

**AutoStore Holdings Ltd. (AUTO.OL – NOK 11.11)**
**December 30, 2024\***

AutoStore Holdings Ltd. (AUTO.OL) designs and manufactures automated storage and retrieval systems, which consist of robotic warehouse automation machines and associated software. AutoStore sells its storage and retrievals systems to distribution partners who implement them at end customer warehouses. The Company was founded in 1996 and is headquartered in Nedre Vats, Norway. Its fiscal year ends on 12/31.

## Thesis Summary

We are concerned the lack of recent Amazon project commentary and Amazon funding and utilizing other warehouse automation solutions suggests Autostore's relationship with Amazon may have failed to expand. Relatively stable backlog levels despite evidence of extended backlog conversion timelines (i.e. increased non-current backlog mix) suggest current backlog coverage may be depressed and revenue expectation achievability may be more dependent on booked and burned orders. In our view, depressed order intake levels highlight increased end customer order weakness amid persistent uncertainty, macroeconomic challenges, and customer caution. We believe order pressure amid increased dependence on booked and burned revenue highlights overly optimistic revenue expectations. In our view, persistently elevated receivables levels highlight continued order delays and end market weakness. Additionally, we believe historically elevated Q4 23 past due receivables highlight delayed system implementations. We are concerned elevated inventory levels may portend margin pressure to the extent the Company is compelled to reduce third party manufacturing orders to right size inventory. Elevated inventory relative to backlog suggests inventory may be overbuilt relative to demand. We believe elevated intangible asset levels may highlight amortization-driven margin pressure. Elevated internal development levels heighten our amortization ramp concerns. Depressed cash flow levels driven, in part, by working capital cash consumption heighten our earnings sustainability concerns.

### Company Data

Country/Exchange	Norway/Oslo
Reporting currency	USD
Accounting standard	IFRS
Shares Outstanding (mil)	3,428.5
Float (mil)	3,322.0
Average Volume (mil)	NOK 37.6
52 Week Range	NOK 8.28 – NOK 21.83
Dividend Yield	0.0%
Market Cap (bil)	NOK 37.3
Net Debt (bil)	NOK 2.3
Enterprise Value (bil)	NOK 39.6
FY 23 Rev (mil)/Rev Growth	\$645.7 / 10.6%
FY 23 Adj. EBITDA (mil)	\$308.5
FY 23 GM %/Change	67.8% / (360 bps)
FY 23 Adj. EBITDA Margin %/Chg	47.8% / 710 bps

### Valuation (as of report date)

NTM P/S	5.3x
NTM EV/ EBITDA	11.7x
NTM P/E	18.6x

### Consensus Estimate Drift

	EST	1M Ago	6M Ago	1YR Ago
Q4 24 Rev	\$154.5	\$154.0	\$189.8	\$181.0
FY 24 Rev	\$589.6	\$589.4	\$682.0	\$701.4
FY 25 Rev	\$635.1	\$635.1	\$802.6	\$823.3
Q4 24 EPS	\$0.01	\$0.01	\$0.02	\$0.01
FY 24 EPS	\$0.05	\$0.05	\$0.06	\$0.07
FY 25 EPS	\$0.05	\$0.05	\$0.07	\$0.08

### Peers Mentioned In This Report

Amazon.com, Inc. (AMZN)
Fulfil Solutions, Inc. (private)
Instock Inc. (private)

### Catalysts and Timing

Weaker than expected Q4 24 revenue and/or FY 25 guidance.
Order conversion delays persist and pressure revenue.
Reduced revenue expectations amid backlog conversion timeline extension.
Elevated inventory and intangible asset levels pressure margins.

\* All research is completed as of 4:00PM – 4:15PM Eastern Time unless otherwise noted.  
 Please refer to the end of this report for an updated version of *The Short List*.  
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## Company Background

**Company description:** AutoStore Holdings Ltd. (AUTO.OL) designs and manufactures automated storage and retrieval systems, which consist of robotic warehouse automation machines and associated software. AutoStore sells its storage and retrievals systems to distribution partners who implement them at end customer warehouses. The Company was founded in 1996 and is headquartered in Nedre Vats, Norway. Its fiscal year ends on 12/31.

**Background on the AutoStore system and revenue recognition:** The AutoStore system consists of different modules for warehouse automation, storage, and handling, including Grid, Port, Robot, Bins, AutoStore Controller, and spare parts. AutoStore system component revenue is recognized when a distributor obtains control over the components, generally upon shipment. The AutoStore Control System consists of technical equipment with an integrated on-premise software license. The Company may also provide upgrades and maintenance of the AutoStore Control System component. Revenue from maintenance and upgrades is recognized over time on a monthly basis over the subscription license period. Services revenue includes AutoStore system services, such as installation, maintenance, and training of personnel.

**Background on distributor partners:** In its FY 23 Annual Report, AutoStore disclosed its global go-to-market strategy consisted of 23 distribution partners with business development, project management, and pre/post-sales support services. Further, AutoStore highlighted it relied on its integrator partners to distribute and/or sell its systems to end customers. In its 2024 Capital Markets Day Presentation on 09/18/24, the Company highlighted partner sales (i.e. distributor originated sales to end customers) accounted for approximately 70.0% of “sales generation,” while internal AutoStore business development managers and global account managers accounted for approximately 30.0%.

**Background on end markets:** In FY 23, the apparel and sports accessories end market accounted for 34.0% of revenue, industrials accounted for 17.0%, grocery and food accounted for 11.0%, third party logistics (3PL) accounted for 10.0%, other retail accounted for 9.0%, automotive accounted for 9.0%, healthcare accounted for 6.0%, luxury and personal care accounted for 3.0%, and consumer electronics accounted for 1.0%. Further, the Company disclosed it had approximately 1,440 systems installed at end customer warehouses.<sup>1</sup>

