Sheet (forecast)

	2023	2024	2025	2026	2027
<b>ASSETS</b>					
<b>Non-Current Assets</b>					
Fixed assets	7 772,29 €	9 557,08 €	11 341,87 €	13 126,66 €	14 911,45 €
Other financial assets	6 710,61 €	2 082,73 €	0,00 €	0,00 €	0,00 €
<b>Total non-current assets</b>	<b>14 482,90 €</b>	<b>11 639,81 €</b>	<b>11 341,87 €</b>	<b>13 126,66 €</b>	<b>14 911,45 €</b>
<b>Current Assets</b>					
Accounts receivable (clients)	2 161 797,49 €	2 587 069,13 €	2 983 280,54 €	3 281 608,59 €	3 445 689,02 €
State and Other Public Entities	244 337,21 €	322 847,32 €	446 122,16 €	515 189,58 €	566 627,02 €
Other receivables	268,50 €	322,20 €	222,32 €	244,55 €	171,19 €
Deferrals	158 064,98 €	117 137,17 €	201 132,00 €	155 974,43 €	206 914,35 €
Cash and cash-equivalents	1 930 169,14 €	2 391 110,01 €	3 042 447,87 €	3 808 004,17 €	4 019 422,59 €
<b>Total current assets</b>	<b>4 494 637,32 €</b>	<b>5 418 485,84 €</b>	<b>6 673 204,89 €</b>	<b>7 761 021,32 €</b>	<b>8 238 824,16 €</b>
<b>TOTAL ASSETS</b>	<b>4 509 120,22 €</b>	<b>5 430 125,65 €</b>	<b>6 684 546,76 €</b>	<b>7 774 147,98 €</b>	<b>8 253 735,61 €</b>
<b>EQUITY &amp; LIABILITIES</b>					
Equity					
Paid-up capital	58 800,00 €	58 800,00 €	58 800,00 €	58 800,00 €	58 800,00 €
Legal reserves	11 760,00 €	11 760,00 €	11 760,00 €	11 760,00 €	11 760,00 €
Retained earnings	271 929,07 €	312 933,15 €	297 641,37 €	192 433,52 €	147 626,81 €

Sum	342 489,07 €	383 493,15 €	368 201,37 €	262 993,52 €	218 186,81 €
Net income	776 940,21 €	894 094,73 €	850 403,90 €	549 810,05 €	421 790,88 €
Prepaid dividends	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €
<b>Total equity</b>	<b>1 119 429,28 €</b>	<b>1 277 587,88 €</b>	<b>1 218 605,27 €</b>	<b>812 803,56 €</b>	<b>639 977,68 €</b>
<b>LIABILITIES</b>					
<b>Current Liabilities</b>					
Suppliers	1 286 913,47 €	1 544 296,16 €	1 775 940,58 €	1 953 534,64 €	2 051 211,37 €
State and Other Public Entities	295 040,59 €	339 529,64 €	322 938,19 €	208 788,63 €	160 173,75 €
Other payables	1 223 299,45 €	1 567 387,04 €	2 560 539,06 €	3 911 845,13 €	4 470 837,98 €
Deferrals	584 437,43 €	701 324,92 €	806 523,66 €	887 176,03 €	931 534,83 €
<b>Total current liabilities</b>	<b>3 389 690,94 €</b>	<b>4 152 537,76 €</b>	<b>5 465 941,49 €</b>	<b>6 961 344,42 €</b>	<b>7 613 757,93 €</b>
<b>Total liabilities</b>	<b>3 389 690,94 €</b>	<b>4 152 537,76 €</b>	<b>5 465 941,49 €</b>	<b>6 961 344,42 €</b>	<b>7 613 757,93 €</b>
<b>TOTAL EQUITY &amp; LIABILITIES</b>	<b>4 509 120,22 €</b>	<b>5 430 125,64 €</b>	<b>6 684 546,76 €</b>	<b>7 774 147,99 €</b>	<b>8 253 735,62 €</b>

