



ChargePoint Holdings Inc. (CHPT)

BUY: \$17.75

Equity Research Division 30th of April 2023

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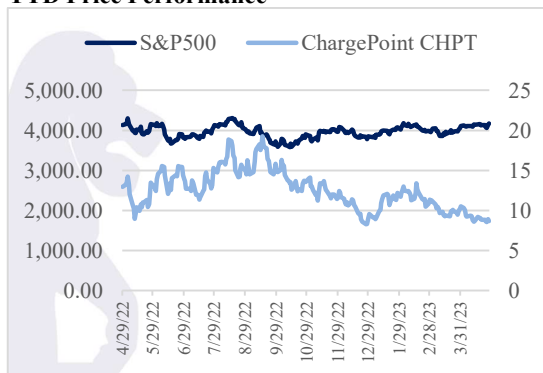
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Stock Information

Last Closed Price	\$8.66
Target Price	\$17.75
+/- Potential	+104.965%
Bloomberg Ticker	CHPT:US
GICS Sector	Industrial Products
GICS Sub-Industry	Electrical Equipment

YTD Price Performance



Company Description

ChargePoint Holdings Inc. operates as an electric vehicle charging network provider. It designs, develops and markets networked electric vehicle charging system infrastructure and its Cloud Services enable consumers the ability to locate, reserve, authenticate and transact electric vehicle charging sessions. The company was founded in 2007 and is headquartered in Campbell, CA.

Key Financials

Market Cap	\$ 3.250B
Basic Shares O/S	0.34B
52-Wk High	\$19.92
52-Wk Low	\$8.07
Fiscal Year End	31-Jan-2023

(\$m)	FY20A	FY21A	FY22A	FY23A
Sales	144.5	146.5	241.0	468.1
EBITDA	-124.7	-110.9	-249.0	-316.7
EBIT	-132.4	-121.0	-265.4	-341.8
Net Income	-134.3	-197.0	-132.2	-345.1

Key Executives

Mr. Pasquale Romano	President, CEO, and Director
Mr. Rex S. Jackson	Chief Financial Officer
Mr. Richard Wilmer	Chief Operating Officer

FY2023 Q4 results Highlights

- \$468 million FY net sales; 94% YoY growth
- Beat \$100m annualized subscription benchmark
- 225,000 active ports under management, with 18,000 DC ports and 465,000 roaming ports (445,000 in Europe)
- European business delivered \$73m in revenue (190% growth YoY)

Investment Thesis

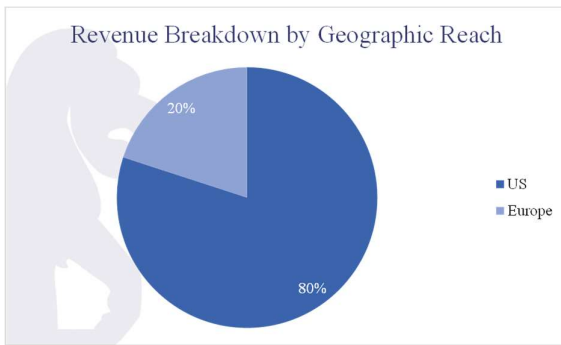
After performing our valuations, our recommendation is “BUY”. We view the current market pricing as attractive given the growing sub-market conditions, the prospective unit economics which facilitate economies of scale, and the first-mover advantage of the company within the electric vehicle charger industry. The company reduces its exposure to energy prices and the operational risks of the chargers through its unique business model, whereby it sells the chargers with an associated subscription, but, in the majority of cases, does not directly operate them. With attractive partnerships (Volvo, Mercedes, Starbucks, Induct EV, etc.) coupled with a strong US market share (56%), the company will continue its land-and-expand strategy to secure its position as a leader within this emerging industry. As the regulatory environment becomes increasingly favorable to EVs, the company is poised to benefit from this tailwind.

To compute the target price, we performed both an asset-side DCF analysis and a market multiples analysis. The forecasted price from the DCF analysis is \$13.5 while the average forecasted price from the future-based market multiple analysis results \$30.6. Our target price is derived from a weighted average between the two figures, assigning to the DCF price a weight of ¼, reflecting our higher reliance on the DCF analysis rather than market multiples, mainly due to the scarcity of core comparables and the reliance on future-based multiples.

Our perspective hinges on the company's resolution of its material weakness in internal control. While it is not uncommon for newly-public firms to experience such challenges, we maintain that a prudent approach would necessitate applying this analysis only after the issue has been adequately resolved.

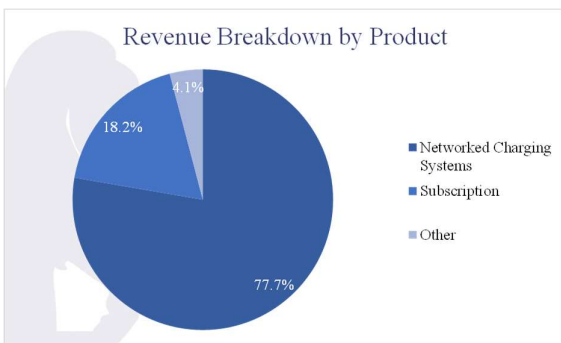
Company Description

Figure 1. Revenue Breakdown by Geography



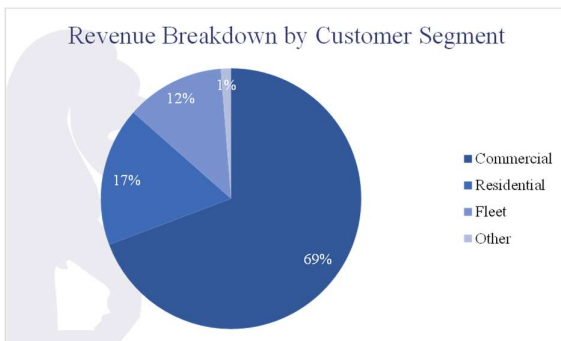
Source: Factset

Figure 2. Revenue Breakdown by Product



Source: CHPT 10-K

Figure 3. Revenue Breakdown by Customer



Source: Q4 FY2023 Earnings Transcript

Summary

ChargePoint Holdings Inc. ("CHPT") is a leading provider of electric vehicle (EV) charging solutions for commercial, fleet, and residential customers in North America and Europe. The company offers a comprehensive platform of AC and DC charging products, Cloud subscriptions, Assure warranty coverages, and professional services designed to meet the specific needs of its customers. ChargePoint's business model is based on the sale of charging hardware, software licensing, and services fees, as well as a revenue-sharing model with charging station hosts. The company's revenue is primarily generated through the sale of networked charging hardware combined with its Cloud Services billed as a subscription, with most of its revenue coming from the United States, where it dominates the EV charging market with a 56% market share. With ongoing projects, strategic partnerships, and a legislation covering patent, trademark, copyright, unfair competition, and trade secret laws to protect its proprietary rights, ChargePoint is well-positioned for future growth and expansion in the growing EV market.