FY 23 End Market Analysis	Revenue Share	System Count	Selected Customers
Apparel and sports accessories	34.0%	~220	Puma, Decathlon, XXL, Lids, Boozt, CFG, Crocs, Bike24
Industrials	17.0%	~460	FANUC Pertronics, ABB, Siemens, Bosch, 3M, John Deere, Cat, American Airlines
Grocery and food	11.0%	~120	SSG, HEB, H Mart, Weiling, Peapod, ASDA, Weee!, Weiling
3PL	10.0%	~180	UPS, DB Schenker, DHL, Swiss post, Kuehne+Nagel, CJ Logistics, Geodis
Other retail	9.0%	~160	Kid, RoyalDesign, Kitchentime, Chewy, Jollyroom, Gymgrossisten
Automotive	9.0%	~100	Federal Mogul Motorparts, Continental, GS Bildeler, AGCO, Bertel O Steen
Healthcare	6.0%	~120	Medline, Johnson & Johnson, Pfizer, CVS Pharmacy, Osaki, Apotea, Cardinal Health
Luxury and personal care	3.0%	~40	Gucci, Longines, Eton, Manor, Shiseido
Consumer electronics	1.0%	~40	Best Buy, Dustin, Komplett.no, Olympus, Power
Total	100.0%	~1,440	--

**Background on manufacturing:** In its FY 23 Annual Report, the Company disclosed it outsourced non-core activities including the production of system components to third-party manufacturers. AutoStore represented outsourced manufacturing allowed it to focus engineering expertise on robot design. Further, AutoStore

<sup>1</sup> Disclosed AutoStore system count includes installed base and backlog.

highlighted its third-party suppliers and manufacturers were located primarily in Poland, Germany, Estonia, Sweden, and Norway.

**Revenue by geography:** In FY 23, Europe, the Middle East and Africa (EMEA) accounted for 61.6% of revenue, North America accounted for 31.6%, and Asia Pacific accounted for 6.8%.

Geography Analysis (as % of revenue)	FY 23
EMEA	61.6%
North America	31.6%
Asia Pacific	6.8%
Total	100.0%

**Seasonality:** Over the past three years, Q1 (Q4) accounted for 21.3% (27.0%) of revenue on average. However, on its Q4 21 Conference Call on 02/16/22, the Company represented it had no clear seasonality as its business was “project-based.”

Seasonality Analysis (as % of total)	Q1	Q2	Q3	Q4
FY 23 quarterly revenue contribution	23.1%	27.2%	22.4%	27.3%
FY 22 quarterly revenue contribution	21.1%	28.4%	25.3%	25.3%
FY 21 quarterly revenue contribution	19.6%	26.1%	25.9%	28.5%
Three-year average	21.3%	27.2%	24.5%	27.0%

**Competition:** AutoStore competes in the warehouse automation and robotic storage industry with other companies providing automated storage and retrieval systems (AS/RS). Specifically, AutoStore competes with Ocado Group PLC (OCDO.L), Dematic (subsidiary of KION Group (KGX.DE), Swisslog Holding AG (private), Kardex Holding AG (KARN.S), Symbotic, Inc. (SYM), Geek+ (private), Bastian Solutions (private), Fives Group (private), Vecna Robotics (private), Locus Robotics (private), GreyOrange Inc. (private), System Logistics (private), Honeywell Integrated (subsidiary of Honeywell International Inc.), and Instock Inc. (private), among others. We believe certain competitors also serve as system integrator/distributor partners that sell AutoStore AS/RS systems as a part of their product portfolios, but also offer competing warehouse automation solutions.

## Voyant's Earnings Risk Assessment

We are concerned the lack of recent Amazon project commentary and Amazon funding and utilizing other warehouse automation solutions suggests Autostore's relationship with Amazon may have failed to expand. Relatively stable backlog levels despite evidence of extended backlog conversion timelines (i.e. increased non-current backlog mix) suggest current backlog coverage may be depressed and revenue expectation achievability may be more dependent on booked and burned orders. In our view, depressed order intake levels highlight increased end customer order weakness amid persistent uncertainty, macroeconomic challenges, and customer caution. We believe order pressure amid increased dependence on booked and burned revenue highlights overly optimistic revenue expectations. In our view, persistently elevated receivables levels highlight continued order delays and end market weakness. Additionally, we believe historically elevated Q4 23 past due receivables highlight delayed system implementations. We are concerned elevated inventory levels may portend margin pressure to the extent the Company is compelled to reduce third party manufacturing orders to right size inventory. Elevated inventory relative to backlog suggests inventory may be overbuilt relative to demand. We believe elevated intangible asset levels may highlight amortization-driven margin pressure. Elevated internal development levels heighten our amortization ramp concerns. Depressed cash flow levels driven, in part, by working capital cash consumption heighten our earnings sustainability concerns.

### Amazon Relationship May Have Deteriorated Amid Funding & Utilization Of Competitors

#### **Lack of recent project commentary suggests the AutoStore/Amazon relationship may have failed to expand:**

According to a Bloomberg [article](#) on 08/02/23, Amazon.com, Inc. (AMZN) was testing a new fully automated grocery facility using AutoStore technology and the facility was expected to be open in 2023 or early 2024. On its Q3 23 Conference Call on 11/09/23, AutoStore confirmed it installed a project for Amazon. On its Q4 23 Conference Call on 02/13/24, AutoStore highlighted its relationship with Amazon was developing positively. However, we did not identify any additional AutoStore commentary regarding the Amazon project or relationship in subsequent conference calls or press releases. Given AutoStore has not provide any additional Amazon commentary since its Q4 23 Conference Call despite representing the relationship was "developing positively," we are concerned Amazon may have elected to not expand its relationship with AutoStore.

When it comes to Amazon, we can confirm that we've installed a project on Long Island and now we're fully focused on delivering value for our customer on that side. (CEO Mr. Mats Vikse, Q3 23 Conference Call, 11/09/23)

As I mentioned last time, we have confirmed that relationship, and what I can say is that **it is developing positively**. (CEO Mr. Mats Vikse, Q4 23 Conference Call, 02/13/24) [emphasis added]

