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W H I T E P A P E R —  
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CYBR

## The Cybersecurity Sector is Full of Exciting New Growth Stories.

From companies building firewalls in the cloud (e.g. Cloudflare), to those developing crowd-sourced endpoint security tools (e.g. CrowdStrike), to those working on consumer-oriented privacy software (e.g. Avast), the sector always seems to be able to drum up a new, multi-billion-dollar winner. 2019 saw the IPOs of a number of new cybersecurity companies, including identity access management company Ping Identity (with remote work, “identity” is perhaps the hottest topic in cybersecurity right now).

As these new companies have joined the public markets, legacy cybersecurity players have had to keep pace with the innovation. Many have recalibrated their businesses, reinvented themselves as something new, while others have wholly rebuilt their security stacks to remain relevant.

Others have failed to remain relevant. The shift away, from traditional enterprise security to cloud-native security has created a lot of zombie companies. Similarly, the advent of artificial intelligence, and the accelerated shift to predictive security models has left many legacy players scratching their heads for new ideas.

For investors, in a sector undergoing such rapid transformation, separating the real cybersecurity companies from generalist security companies has been a challenge. With almost every company in the broader “security” category proclaiming to be a next-generation cybersecurity specialist, real cybersecurity companies with unique and sustainable competitive advantages have been overshadowed by bigger giants and their alluring digital marketing campaigns.

Nowhere has this been more obvious than in the “defence” sub-sector. At the same time as cybersecurity has boomed in recent years, a large number of traditionalist “defence” companies have re-sold themselves to the market as cybersecurity experts. The consequence for investors has been significant; getting exposed unwittingly to companies with little to no cybersecurity exposure, but also those with shockingly poor ESG (Environmental, Social and Governance) track records – common for defence sector companies.

In this white paper, we hone in on who these companies are, and what their ESG track records look like, all while highlighting why it is crucial for investors to carefully evaluate their thematic investments to ensure that they are getting the best possible pure-play exposure to a theme. We also explain why we have always and will continue to exclude ESG offenders in our Rize Cybersecurity and Data Privacy UCITS ETF.



## ESG Offenders in the Cybersecurity Category

The table below lists eight defence companies that regularly appear in the cybersecurity category. A look at their financials quickly reveals that they have negligible exposure to cybersecurity (i.e. negligible revenue exposure). We can see that further in the table below which showcases the

extent to which these companies are engaged in production of controversial weapons. This includes the production of key components for nuclear weapons, as well as companies developing new controversial technologies such as autonomous weapons systems.

### Selected Global Arms Companies Showing Controversial Weapons Production and Exports to Controversial Countries:

Company	Approx no. weapons systems ordered (2015-2018)	Exports to Saudi alliance and controversial countries in MENA region	Production/development of controversial weapons (nuclear/autonomous weapons)*	Cybersecurity revenue exposure (%)
Lockheed Martin	12000	Yes	Yes (heavily involved in key components) and developing increasing autonomous weapons systems	< 1% (Lockheed Martin responded to our request for information) <sup>1</sup>
BAE Systems	4890	Yes	Yes (support for nuclear weapons systems) prototype autonomous weapons systems	5% (as indicated in the company's 2019 Annual Report) <sup>2</sup>
General Dynamics	2900	Yes	Yes (nuclear components) and development of autonomous weapon systems	< 10% (estimate based on the company's 2019 Annual Report) <sup>3</sup>
Rheinmetall	1300	Yes	No nuclear weapons and some autonomous weapon systems	No discernible revenues linked to cybersecurity are reported by the company
Thales	630	Yes	Yes (nuclear weapon production) and also autonomous weapon systems	5.7% (Thales responded to our request for information) <sup>4</sup>
Northrop Grumman	190	Yes	Yes (nuclear missile upgrades) and limited autonomous weapon systems	No discernible revenues linked to cybersecurity are reported by the company
Leonardo	120	Yes	Yes (key producer of nuclear arsenal) limited development of autonomous weapon systems	No discernible revenues linked to cybersecurity are reported by the company
Airbus	90	Yes	Yes (production and maintenance nuclear) and autonomous weapon systems	No discernible revenues linked to cybersecurity are reported by the company

