

Cybersecurity & Industrial Technology

Deal Activity & Outlook

Mergers & Acquisitions
Financing Activity
Public Market Data

Converging Systems, Heightened Vulnerability Drive Cybersecurity Integration in Industrial Technologies



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Capstone Partners is the bank of choice for fast-growing entrepreneurs driving changes in the marketplace. The majority of transactions completed by our **Cybersecurity and Industrial Technology Banking Groups** are for privately owned businesses engaging with long-term investors for the first time. Our teams have tracked the evolution of industrial technologies and the new areas of opportunity afforded to cybersecurity participants. Through our sector expertise and the relationships built with highly active investors in both the Cybersecurity and Industrial Technology sectors, Capstone is uniquely positioned to prepare your company and provide you with the best possible outcome in a liquidity event or capital raise.



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Cybersecurity

Capstone-Advised Cybersecurity Transactions

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Capstone-Advised Industrial Technology Transactions

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Industrial Technology Mitigates Cyber Attack Costs, Encouraging Cross-Sector Transactions

The Industrial Technology sector continues to be characterized by the evolution of Internet of Things (IoT)-enabled devices for operational technology (OT) and industrial control system (ICS) applications. By 2025, the number of IoT-enabled devices deployed in the sector is forecasted to reach 55.7 billion, with 60% of organizations being digitally dependent, according to IDC Research.¹ Due to the ongoing modernization of OT and ICS, sector revenue is projected to reach \$350 billion by 2028, growing at an annualized rate of 7.8% from 2021 to 2028, according to Verified Market Research.² However, the converged information technology (IT), OT, and ICS systems have been targeted by hacker groups and certain nation-states seeking to penetrate digital industrial environments spread malware and exfiltrate sensitive data for ransom. The costs of these attacks are estimated to reach \$50 billion by 2023, equating to nearly 20% of projected sector revenue, according to Gartner.³

The Cybersecurity sector has played an active role in safeguarding industrial technology participants from cyber attacks, through a combination of service and product offerings including penetration testing, red/blue/purple teaming, risk assessments, managed services, compliance, EDR, NDR, XDR, threat hunting, and other defensive efforts. The unquestioned importance of these cybersecurity efforts for the success of industrial technology applications has catalyzed cross-sector merger and acquisition (M&A) activity and venture capital financing rounds. In the Cybersecurity M&A market, there has been significant vertical consolidation of OT and ICS cybersecurity specialists to gain scale and meet heightened demand, with heavy interest from private equity-backed buyers. Large public industrial technology players have also engaged in cybersecurity acquisitions, bolstering in-house divisions dedicated to protecting proprietary systems. In the Industrial Technology M&A market, private equity firms have targeted providers with value-added cybersecurity services in direct investments, aiming to position the platform as a full-service integrator when looking for add-on acquisitions.

Led by investment arms within the Automation & Control segment, publicly-traded industrial technology companies have deployed significant levels of venture capital towards pure-play OT and ICS cybersecurity businesses. These investments have often strengthened the partnership between the two entities, with industrial technology providers incorporating advanced cybersecurity software tools to complement service offerings. The Warehousing Technology sub-segment has been at the forefront of industrial technology venture capital financing, as leading providers have implemented cybersecurity measures to shield proprietary software from potential breaches. These measures not only protect the data collected, but the accompanying robotics orchestrated by the platform.

Key drivers of continued investment and M&A activity for cybersecurity and industrial technology participants include proprietary technology, customer additions, talented personnel, and adjacent market opportunities.

Top Cybersecurity Capabilities for Industrial Technology Providers

Software

Network Detection & Response

To match the velocity and aggressiveness of ransomware attacks on industrial facilities, artificial intelligence (AI)-driven network detection and response (NDR) software tools can provide IT and OT security teams with a real-time overview of network traffic. NDR tools detect malware infiltration and abnormal network behavior in IT, OT, or ICS systems and enable automated alert notifications when threatening anomalies are detected. NDR also supports existing cybersecurity tools including security orchestration, automation, and response (SOAR).

eXtended Detection & Response

Effective cybersecurity tactics necessitate a holistic approach that encompasses the entire complexity of today's OT and ICS systems, inclusive of cloud and hybrid environments. eXtended detection and response (XDR) tools collect and automatically correlate data across multiple security layers including email, endpoints, servers, traditional networks, and private and public cloud networks. As top industrial technology participants complete their transition to the cloud, XDR will become increasingly vital in monitoring and protecting these organizations.

Services

Compliance & Testing Services

The increasingly sophisticated cyber attacks on ICS and critical infrastructure has necessitated regular cybersecurity testing and regulatory compliance services for industrial technology providers. For example, program gap assessments can identify the specific areas of vulnerability between IT, OT, and ICS systems, enabling participants to bridge that gap prior to a potential breach. Federally-mandated cybersecurity testing certifications serve as an added line of defense in protecting industrial technology businesses bidding on government contracts.

Managed Security Services

Managed security services providers (MSSPs) with well-tested frameworks, proven methodologies, technology-enabled tools, and Industrials industry expertise have been in high demand as mature organizations require cybersecurity consulting services when updating legacy systems to digital or cloud infrastructures. MSSPs can serve as a long-term partner and point of contact to industrial technology businesses throughout their transformation, providing risk advisory, innovation strategy, integration strategy, and crisis and resilience services.

Cyber Attacks Increasingly Target Industrial Facilities



Notable Cyber Attacks on Industrial Facilities

Oiltanking



Germany,
January 2022

Oiltanking, one of Germany's largest storage operators for gases, petroleum products, chemicals, and other liquids, suffered a cyber attack in January 2022. Although the attack targeted the company's IT systems, the incident severely impacted its OT, paralyzing all loading and unloading systems, according to a BBC News article.⁴ As the majority of inland supply activities were placed on hold, Oiltanking declared a state of force majeure, excusing the company from current contractual agreements. Total damages were not disclosed. The hack demonstrates the susceptibility of facilities' entire infrastructures.

Brenntag



Germany,
May 2021

Preceding the attack on Colonial Pipeline's network, Ransomware-as-a-Service (RaaS) hacker group DarkSide appropriated 150 gigabytes of proprietary data from German-based chemical manufacturer Brenntag's (XTRA:BNR) North America division. DarkSide initially demanded a 133.7 Bitcoin ransom, equivalent to ~\$7.5 million. After several days of negotiation, Brenntag paid \$4.4 million in cryptocurrency to retrieve the stolen data, according to IT Governance.⁶ The attack marks the second-highest paid ransom in 2021, behind Colonial Pipeline. Brenntag's operations were stalled during the recovery process as employee access was limited.