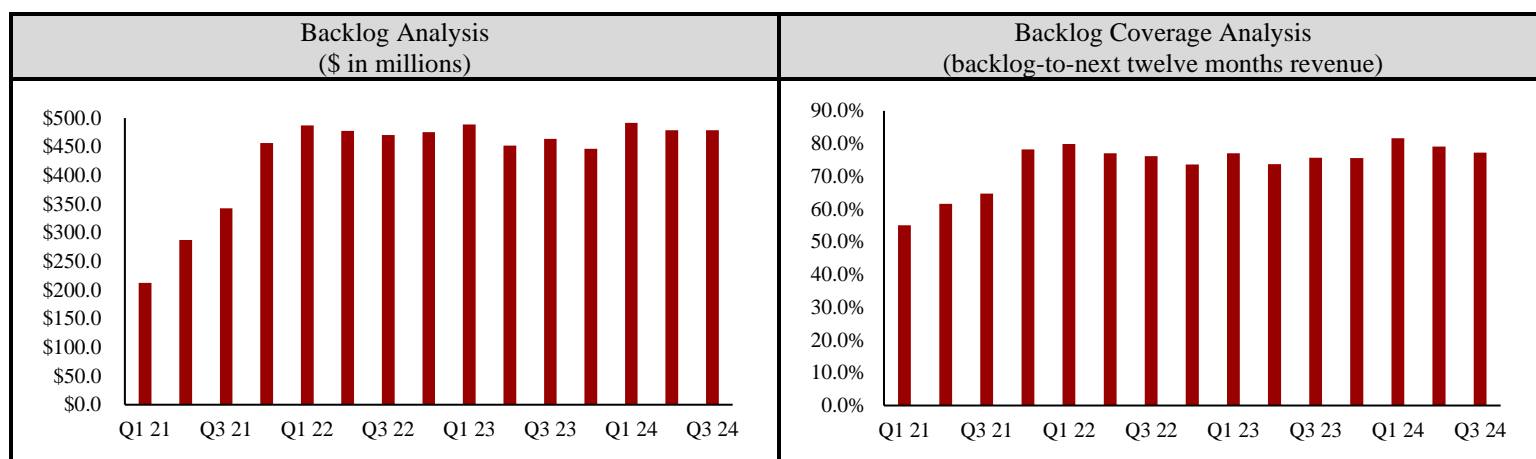
**Amazon funding/utilizing other warehouse automation solutions heightens our concerns:** According to an [article](#) on 12/07/23, Instock Inc. (private) raised \$3.2 million in new funding, led by Amazon Industrial Innovation Fund (i.e. Amazon's corporate venture capital fund).<sup>2</sup> In its 01/10/24 Press Release, Instock highlighted it was launching its first AS/RS system in January 2024 at select GoBolt (i.e. third-party logistics customer) warehouses. Additionally, according to a 10/15/24 CNBC [article](#), Amazon may be using Fulfill Solutions, Inc. (private) automation solutions in a pilot program for its grocery business based upon a [video](#) Amazon disclosed of its first-ever automated micro fulfillment center. Evidence of Amazon funding and utilizing other warehouse automation firms heightens our concerns about limited expansion of the AutoStore and Amazon relationship.

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<sup>2</sup> Instock provides an automated storage and retrieval solution for micro-fulfillment operators. Instock's modular racking can be built in various shapes up to the clear height of a building. Autonomous mobile robots drive inside the racking along floors, walls, and ceilings to collect bins and present them to operators picking and packing orders at ground-level workstations.

## Weak Current Backlog Coverage Highlights Increased Book & Burn Revenue Dependence

**Limited backlog growth despite extended backlog conversion timelines highlights revenue risk:** In its FY 23 Annual Report, the Company disclosed order backlog was the total value of order intake not yet shipped and for which revenue had not been recognized but the Company does not disclose current backlog (i.e. backlog expected to be recognized in the next twelve months). In Q3 24, backlog increased 3.2% year-over-year to \$478.6 million, while the consensus expects next-twelve month revenue to increase 1.0% to \$619.1 million. Accordingly, backlog as a percent of next-twelve month expected revenue (i.e. backlog coverage) increased 150 basis points to 77.3%. Throughout the course of our research, we identified multiple items suggesting backlog conversion timelines may have extended, including (1) increased mix of “high throughput” projects, (2) customers entering “multi-year commitments,” and (3) customer order delays. **Accordingly, we are concerned relatively stable backlog levels despite evidence of extended conversion timelines suggest current backlog coverage may be depressed and revenue expectation achievability may be more dependent on booked and burned orders. We have included evidence of extended backlog conversion timelines below:**



- Increased longer duration high throughput projects may drive backlog mix shift to non-current backlog:** Previously, on its Q1 24 Conference Call on 04/24/24, the Company indicated it was increasing high throughput segment exposure.<sup>3</sup> Further, the Company represented high throughput project duration tended to be longer than standard projects and guided for order intake “duration” (i.e. backlog conversion timeline) to increase. On its Capital Markets Day Conference Call, the Company represented in the twelve months ended Q2 24, its high throughput order intake increased 91.0% to \$114.0 million from \$60.0 million in FY 21 (total order intake increased 3.1%). We are concerned increased exposure to longer duration high throughput projects may delay backlog conversion and drive backlog mix shift to non-current backlog.

We are increasing our exposure to the high throughput segment and continue to drive success there. As was very evident in the Q1 order intake and **the project duration on high throughput projects tend to be longer than what's in the standard segment.** So, as we continue to drive success in that segment, **the duration will also increase.** (CEO Mr. Mats Vikse, Q1 24 Conference Call, 04/25/24) [emphasis added]

- Multi-year contracts may have driven increased non-current backlog mix:** Previously on its Q4 22 Conference Call, AutoStore highlighted lead times for high throughput projects were longer than other projects but indicated backlog duration still ranged from 5.0 to 12.0 months. Subsequently, on its Q2 24 Conference Call on 08/14/24, the Company indicated backlog duration was extended, in part, due to customers entering multi-year contracts. On its Q3 24 Conference Call, the Company represented 90.0% of backlog was less than twelve months old (i.e. current). Given the increased mix of non-current backlog (i.e. Q4 22 backlog was entirely

<sup>3</sup> In its 2024 Capital Markets Day Presentation on 09/18/24, AutoStore highlighted it referred to the “high throughput” market as installations that processed over 10,000 bins per hour, typically in consumer goods, store replenishments, and e-commerce end market applications.

current and Q3 24 backlog was 90.0% current) and evidence customers entered multi-year contracts, our concerns about depressed current backlog coverage levels and increased dependence on booked and burned revenue to achieve revenue expectations are heightened.