Key: High exposure – Moderate Exposure – Low exposure

\*In fully autonomous systems (also known as Lethal Autonomous Weapon Systems or LAWS), the system itself will – without human intervention – be able to choose when, against whom, and how it will use force. None of the companies are as yet producing such LAWS, however, weapons with increasingly autonomous features are being produced.

Source: Facing Finance DP7, "Out of Control: Irresponsible weapons transfers and future weapons systems", 2019.

Available at: [https://www.banktrack.org/download/dirty\\_profits\\_7/dp7\\_facing\\_finance.pdf](https://www.banktrack.org/download/dirty_profits_7/dp7_facing_finance.pdf)

What is striking here is that all companies are engaged in the export of arms, not only to countries that are considered "controversial" (defined as unfree countries by various non-partisan organisations) but which are either directly or indirectly also involved in The War in Yemen.<sup>5</sup>





“It is shameful that four years after the escalation of the armed conflict in Yemen, the US, UK, France and other European countries continue to sell arms to members of the coalition... These countries have a choice to make — take the side of Yemeni civilians and prioritize justice and peace or continue fuelling the war with weapons and emboldening war criminals with impunity.”

– *Radhya Almutawakel*,  
Chairperson of Mwatana for Human Rights



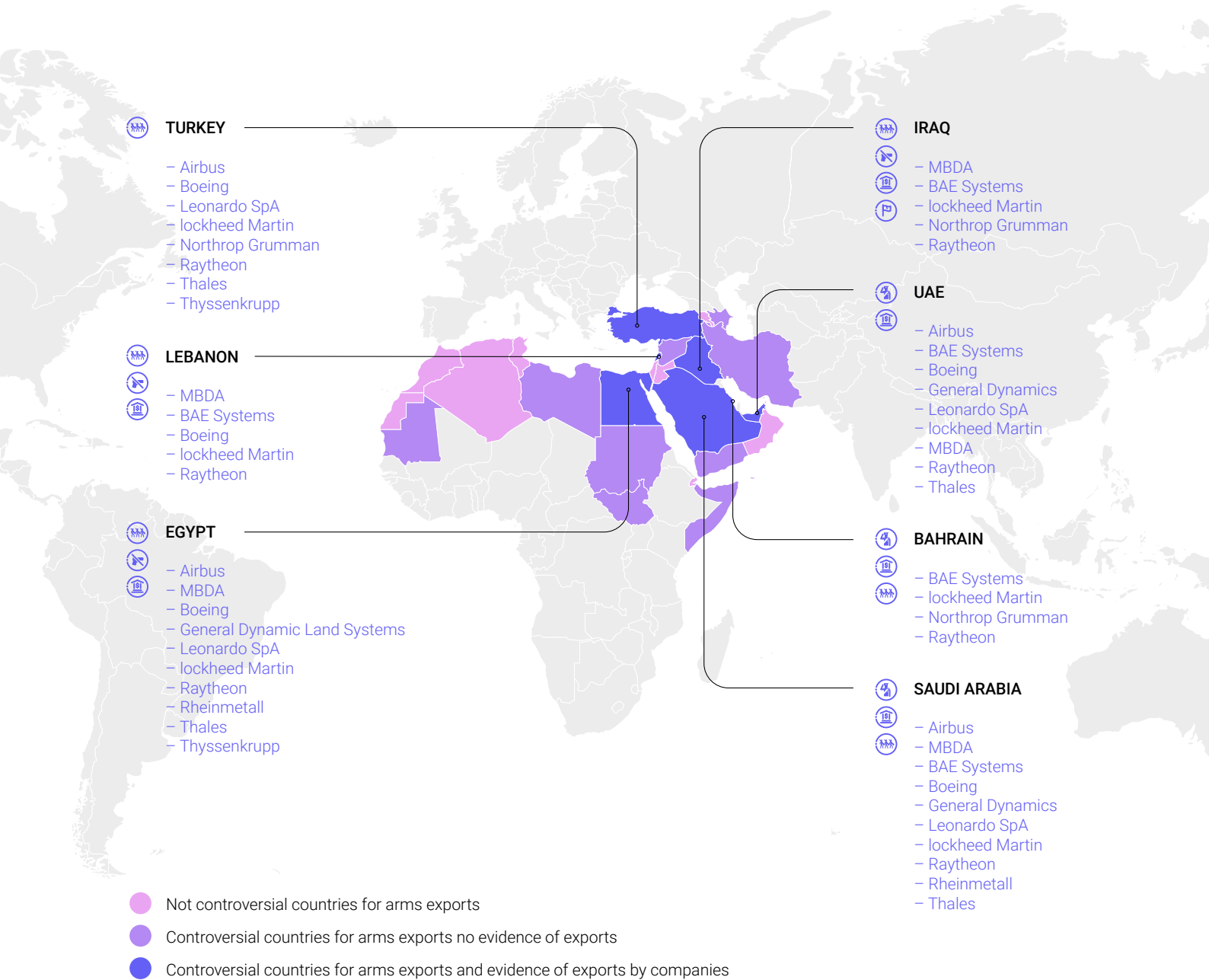
## The War in Yemen

Nowhere is the devastating impact of the arms trade more apparent than in the current war in Yemen. Yemen, the poorest country in the Middle East, is today hosting a proxy war between two of the world's wealthiest, oil-rich countries, with the primary victims being those who cannot defend themselves. Not only are civilians, many of whom are children, losing their lives in the midst of artillery fire