### Appendix 3: Income Statement (historical years)

	2017	2018	2019	2020	2021	2022
Gross sales	1 056 751,79 €	1 170 852,45 €	1 592 023,86 €	2 261 298,13 €	3 790 305,57 €	4 475 040,52 €
Operating subsidies	4 133,74 €	4 645,50 €	10 839,54 €	5 927,14 €	26 055,21 €	15 064,14 €
Costs of sales	571 491,14 €	572 636,08 €	282 072,38 €	976 395,04 €	2 000 196,10 €	2 058 839,45 €
External services and suppliers	356 877,85 €	266 736,73 €	589 306,10 €	182 921,96 €	253 250,37 €	318 569,45 €
Personnel expenses	115 918,72 €	292 404,76 €	519 166,26 €	655 718,90 €	773 257,64 €	1 015 947,58 €
Receivables impairments	0,00 €	0,00 €	3 660,19 €	0,00 €	0,00 €	0,00 €
Other revenues	0,00 €	14 281,68 €	0,00 €	6 595,10 €	1,20 €	0,00 €
Other expenses	455,54 €	984,13 €	819,47 €	1 079,38 €	2 223,11 €	2 945,41 €
<b>EBITDA</b>	<b>16 142,28 €</b>	<b>57 017,93 €</b>	<b>207 839,00 €</b>	<b>457 705,09 €</b>	<b>787 434,76 €</b>	<b>1 093 802,67 €</b>
Dep. & Am.	731,57 €	5 636,25 €	7 257,51 €	8 907,08 €	10 871,92 €	6 150,79 €
<b>Op. Results (EBIT)</b>	<b>15 410,71 €</b>	<b>51 381,68 €</b>	<b>200 581,49 €</b>	<b>448 798,01 €</b>	<b>776 562,84 €</b>	<b>1 087 651,88 €</b>
Interest rates expenses	0,00 €	2 758,35 €	1 920,00 €	1 290,61 €	1 093,24 €	531,37 €
<b>Profit before taxes (EBT)</b>	<b>15 410,71 €</b>	<b>48 623,33 €</b>	<b>198 661,49 €</b>	<b>447 507,40 €</b>	<b>775 469,60 €</b>	<b>1 087 120,51 €</b>
Taxes	2 906,49 €	10 708,67 €	42 996,50 €	13 915,12 €	113 339,79 €	228 295,31 €
<b>Net results</b>	<b>12 504,22 €</b>	<b>37 914,66 €</b>	<b>155 664,99 €</b>	<b>433 592,28 €</b>	<b>662 129,81 €</b>	<b>858 825,20 €</b>

#### Appendix 4: Income Statement (forecast)

	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
Gross sales	5 370 048,62 €	6 444 058,35 €	7 410 667,10 €	8 151 733,81 €	8 559 320,50 €
Operating subsidies	16 908,20 €	20 617,09 €	26 458,60 €	35 358,32 €	39 115,14 €
Costs of sales	2 685 024,31 €	3 222 029,17 €	3 705 333,55 €	4 075 866,91 €	4 279 660,25 €
External services and suppliers	537 004,86 €	644 405,83 €	741 066,71 €	815 173,38 €	855 932,05 €
Personnel expenses	1 162 033,84 €	1 443 920,75 €	1 888 327,47 €	2 571 558,69 €	2 898 973,21 €
Other expenses	2 685,02 €	3 222,03 €	3 705,33 €	4 075,87 €	4 279,66 €
<b>EBITDA</b>	<b>1 000 208,79 €</b>	<b>1 151 097,65 €</b>	<b>1 098 692,64 €</b>	<b>720 417,29 €</b>	<b>559 590,46 €</b>
Dep. & Am.	16 110,15 €	19 332,18 €	22 232,00 €	24 455,20 €	25 677,96 €
<b>Op. results (EBIT)</b>	<b>984 098,64 €</b>	<b>1 131 765,48 €</b>	<b>1 076 460,64 €</b>	<b>695 962,09 €</b>	<b>533 912,50 €</b>
Interest rates expenses	630,02 €	0,00 €	0,00 €	0,00 €	0,00 €
<b>Profit before taxes (EBT)</b>	<b>983 468,62 €</b>	<b>1 131 765,48 €</b>	<b>1 076 460,64 €</b>	<b>695 962,09 €</b>	<b>533 912,50 €</b>
Taxes	206 528,41 €	237 670,75 €	226 056,73 €	146 152,04 €	112 121,63 €
<b>Net results</b>	<b>776 940,21 €</b>	<b>894 094,73 €</b>	<b>850 403,90 €</b>	<b>549 810,05 €</b>	<b>421 790,88 €</b>