Revenues

The firm relies on three revenue streams:

- **Product (77.7% of total revenue):** ChargePoint's primary revenue stream is the sale of networked charging hardware, which encompasses both AC products designed for residential, commercial, and fleet applications, and DC products, which are fast-charge products primarily used in commercial and fleet situations. Presently, the majority of the company's product revenue is generated through the sale of AC products.
- **Subscription (18.2% of total revenue):** The revenue from subscriptions comprises services associated with Cloud services, in addition to extended maintenance service plans under Assure. Furthermore, it encompasses revenue associated with ChargePoint CPaaS, which bundles the usage of ChargePoint's owned and operated systems with Cloud and Assure programs, offered as a consolidated multi-year subscription.
- **Other (4.1% of total revenue):** Other revenue consists of charging fees from drivers using the charging stations that are owned and operated by ChargePoint, as well as net fees earned from driving charging sessions at stations that are operated by the company's customers.

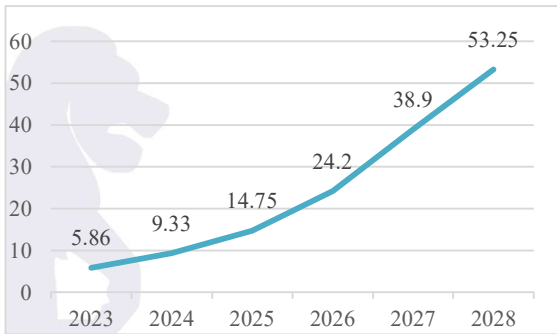
ChargePoint Holdings Inc. is headquartered in Campbell, California, and operates across two regions: North America, where it generates around 80% of its revenues, and Europe, which accounts for the vast majority of the remaining 20%.

Expenses

Cost of Goods Sold as a percentage of Total Revenues has increased by roughly 400 bps from FY2021 to FY2023, driving gross margin down from 22.5% in 2021 to 18.4% in 2023. In particular:

- Cost of Networked Charging Systems revenue decreased from 94.7% of Networked Charging Systems revenue in 2021 to 87.6% of Networked Charging Systems revenue in 2023. This was likely due to the company's high growth and consequent leveraging of economies of scale both in the production process and in bargaining with suppliers.
- Cost of Subscription revenue increased from 50.3% of Subscription revenue in 2021 to 60.3% of Subscription revenue in 2023. The company states that this increase is primarily due to increases in customer support headcount driven by ChargePoint expanding its Networked Charging Systems.

Figure 4. The Global EV Charger Market (US\$ bn)



Source: Mordor Intelligence

It is important to note that expenses incurred are exhibiting a weak correlation with the electricity price fluctuations, primarily due to their minimal involvement in the charging station operations.

Customers

ChargePoint is a leading provider of EV charging solutions for commercial, fleet, and residential customers in North America and Europe. Its customer base includes 80% of the 2021 Fortune 50 companies. According to the company's Q4 FY2023 earnings transcript, 69% of total billings come from commercial customers, 17% from fleet, 12% from residential customers and 1% from other.

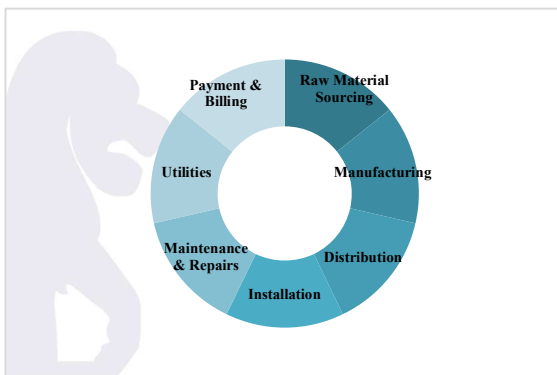
Industry Outlook

Government Policy and Incentive

There has been a significant upsurge in customer awareness of electric vehicles and EV charging infrastructure in recent times, catalyzing growth. Climate change and environmental concerns have been at the forefront of public discourse, leading to heightened awareness regarding the impact of transportation on the environment. The jurisdictions in which ChargePoint seeks to operate have implemented policies and incentives aimed at expediting EV adoption, thereby providing an advantageous environment for EV charger companies.

California, amongst other states, has mandated zero-emission vehicles by 2035. Since the Inflation Reduction Act (IRA), effective as of August 2022, only passenger vehicles assembled in North America qualify for the \$7,500 federal tax incentive, spurring growth in the American market as this alleviates supply chain disruption concerns. Furthermore, the IRA has lifted the previous manufacturer's cap of 200,000 sold vehicles for this tax incentive as of January 2023, eliminating a major roadblock for the continued development of the EV market in the United States. The IRA provides further incentives and rebates to drastically reduce the upfront costs of purchasing an EV for middle-class consumers, which until now has been perhaps one of the largest barriers of the EV industry, offering large tax credits to customers who qualify under set income brackets purchasing a car within set price brackets. The IRA additionally provides new incentives for used vehicles, commercial vehicles, and trucks used in fleets. As a result, American carmakers have since announced major investments in electrification.

Figure 5. Supply Chain Stages



Source: Minerva Investment Management Society

The European Union is the global frontrunner in EV adoption policy. In February 2023, the European Parliament formally approved a law to effectively ban the sale of new fossil fuel cars from 2035, aiming to achieve a 100% cut in CO2 emissions on any new cars sold. This new law also sets a 55% cut in CO2 emissions from 2030, higher than the previous target of 37.5% set in 2021. New vans must comply with the 100% CO2 cut by 2035 and a 50% cut by 2030. As a result, many European major carmakers have announced heavy investments in electrification.

EV charging infrastructure companies including ChargePoint are generally still relatively new and immature. This poses them as highly geared towards central bank action. In the foreseen potential situation of interest-rate cuts, notably where rate hikes have been the trend in recent times in the United States and Europe, ChargePoint possesses a high-growth potential and would be disproportionately positioned to benefit.