and combat air strikes, but they are being impacted by the devastating effects of war including displacement, malnutrition, cholera and disease. This conflict continues to take a heavy toll, with an estimated 22 million civilians in need of assistance. According to the United Nations, approximately 15,000 people have thus far been killed or injured.<sup>6</sup>

All sides of the conflict have reportedly violated human rights and international law. Since 2015, research by notable human rights organisations such as Human Rights Watch and Amnesty International have repeatedly demonstrated that actions taken by the Saudi-led coalition in Yemen are in violation of international humanitarian law.<sup>7</sup> In certain cases evidence has been gathered linking US and UK-produced arms to the destruction of civilian targets, resulting in civilian casualties including children. These incidents have been linked to arms companies such as Lockheed Martin, BAE Systems, General Dynamics, Rheinmetall and Thales. Needless to say, the failure of these defence companies to prevent such exports have put their investors at serious risk of being linked to human rights violations.

## Controversial Countries

The map below highlights the controversial countries for arms exports in the MENA region. It is also a useful tool in understanding which defence companies are engaged in arms trade with these countries.



Unfree authoritarian regime



Armed conflict



corruption



EU/EU & UN arms embargo



Fragile state

Source: Facing Finance DP7, "Out of Control: Irresponsible weapons transfers and future weapons systems", 2019.  
 Available at: [https://www.banktrack.org/download/dirty\\_profits\\_7/dp7\\_facing\\_finance.pdf](https://www.banktrack.org/download/dirty_profits_7/dp7_facing_finance.pdf)

## Company Reviews

In This Section, We Review Our Top Five Companies in Greater Length.