Colonial Pipeline



United States,
May 2021

In May 2021, leading U.S. petroleum pipeline Colonial Pipeline reportedly endured a ransomware attack as a result of a single leaked password. Though the exact point of vulnerability was not identified, Colonial Pipeline predicted the source of the hack to be a virtual private network profile that did not require multifactor authentication, according to Bloomberg.⁵ DarkSide, the hacker group behind the attack, demanded \$5 million in exchange for the files exfiltrated from Colonial's shared internal drive. The attack resulted in gasoline shortages across the East Coast and will cost Colonial tens of millions of dollars to completely restore its IT systems.

CPC Corporation



Taiwan,
May 2020

CPC Corporation, a state-run oil and energy supplier in Taiwan, was targeted in a malware attack in May 2020. Although supply operations were not directly impacted, the hack disrupted the company's IT and OT systems. Technical experts were unable to restore legacy systems to normal and the company was forced to rebuild the majority of its infrastructure, resulting in millions of dollars in damages, according to Taiwan News.⁷ Taiwanese authorities have suggested that Chinese hackers were behind a ransomware attack, an aggressive assault on one of the island nation's most strategic assets.

Cybersecurity

M&A Volume Sets Record High, ICS Cybersecurity Attracts Strong Buyer Interest

Merger and acquisition (M&A) activity in the Cybersecurity sector remained robust in 2021, with transaction volume increasing 21% year-over-year (YOY) with 410 deals announced or completed. Total disclosed deal value also set an annual record, amounting to \$85.6 billion in 2021 as buyers paid premium valuations for quality assets. As a result, M&A purchase multiples in the Cybersecurity sector have averaged a robust 13.3x EV/EBITDA and 3.9x EV/Revenue over the past three years, outpacing the broader Aerospace, Defense, Government & Security (ADGS) industry average of 11.8x EV/EBITDA and 2.1x EV/Revenue, according to [Capstone's Middle Market M&A Valuations Index](#).



Tom McConnell, Managing Director Cybersecurity

"OT/ICS environments bring unique cybersecurity challenges where any system downtime may have a catastrophic impact. Specialized knowledge, tools and capabilities may be required to adequately combat threats in this environment. Innovative cybersecurity product and service providers which efficiently deliver effective solutions can rapidly capture market share. Such solution providers are on the radar screens of institutional investors and strategic acquirers who are willing to pay high multiples of revenue to participate in the upside."

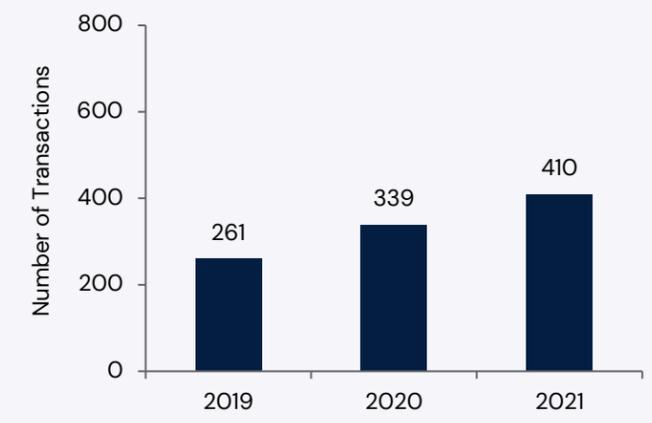
Sector participants with industrial control system (ICS) and operational technology (OT) cybersecurity offerings have garnered significant interest from strategic and private equity-backed buyers, mirroring the greater Cybersecurity M&A market. Buyers in the space have namely focused on vertically integrating ICS- or OT-focused providers to gain a foothold in the emerging market. For example, Claroty acquired Medigate to bolster its software capabilities, and Deloitte acquired aeCyberSolutions to gain ICS cybersecurity service professionals (see transaction details on page 11). Network detection and response (NDR), eXtended detection and response (XDR), and endpoint protection businesses have been in particularly high demand in the Software segment, as 75% of OT solutions will be delivered via information technology (IT) interoperable platforms by 2025, according to Gartner.⁸ In the Services segment, OT cybersecurity compliance companies have largely attracted public and private strategic buyers seeking recurring revenue streams through federally-mandated testing and certification services, aligning with the Cybersecurity & Infrastructure Security Agency's (CISA) Trusted Internet Connections Initiative.⁹



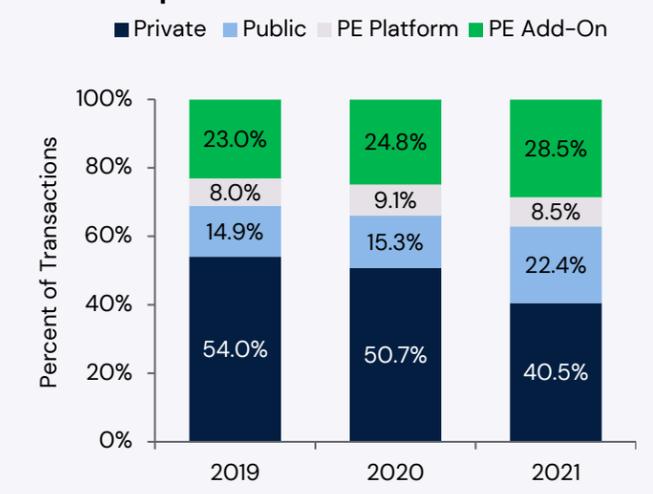
David Brinkley, Managing Director Cybersecurity

"Capstone's Cybersecurity and Industrial Technology teams are fortunate to be trusted advisors to several leading firms that are engaged in the rapid development and deployment of solutions to safeguard ICS and OT systems. Many of these businesses operate on the frontlines, protecting critical infrastructure as well as global operations, and garner significant strategic interest once sufficiently scaled."