## Appendix 5: Cash-flow Statement (historical years)

	<b>2020</b>	<b>2021</b>
Cash-flows from operating activities		
Cash received from clients	2 994 478,07 €	4 209 031,45 €
Cash paid to suppliers	1 867 528,23 €	3 654 084,38 €
Cash paid to employers	641 190,27 €	723 764,33 €
Operational cash-flows	485 759,57 €	-168 817,26 €
IRS	-93 916,99 €	-24 989,79 €
Others	73 734,64 €	540 736,37 €
Total cash-flows from operating activities	<b>465 577,22 €</b>	<b>346 929,32 €</b>
Cash-flows from investing activities		
Acquisitions of fixed tangible assets	0,00 €	15 966,37 €
Acquisitions of intangible assets	0,00 €	0,00 €
Total cash-flows from investing activities	<b>0,00 €</b>	<b>-15 966,37 €</b>
Cash-flows from financing activities		
Payments related to loans	19 784,75 €	20 200,19 €
Interest rates	2 369,91 €	3 147,09 €
Total cash-flows from financing activities	<b>-22 154,66 €</b>	<b>-23 347,28 €</b>
Net cash-flows	443 422,56 €	307 615,67 €
Beginning cash balance	473 277,51 €	916 700,07 €

## Appendix 6: Beta computations

Company	Country	Sector	Industry	Beta	D/E	Date	Tax rate	Unleveraged beta	Data Source
<b>Wipro Limited (WIT)</b>	India	Technology	Information Technology Services	0,65	26,09 %	09/08/2023	23,10 %	0,54	Bloomberg
<b>Infosys Limited (INFY)</b>	India		Information Technology Services	0,63	11,34 %		21,00 %	0,58	
<b>DXC Technology Company (DXC)</b>	United States		Information Technology Services	1,95	152,26 %		29,00 %	0,94	
<b>Cognizant Technology Solutions Corp. (CTSH)</b>	United States		Information Technology Services	1,1	11,48 %		21,12 %	1,01	
<b>Hewlett Packard Enterprise Company (HPE)</b>	United States		Communication Equipment	1,27	66,11 %		19,92 %	0,83	
<b>International Business Machines Corp. (IBM)</b>	United States		Information Technology Services	0,85	270,77 %		20,95 %	0,27	
<b>Dell Technologies Inc. (DELL)</b>	United States		Computer Hardware	1,02	0,00%		18,14 %	1,02	
<b>Accenture Plc (ACN)</b>	Ireland		Information Technology Services	1,22	11,88 %		24,00 %	1,12	
<b>Oracle Corporation (ORCL)</b>	United States		Software-Infrastructure	0,99	58,15 %		6,83%	0,64	
<b>Cisco Systems, Inc (CSCO)</b>	United States		Communication Equipment	0,99	22,44 %		18,40 %	0,84	
<b>ServiceNow Inc. (NOW)</b>	United States		Software-Application	1,02	31,94 %		20,21 %	0,81	
<b>Amazon.com, Inc. (AMZN)</b>	United States		Internet Retail	1,26	43,41 %		23,02 %	0,94	
<b>Cybersafe, Lda</b>	Portugal		Information Technology Services	1,24	60,97 %		21,00 %	0,83	

## Appendix 7: Assumptions for Balance Sheet

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Cash/Total Expenses</b>	15,99 %	52,17 %	33,93 %	50,48 %	40,42 %	43,73 %	44,00 %	45,00 %	48,00 %	51,00 %	50,00 %
<b>Gross Sales/Current Assets</b>	0,18 %	0,27 %	0,57 %	1,87 %	2,33 %	3,44 %	4,55 %	5,01 %	6,02 %	6,32 %	6,62 %
<b>Deferrals/Gross sales</b>	0,00 %	20,74 %	19,10 %	18,39 %	6,45 %	0,61 %	10,88%				
<b>Deferalls/Total Assets</b>	2,21 %	0,00 %	3,08 %	4,11 %	1,81 %	6,63 %	3,50 %	2,15 %	3,00 %	2,00 %	2,50 %
<b>Other Receivables/Gross sales</b>	0,09 %	0,08 %	0,09 %	0,02 %	0,01 %	0,01 %	0,01 %	0,01 %	0,00 %	0,00 %	0,00 %
<b>Average Collection Period</b>	185,9 7	180,2 9	175,5 5	138,7 4	89,85	111,2 2	146,94				
<b>Average Payment Period</b>	172,3 5	202,5 9	172,9 2	136,0 6	101,4 6	89,33	145,78				