### 1 – Lockheed Martin

Cybersecurity Revenue Exposure: < 1%<sup>8</sup>

US-based Lockheed Martin is the largest defence company in the world, with 88% of its revenue coming from arms sales.<sup>9</sup> Lockheed Martin appears on most investors' lists of controversial weapons offenders. While the company notes that its "sales are conducted ethically and fairly", and that their regulatory protocols compel them to "consider the risk that an arms transfer contributes to abuses of human rights", the company has categorically exported to a number of controversial countries.<sup>10</sup>

Bahrain is one such example. According to Amnesty International, Bahrain has used draconian legislation such as Law No. 58 of 2006 on the Protection of Society from Terrorist Acts, the Law on Political Associations, and repressive provisions of its Penal Code including Articles 134, 160, 165, 168, 214, 215, 216 and 310 to target protesters and other critics of the government.<sup>11</sup> Since 2011, more than 800 people have been stripped of their nationalities, and of those, 115 have lost their citizenship following confessions extracted under torture.<sup>12</sup> Human Rights Watch, in its latest report on Bahrain, notes that "Civilian and military courts continue to convict and imprison peaceful dissenters, including prominent human rights defenders and opposition leaders, under the guise of national security."<sup>13</sup> None of this however has prevented Lockheed Martin from exporting, amongst other things, guided rockets and missiles, radars, and combat aircraft to Bahrain. As recently as June 2018, Lockheed Martin signed a new, USD 1.1 billion contract to provide 16 new F-16 Block 70 fighter jets to Bahrain.<sup>14</sup>

Further, Lockheed Martin has respectively exported 5,000 and 150 Hellfire missiles to Iraq (a fragile state itself). Lockheed Martin has also been tied to The War in Yemen. For example, a 2018 investigation by Amnesty International found that Lockheed Martin had manufactured the GBU-12 laser-guided 500-pound bomb that was used in an airstrike in Yemen that killed three people in their home in the Ta'iz governorate in January 2018.<sup>15</sup>

Lockheed Martin also has a relationship with Turkey. For example, the company notes in its 2019 Annual Report that "Congress... act to prevent or impose conditions upon the sale or delivery of our products... to... Turkey and the suspension of sales of F-35 aircraft to Turkey and potential sanctions."<sup>16</sup>

Finally, Lockheed Martin is also especially proud of its relationship with Saudi Arabia. The company notes "We are especially proud of how our broad portfolio of advanced global security products and technologies will enhance national security in Saudi Arabia, strengthen the cause of peace in the region."<sup>17</sup> However, the company is quick to disclose in its 2019 Annual Report that this relationship may pose a risk to the company should "Congress... act to prevent or impose conditions upon the sale or delivery of our products... to the Kingdom of Saudi Arabia."<sup>18</sup>



## 2 – BAE Systems

Cybersecurity Revenue Exposure: 5%<sup>19</sup>

BAE Systems is a British multinational defence company. In 2019, it was the fourth largest arms producer in the world and Europe's largest, with over 90% of their revenues coming from the defence sector.<sup>20</sup> While there is nothing new about this defence giant's high exposure to controversial countries, especially Saudi Arabia, the political events of 2018 massively raised the heat on BAE. The murder of journalist Jamal Khashoggi (a critic of crown prince Mohammed bin Salman) in October 2018 prompted Germany to immediately prohibit sales of arms to Saudi Arabia, with a ban that was extended for another six months in March 2019 and then again in March 2020.<sup>21</sup> Countries such as Spain, Norway, Finland and Canada swiftly followed.<sup>22</sup> BAE, however, continued to deliver arms to Saudi Arabia, even in the face of widespread criticism that the company was contributing to international humanitarian law violations.

BAE's human rights policy notes, *"We assess potential export contracts against our own responsible trading principles and we do not proceed with new business opportunities if they do not meet our strict criteria."*<sup>23</sup> The sheer volume of exports to Saudi Arabia and Saudi alliance members, however, certainly brings this commitment into question.