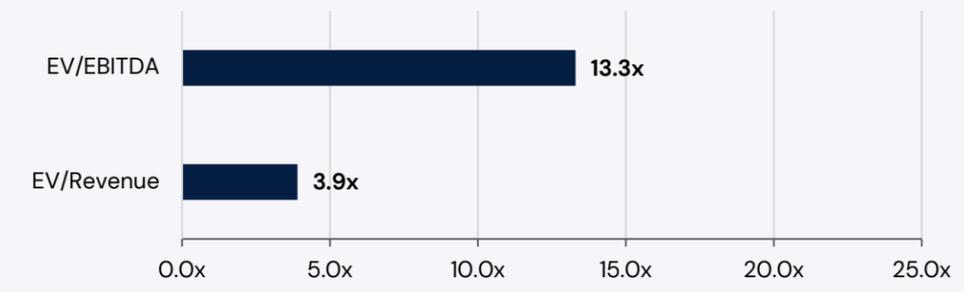
M&A Transaction Volume Increases 21% Year-over-Year



Private Equity Increases Sector Exposure Via Add-On Deals



Average Cybersecurity M&A Purchase Multiples (2019-2021)



Source: Capital IQ, PitchBook, FactSet, and Capstone Research

Notable M&A Transactions



In February 2022, Applus Services (BME:APPS) acquired cybersecurity testing services provider Lightship Security for an undisclosed sum. Lightship’s 2022 revenue is expected to surpass \$7 million, with an annualized growth rate of 20% through 2025, according to a press release.¹⁰ Lightship’s services include Federal Information Processing Standards (FIPS) testing, cybersecurity consulting, and program gap assessments for ICS. The acquisition bolsters Applus’ cybersecurity certification offerings for manufacturing and industrial clients and adds a high degree of revenue visibility as FIPS testing is a required certification for bidding on government contracts. “This new investment is aligned with our growth strategy of acquiring companies with good business synergies and strong growth and margins,” said Fernando Basabe, Applus CEO, in the press release.



Clearlake Capital- and TA Associates-backed DigiCert acquired ICS IoT security software provider Mocana in December 2021. Terms of the transaction were not disclosed. The combination of DigiCert and Mocana provides IoT manufacturers and operators a comprehensive platform for managing security across the full IoT device lifecycle from secure connections, to preventing device tampering, to updating firmware remotely once in the field. The acquisition strategically augments DigiCert’s presence in the fast-growing IoT market. “IoT security has been a challenge for device manufacturers and operators. With the addition of Mocana, DigiCert is building on its vision for delivering digital trust, a growing necessity in the IoT market as smart devices become ubiquitous in Industrial and Manufacturing verticals,” said John Merrill, DigiCert CEO, in a press release.¹²



Claroty, a security company for cyber-physical systems across Industrial, Healthcare, and Enterprise environments, acquired Medigate, a leading industrial healthcare IoT security platform in December 2021 (undisclosed). The acquisition was funded by Claroty’s \$400 million Series E financing round, completed early December 2021, according to a press release.¹¹ Claroty has raised \$635 million to-date, making it one of the most well-funded providers in the IoT and OT Security verticals. Claroty’s platform serves organizations with highly automated production sites and factories that face significant security risk. The transaction enhances Claroty’s platform, adding cybersecurity capabilities for Extended Internet of Things (XIoT) devices. Although this new offering currently caters to the Healthcare space, Claroty plans to bring XIoT security to all its industrial clients.



In August 2021, Deloitte acquired industrial cybersecurity business aeCyberSolutions from aeSolutions. Terms of the transaction were not disclosed. The deal will bolster Deloitte’s existing cybersecurity offerings with aeCybersolutions’ well-tested frameworks, methodologies, and technology-enabled tools for ICS and OT security. Deloitte will also gain access to the company’s professionals, who have deep experience in Industrials industry risk advisory services. “Cyberattacks on industrial controls systems for critical infrastructure are increasingly sophisticated and far-reaching, making cyber resilience and regulatory compliance more important than ever,” said Wendy Frank, Risk & Financial Advisory Cyber Principal at Deloitte, in a press release.¹³ The transaction demonstrates MSSPs’ appetite for bolting on service offerings specifically for ICS and OT security.



Cybersecurity Financing

Industrial Players Deploy Significant Funding to Top ICS Cybersecurity Firms

Venture capital invested in the Cybersecurity sector set a record high in 2021, amounting to \$29.1 billion compared to \$10.7 billion in 2020 and \$6.5 billion in 2019. The quantity of venture capital deals in 2021 increased by 68% YOY (1,006 deals in 2021), with many venture capital firms participating in multiple financing rounds to deploy significant late-stage investments to sector-specific startups, scaling operations for a maximum return on investment upon an exit via public listing or acquisition.

OT & ICS Cybersecurity segment leaders have received the majority of their funding from investment arms of publicly-traded industrial technology businesses. Many of these relationships were founded in partnerships, as industrial organizations require cybersecurity tools and services to protect product lines or entire facilities. In early 2021, Emerson Electric (NYSE:EMR), a multi-industrial conglomerate, partnered with OT NDR software provider Dragos to augment cybersecurity capabilities in its Power and Water Infrastructure divisions. The collaboration jointly supports customers with Emerson's assessment offerings and Dragos' threat detection and incident response platform, according to Dragos' partner brief.¹⁴ Since the partnership, Emerson has been an active investor in Dragos' platform, including its \$200 million Series D round (see adjacent page). Venture capital firms have namely focused on deploying seed funding in the OT & ICS Cybersecurity segment, with investments ranging between \$5 and \$15 million. Notable early-stage venture capital deals include TXOne Network's Series A round led by Jade Stone Venture Capital (\$12.9 million, August 2021) and Nanolock's Series B round led by Atlantica Group (\$8.2 million, June 2021).

CLAROTY **\$400 Million**
Series E Funding
December 2021

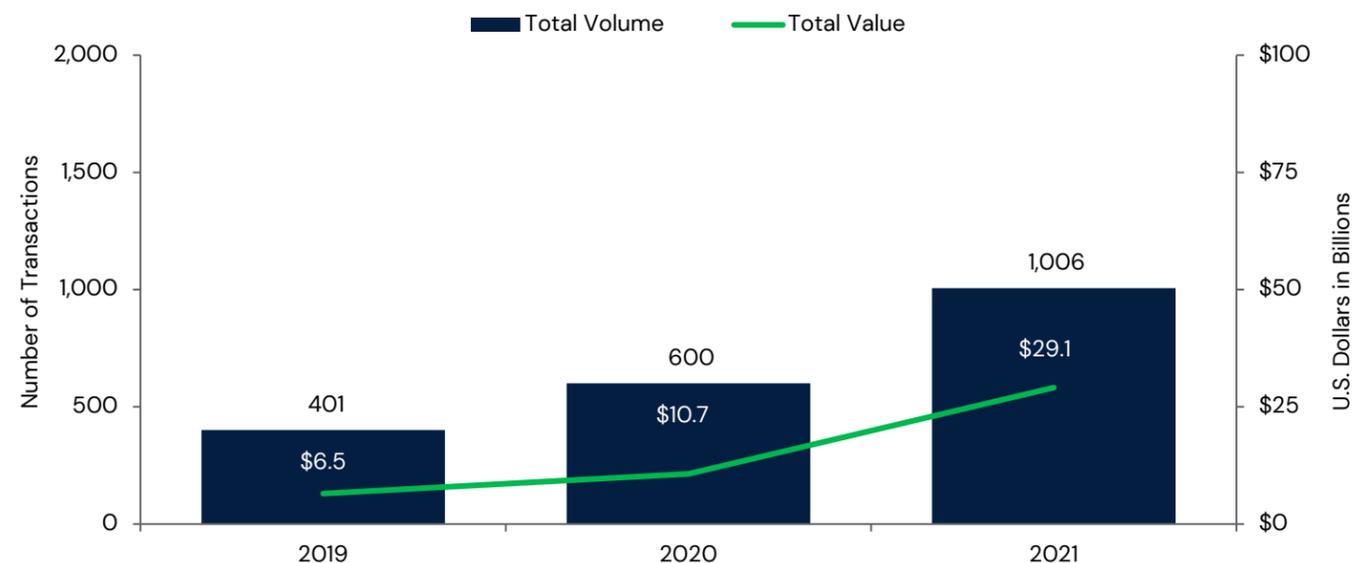
In the largest ICS and OT cybersecurity funding round to-date, Claroty secured \$400 million in Series E financing to reach a post-money valuation of \$2.0 billion. Standard Industries' investment arm Standard Investments co-lead the round with SoftBank Group (TSE:9984) following its participation in Claroty's Series D funding in June 2021 (\$140 million). Existing investors, including Schneider Electric (ENXTPA:SU) and Rockwell Automation (NYSE:ROK), also participated in the funding round. While the majority of the capital was used to finance the acquisition of Medigate, the combined entity will leverage the remaining funds to bring its new XIoT cybersecurity capabilities to industrial clients in the Asia-Pacific and Latin American markets, further establishing itself as a global OT cybersecurity leader.