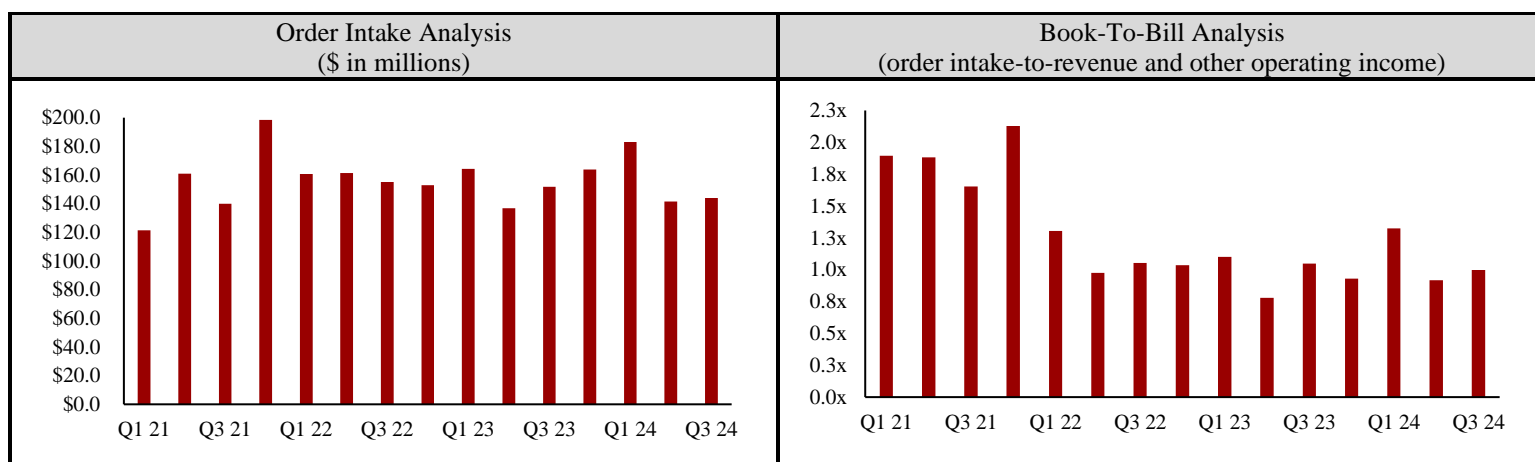
Customers taking longer to make that final purchase commitment and indeed customers entering into multiyear commitments with us. (CFO Mr. Paul Harrison, Q2 24 Conference Call, 08/15/24)

- Persistent customer order delay commentary highlights end customer pressure and revenue risk:**  
 Previously, on its Q4 22 Conference Call on 02/15/23, the Company highlighted it was operating in a “more uncertain market” than one year ago and highlighted “elongated [customer] decision cycles” compared to prior years. On its Q3 23 Conference Call on 11/09/23, the Company attributed “delayed decision making” to increased sales at the end of the quarter. On its Q4 23 Conference Call on 02/13/24, the Company highlighted it remained in a “challenging environment” and guided for continued customer “cautiousness” related to capital expenditures. On its Q3 24 Conference Call on 11/07/24, the Company represented there were several reasons ranging from macroeconomic factors to low underlying volumes that combined to create uncertainty around decision making. In our view, consistent Company commentary highlighting “uncertainty” and customer order delays since Q4 22 highlights pressured end customers, backlog conversion timeline delays, and/or elevated revenue sustainability risk.

There are several reasons from **macroeconomic factors to lower underlying volumes** with our customers that all together **creates this uncertainty around decision-making**. (CEO Mr. Mats Vikse, Q3 24 Conference Call, 11/07/24) [emphasis added]

**Order pressure amid increased booked and burned dependence highlights optimistic revenue expectations:**

In its FY 23 Annual Report, the Company disclosed order intake was the value of projects where a distribution partner received a purchase order or verbal confirmation a specific installation will be ordered. In Q3 24, order intake declined 5.1% year-over-year to \$143.9 million, while revenue and other operating income declined 0.3% to \$144.2 million. Accordingly, order intake-to-revenue and other operating income (i.e. book-to-bill) declined 4.8% year-over-year to 1.0x, the lowest seasonal level publicly reported. In our view, depressed order intake levels highlight increased end customer order weakness amid persistent uncertainty, macroeconomic challenges, and customer caution and we believe customer order pressure amid increased dependence on booking and burning revenue highlights overly optimistic revenue expectations.



**Background on Working Capital Analysis**

Prior to its FY 23 Annual Report, the Company disaggregated quarterly revenue and other operating income.<sup>4</sup> Quarterly-disclosed other operating income as a percent of revenue and other operating income ranged from

<sup>4</sup> Other operating income primarily reflected freight-related income, which was negative in certain periods due to higher-than-anticipated costs exceeding predetermined freight income.

negative 1.2% to positive 1.1% from Q1 21 to Q3 23 (i.e. disclosed periods). Beginning in Q4 23 and subsequent periods, the Company disclosed revenue and other operating income on a combined basis. Accordingly, we analyzed working capital relative to revenue and other operating income given the Company did not disaggregate revenue in recent periods and other operating income accounted for a relatively immaterial (in our view) portion of revenue and other operating income.

## **DSO Build Highlights Persistent Order Delays And End Market Demand Weakness**

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**AutoStore disclosed accounts receivable payment terms were 30.0 to 60.0 days:** In its FY 23 Annual Report, the Company disclosed trade receivables consisted solely of amounts receivable from customer contracts and highlighted trade receivables were generally on terms of 30.0 to 60.0 days. Further, the Company disclosed it recognized revenue for the AutoStore system (i.e. grid, port, robot, control system, and spare parts) at a point in time when the distributor obtained control over the components, which was generally upon shipment.

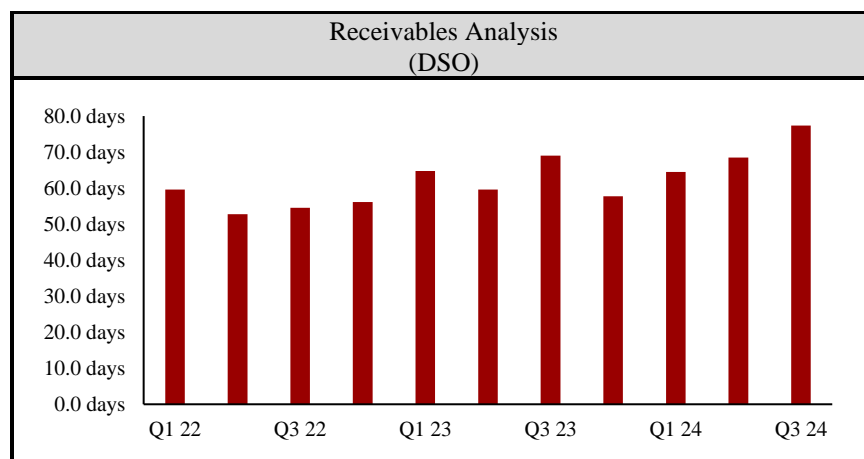
The group's trade receivables consist solely of amounts receivable from revenue from contracts with customers. Trade receivables are generally on terms of 30 to 60 days. (FY 23 Annual Report)

**Background on "project-based" business impact on trade receivables:** In its Q3 24 Interim Report, the Company disclosed trade receivable levels varied due to the Company's "project-based" business and were driven by (1) differing credit terms between sales in different geographic regions and (2) shipment timing within each period. Based on our understanding of the business, we believe the "project-based" business highlights the contractual relationship between AutoStore customers (i.e. distributors/system integrators) and end customers. Accordingly, we believe AutoStore revenue is not "project-based," while distributor contracts with end customers are "project-based" (e.g. distributors contract with end customers for construction of AutoStore system buildouts). Further, we believe the "project-based" impact on receivable collections may be based on timing of distributor partner installations (i.e. partners pay receivables after installation).