In December 2019, a group of human rights organisations collectively filed a complaint with the International Criminal Court that accused BAE and other arms manufacturers of being party to alleged war crimes in Yemen.<sup>24</sup> Their 350-page dossier argues that aircraft, missiles and other arms *"contributed to the capacity"* of the Saudi-led coalition, which stands accused of bombing schools, hospitals and civilians in more than 25 airstrikes. BAE is cited as the principal supplier of the Eurofighter Tornado and the Typhoon jet aircraft to the Royal Saudi Air Force, which carried out a string of deadly airstrikes in Yemen. The complaint argues that BAE *"purposely intended"* to supply the Saudis with arms, even after the conflict began, at which time the company would have become *more aware* of the violations being committed.<sup>25</sup>

Figures analysed by the Campaign Against the Arms Trade (CAAT) reveal that, in 2019, the British arms maker derived 13% or £2.5 billion of its revenue from Saudi Arabia *alone*.<sup>26</sup> The same report found that, over the last 5 years, the company sold a whopping £15 billion worth of arms and services to the Saudi military.<sup>27</sup> Weapons sent by BAE to Saudi Arabia include, among other things, Armoured Personnel Carriers, Hawk-100 combat aircrafts and a whole host of Typhoon jet aircraft.<sup>28</sup> In March 2018, BAE signed a memorandum of intent to supply an additional 48 Typhoon jet aircraft to Saudi Arabia in an arms deal worth £4.2 billion.<sup>29</sup> The business continues to perform against the contract secured in 2018 to provide Typhoon support services to the Royal Saudi Air Force through to 2022.<sup>30</sup>

With more investors keen to ring-fence their portfolios from ESG hazards, some of BAE's activities face an uncertain future. Amnesty International recently contacted 22 arms companies asking them to respond to how they meet their responsibilities under the UN Guiding Principles on Business and Human Rights (UNGPs).<sup>31</sup> BAE responded that their *"activities in Saudi Arabia are subject to UK government approval and oversight."*<sup>32</sup> It appears, thus, that BAE does not currently have any intentions of its own to establish a framework around controversial arms exports.

### 3 – General Dynamics

**Cybersecurity Revenue Exposure: < 10% (est.)<sup>33</sup>**

General Dynamics is an American defence company and the fifth largest arms manufacturer in the world.<sup>34</sup> In 2019, the company earned 66% of its revenue from the defence sector.<sup>35</sup>

General Dynamics has supplied a wide range of armaments to controversial countries in the Middle East, including missiles, warships, submarines and rockets.<sup>36</sup> General Dynamics has also been involved in deals in everything from combat aircraft and combat ships, to tanks and armoured vehicles and missile defence systems. The War in Yemen has been particularly lucrative for General Dynamics, with the company receiving hundreds of millions of dollars from Saudi weapons deals. In 2016, General Dynamics exported M-1A2S tanks to Saudi Arabia. In January 2018, armoured combat vehicle experts at General Dynamics upgraded as many as 786 M1 Abrams main battle tanks and avionics under terms of a \$2.6 billion contract.<sup>37</sup> Recently, General Dynamics has also supplied Saudi Arabia with LAV-25 turrets.<sup>38</sup>

One of the most controversial deals involved precision-guided munitions. Fragments of bombs documented by Human Rights Watch with the help of villagers from the town of Mastaba demonstrate that the bombs used in the Mastaba market bombings some years ago were manufactured by General Dynamics.<sup>39</sup> General Dynamics has also been implicated in the August 2018 attack on a Yemeni school bus where 44 innocent children returning from a field trip were killed and seventy-seven others were wounded.<sup>40</sup>

### 4 – Rheinmetall

**Cybersecurity Revenue Exposure: No Discernible Revenues Linked to Cybersecurity are Reported by the Company.**

Rheinmetall is Germany's largest producer of arms. In 2019, the company generated €6.2 billion in sales.<sup>41</sup> Of these, 56% were from the defence sector.<sup>42</sup>