DRAGOS **\$200 Million**
Series D Funding
October 2021

Dragos, a global ICS and OT cybersecurity leader, secured \$200 million in Series D funding with a post-money valuation of \$1.7 billion (October 2021). The transaction marks the second highest funding round and valuation achieved by an OT cybersecurity company, providing further validation for OT cybersecurity demand. The round was led by Koch Disruptive Technology, an investment arm of Koch Industries, in addition to the investment branches of Emerson Electric, Hewlett Packard Enterprise (NYSE:HPE), National Grid (LSE:NG), and Rockwell Automation. Dragos will utilize the funding to accelerate its global expansion and support customers in key growth markets across sectors including Electric, Oil & Gas, Water Treatment, Chemicals, Pharmaceuticals, Food & Beverage Processing, and Manufacturing.

Cybersecurity Venture Capital Deal Volume and Funding Levels Surpass Historic Norms

Many venture capital firms and corporate investment arms have participated in multiple financing rounds to deploy significant late-stage investments to sector-specific startups, scaling operations for a maximum return on investment upon an exit via public listing or acquisition.



Source: PitchBook and Capstone Research

“While connectivity between the cyber and physical systems in manufacturing, healthcare, energy, and other industries is driving significant competitive advantages via increased operational agility and resilience, it also creates greater exposure to risks with serious consequences for patient safety, public safety, and the environment. We envision a future where cyber and physical worlds safely connect to support our lives, and with such strong backing from some of the world's foremost technology investors, we have the resources we need to make this vision a reality.”

Yaniv Vardi,
CEO, Claroty,
Company Press Release, December 2021¹⁵

“Executives around the world from corporate leadership to government officials have continued to note the criticality of protecting OT and the need to do so with OT specific approaches. The risks are not just in cyberattacks, though those are becoming more numerous and aggressive, but also in ensuring the appropriate insights into ICS/OT environments to maintain resilience as our world's infrastructures and industrial automation environments become more connected and more complex.”

Robert M. Lee,
CEO & Co-Founder, Dragos,
Company Press Release, October 2021¹⁶

Cybersecurity Public Market

OT Cybersecurity Trading Multiples Exhibit Strong Growth

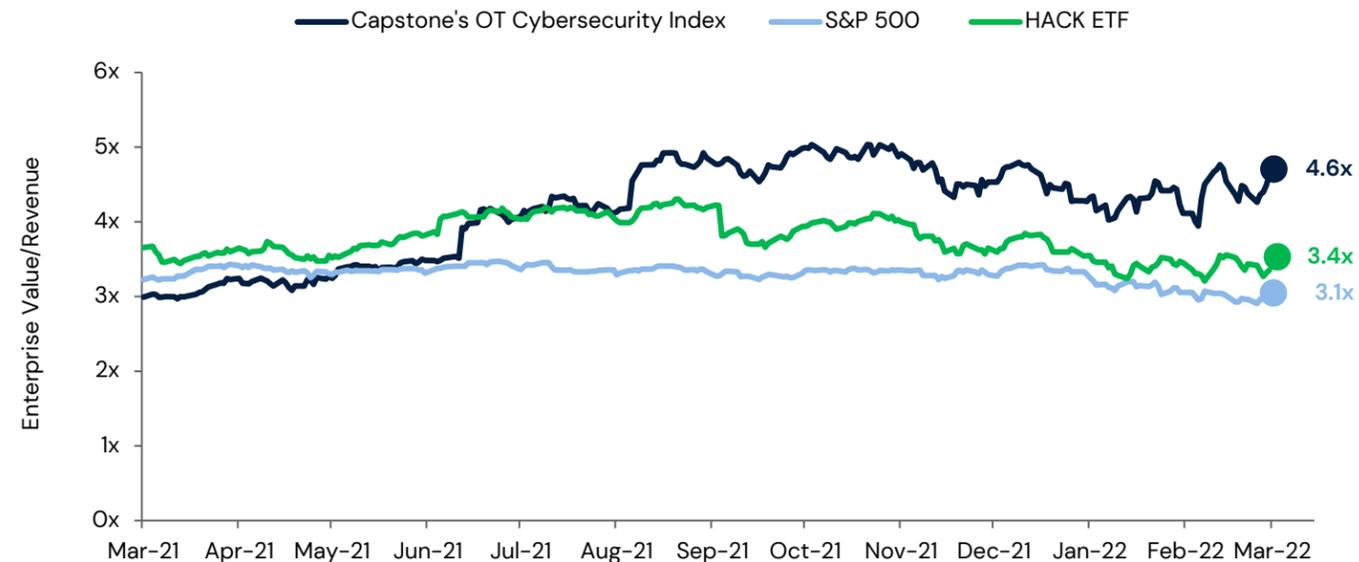
Despite public markets' volatile start to 2022, the Cybersecurity sector has exhibited exceptional resilience, with the HACK ETF, a portfolio of companies offering cybersecurity solutions, trading at 3.4x revenue as of March 21, 2022. Capstone's OT Cybersecurity Index, comprised of providers with OT and ICS cybersecurity offerings, has outpaced both the S&P 500 and HACK ETF over the last twelve months, trading at 4.6x EV/Revenue. Pure-play OT and ICS cybersecurity providers have led the segment, supported by healthy levels of customer acquisition and retention. Of note, Darktrace (LSE:DARK) recorded a last twelve-month (LTM) EV/Revenue trading multiple of 10.0x in March 2021, just below its LTM high of 12.5x.