Technological Development

In recent years, significant advancements have been made in wireless charging technology, which could potentially eliminate the need for cables and plugs. With wireless charging, vehicles can simply park over a charging pad and begin charging automatically, thereby offering unparalleled convenience and ease of use. Although still in its infancy, this technology holds immense promise for future adoption, which may ultimately lead to a paradigm shift in the market hierarchy.

Moreover, some companies are actively exploring the utilization of battery-swapping stations, which would enable a depleted battery to be quickly replaced with a fully charged one. This technology could prove instrumental in mitigating the issue of range anxiety and facilitating longer trips without having to stop for an extended period to recharge. Given that roughly 40% of Americans view electric vehicles taking too long to charge as a major deterrent to purchasing an electric vehicle, companies that successfully implement this technology stand to reap substantial benefits.

Supply Chain

The EV charger supply chain involves raw material sourcing from global suppliers, manufacturing by the market leaders, distribution to local or international centers, installation by licensed electricians or installation specialists, and maintenance/repairs by manufacturers or third-party providers. Electric utilities, such as PG&E and SCE, are also investing in EV charging infrastructure.

The supply chain for electrification, however, reveals 6-12 months of lead time for semi-conductors alone, given ongoing component shortages. The supply chain for the electric market is not nearly as mature as the traditional automotive supply chain, which is largely dependent on a regional supplier network and driven by mechanical parts. When it is time for necessary components to be delivered, trucks transport them. Those parts join the line as needed, resulting in assembly line fluidity.

Market Share

The global EV charger market has an estimated Herfindahl Hirschman Index (HHI) of 2.6, which places it between a moderately and highly concentrated market. Despite the high concentration ratio, players in the market differentiate themselves through industry segmentation. Economies of scale also play a crucial role in meeting the rising demand for chargers always available. As the demand for sustainable vehicles increases, providing fast and ample charging options presents a significant opportunity for firms.

ChargePoint dominates the US market, with 174,000 charging slots and a 55.9% market share.

SWOT Analysis

Strengths

Business Model: ChargePoint’s business model offers autonomy to its clients for its service, which keeps it out of exposure to the volatile electricity market, providing stability to the revenue stream. ChargePoint also offers a subscription service that provides access to its network of charging stations, allowing users to locate, reserve, and pay for charging services through its mobile app, which in turn welcomes recurring revenues over the long term, providing a predictable source of income.

Brand Recognition: ChargePoint is currently by far the market leader in the United States, providing a significant advantage in the process of establishing a dominant presence in target areas and geographies, so to define itself as the dominant player in the market for the future due to steep switch costs for the customers of this industry, this process is also known as the “land grab.” The network with construction companies and other partners holds a significant value in this regard, and ChargePoint being the market leader with name recognition is a significant advantage in fostering these relationships, in outperforming its competitors and in the land grab.

Demand Pull-Forward: The company operates in a high growth industry, with the increasing adoption of electric vehicles globally, in which chargers are already considered scarce by consumers and demand is expected to grow exponentially over the next 10 years. Research conducted by the University of Chicago’s energy policy research center reveals roughly half of Americans view the lack of charging stations as a major reason not to buy an electric vehicle. Being in a high-growth industry, the firm decides to invest heavily in R&D (45% of total operating expenses in FY2022) and land grab efforts.

Weaknesses

Profitability Issues: The company is not yet profitable, which may concern potential investors. While the company consciously sacrifices this to invest heavily in R&D and land grab efforts, the company has negative income, which may prevent them from being able to take on debt, which will especially hurt their ability to engage in M&A activity, which is crucial in these early stages as the company seeks to penetrate and expand their presence in the fragmented European market. In addition, ChargePoint’s business is highly dependent on the construction cycle, making it a cyclical business.

Geographic Diversification: While making efforts to change this, ChargePoint still has a limited presence in Europe/Asia, market which already have several strong players, which may negatively impact their ability to expand globally. The Chinese market has already developed a strong market for EV chargers and penetration there is close to impossible for ChargePoint.



Opportunities

Technological Innovation: The growing electric vehicle market offers ChargePoint ample opportunity for growth. Technological advancements to reduce charging times or to transition to innovative charging systems may further spur growth in demand. The University of Chicago's energy policy research center reveals roughly 40% of Americans view both battery technology not being ready and electric vehicles taking too long to charge as major reasons not to buy an electric vehicle. Wireless charging, if developed and implemented effectively, can provide a significant opportunity for ChargePoint to capture market share, and ChargePoint has indeed engaged in a strategic partnership with Induct EV, a market leader in developing wireless charging infrastructure.

Domestic & Foreign Expansion: Since the passage of the Inflation Reduction Act, only passenger vehicles assembled in North America qualify for the \$7,500 federal tax incentive, fostering growth in the American market, alleviating supply chain disruption concerns and providing ChargePoint with a significant competitive advantage in the domestic market. International expansion to Europe, Asia, Latin America, and Africa can also provide ChargePoint with significant growth opportunities.

Long-Term Dominance: As previously discussed, ChargePoint's status as the largest player in the US market provides it with significant name recognition and a strong competitive advantage, especially given the fact the market is still in its early stages, leaving the opportunity to capture market share which will become more rigid in the future as the industry matures. Good relationships with construction companies can make ChargePoint the default supplier for EV chargers in new constructions, offering more capital for them to further grow and innovate.

Threats

Substitute Technologies: The rise of EV alternatives such as e-fuels or hydrogen cars could negatively impact ChargePoint's growth prospects. Other charging technologies, such as wireless charging, may swiftly capture market share which may negatively impact ChargePoint's growth prospects, if its current efforts of supporting new innovations are not enough to capture any new developments. The adoption of battery swapping technology could potentially threaten ChargePoint's business model since it may drastically reduce charging time for customers; there are already over 1,000 battery swapping stations established worldwide, mostly in China. Chinese EV maker NIO has begun employing battery swapping technologies in Europe, which poses threat to ChargePoint seeking to expand there. NIO expects to establish over 2,300 power swapping stations by the end of the year.

Regulation: The potential passage of a law prioritizing EU companies in response to the Inflation Reduction Act's policies towards foreign companies could significantly stifle ChargePoint's expansion efforts in Europe.

Regulatory barriers in general are a significant risk for the electric vehicle charging industry and are most likely subject to change given the market being juvenile and high growth. The lack of uniform regulations across regions and countries, or the rapid and volatile regulation changes within one geography itself can create confusion and uncertainty, leading to delays in investment decisions and slower business growth. Additionally, changes in government policies and regulations simply lead to unexpected costs and operational challenges.