## Appendix 8: Assumptions for Income Statement

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Gross sales growth</b>		10,8 0%	35,9 7%	42,0 4%	67,6 2%	18,0 7%	20,0 0%	20,0 0%	15,0 0%	10,0 0%	5,00 %
<b>Cost of Sales/Gross Sales</b>	54,0 8%	48,9 1%	17,7 2%	43,1 8%	52,7 7%	46,0 1%	50,00%				
<b>Other expenses/Gross sales</b>	0,04 %	0,08 %	0,05 %	0,05 %	0,06 %	0,07 %	0,05%				
<b>External Services and Suppliers/Gross Sales</b>	33,7 7%	22,7 8%	37,0 2%	8,09 %	6,68 %	7,12 %	10%				
<b>Depreciation&amp;Amortization/Gross Sales</b>	0,07 %	0,48 %	0,46 %	0,39 %	0,29 %	0,14 %	30,00%				

**Appendix 9: Assumptions for Income Statement (Personal Expenses and Operating subsidies)**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Number of employees						29	31	36	44	56	59
Operating subsidies	4 133,74 €	4 645,50 €	10 839,54 €	5 927,14 €	26 055,21 €	15 064,14 €	16 908,20 €	20 617,09 €	26 458,60 €	35 358,32 €	39 115,14 €
IEFP Internships total value						23 175,60 €	26 012,61 €	31 718,61 €	40 705,54 €	54 397,41 €	60 177,13 €
Max number of IEFP Interns						10	10	12	15	19	20
Average salary						35 032,68 €	37 484,96 €	40 108,91 €	42 916,53 €	45 920,69 €	49 135,14 €
Total expenses	115 918,72 €	292 404,76 €	519 166,26 €	655 718,90 €	773 257,64 €	1 015 947,58 €	1 162 033,84 €	1 443 920,75 €	1 888 327,47 €	2 571 558,69 €	2 898 973,21 €

## Appendix 10: Enterprise Discounted Cash-Flows

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>EBIT</b>	15 410,71 €	51 381,68 €	200 581,49 €	448 798,01 €	776 562,84 €	1 087 651,88 €	984 098,64 €	1 131 765,48 €	1 076 460,64 €	695 962,09 €	533 912,50 €
<b>EBIT Growth</b>		233,42%	290,38%	123,75%	73,03%	40,06%	-9,52%	15,01%	-4,89%	-	-
<b>Tax</b>	2 906,49 €	10 708,67 €	42 996,50 €	13 915,12 €	113 339,79 €	228 295,31 €	206 528,41 €	237 670,75 €	226 056,73 €	146 152,04 €	112 121,63 €
<b>Depreciation &amp; amortization</b>	731,57 €	5 636,25 €	7 257,51 €	8 907,08 €	10 871,92 €	6 150,79 €	16 110,15 €	19 332,18 €	22 232,00 €	24 455,20 €	25 677,96 €
<b>Property, Plant and Equipment (PP&amp;E)</b>	731,77 €	0,00 €	0,00 €	667,44 €	5 761,89 €	7 734,12 €	7 772,29 €	9 557,08 €	11 341,87 €	13 126,66 €	14 911,45 €
<b>Capital Expenditure (CAPEX)</b>		4 904,48 €	7 257,51 €	9 574,52 €	15 966,37 €	8 123,02 €	16 148,32 €	21 116,97 €	24 016,79 €	26 239,99 €	27 462,75 €
<b>Working Capital</b>	76 400,06 €	114 943,83 €	271 145,26 €	622 228,55 €	925 688,41 €	1 377 790,91 €	1 104 946,39 €	1 265 948,07 €	1 207 263,40 €	799 676,90 €	625 066,23 €
<b>Change in working capital</b>		38 543,77 €	156 201,43 €	351 083,29 €	303 459,86 €	452 102,50 €	-272 844,52 €	161 001,69 €	-58 684,68 €	-407 586,50 €	-174 610,67 €
<b>Company Net Debt Payments</b>				19 784,75 €	20 200,19 €	20 597,96 €	10 500,36 €	0,00 €	0,00 €	0,00 €	0,00 €
<b>Free cash-flow</b>	13 235,79 €	2 861,01 €	1 383,56 €	63 347,41 €	334 468,55 €	384 683,88 €	1 039 876,22 €	731 308,25 €	907 303,79 €	955 611,75 €	594 616,76 €
<b>Terminal value (perpetuity growth)</b>	15 767 477,74 €										
<b>Present value</b>							972 983,30 €	640 247,59 €	743 231,21 €	732 447,39 €	426 437,94 €
<b>Enterprise value</b>	19 282 825,17 €										
<b>Equity Value</b>	18 928 356,48 €										