Top cybersecurity software providers with OT and ICS divisions have also benefited from segment tailwinds, demonstrated by CyberArk (Nasdaq:CYBR) trading at 9.5x EV/Revenue. Historically, CyberArk's client base has consisted of businesses in the Banking & Financial, and IT Services & Software sectors. In 2021, manufacturing and energy & utilities clients accounted for 13% and 9% of the company's total revenue, respectively, according to the company's most recent investor presentation.¹⁷ Though the Banking & Financial sector remained the highest revenue-generating segment in 2021 (comprising 20% of sector revenue), Manufacturing and Energy & Utilities sectors have displaced IT Services & Software (8%).

Although the OT & ICS Cybersecurity segment is still in the early stages of its growth trajectory, the continued investment from venture capital firms and industrial technology investment arms bodes well for exits via public listing in the long-term.

Capstone's OT Cybersecurity Index Significantly Outperforms S&P 500 and HACK ETF

Capstone's OT Cybersecurity Index, comprised of providers with OT and ICS cybersecurity offerings, has outpaced both the S&P 500 and HACK ETF over the last twelve months, trading at 4.6x EV/Revenue as of March 21, 2022.



Capstone's OT Cybersecurity Index: DARK, APPS, RPD, CYBR, ATO, NLOK, S, PANW
Source: Capital IQ as of March 21, 2021

Darktrace Expands Industrial Client Base, Captures Heightened Revenues

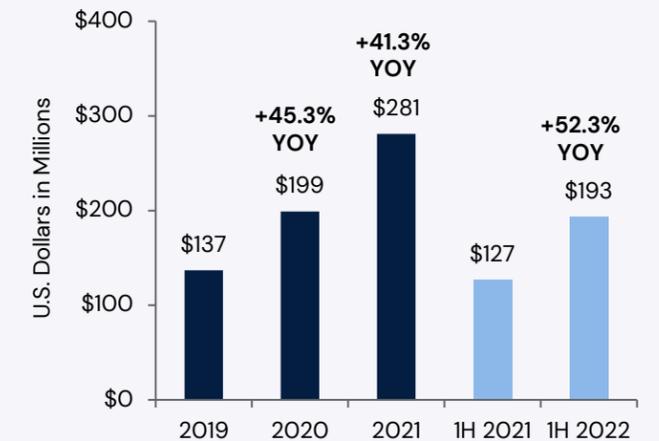


Ticker: LSE:DARK
Headquarters: Cambridge, United Kingdom
Markets: Network Detection & Response
LTM Revenue: \$347.5 Million
Market Capitalization: \$3.8 Billion

U.K.-based Darktrace provides AI-enabled NDR solutions to neutralize cyber threats across diverse digital estates including cloud networks, IoT, and ICS. Darktrace's industrial client base has historically comprised of renewable energy, general manufacturing, and healthcare customers. In Q4 2021, Darktrace's ICS cybersecurity offerings attracted four sizeable, sector-specific manufacturing clients in the Telecom, Aerospace, Electronics, and Automotive areas. As a result, the company's total revenue reached \$281 million in 2021, outpacing the prior year by 41.3%, according to the company's investor presentation.¹⁸ As 99% of the company's revenue is collected on a recurring basis, Darktrace's 2021 industrial customer acquisitions have continued to bolster its revenue levels in the first half of fiscal year 2022, amounting to \$193 million (+52.3% YOY).

Darktrace has also leveraged inorganic growth strategies with its acquisition of Cybersprint in February 2022 for an enterprise value of \$53.7 million. Cybersprint's supply chain cybersecurity platform will be accretive to Darktrace's industrial clients as products ship to market.

Darktrace Revenue Sees Record Levels in 2021 and Early 2022



Note: YOY = Year-over-Year; 1H = First Half
Source: Darktrace and Capstone Research

Darktrace Gains Manufacturing Clients in Four New Sectors



Telecom



Aerospace



Electronics



Automotive

Source: Darktrace and Capstone Research

Industrial Technology

Strategics Target Cybersecurity Capabilities, Sponsors Invest in Integration

The Industrial Technology merger and acquisition (M&A) market enjoyed a full recovery in transaction volume from 2020 lows, with 293 deals announced or completed in 2021, an increase of 68.4% year-over-year (YOY). M&A activity also outpaced 2019 levels by 12.7%, demonstrating heightened acquirer demand. Despite COVID-19's disruption to deal flow, sector M&A purchase multiples have averaged 16.6x EV/EBITDA and 2.6x EV/Revenue over the past three years, outpacing the middle market average of 10.7x EV/EBITDA and 2.3x EV/Revenue, according to [Capstone's Middle Market M&A Valuations Index](#).

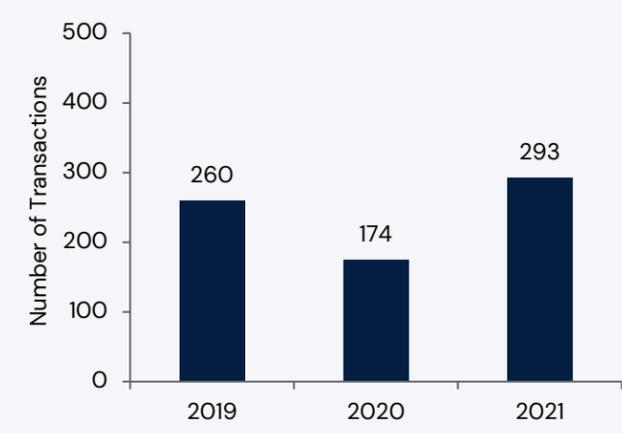
Strategic buyers continued to lead sector M&A activity, comprising 67.6% of transactions in 2021. Noting the potential cyber threats of Internet of Things (IoT)-connected industrial devices, public and private strategic buyers have increasingly pursued M&A targets with cybersecurity capabilities. The synergies of these acquisitions have been heavily dependent on the buyer's core offerings and where cybersecurity can be integrated. In the two strategic examples on page 19, DNV acquired Applied Risk to complement its quality assurance business with cybersecurity services, and Rockwell Automation acquired Plex to bolster its Software & Control segment and maintain uniformity with its firm-wide cybersecurity initiatives. Although private equity platform investments declined in 2021 (11.3% of deals), some sponsors have recently targeted sector participants with value-added cybersecurity integration services. While cybersecurity is not at the forefront of the business model, the added service enables private equity firms to position the platform investment as a full-service integrator as they look for add-on acquisition opportunities to scale the portfolio.