Grid Integration: The integration of electric vehicle charging infrastructure into the electric grid poses potential risks, such as if too many electric vehicles are charging simultaneously. This could lead to power outages or blackouts in certain areas, questioning the ability of the grid to handle the increased demand for electricity as more electric vehicles are adopted, which in turn may significantly limit ChargePoint's expansion. The integration of charging infrastructure requires significant investment and upgrades to the grid, which can be costly and time-consuming. Differences in the electric grid within each geography (voltage, frequency, transmission, etc.) may also pose operational handicaps to ChargePoint expanding beyond its borders.

Supplier Dependence: Global supply chain disruptions such as Russia's invasion of Ukraine could negatively impact ChargePoint's operations as the sourcing process and value chain is at risk; its hardware products are primarily manufactured in Mexico, and the majority of its components are sourced from only a number of suppliers, based in China and the United States. The United States has imposed extraordinary tariffs targeted at the semi-conductor industry in China; if China retaliates or if there is a conflict between China and Taiwan, a leading producer of semi-conductors, ChargePoint's operations may suffer significantly.

Porter's Five Forces Analysis

Backwinds	Headwinds
<ul style="list-style-type: none">• Software embedded in hardware sales• Open-wall charging network• Strong regulatory support• Partnerships with OEMs and large-scale businesses• Growing market with strong fundamentals• First-mover advantage• Economies of scale	<ul style="list-style-type: none">• Potential of new entrants with more technological advanced offerings• Potentially commoditised offering• Heavily reliant on supply chain economics• High exit barriers• Weak market position in EU

Competition in the Industry

The market for EV charging stations is dominated by just a few players: the first 5 companies account for most of the market share, resulting in a concentration ratio close to 60%, although there are at least other 10 players which are to be considered at least relevant with approximately 5% share each.

- USA: ChargePoint, Tesla, SemaConnect, BlinkCharging, Electrify America
- Europe: Allego, ABB, Siemens, Wallbox, EVBox, Schneider Electric
- China: TGOOD, China State Grid, Star Charge, YKCCN

The estimated Herfindahl Hirschman Index (HHI) for this particular market stands at 2.6, indicating a state of moderate concentration. Differentiation exists among the players in the market, primarily attributable to their distinct business models.

Here ChargePoint specifically differentiates itself from its competitors by only selling the charging stations, but not operating them. Therefore, the customer can choose to be exposed to the margin derived from selling electricity to the customer, and, additionally, can have the freedom to choose how many or how potent charging stations to have within its building/home/business.

Additionally, the industry is characterized as a land-grab. Having the largest share of the market allows for brand recognition and further growth. Companies commonly use a land-and-expand strategy to further expand market share.

In terms of market share, ChargePoint leads the US market with a 56% market share, while in the EU it captured only around 6% of potential revenues.

Potential of new entrants within the industry

As previously mentioned, the electric vehicle charger industry is characterized by fierce competition to secure business relationships that can facilitate market share expansion. ChargePoint has successfully partnered with a diverse range of industry leaders, including household consumer brands (e.g., Starbucks), leading car manufacturers (e.g., Mercedes-Benz, Lexus, Mazda, Toyota, Fisker, and Volvo), and provides an open-wall network to further enhance accessibility to its chargers by other companies.

Moreover, the company's integrated app that can be added to CarPlay enhances the appeal of its chargers for businesses seeking to drive foot traffic. To maintain its leadership position in the US and expand its reach in the EU, ChargePoint must continue to compete and win against rivals in securing valuable partnerships. This will be key to its future success in the fiercely competitive EV charger industry.

As a nascent industry, the electric vehicle charger market is vulnerable to technologically advanced competition. New entrants armed with cutting-edge technology may capture charging station sales from ChargePoint. Moreover, the presence of closed-wall networks offered by auto OEM manufacturers may also impede ChargePoint's expansion strategies and erode its market share.

Furthermore, a scenario of commoditization and a race-to-the-bottom in pricing may emerge as the product becomes more commonplace. To counter this, ChargePoint is working to differentiate its offering through its software solution and by integrating with auto OEMs (e.g., via an app within CarPlay). By doing so, the company aims to mitigate potential price-based competition in the future.

Threats of Substitute Products

The move towards environmentally friendly vehicles can fuel other technologies either within the Electric Vehicle vertical (e.g.: wireless charging, battery swapping) or within other environmentally friendly verticals (e.g.: e-fuels, hydrogen cars). ChargePoint sits within a good position from this standpoint, as other vertical technologies are not fully developed and operational yet (first-mover advantage).

The company has also positioned itself well against other substitutes within the EV vertical through investments in wireless charging.

Power of Suppliers

The EV chargers supply chain consists of:

- Raw Materials, Semiconductors & Electrical Components
- Manufacturers
- Distribution
- Installation
- Maintenance & Repairs
- Utilities

ChargePoint represents the manufacturing and maintenance & repairs part of the value chain, while its suppliers are the raw materials and semiconductor providers.

In terms of raw materials procurement, the market is characterized by numerous procurement firms with limited bargaining power. However, ChargePoint may experience reduced margins due to fluctuations in the prices of commodities required for manufacturing charging stations.

Furthermore, ChargePoint is not immune to the semiconductor supply chain issues that have impacted various electronics manufacturers. In this regard, the market fundamentals suggest limited supplier options with substantial bargaining power.

Power of customers

In terms of customer power, the discretionary and increasingly commoditized nature of the electric vehicle charger market means that customers hold significant influence compared to purchasing staple goods. However, ChargePoint is taking steps to differentiate its product through its software offering, which may help reduce commoditization and increase its leverage over customers through the subscription segment (chargers cannot be operated without the subscription). Furthermore, the company is working to establish a presence throughout the EV value chain by integrating with auto OEMs, which would enhance its value proposition to both end-users (i.e., EV drivers) and its own customers (commercial; increased foot traffic).

In terms of metrics, there was one customer that accounted for more than 10% of revenue, which does imply some bargaining power that customers have (considering its customer base includes residences, businesses, both large and small, and fleet operators).

With more EV adoption (especially in the US), a successful expansion into Europe, and further government incentives that push for building the infrastructure necessary for mainstream EV adoption, we might see the power of customers decrease in the future, while with an increase in the commoditization of the product, which implies more manufacturers, we might see the power of customers increase and a race to the bottom in terms of price.

