



International Baccalaureate



Overview

Industry

- Education
- Nonprofit

Challenge

- Detecting novel attacks and insider threats at an early stage
- Containing machine-speed cyber-attacks across a global organization
- Imperative of protecting students' personal information
- A need to comply with increased regulatory requirements, including GDPR

Results

- Deployed the Enterprise Immune System and Darktrace Antigena
- Able to counter fast-acting threats within seconds
- Cyber security became a key differentiator from competitors
- Gained real-time security insights necessary for regulatory compliance

Background

The International Baccalaureate, known as the IB, is a globally renowned educational foundation headquartered in Geneva, Switzerland. It offers four educational programs catered to students aged 3 to 19, all of which emphasize independent and critical thinking throughout their curricula. Today, these programs are taught by over 5,000 IB-accredited schools in more than 150 countries worldwide. With both the data of its students and its own reputation on the line, the IB sought an adaptive security solution that can keep pace with automated and fast-acting cyber-threats.

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Darktrace's approach immediately set itself apart from the competition. From a cyber defense perspective, unless we leverage machine learning and artificial intelligence, we're going to be on the backfoot.

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**Richard Jenkins, Global Head of Security & Risk
International Baccalaureate**

Challenge

Educational institutions like the International Baccalaureate collect and store vast quantities of sensitive personal information, attracting some of the world's most sophisticated criminals. Yet these institutions often lack the robust cyber defenses that protect similarly data-rich firms in the private sector. And while organizations of all kinds struggle to keep pace with today's increasingly fast-acting cyber-attacks – which often move too quickly for incident responders to contain – the strained security teams that are characteristic of nonprofits render them particularly vulnerable to these attacks.

Beyond the challenges posed by machine-speed cyber-threats, the IB was also limited in its ability to counter attacks from both innovative cyber-criminals and insider threats. The traditional approach to cyber security, which relies on rules and signatures to prevent known attacks from bypassing the network perimeter, will fail to detect attacks that look unlike anything observed previously, even as threat actors continue to launch novel threats on a daily basis. Additionally, insider threats originate from within the perimeter, necessitating an entirely different security approach capable of detecting attacks carried out by authorized network users.

Finally, the IB did not believe its conventional security tools were sufficient to comply with the increasing regulatory requirements on data processing, most notably the EU's General Data Protection Regulation (GDPR). GDPR requires organizations to notify both supervisory authorities and their clients of a data breach within 72 hours, under the penalty of multi-million euro fines. For international nonprofits with finite security resources, responding the fast-acting threats before they have time to escalate into a breach is an especially daunting challenge.

Solution

Following the completion of a successful Proof of Value (POV), the International Baccalaureate deployed Darktrace's Enterprise Immune System, including its cyber AI response solution, Darktrace Antigena. Powered by artificial intelligence, the Enterprise Immune System immediately began learning the normal 'pattern of life' for every user and device at the IB. Crucially, this AI-driven approach enables Darktrace to detect subtle deviations from normal behavior that are indicative of a sophisticated, never-before-seen attack.

Whenever the Enterprise Immune System observes a serious threat to the IB's network, Darktrace Antigena – the first enterprise-grade Autonomous Response technology on the market – surgically intervenes to contain the threat within seconds. Antigena works by restricting an infected device to its normal 'pattern of life', affording the IB's security team time for more strategic work. Moreover, the technology works without interrupting business operations, unlike typical efforts to contain cyber-attacks that result in lengthy and frustrating operational shutdowns. By neutralizing both insider threats and external attacks before it's too late, Darktrace Antigena has transformed the International Baccalaureate's cyber security posture.

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The sheer volume of data that Darktrace actively defends would take a team of 50 to 60 security professionals to do manually. What's more, the speed and precision with which Darktrace identified genuinely threatening activity exceeds any human capability.

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**Richard Jenkins, Global Head of Security & Risk,
International Baccalaureate**

Benefits

The Enterprise Immune System has proven to be a game-changer for the IB's security team, allowing it to reduce overhead costs as well as dashboard fatigue by defending the entire network from a single interface. Indeed, by deploying Darktrace in its many global offices, the IB has achieved unprecedented network visibility, gaining a deep understanding of the full sequence of events leading up to a security incident. Jenkins noted such comprehensive network oversight has rendered the IB's cyber security a key 'differentiator' with respect to competitors.

After Darktrace AI alerts the International Baccalaureate to threatening behavior, its security team can investigate that behaviour at any level of detail – both historically and in real time – using Darktrace's highly intuitive user interface, the Threat Visualizer. These capabilities have helped the organization comply with GDPR and protect students' sensitive data on behalf of parents and schools around the world.

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