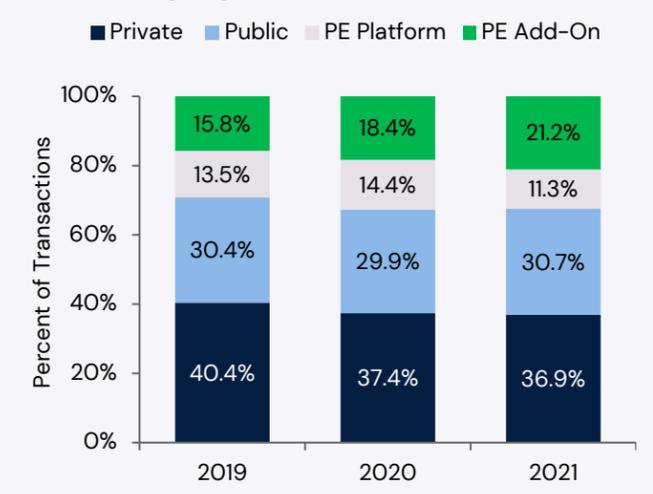
**Peter Nam, Managing Director
Industrial Technology**

"As industrial technology companies continue to utilize and integrate more advanced sensing and control technologies to capture mission-critical data and analytics, cybersecurity measures, and solutions across IoT, OT, and ICS are becoming an integral part of any major infrastructure, system, and device. We are seeing significant investment and growth in these areas as companies seek holistic cybersecurity industrial technology turnkey solutions."

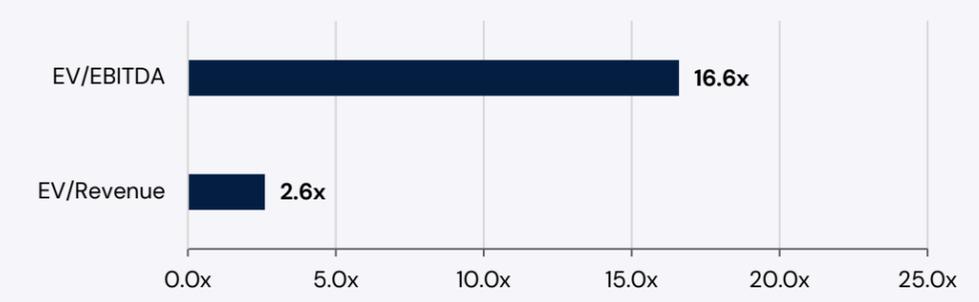
M&A Transaction Volume Rebounds From 2020 Dip



Strategics Lead M&A Market, Private Equity Add-On Deals Rise



Average Industrial Technology M&A Purchase Multiples (2019-2021)



Source: Capital IQ, PitchBook, FactSet, and Capstone Research

Notable M&A Transactions



In November 2021, DNV, a provider of mobile tools and services for quality assurance of industrial technologies, acquired Applied Risk for an undisclosed sum. Applied Risk offers industrial cybersecurity solutions including cybersecurity framework consulting, penetration testing, incident reports, and operational technology (OT) cybersecurity services. The two companies joined forces with the aim to build the world's largest industrial cybersecurity practice, protecting assets such as oil and gas infrastructure, maritime facilities, and manufacturing plants, according to a press release.¹⁹ "This partnership brings together two highly respected organizations in industrial assurance and cyber security solutions. We will combine the strengths of Applied Risk and DNV with significant investments in security research," said Jalal Bouhdada, CEO at Applied Risk, in the press release.



Sverica Capital Management, a private equity firm specializing in the Cybersecurity and Engineering sectors, completed its platform investment in Automated Control Concepts (ACC) in October 2021. Terms of the transaction were not disclosed. ACC operates as a systems integrator specializing in industrial process control, manufacturing intelligence, industrial networking, and ICS cybersecurity. ACC supports a number of industrial technology providers including Rockwell Automation, Inductive Automation, and Parsec Automation to optimize manufacturing efficiency and security, according to a press release.²¹ The transaction marks a milestone for ACC, facilitating a hand-off from founder Robert Tomasetta to CEO Michael Blechman. The acquisition demonstrates private equity's appetite for industrial technology integration services, specifically for providers with a focus on ICS cybersecurity capabilities.



Thomas H. Lee (THL), a private equity firm focused on majority control investments in growth companies, acquired House of Design in September 2021. Terms of the transaction were not disclosed. House of Design specializes in robotic automation systems and software, serving clients in the Manufacturing, Packaging, and Construction sectors. House of Design also offers value-added integration services including industrial control system (ICS) design and installation and physical-cyber security inspections. The company's software fully automates its robotic systems and produces variable trusses which protect and debug robotics in the event of a breach. "House of Design's offerings address labor shortages and security challenges while providing an attractive ROI to the customer," said Mike Kaczmarek, Managing Director at THL, in a press release.²⁰



In June 2021, Rockwell Automation acquired Plex Systems for an enterprise value of \$2.2 billion in one of the highest valued industrial technology transactions to-date. Plex develops a cloud-based platform to automate processes for manufacturing operations, IoT-connected machines, robotics, and inventory control. Plex's cloud operations have been certified by the International Organization for Standardization (ISO), providing a multi-layered protection system to reduce risk, safeguard data, and monitor cyber threats. The transaction showcases Rockwell's commitment to industrial cybersecurity as it shifts to cloud-based solutions for industrial automation clients. In addition, Plex is expected to accelerate Rockwell's annual recurring revenue goal achievement by ~two years, proving to be immediately accretive to Rockwell's operating margins, according to a press release.²²