Due to the nature of AutoStore's project-based business, fluctuations of trade receivables can vary from quarter to quarter. Trade receivables are driven by factors such as the geographical location of sales and related credit terms, as well as shipment timing within each period. (Q3 24 Interim Report)

**Persistently elevated receivables levels highlight continued order delays and end market weakness:** In Q3 24, trade receivables increased 11.7% year-over-year to \$121.3 million, while revenue and other operating income declined 0.3% to \$144.2 million. Accordingly, days sales outstanding (DSO) increased 12.1% year-over-year to 77.4 days, the highest level publicly reported. As mentioned, the Company indicated there were several reasons driving customer order decision-making uncertainty, including macro-economic factors and low underlying volumes. On its Q3 24 Conference Call, the Company indicated the project nature of its business created "lumpiness" in receivables timing. In our view, the recent DSO build highlights elongated distributor payment timing amid delayed end customer project buildouts (e.g. more cautious end customers may delay warehouse automation capital projects impacting distributor system implementation completion and the distributors willingness/ability to pay AutoStore).

On the DSOs, I think you have to keep in mind **the project nature of our business, and that creates lumpiness in terms of timing of receivables**. But it is worth stepping back and bearing in mind that we have 23 receivable accounts, given our revenues are all invoiced through our channel. And what I can continue to report is a very high-quality receivables book. (CFO Mr. Paul Harrison, Q3 24 Conference Call, 11/07/24) [emphasis added]



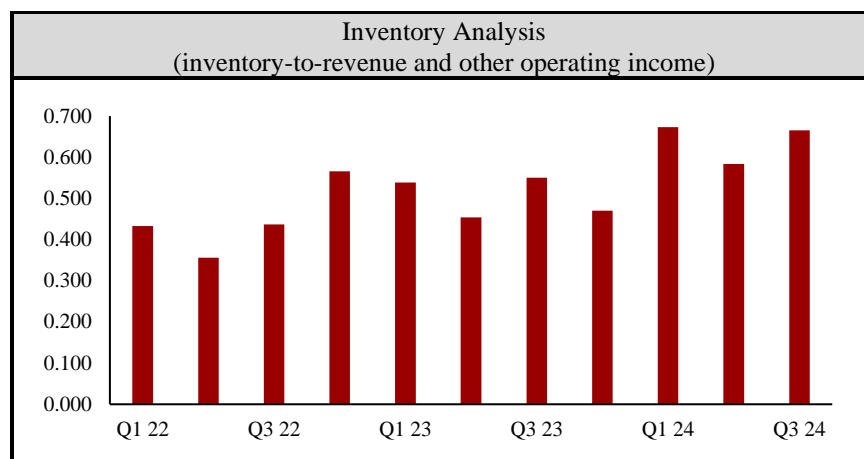
**Receivable credit losses were historically close to zero given concentrated customer base:** Historically, the Company never recorded an allowance for expected credit losses in its annual reports. In its FY 23 Annual Report, AutoStore disclosed its customer base consisted of several large customers and its historical credit losses were close to zero. Further, the Company indicated there was no forward-looking information affecting its customer base that suggested its credit losses would change in the future.

**Historically elevated past due receivables highlight delayed distributor system implementations, in our view:** In its annual reports, the Company discloses trade receivables balances that were not due, less than 30.0 days past due, 31.0 to 60.0 days past due, and more than 60.0 days past due. In Q4 23, total past due trade receivables surged 113.8% to \$17.1 million, while total trade receivables increased 23.0% to \$110.7 million. Accordingly, total past due trade receivables as a percent of total trade receivables increased 650 basis points to 15.4%, the highest level publicly reported. Further, past due receivables greater than 60.0 days increased 20 basis points to 1.3%, the highest level publicly reported. While we do not believe elevated past due receivables levels may portend customer payment defaults given AutoStore’s concentrated distribution partner base, we are concerned historically elevated past due receivables levels suggest AutoStore customers/distribution partners took increasingly longer to pay amid delayed end customer project implementations.

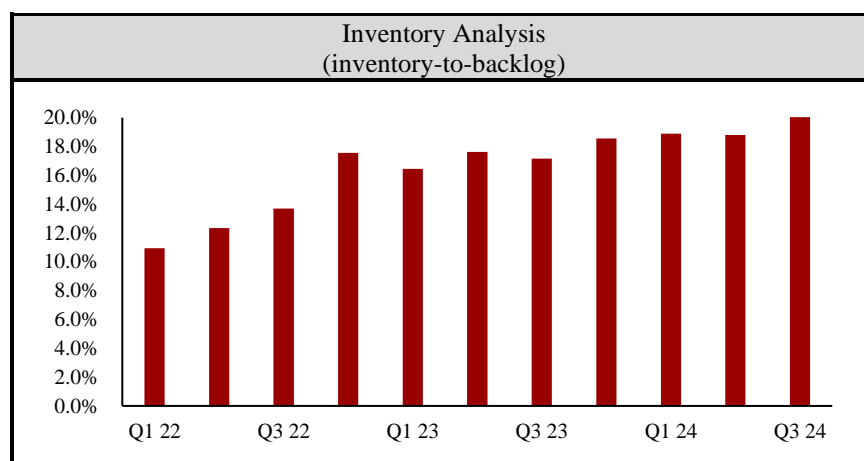
Past Due Trade Receivables Analysis (as % of total trade receivables)	Q4 19	Q4 20	Q4 21	Q4 22	Q4 23
< 30 days past due	4.0%	9.4%	7.7%	6.8%	10.7%
31 – 60 days past due	1.8%	4.8%	1.3%	1.0%	3.5%
> 60 days past due	0.2%	0.0%	1.3%	1.1%	1.3%
Total past due trade receivables	6.0%	14.2%	10.3%	8.9%	15.4%
<i>Change</i>	--	<i>820 bps</i>	<i>(390 bps)</i>	<i>(140 bps)</i>	<i>650 bps</i>

### **Elevated Inventory Levels May Portend Margin Pressure, In Our View**

**Elevated inventory levels may portend margin pressure, in our view:** In Q3 24, inventory increased 20.5% year-over-year to \$95.9 million, while revenue and other operating income declined 0.3% to \$144.2 million. Accordingly, inventory-to-revenue and other operating income surged 20.9% year-over-year to 0.665, the second highest level publicly reported (highest level was Q1 24). In our view, historically elevated inventory levels may highlight overbuilt inventory and margins may be pressured to the extent the Company is compelled to reduce third-party manufacturing partner orders (i.e. cost per unit increases) to right size overbuilt inventory levels.