Rheinmetall has delivered, among other things, air search radars to Saudi Arabia and Armoured Personnel Carriers to Egypt. In Riyadh, Rheinmetall – through their subsidiary Rheinmetall Denel Munitions, has setup a \$240 million projectiles factory which produces mortar projectiles, aircraft bombs and artillery shells.<sup>43</sup> Its joint venture in Italy, denoted RWM-Italy, has also exported to the Saudi-led coalition, where these weapons have been linked to the deaths of civilians.<sup>44</sup> Indeed, the Italian foreign ministry is currently being sued by a group of human rights organisations for enabling such arms deals.<sup>45</sup>

The company came particularly into the spotlight in November 2018, when Germany decided to halt arms exports to Saudi Arabia due to the killing of Jamal Khashoggi.<sup>46</sup> Rheinmetall responded to this by threatening to sue the German government in January 2018 for loss of revenue due to the halt in arms transfers, a clear indication that human rights concerns are not at the top of the company's agenda.<sup>47</sup>



## 5 – Thales

Cybersecurity Revenue Exposure: 5.7%<sup>48</sup>

Thales is a European defence company headquartered in France. It is the country's largest defence company, with arms sales in 2019 totalling €9.9 billion, or roughly 52% of the company's total sales.<sup>49</sup>

Thales manufactures, among many products, missile systems, avionics, armoured vehicles, mortars, assault rifles and small arms ammunition, and exports them internationally including to controversial countries.<sup>50</sup> Thales has provided military equipment and services to the Saudi alliance as well, which is party to the ongoing conflict in Yemen. It has also supplied and serviced combat aircraft, aircraft engines and bomb guidance and delivery systems.<sup>51</sup> Its primary exports to these countries are radar systems.<sup>52</sup>

Thales has also exported a vast number of surveillance technologies to Egypt, which, since August 2013, has been under an arms embargo by the EU restricting "*exports of any equipment which might be used for internal repression*."<sup>53</sup> Amnesty International has documented that satellites exported by Thales to General el-Sisi of Egypt have been used for "crowd control".<sup>54</sup> In this way, the company has helped the government develop a widespread surveillance architecture aimed at preventing dissent and social movement, which has led to the arrests of thousands of opponents and activists. Indeed, the majority of weapons and vehicles supplied to Egypt have been found to be used toward repression and controlling the social movements of the population.<sup>55</sup>

Thales is reportedly also in the process of developing a surveillance system for the new capital planned by General el-Sisi. On the company's website, the French manufacturer boasts of a system capable of, among other things, "*coordinating the actions of security services*" in order to quell "*social unrest*."<sup>56</sup>



## How Do We Exclude ESG Offenders In Our Rize Cybersecurity And Data Privacy UCITS ETF?

At Rize ETF, we are of the view that the companies such as the ones highlighted above – as well as others like them – should be excluded from cybersecurity exposures. Not only are they not pure play cybersecurity companies, but they are also unacceptable investments from an ESG standpoint. For this reason, we exclude these companies from our Rize Cybersecurity and Data Privacy UCITS ETF.

Further information about our exclusionary process can be found at [www.rizeetf.com](http://www.rizeetf.com)

## Conclusion

We believe that careful scrutiny is required when taking exposure to the cybersecurity sector.

All investors should be carefully evaluating the companies they are getting exposure to knowingly or unknowingly to ensure that; one, a significant part of each company's revenue is derived from the theme; and, two, that each company has a persuasively clean ESG track record.

## Related ETF

**CYBR:** The Rize Cybersecurity and Data Privacy UCITS ETF seeks to track the Foxberry Tematica Research Cybersecurity & Data Privacy Index. The objective of the Index is to provide exposure to companies that derive significant revenues from the provision of products and services that secure individuals and organizations against cyber threats.

**Capital at Risk Warning:** An investment in the Fund(s) involves risks, including illiquidity, lack of dividends, loss of investment and dilution, and it should be done only as part of a diversified portfolio. The Funds may be registered or otherwise approved for distribution to the public in one or more European jurisdictions. Investors should continue to consider the terms of investment in any Fund (or Share Class thereof) carefully and seek professional investment advice before taking any decision to invest in such Fund (or Share Class thereof).

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