Industrial Technology Financing

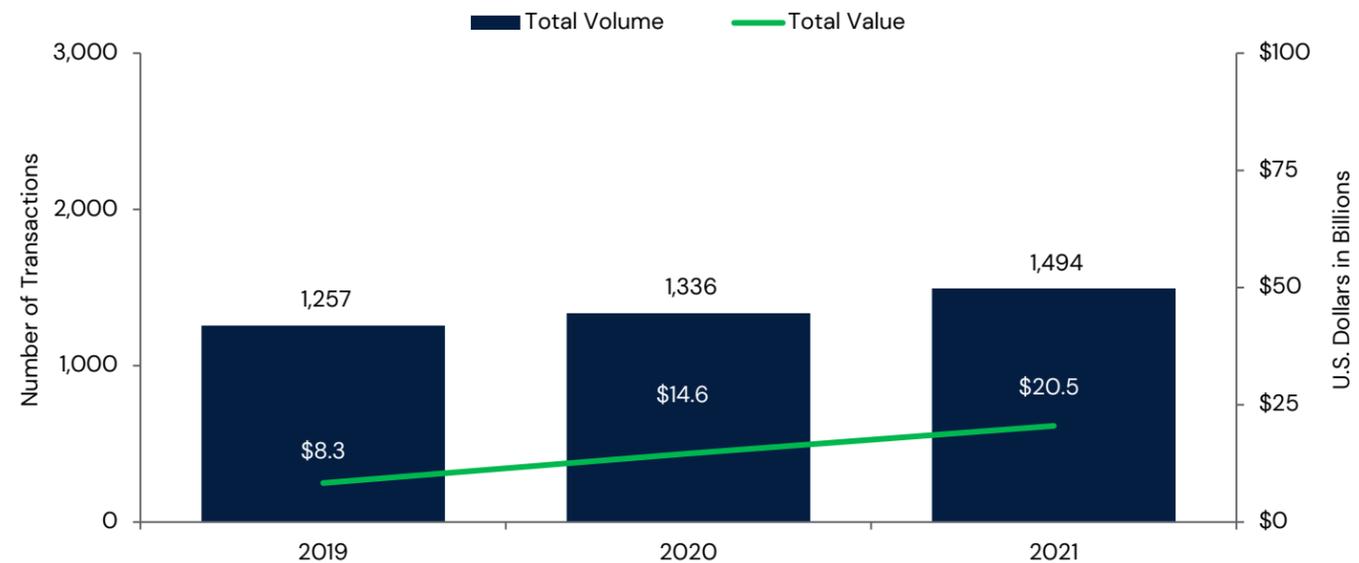
Advanced, Secure Warehousing Technology Piques Venture Capital Interest

Venture capital investment activity has continued at a brisk pace across the Industrial Technology sector, with total funding amounting to a record-high \$20.5 billion in 2021. The number venture capital deals in the sector increased by 11.8% YOY as investors piled into start-ups and later stage industrial technology providers that offer solutions to ease supply chain fallout and labor shortages. Similar to the Cybersecurity market, corporate venture capital remained a hotspot as organizations look to learn from and partner with entrepreneurs that have developed new technologies and business models.

The Warehousing Technology sub-segment has been in particularly high demand as a means of offsetting labor shortages and supply chain woes with robotics, automation, and advanced software solutions. In 2021, venture capital funding deployed to this sub-segment reached \$3.3 billion, accounting for 16.1% of total industrial technology venture capital investments. Warehousing technology participants with integrated cybersecurity measures have received the highest caliber of funding throughout 2021, evidenced by Dexterity's \$140 million Series B raise (October), Tulip's \$100 million Series C round (August), and GreyOrange's \$100 million Series C raise (January). GreyOrange's financing round was led by TriplePoint Venture Growth and other undisclosed investors, bringing the company's post-money valuation to \$700 million. The company's cloud software GreyMatter orchestrates its Ranger Robot Series, as well as third party robotic partners for warehouse automation and fulfillment. GreyMatter utilizes artificial intelligence (AI) and machine learning to deliver high yield performance across operational nodes and implement algorithmic cybersecurity decision making.

Industrial Technology Venture Capital Deal Volume and Funding Levels Record Steady Increase Year-over-Year

The number of venture capital deals in the Industrial Technology sector increased by 11.8% YOY as corporate investors and venture capital firms piled into start-ups and later stage industrial technology providers that offer solutions to ease supply chain fallout and labor shortages.



Source: PitchBook and Capstone Research

DEXTERITY \$140 Million Series B Funding October 2021

In October 2021, Dexterity secured \$140 million in Series B funding for a post-money valuation of \$1.4 billion. Existing investors Lightspeed Venture Partners and Kleiner Perkins led the round, following their participation in Dexterity's \$56.2 million Series B1 raise in July 2020. Additional investors included Obvious Ventures, B37 Ventures, and Presidio Ventures, bringing the company's total funding to-date to \$212.4 million. Dexterity is a full-stack warehouse automation business, providing robotic solutions for singulation, palletization, depalletization, and warehouse fulfillment. The company's proprietary software enables security, interoperability, and optimization between its robotic network and warehouse management systems. Dexterity's system is compatible with existing warehouses, eliminating the need for a ground-up approach.

“Customers in manufacturing and parcel handling need secure robots to scale quickly and safely in order to manage the ever-increasing volume and variety of packages moving through their distribution centers. Dexterity is grateful to be at the forefront of delivering intelligent robotic systems in production across existing customer sites with the goal of rapidly transforming their warehouse operations. Our partnership with Lightspeed enables us to deploy a thousand robots to the North American and Japanese markets.”

Samir Menon,
CEO, Dexterity,
Company Press Release, October 2021²³

TULIP \$100 Million Series C Funding August 2021

Tulip Interfaces raised \$100 million in Series C funding in August 2021 to reach a post-money valuation of \$839 million. Insight Partners, a New York-based global private equity and venture capital firm, led the round. New investors Pitango Growth and TIME Ventures joined the round, as well as existing investors DMG MORI, NEA, and Vortex Ventures. Tulip provides sensors, light strips, light stacks, motion detectors, and foot pedal controls for industrial applications. The company's AI-enabled platform collects, augments, and analyzes data from its proprietary hardware, and existing machinery, to maximize manufacturing and warehousing efficiency. The platform maintains cybersecurity protection through multi-factor authentication, data encryption, application programming interface encryption, and vulnerability scanning.

“About 1 in 5 global workers are frontline operators who are fundamentally deskless. Their work environments are highly complex with work cells, sensors, benches, conveyor belts, and back-end systems in what constitutes a physical and digital environment, and they need a platform that is just as dynamic to support all the moving pieces. Just like knowledge workers, frontline workers need access to the right tools to get the data they need to stay competitive and to future-proof their company's operations.”