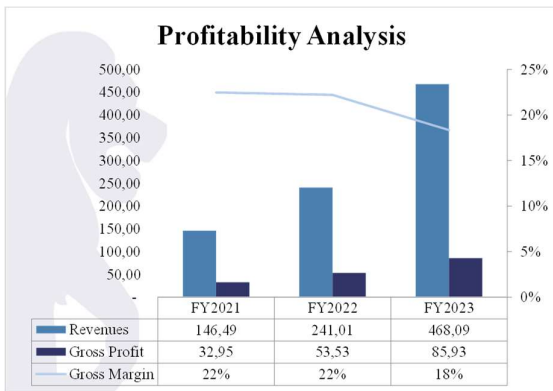
Financial Analysis

Profitability & Efficiency

ChargePoint shows seasonality in its business as the vast majority of commercial and fleet charging stations are installed outdoors and the company operates primarily in the Northern Hemisphere. Consequently, its sales volumes are deeply affected by weather conditions, mainly due to the impact of the cold season on construction timelines and delays.

It is also worth noting that ChargePoint registers the highest sales and earnings in its fourth quarter and the lowest in its first quarter. The reason for this can be found in the fact that many of its customers receive their annual budget approval in ChargePoint's fourth quarter.

Figure 6. Profitability Analysis



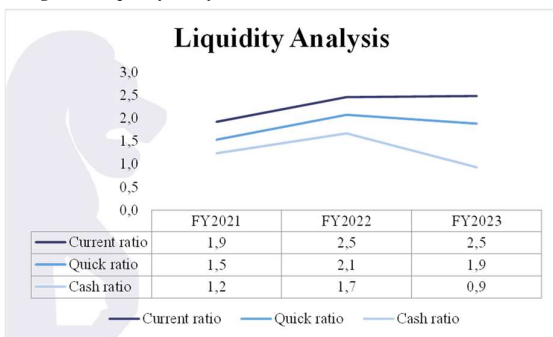
Source: Minerva Investment Management Society

Figure 7. Cash flow and Net Income Analysis

CFO and Net Income	FY2021	FY2022	FY2023
Net Cash used in Operating Activities	-92	-157	-267
Net income	-197	-132	-345

Source: Minerva Investment Management Society

Figure 8. Liquidity Analysis



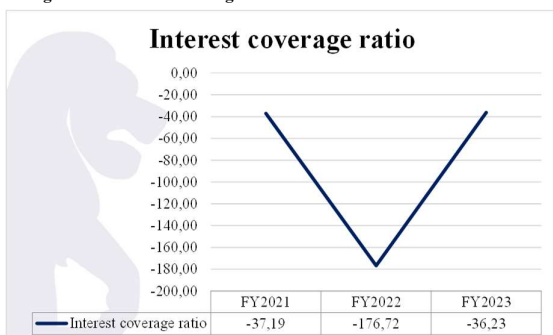
Source: Minerva Investment Management Society

Figure 9. Cash Conversion Cycle

Cash Conversion Cycle	FY2021	FY2022	FY2023
DSO	44	84	94
DPO	32	46	43
DIO	54	68	50
Cash Conversion Cycle	66	106	101

Source: Minerva Investment Management Society

Figure 10. Interest Coverage Ratio



Source: Minerva Investment Management Society

Difficult macroeconomic conditions, increased material costs and freight and logistic expenses adversely impacted ChargePoint's gross margins. However, the company is growing quickly, increasing revenues on a yearly basis by 65% in FY2022 and by 94% in FY2023. ChargePoint's commercial business tends to contribute higher gross margins than its residential and fleet businesses.

Since the company has not yet achieved economies of scale, operating expenses resulted in negative operating margins that reached their lowest level in FY2022, mainly due to the costs related to the listing of the company and the cost related to expanding market share.

Since its inception, ChargePoint has incurred net losses and negative cash flows from operations. Hence, the company is characterized by a negative Return on Assets and a negative Return on Equity.

Liquidity

Notwithstanding this aspect, the company is characterized by good liquidity ratios, that between FY2021 and FY2023, have almost always been higher 1, signaling its strong liquidity and its ability to pay off current debt obligations. So far, ChargePoint has funded itself mainly with proceeds from the SPAC merger, as well as revenues from sales and cash obtained through longer-term contractual obligations (e.g.: long-term subscriptions).

Taking a closer look at its liquidity, its current ratio in the analyzed period has always been above one, and since FY2023 it has increased, signaling a greater amount of current assets compared to current liabilities.

On the same line, the company quick ratio which shows the ability to pay its current liabilities without needing to sell its inventory or obtain additional financing, was higher than one in all the three years considered, even if it slightly decreased in 2023.

Its cash ratio, which measures its ability to cover its short-term obligations using only cash and cash equivalents, was higher than one in FY2021 and FY2022, signaling the company's ability to cover all short-term debt and still have cash remaining. However, this ratio decreased to 0.9 in FY2023, still close to one.

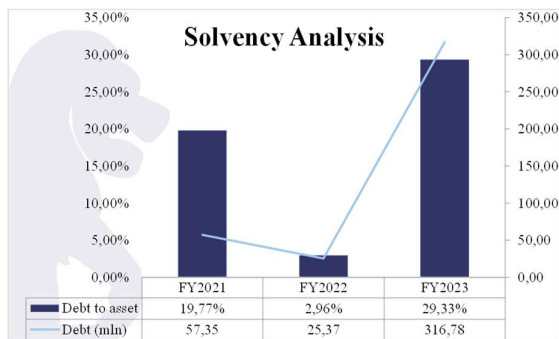
We evidence positive Cash Conversion Cycle, that went from 66 days in 2021 to 106 in FY2022, decreasing slightly to 101 this year. The huge increase between FY2021 and FY2022 is mainly due to the rise of the Days of Sales Outstanding, which almost doubled in one year. This implies that the company has increased the credit to its customer to expand and retain its customer base, in line with its objective of obtaining new market share and penetrating new markets.

Solvency

ChargePoint is characterized by a negative Interest Coverage Ratio, that translates into the company's Operating Income being insufficient to service its outstanding debt. The negative figures are due to the negative Earnings Before Interest and Taxes registered by the company between FY2021 and FY2023.

In FY2023, the company increased substantially its absolute level of debt, going from 25.4 USD million to 316.8 million, resulting in Debt to Asset Ratio that went from 2.96% in FY2022 to 29.33% in FY2023. ChargePoint's substantial indebtedness, related to its plan of penetrating new markets and acquiring new market share, may decrease its business flexibility and also increase its borrowing cost, affecting negatively the financial results.