**Elevated inventory relative to backlog suggests inventory is overbuilt relative to demand, in our view:** In Q3 24, inventory increased 20.5% year-over-year to \$95.9 million, while backlog increased 3.2% to \$478.6 million. Accordingly, inventory-to-backlog increased 280 basis points to 20.0%, the highest level publicly reported. In our view, elevated inventory-to-backlog suggests inventory may be overbuilt relative to demand. Our overbuilt inventory concerns are heightened given increased non-current backlog mix (discussed heretofore) suggests inventory-to-current backlog levels may be even more elevated.



**Inventory FIFO accounting disclosure removal may obfuscate analysis, in our view:** Previously, in its Annual Reports prior to FY 23, the Company disclosed it used the first-in/first-out (FIFO) inventory valuation method. However, the Company removed the disclosure in its FY 23 Annual Report. While we acknowledge the Company most likely did not change its inventory valuation methodology, we believe the disclosure removal may obfuscate analysis.<sup>5</sup>

Raw materials: Purchase cost on a first-in/first-out basis (FIFO) (FY 22 Annual Report) [disclosure not included in FY 23 Annual Report]

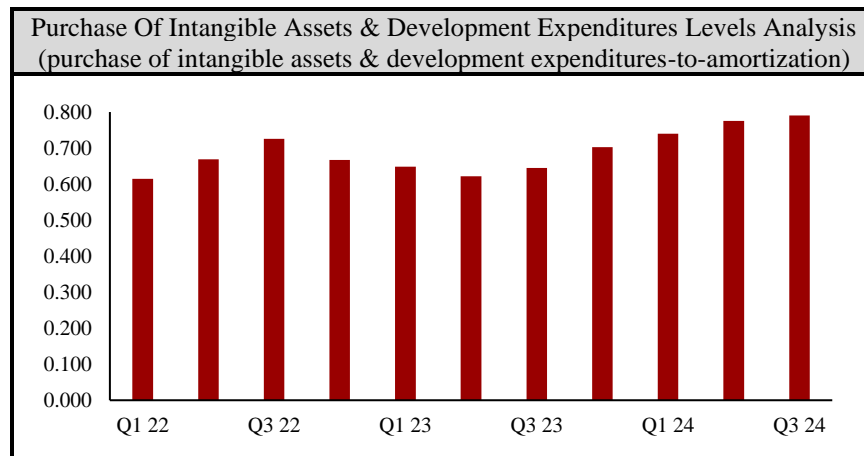
## **Elevated Intangible Asset Levels May Highlight Amortization-Driven Margin Pressure**

**Background on purchase of intangible assets and development expenditures analysis:** In its FY 23 Annual Report, the Company highlighted intangible assets included software and technology, internal development, patents,

<sup>5</sup> In its FY 23 Annual Report, the Company disclosed its consolidated financial statements were prepared in accordance to International Financial Reporting Standards (IFRS). The use of the last-in/first-out (LIFO) inventory valuation method is prohibited under IFRS rules.

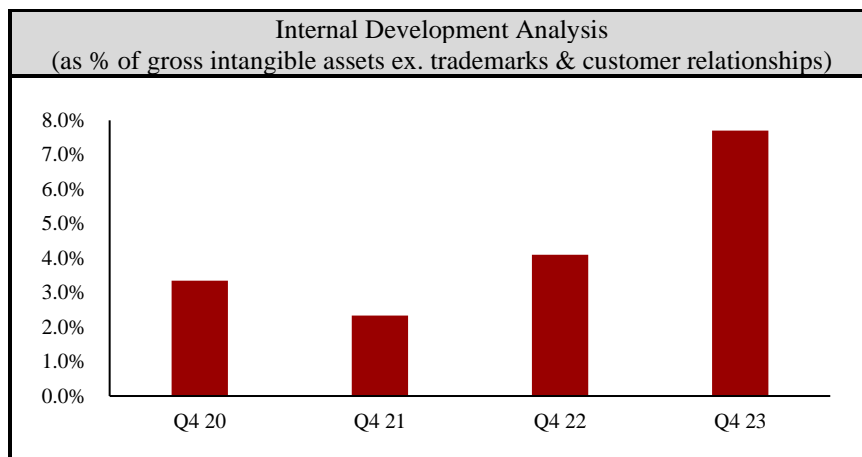
customer relationships, and trademarks. The Company disclosed development expenditures (i.e. internal development costs) separately from purchase of intangible assets on its cash flow statement. Therefore, we analyzed intangible asset levels as purchase of intangible assets plus development expenditures relative to intangible asset amortization.

**Elevated intangible assets levels may highlight amortization-driven margin pressure, in our view:** In the twelve months ended Q3 24, purchases of intangible assets and development expenditures surged 21.3% year-over-year to \$39.9 million, while amortization of intangible assets declined 1.0% to \$50.5 million. Accordingly, purchase of intangible assets and development expenditures-to-amortization of intangible assets surged 22.5% year-over-year to 0.790, the highest level publicly reported. In our view, elevated purchase of intangible assets and development expenditures levels may highlight amortization-driven margin pressure.