## Appendix 11: Drivers for Valuation

<b>Yield German 10y Treasury bonds</b>	2,46%
<b>Beta</b>	1,24
<b>Market return (S&amp;P 500 average yearly return)</b>	10,00%
<b>Cost of equity</b>	11,84%
<b>Cost of debt</b>	3,93%
<b>Market risk premium</b>	7,54%
<b>Debt-to-equity</b>	1,32
<b>Equity-to-asset</b>	2,32
<b>GDP growth</b>	0,71%
<b>Average inflation Portugal (last 10 years)</b>	2,03%
<b>WACC</b>	6,88%
<b>Terminal growth rate</b>	2,75%

	Dec	Nov	Oct	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan
<b>Euribor 12 months 2022</b>	2,84 %	2,69 %	2,50 %	1,85 %	0,94 %	0,96 %	0,42 %	0,21 %	- 0,09 %	- 0,36 %	- 0,43 %	- 0,50 %
<b>Euribor 12 months 2023</b>						4,15 %	3,88 %	3,82 %	3,65 %	3,75 %	3,41 %	3,32 %
<b>Spread for loans under 1M€ to non-financial companies 2022</b>	1,60 %	1,60 %	1,54 %	1,45 %	2,02 %	1,80 %	1,85 %	1,95 %	2,20 %	2,46 %	2,56 %	2,74 %
<b>Forecast Euribor (Average historical data)</b>	1,95%											
<b>Forecast Spread (Average historical data)</b>	1,98%											

## Appendix 12: Bloomberg Intelligence Global Cybersecurity Competitive Peers

[Accessed on 2023/09/12]

Country	Company Name	Weight (%)	Shares	Price
United Kingdom	Darktrace PLC	3,96%	406,22	404,6
United States	Okta Inc	3,88%	22,96	87,68
United States	Qualys Inc	3,69%	12,32	155,35
United States	Akamai Technologies Inc	3,55%	17,71	104
United States	Splunk Inc	3,55%	15,01	122,63
United States	CrowdStrike Holdings Inc	3,54%	10,84	169,59
United States	VMware Inc	3,52%	11,08	164,69
United States	Sentinelone Inc	3,47%	105,43	17,05
United States	Zscaler Inc	3,37%	10,88	160,37
United States	F5 Inc	3,36%	10,88	160,16
United States	International Business Machines Corp	3,36%	11,9	146,2
United States	Cisco Systems Inc	3,56%	30,77	56,38
United States	Rapid7 Inc	3,35%	35,16	49,24
United States	Amazon.com Inc	3,34%	12,21	141,26
United States	CyberArk Software Ltd	3,33%	10,18	167,4
United States	(Check Point Software Technologies Ltd	3,29%	12,67	133,8
United States	Gen Digital Inc	3,27%	85,82	19,48
United States	Tenable Holdings Inc	3,23%	36,56	45,52
United States	Synopsys Inc	3,21%	3,66	454,96
China	Qi An Xin Technology Group Inc	3,21%	222,89	53,5
United States	Cloudflare Inc	3,15%	24,35	65,03
United States	Microsoft Corp	3,06%	4,67	332,11
United States	Broadcom Inc	3,00%	1,84	844,67
United States	Palo Alto Networks Inc	2,96%	6,23	245,94
Canada	Open Text Corp	2,89%	38,22	53,15
United States	Ziff Davis Inc	2,84%	22,72	64,88
United States	Oracle Corp	2,83%	13,37	109,68
United States	Juniper Networks Inc	2,82%	50,81	28,73
China	Sangfor Technologies Inc	2,74%	101,97	101,55
Japan	Trend Micro Inc/Japan	2,66%	33,08	6134
United States	Fortinet	2,58%	21,06	63,54

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