Figure 11. Solvency Analysis



Source: Minerva Investment Management Society

Figure 12. DCF Analysis

Assumptions

Final period in forecast horizon	FY2033
Terminal growth rate	1.8%
Tax rate	25%
Forecast WACC	15.5%
Terminal WACC	11.4%

Calculations

Final forecast FCFF	1,373
Terminal value	14,585
Present value of forecast cash flows	1,199
Present value of terminal value	3,456

Enterprise value

	4,655
Less: debt & other capital claims	295
Add: cash & cash equivalents	400
Less: Pension provisions	-
Less: other debt-like items	-
Add: Non-operating assets	-
Less: Minority Interests	-
Less: Value of options (Damodaran approach)	201

Equity value

	4,558
Weighted average basic shares outstanding	338.5

Value per share

	\$13.47
Current value per share	8.66
Premium (discount to last close)	55.50%

Source: Minerva Investment Management Society

Valuation

Our analysis followed two main approaches:

- Intrinsic valuation using a DCF model (FCFF)
- Relative valuation through comparable company analysis

Cost of Capital

The **cost of equity** was estimated using the CAPM formula.

$$R_e = R_f + \beta \cdot (ERP)$$

where R_f is the Risk-Free Rate, and ERP is the equity risk premium.

The **cost of debt** was estimated by adding a spread associated with the company's bonds to the Fed Funds Rate. The spread was estimated to be 6.88%, which is equal to the average of the spread of the bonds upon issuance and as of now. The Fed Funds Rate was 4.75%, resulting in a cost of debt equal to 11.63%.

We then estimate the WACC as follows:

$$WACC = \frac{E}{D + E} \cdot k_e + \frac{D}{D + E} \cdot (1 - T) \cdot k_d$$

where k_e is cost of equity, k_d is cost of debt, T is the corporate tax rate, D is the market value of the company's debt, and E is the company's market capitalization.

The results for both Forecast period and Terminal period WACC are displayed below, along with the respective assumptions.

Forecast WACC (15.5%)

- Risk-Free Rate: 3.15% [Average of the current Yield on 10-Year US Treasury bonds and our assumptions for the mid-term and long-term level of interest rates across the forecast horizon]
- Equity Risk Premium ERP: 7.68% [Weighted average of the past 10 years ERP for NASDAQ, S&P 500, Fernandez, Damodaran]
- Beta: 1.70 [Average of the beta estimated through regression analysis (S&P 500 vs CHPT) and beta estimated using comparable company analysis]
- D/E ratio: 0.08 [Calculated with the market value of equity and debt]

Terminal WACC (11.5%)

- Risk-Free Rate: 2.77% [Weighted average of the current Yield on 10-Year US Treasury bonds, our assumptions for the mid-term and long-term level of interest rates across the forecast horizon. This weighted average gives more importance to our assumption for the long-term forecast horizon]
- Equity Risk Premium: 7.03% [Weighted average of the past 10 years ERP for NASDAQ, S&P 500, Fernandez, Damodaran. This weighted average gives more weight to the Fernandez and Damodaran long term ERPs compared to Forecast WACC ERP]
- Beta: 1.75 [Average of the beta estimated through regression analysis (S&P 500 vs CHPT), beta estimated using comparable company analysis levered with comparable mature industries' capital structure, and average comparable mature industries' beta]
- D/E ratio: 0.42 [Average of comparable mature industries' D/E ratios]

DCF Valuation

To project revenue assumptions, we first analyzed the evolution of the EV charging industry market by geography. Leveraging data provided by Mordor Intelligence, we estimate that the market will grow from its current \$5.86 billion to \$53.25 billion in 2028. For the moment, ChargePoint seeks to operate solely in the United States and Europe. We thus forecast market value by geography using our estimated market share figures and projections based on EV trends for each area.

Our research indicates Europe's market share would decrease from 26.5% to 17.74% of the global market, while the United States' share would grow slightly from 11.4% to 12.05%. We observed that the fastest-growing market would be Asia, and specifically China.

To forecast ChargePoint's revenue, we estimated the firm's potential market share gains each year, considering its strong upside potential, which, coupled with estimates for total market size growth, allows us to find the percentage growth of ChargePoint's revenues each year. We applied these percentage figures to ChargePoint's revenues to obtain our forecasts until 2028. Considering the probable maturation and consolidation of the market in the medium term, we anticipate a deceleration in revenue growth. We thus apply a decreasing function to the growth percentages to reflect this projected trend.

We estimated ChargePoint's global revenues will grow from \$468.1 million today to \$4.9 billion in FY2028, reflecting a 60% CAGR, then to \$12.2 billion in FY2033, reflecting a 20% CAGR. During the terminal period, we adjust our growth rate to converge to the 1.8% estimate of the long-run US GDP growth (Source: Trading Economics).

Profitability of the business increases over time due to efficiency gains from economies of scale and networking effects as the company becomes more mature and increases its bargaining power over consumers. This can be especially seen in a decrease of Operating Expenses (S&M, G&A, R&D) as a % of revenue as the company grows. This will be reflected in the EBIT margin of the company.

The company's growth capital expenditures have been projected to remain a constant percentage of revenue, in line with its capital expenditure practices over the past few years. Additionally, we have factored in additional cash flow from investing activities related to potential acquisitions that the company may pursue to maintain its competitive position and further its market share expansion strategy, with one major acquisition expected every three years. The net working capital has been estimated using various ratios, including days sales outstanding, days payables outstanding, and days inventory on hand.

We have used the following formula to calculate the FCFFs:

$$FCFF = EBIT * (1 - T) + D\&A - Capex - \Delta NWC$$

After this, we have discounted those cashflows using the Forecast WACC (15.5%). Furthermore, we have calculated a terminal period cash flow using the Gordon Growth formula, with a terminal growth rate of 1.8% and the terminal WACC (11.5%).

Discounting all the cash flows and adding them up leads us to an enterprise value of \$4.655 bn, which, after doing the equity bridge, results in a share price of \$13.47.

Market Multiples Approach

Peers Group

In selecting the peer group, we have looked at direct competitors (the core peer group) and companies operating in electric infrastructure, clean tech & green auto industries (broad comps).