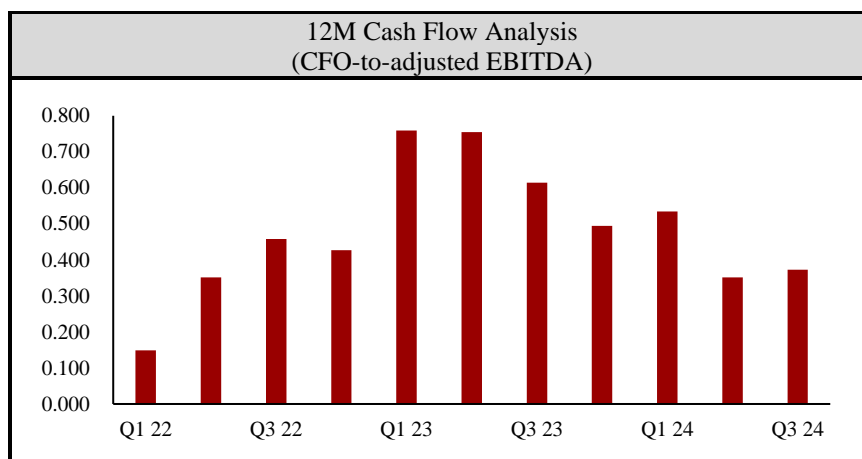
**Elevated internal development levels heighten our margin pressure concerns:** In its FY 23 Annual Report, the Company disclosed capitalization of internal development costs, which represent new applications/technology, are recognized as an intangible asset when the group can demonstrate certain criteria.<sup>6</sup> Further, when an asset is available for its intended use, it is reclassified from internal development to the respective amortizable relevant asset class within intangible asset (e.g. software and technology or patent rights). In Q4 23, capitalized internal development costs increased 94.9% year-over-year to \$45.8 million, while gross intangible assets excluding trademarks and customer relationships increased 3.6% to \$594.3 million. Accordingly, capitalized internal development costs as a percent of gross intangible assets excluding trademarks and customer relationships increased 360 basis points year-over-year to 7.7%, the highest level publicly reported. Given historically elevated internal development levels and the internal development asset is not amortizable until reclassified to another asset class, our margin pressure concerns are heightened.

<sup>6</sup> In its FY 23 Annual Report, the Company disclosed the following criteria it needed to demonstrate for development expenditures to be recognized as intangible assets: (1) the technical feasibility of completing the intangible asset so that the asset will be available for use or sale, (2) its intention to complete and its ability and intention to use or sell the asset, (3) how the asset will generate future economic benefits, (4) the availability of resources to complete the asset, and (5) the ability to measure reliably the expenditure during development.



### Cash Flow Level Decline & Working Capital Cash Consumption Heightens Our Concerns

In the twelve months ended Q3 24, cash from operations (CFO) declined 37.8% year-over-year to \$108.1 million, while adjusted EBITDA increased 2.5% to \$290.2 million. Accordingly, twelve-month CFO-to-adjusted EBITDA declined 39.3% year-over-year to 0.373. In addition, inventory (trade and other receivables) consumed \$16.3 million (\$16.8 million) of cash. Depressed cash flow levels driven, in part, by working capital (i.e. inventory and receivables) cash consumption heighten our earnings sustainability concerns.



### Conclusion

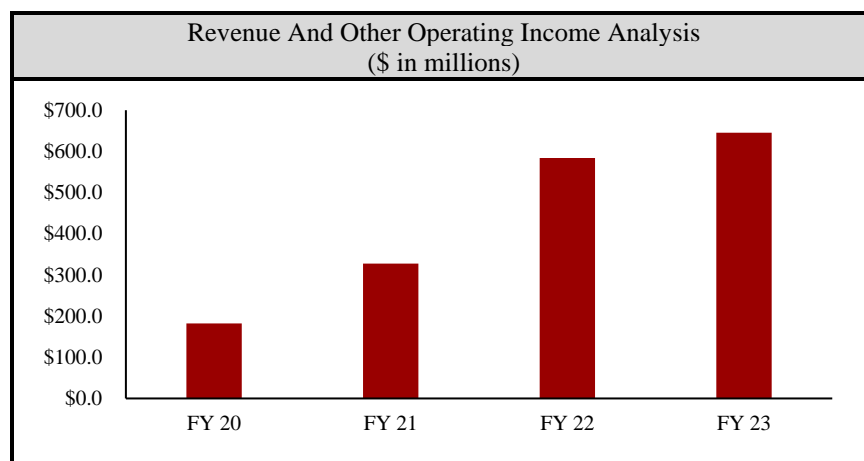
We are concerned the lack of recent Amazon project commentary and Amazon funding and utilizing other warehouse automation solutions suggests Autostore's relationship with Amazon may have failed to expand. Relatively stable backlog levels despite evidence of extended backlog conversion timelines (i.e. increased non-current backlog mix) suggest current backlog coverage may be depressed and revenue expectation achievability may be more dependent on booked and burned orders. In our view, depressed order intake levels highlight increased end customer order weakness amid persistent uncertainty, macroeconomic challenges, and customer caution. We believe order pressure amid increased dependence on booked and burned revenue highlights overly optimistic revenue expectations. In our view, persistently elevated receivables levels highlight continued order delays and end market weakness. Additionally, we believe historically elevated Q4 23 past due receivables highlight delayed system implementations. We are concerned elevated inventory levels may portend margin pressure to the extent the Company is compelled to reduce third party manufacturing orders to right size inventory. Elevated inventory relative to backlog suggests inventory may be overbuilt relative to demand. We believe elevated intangible asset levels may highlight amortization-driven margin pressure. Elevated internal development levels heighten our

amortization ramp concerns. Depressed cash flow levels driven, in part, by working capital cash consumption heighten our earnings sustainability concerns.

## Risks to Our Thesis & Valuation

### Go To Market Model, Land & Expand, High Throughput Market, & Installed Base

**Partner model enables global reach and scalability combined with in-house insights and relationships:** From FY 20 to FY 23, revenue and other operating income increased at compounded annual growth rate of 52.5% to \$645.7 million. As mentioned, partner-led sales accounted for approximately 70.0% of sales generation, while in-house business development managers and global account managers accounted for approximately 30.0%. In its 2024 Capital Markets Day Presentation on 09/18/24, the Company highlighted its business was designed for scale, margin, and competitiveness, which it attributed to its product standardization, partner-based go-to-market model, pricing power, and operational excellence. The Company indicated its go-to-market model was the key to its success and allowed expansion into all areas of the market while maintaining profitability levels. Specifically, its partner-led model (1) enabled global reach, (2) was highly scalable, (3) and leveraged partner end market expertise, while its in-house capabilities enabled the Company to (1) build strategic relationships, (2) direct customer insight, and (3) have multi-site potential.