Natan Linder,
CEO & Co-Founder, Tulip,
Company Press Release, August 2021²⁴

Industrial Technology Public Market

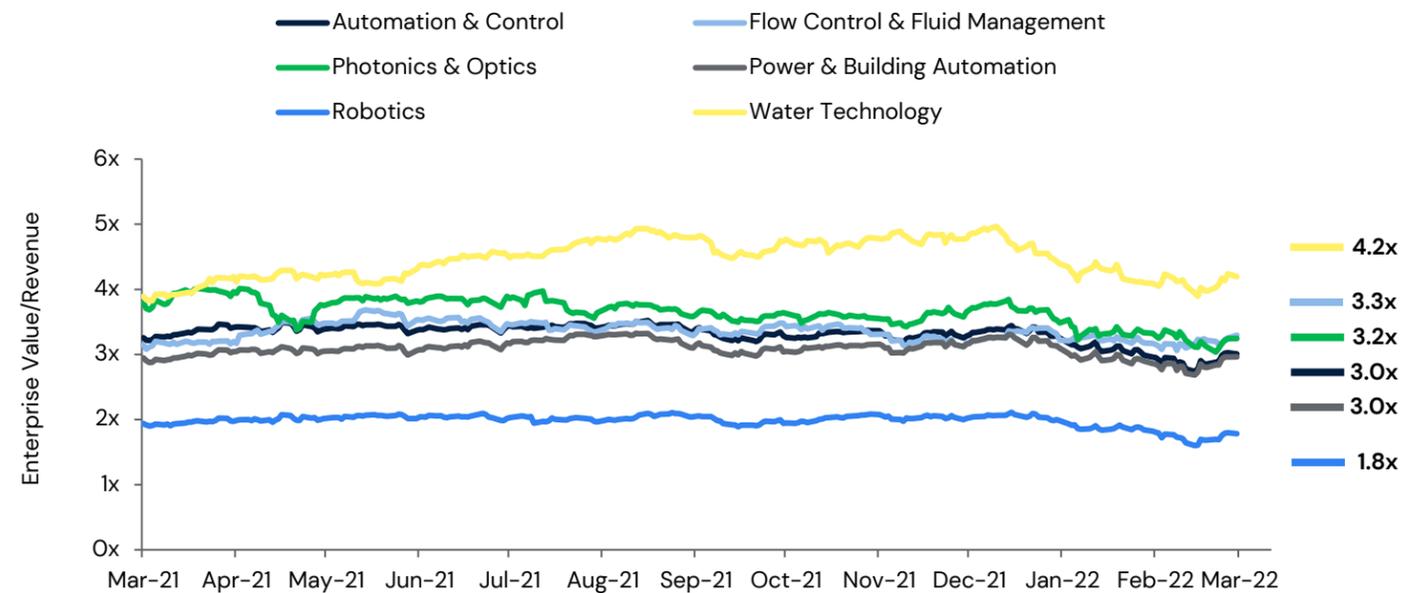
Industrial Technology Trading Multiples Hold Strong

Capstone's Industrial Technology Index has demonstrated the defensibility of the sector as investors accounted for slightly lower economic forward growth, rising inflation, varying expectations in interest rate hikes by the U.S. Federal Reserve, continued supply chain disruptions, labor shortages, and the current geopolitical situation. Of the segments outlined below, Water Technology has remained a sector leader, trading at an average of 4.2x EV/Revenue as of March 21, 2022, just below its last twelve-month (LTM) high of 4.8x EV/Revenue. Top players, including Emerson Electric, have increasingly invested in cybersecurity software and services for their water infrastructure solutions. Emerson's partnership with Dragos immediately followed the Cybersecurity & Infrastructure Security Agency (CISA) advisory for ongoing cyber threats to U.S. water and wastewater systems in early October 2021, exemplifying the solemnity and rapid integration of cybersecurity offerings by leading water technology participants.²⁵

The Automation & Control segment, trading at an average 3.0x EV/Revenue, has been at the forefront of cybersecurity integration as automated OT and ICS systems are the most likely to be targeted in cyber attacks. Segment leader Rockwell Automation has been the most notable investor, engaging in acquisitions and venture capital rounds to bolster its cybersecurity operations. Trading at 4.9x EV/Revenue, Rockwell has realized a significant return on investment since the launch of its Industrial Cybersecurity Services division in January 2020. Capstone expects the other segments of the Industrial Technology sector to follow suit, as they recognize the financial benefits of taking preventative measures against attacks.

Capstone's Industrial Technology Index Showcases Defensibility Across Segments

Last twelve-month EV/Revenue trading multiples have remained steady across all segments of the Industrial Technology sector, only experiencing a slight decline despite a rocky start to public market performance in early 2022.



Automation & Control: ATA, HON, ABBN, SIE, ROK, PTC, EMR, 5486, 6954, SU
 Flow Control & Fluid Management: PNR, XYL, CIR, SLB, FMC, WEIR, SPX, EMR, IP, 500241
 Photonics & Optics: COHR, IIVI, MKSI, IPGP, VIAV, JEN, LITE, 002008, 6113, TDY
 Power & Building Automation: ABBN, ETN, EMR, SU, HUBB, ITRI, 000682, 1133, CROMPTON
 Robotics: TER, ABBN, 6954, SIE, 6645, ATA, 6501, KU2
 Water Technology: XYL, VIE, AQUA, DHR, HEO, BMI
 Source: Capital IQ as of March 21, 2021

Rockwell Automation Heavily Invests in Cybersecurity Operations



Ticker: NYSE:ROK
Headquarters: Milwaukee, Wisconsin
Markets: Industrial Automation
LTM Revenue: \$7.3 Billion
Market Capitalization: \$32.1 Billion

Leading industrial automation and digital transformation provider Rockwell Automation has taken note of the importance of industrial cybersecurity beginning with their acquisition of Avnet Data Security in January 2020 (undisclosed). Since the transaction, Rockwell acquired ICS cybersecurity services provider CYBERSEC (October 2020, undisclosed) and participated in financing rounds for OT and ICS cybersecurity specialists Claroty and Dragos.

Rockwell's dedication to protecting customers from cyber threats has materialized in hundreds of millions of dollars spent in the inorganic and organic growth of its Industrial Cybersecurity Services division, according to a press release.²⁶ This division serves as a value-add to Rockwell's three main business segments; Lifecycle Services, Software & Control, and Intelligent Devices, all of which experienced YOY revenue increases in Q1 FY 2022, according to its investor presentation.²⁷ Of note, Rockwell's Intelligent Devices segment generated \$900 million in revenue in Q1 FY 2022, an increase of 24.7% YOY, coinciding with the launch of its cybersecurity offering.

Implementing strong cybersecurity is no longer a best practice, but a must do. For manufacturers, protection starts with a rock-solid foundation of OT expertise. That's why we're doubling down on our cybersecurity investment to build the most robust, specialized IT/OT cybersecurity offering in the market.

Rachael Conrad,
Vice President, Rockwell Automation,
Company Press Release, November 2021²⁸

Rockwell Automation's Recent Cybersecurity Investments & Acquisitions

Date Completed	Target Company	Deal Type	Investment Rationale
12/08/21	Claroty	Series E	Partnership provides tailored, comprehensive OT cybersecurity solutions.
10/28/21	Dragos	Series D	Partnership enhances cyber threat detection and response capabilities.
10/02/20	CYBERSEC	Acquisition	Acquisition bolsters Rockwell's ICS cybersecurity services for clients.
01/29/20	Avnet	Acquisition	Acquisition adds IT and OT cybersecurity training and services to Rockwell's platform.

Source: Capital IQ, PitchBook, FactSet, and Capstone Research

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