	Core Comps	Country	Sub-Industry
1	Evgo, Inc.	USA	Electrical Utilities & IPPs
2	Allego N.V.	NLD	Machinery, Equipment & Components
3	Blink Charging Co.	USA	Electrical Utilities & IPPs
4	Wallbox N.V.	ESP	Machinery, Equipment & Components
	Broad Comps	Country	Sub-Industry
1	ABB Ltd	CHE	Machinery, Equipment & Components
2	Siemens	IND	Machinery, Equipment & Components
3	Schneider Electric	FRA	Machinery, Equipment & Components
4	Enphase Energy, Inc.	USA	Renewable Energy
5	TPI Composites, Inc.	USA	Renewable Energy
6	Eaton Corporation plc	IRL	Machinery, Equipment & Components
7	Contemporary Amperex Technology	CHN	Machinery, Equipment & Components

Source: Minerva Investment Management Society

Computation

To validate the outputs derived from the DCF model, we conducted a market multiples analysis. We assessed EV/Sales, EV/EBITDA, and EV/EBIT multiples for the business.

However, ChargePoint is a growth company, still experiencing high revenue growth with negative profitability margins. Its EBITDA and EBIT margins are negative. Hence, current EV/EBIT and EV/EBITDA multiples would not be appropriate to consider the overall value and potential of this company.

Furthermore, when looking at its main competitors we see the same trend with negative EBIT/EBITDA margins characteristic of a growing industry. In terms of EV/Sales the values tend to be very volatile, ranging from 41.4x for EVgo to 3.51x for Wallbox (Source: Factset). Additionally, many other core competitors are unlisted/part of more diversified businesses.

Figure 13. Sensitivity Analysis
Share Price vs Forecast WACC and TGR

	13.5%	14.5%	15.5%	16.5%	17.5%
1.40%	\$15.51	\$14.20	\$13.01	\$11.92	\$10.93
1.60%	\$15.77	\$14.44	\$13.22	\$12.12	\$11.11
1.80%	\$16.04	\$14.69	\$13.45	\$12.33	\$11.30
2.00%	\$16.32	\$14.94	\$13.69	\$12.55	\$11.50
2.20%	\$16.62	\$15.22	\$13.94	\$12.77	\$11.71

Source: Minerva Investment Management Society

Figure 14. Final Valuation

DCF	\$ 13.5	75%
Multiples	\$ 30.6	25%
	\$ 17.75	100%

Source: Minerva Investment Management Society

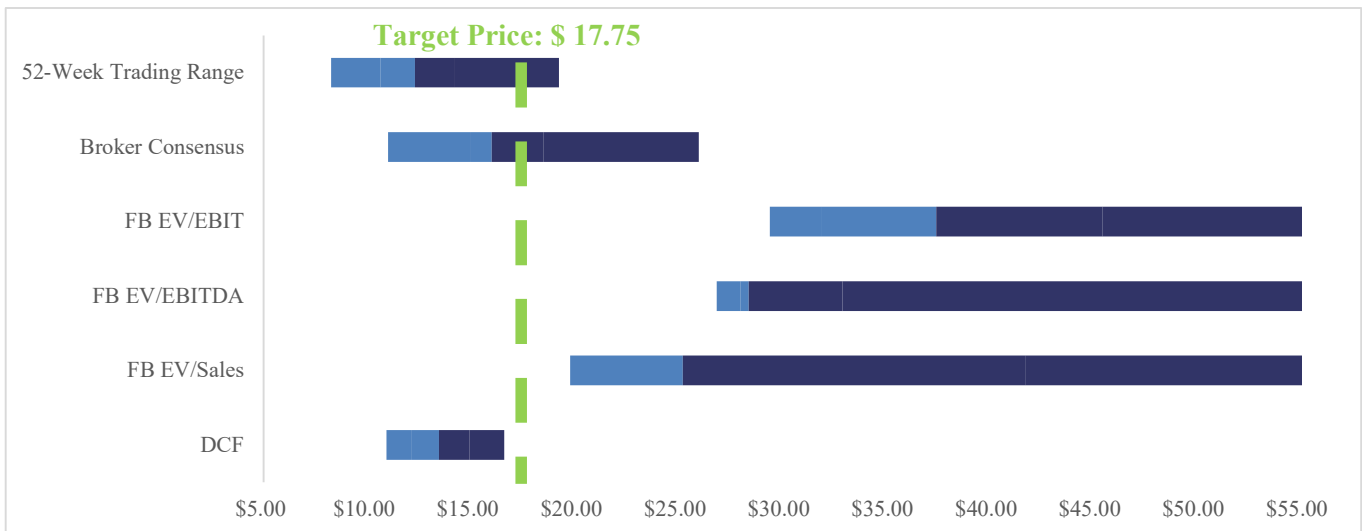
Therefore, we have decided to approach this analysis through a future-based EV/EBITDA, EV/EBIT, & EV/Sales, calculated in FY2033, and discounted back to FY2023. This approach includes a peer group composed of both core comps (for EV/Sales mainly) and broad comps (for EV/EBIT, EV/EBITDA), representing mature and related businesses with similar characteristics.

In doing our analysis, we find an EV/Sales (median) value of 3.2x, EV/EBITDA (median) value of 15.0 x, and an EV/EBIT (median) value of 22.4 x. Taking an average of the implied stock prices, we arrive at a final value of \$30.61.

Final Valuation Methodology

For deriving the price target, we computed a weighted average of the values obtained from the two analyses, attributing a higher weight to the DCF result because it captures both top-line revenue growth, profitability, and economies of scale, while the future-based EV multiple approach tends to depend more on future-based values estimated using non-direct comparables. This leads to a target price of \$17.75 / share, a 104.97 % increase from the last close price (28/04/2023).

Figure 15. Football Field Analysis



Source: Minerva Investment Management Society

Investment Risks

Supply Chain Headwinds: ChargePoint, being a manufacturing company, is subject to the economic conditions of its supply chain, with changes in material prices potentially impacting its margins and profitability. Presently, geopolitical tensions between China and Taiwan, as well as between China and the United States, could result in higher prices for key materials, semiconductors, and electrical components, thereby reducing the company's gross margin.

Economic environment: As a manufacturer of a discretionary product that is closely tied to the construction industry, ChargePoint's revenue is vulnerable to economic downturns, which can result in a reduction in new building and infrastructure projects. Although current regulations and attitudes toward the EV industry have served as mitigating factors, this may not always be the case in the future.

Manufacturing system. It is worth noting that outsourcing manufacturing to a third-party manufacturer can expose ChargePoint to quality-control issues, which could affect its reputation and customer loyalty. In such a scenario, ChargePoint may be forced to invest in its own production facilities or bear the switching costs of changing suppliers.