**Land and expand strategy guided to drive growth:** In its 2024 Capital Markets Day Presentation on 09/18/24, the Company highlighted its land and expand business model showcased its large growing customer base making repeat purchases over time. Specifically, the Company indicated it gained over 500 new customers over the past three years (the Company has approximately 1,100 customers as of Q3 24) and 70.0% of its customers onboarded before 2020 had placed a new order with the Company. In FY 23, approximately 45.0% of revenue was from existing customers and customers typically took two to three years to place a second order. Additionally, the Company highlighted DHL Group (Deutsche Post AG (DHLn.DE) and Caterpillar Inc. (CAT) as examples of continuous customer growth via expansions and new sites. For example, AutoStore sold 12 systems (1,029 robots) over its twelve-year relationship with DHL and 7 systems (684 robots) over its four-year relationship with Caterpillar.

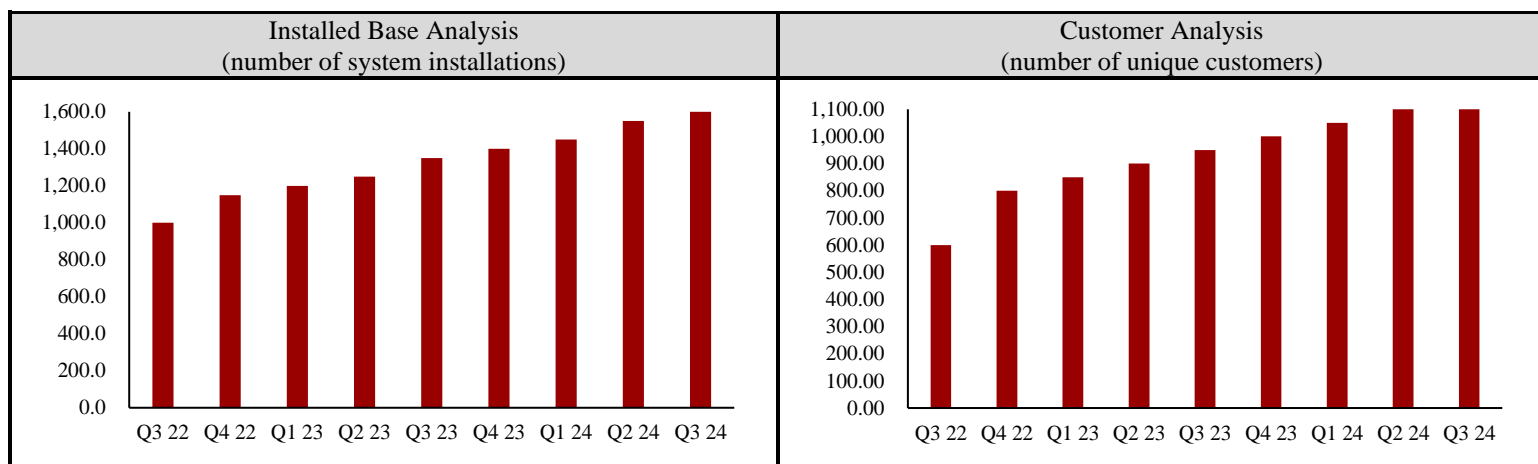
More than 500 new customers gained over the past three years, despite the recent market headwinds. (2024 Capital Markets Day Presentation, 09/18/24)

**High throughput market growth and opportunity:** As mentioned, AutoStore highlighted its “high throughput” market related to installations that processed over 10,000 bins per hour, typically in consumer goods, store replenishments, and e-commerce end market applications. In the twelve months ended Q2 24, the Company’s high throughput order intake increased 91.0% relative to FY 21. On its 2024 Capital Markets Day Conference Call, the Company indicated it was “doubling down” on high throughput due, in part, to recent software and robotic enhancements. Further, in its 2024 Capital Markets Day Presentation, the Company guided for its current market share of approximately 5.0% of the \$2.2 billion high throughput market to increase in “due course.”

**We're going to double down on the high throughput market.** We've long proven our success in what we call the standard market and we're now making clear headway in the high throughput market, **thanks to recent software and robotic enhancement...** And at the bottom of the slide, look how **our order intake has progressed in this market. It's grown by more than 90% over the last few years.** (CFO Mr. Paul Harrison, 2024 Capital Markets Day Conference Call, 09/18/24) [emphasis added]

**Growing installed base:** From Q3 22 to Q3 24, installed AutoStore AS/RS systems (i.e. installed systems) increased at a compounded annual growth rate of 26.5% to approximately 1,600 systems, while AutoStore customer count increased at compounded annual growth rate of 35.4% to approximately 1,100 customers.<sup>7</sup> In its 2024 Capital Markets Day Presentation, the Company indicated its large installed base provided access to “huge” data set and enabled optimization of its technology. On its 2024 Capital Markets Day Conference Call, the Company highlighted its Unify Analytics platform allowed it to track performance across the majority of its installed base, which gave it unique insight into where customers could improve performance and capacity through expanding installations upsell opportunities.

We're also going to make more of our installed base, because every day, we are tracking performance across the majority of our sites through our Unify Analytics platform. **This here gives us a unique insight into where customers can improve performance and capacity just through expanding their installation.** And right now, we're running a sales program for that. (CEO Mr. Mats Vikse, 2024 Capital Markets Day Conference Call, 09/18/24) [emphasis added]



## Valuation Analysis

As of the date of this publication, AutoStore’s shares trade at 11.7 times next twelve months enterprise value-to-EBITDA, 17.7% below its peer average.

<sup>7</sup> In its Q3 24 Earnings Presentation, the Company disclosed the installed base figure included systems in backlog.

Valuation Analysis	NTM EV/EBITDA
AutoStore Holdings Ltd. (AUTO.OL)	11.7x
Kardex Holding AG (KARN.S)	16.8x
Ocado Group PLC (OCDO.L)	16.1x
Symbotic, Inc. (SYM)	9.8x
Peer average	14.2x
<i>AUTO.OL above (below) peer average</i>	<i>(17.7%)</i>

## Disclaimer and Disclosure

This report was produced by Voyant Advisors, LLC (“Voyant”). The following Research Analysts employed by Voyant contributed to this report: Graeme Lazarus, Ryan DesJardin, Andrew Brown, Duran Sulymankhel, and Adam Yribarren. Voyant’s home office is at 15373 Innovation Dr, Suite 365 San Diego, CA 92128. The firm’s home office is where information about the valuations herein are located, unless otherwise indicated in the report.

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