Commoditization of the product. This industry suffers from the risk of commoditization, in which all competitors offer a very similar product, and differentiation is made on price. This can lead to a “race to the bottom”, in which prices go down close to the break-even point of profitability and diminish margins. The company has been trying to mitigate this by introducing an attached software offering with its products. The success of this strategy, as well as of its partnerships with Auto OEMs and large-scale businesses, will influence its ability to maintain its strong market share and prospective profitability.

Threat of Substitutes. As this industry is quickly evolving, the threat of newer, more efficient technology is one of the most substantial risks for ChargePoint. For instance, hydrogen may become the preferred fuel for heavy-duty vehicles. If this were the case, ChargePoint would likely lose most of the revenues from fleet customers. Another potential technology threat are e-fuels. E-fuels would require virtually zero R&D for car manufacturers, making them an attractive alternative to EVs if e-fuel efficiency were to improve.

Appendix A – Free Cash Flow Schedule

13 Free Cash Flow														
Free cash flow schedule	2020	2021	2022	2023	1	2	3	4	5	6	7	8	9	10
Add: EBIT (net of tax)		-91	-199	-256	-286	-236	-144	28	218	474	782	1,126	1,474	1,778
Add: D&A		10	16	25	27	41	52	61	84	103	118	193	253	301
Less: Capex		11	222	21	125	139	150	238	261	280	611	686	746	794
Less: increase in NWC		-21	-13	61	-154	-165	-187	-280	-262	-253	-251	-223	-168	-87
FCFF		-71	-391	-314	-230	-168	-55	131	303	550	540	857	1,149	1,373
Less: interest (net of tax)														
Less: repayment (issuance) of debt														
FCFE		-71	-391	-314	-230	-168	-55	131	303	550	540	857	1,149	1,373
PV of FCFF					-199	-126	-36	74	148	232	197	271	314	325

Appendix B – Income Statement Revenue Forecast

Income Statement	FY2020	FY2021	FY2022	FY2023	31/01/2024	31/01/2025	31/01/2026	31/01/2027	31/01/2028	31/01/2029	31/01/2030	31/01/2031	31/01/2032	31/01/2033
Revenue	144.5	146.5	241.0	468.1	618.8	1,241.9	2,101.0	3,456.5	4,851.1	6,324.9	7,932.6	9,555.6	11,036.4	12,199.3
<i>Networked charging systems</i>	101.0	91.9	173.9	363.6	463.6	942.7	1,615.9	2,692.9	3,827.9	4,864.3	5,942.2	6,966.8	7,825.7	8,406.3
<i>Subscriptions</i>	28.9	40.6	53.5	85.3	131.8	255.8	418.0	663.5	897.2	1,315.3	1,832.1	2,426.6	3,056.6	3,659.2
<i>Other</i>	14.6	14.0	13.6	19.2	23.5	43.4	67.2	100.1	126.0	145.3	158.4	162.1	154.1	133.8
Cost of revenue	126.5	113.5	187.5	382.2	502.0	1,000.5	1,680.7	2,744.8	3,823.2	4,888.6	6,012.1	7,100.1	8,038.4	8,708.2
<i>COST Networked charging systems</i>	105.9	87.1	147.3	318.6	412.8	830.0	1,406.5	2,317.1	3,255.3	4,088.1	4,934.6	5,715.7	6,342.2	6,728.6
<i>COST Subscriptions</i>	16.2	20.4	31.2	51.4	74.1	142.6	230.9	363.2	486.7	706.9	975.4	1,279.9	1,596.8	1,893.4
<i>COST Other</i>	4.3	6.1	9.0	12.1	15.1	28.0	43.3	64.5	81.2	93.6	102.1	104.5	99.4	86.2
Gross profit	18.0	32.9	53.5	85.9	116.8	241.3	420.3	711.7	1,027.9	1,436.3	1,920.6	2,455.4	2,998.1	3,491.1
Research and development	69.5	75.0	145.0	195.0	228.1	252.5	279.4	309.3	342.3	378.9	419.4	464.2	513.8	568.6
Sales and marketing	57.0	53.0	92.6	142.4	170.9	194.2	213.7	234.3	251.0	268.8	287.9	302.5	314.7	327.4
General and administrative	23.9	25.9	81.4	90.4	99.1	108.6	119.1	130.6	143.2	157.1	172.2	188.8	207.0	227.0
Total operating expenses	150.4	153.9	319.0	427.7	498.1	555.4	612.3	674.3	736.5	804.8	879.5	955.5	1,035.5	1,123.0
EBIT	132.4	121.0	265.4	341.8	381.2	314.0	192.0	37.5	291.3	631.5	1,041.1	1,500.0	1,962.6	2,368.0

US Revenue Forecast								
Year	Global Market Size (\$ bln)	US Market Share	US Market Size (\$ bln)	US Market Size growth	CHPT Market Share Gain	CHPT Rev Growth	CHPT US Market Share	CHPT rev US
2023	5.86	11.40%	0.67		2.00%	\$373,763,270.00	55.95%	\$373,763,270.00
2024	9.33	11.60%	1.08	62%	2.20%	65.57%	57.18%	\$618,848,983.77
2025	14.75	11.80%	1.74	61%	3.10%	65.80%	58.95%	\$1,026,071,776.80
2026	24.2	11.90%	2.88	65%	3.50%	71.25%	61.02%	\$1,757,140,106.53
2027	38.9	12.00%	4.67	62%	2.90%	66.80%	62.79%	\$2,930,827,692.13
2028	53.25	12.05%	6.42	37%	2.80%	41.31%	64.54%	\$4,141,514,752.08
European Revenue Forecast								
Year	Global Market Size (\$ bln)	EU Market Share	EU Market Size (\$ bln)	EU Market Size growth	CHPT Market Share Gain	CHPT Rev Growth	CHPT EU Market Share	CHPT rev eu
2023	5.86	26.50%	1.55		5.00%	\$90,100,000.00	5.80%	\$90,100,000.00
2024	9.33	24.46%	2.28	47%	6.00%	55.75%	6.15%	\$140,332,859.51
2025	14.75	22.45%	3.31	45%	6.00%	53.81%	6.52%	\$215,850,079.18
2026	24.2	20.66%	5	51%	5.50%	59.34%	6.88%	\$343,934,110.63
2027	38.9	18.71%	7.28	46%	5.00%	52.86%	7.22%	\$525,734,127.32
2028	53.25	17.74%	9.45	30%	4.00%	34.96%	7.51%	\$709,543,921.58

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