Trimble Inc. (TRMB)

HOLD: $ 49.26 (-4.9%)

Equity Research Division | 16th December 2023

Analysts

Riccardo D'Agata - Lead

riccardo.dagata@studbocconi.it

Dan-Arthur Coseru

danarthur.coseru@studbocconi.it

Anh Tho Vu

anh.vu2@studbocconi.it

Elisabetta Fabris

elisabetta.fabris@studbocconi.it

Giacomo Pietrosanti

giacomo.pietrosanti@studbocconi.it

Andrea Beretta

andrea_beretta@studbocconi.it

Supervisors

Luigi Savarese, Head of Equity Research

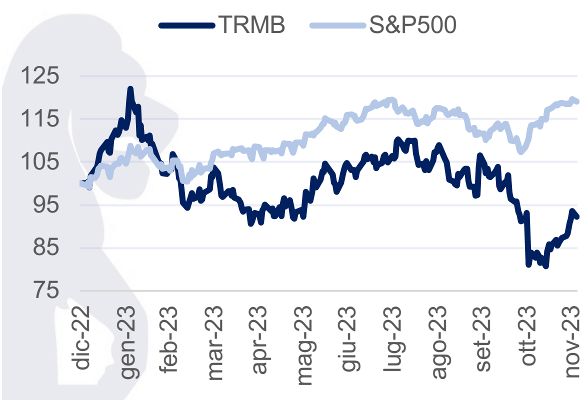
luigi.savarese@studbocconi.it

Tommaso Nocchi, Co-Head of Equity Research

tommaso.nocchi@studbocconi.it

Basic Information	
Last Closing Price	$ 51.77
Target Price	$ 49.26
+/- Potential	-4.9%
Bloomberg Ticker	TRMB: NASDAQ
GICS Sector	Software and Consulting
GICS Sub-Industry	Industry-Specific Software

1Y Cumulative Returns (re-based to 100)



Market Cap	12,880
Basic Shares O/S	248.77
52-Wk High	62.01
52-Wk Low	39.57
Fiscal Year End	30 Dec. 2022

($million)	FY19A	FY20A	FY21A	FY22A
Gross profit	1,781	1,755	2,035	2,106
EBITDA	634	670	820	812
EBIT	427	472	640	640
Net Income	514	390	493	450

Key Executives	
Steve W. Berglund	Executive Chairman
Robert G. Painter	President and CEO
David G. Barnes	Chief Financial Officer

Investment Thesis

Trimble, Inc. (TRMB) is strategically well-positioned within its core markets, benefiting from favorable macro trends such as the IIJA, IRA, CHIPS acts, the expanding e-commerce landscape, and the growth of GNSS applications. The company's pivot towards a software-centric model, away from traditional hardware sales, is anticipated to enhance profit margins, aligning more closely with industry peers at approximately 30%, and mitigate cyclicality through a subscription-based revenue structure.

While Trimble has demonstrated strong revenue and margin growth due to its strategic positioning, a comparative analysis indicates underperformance against the market growth, with occasional market share erosion, notably in sectors like Transportation. Furthermore, the company's presence in high-growth sectors, such as Geospatial, appears to be less robust, with only a 0.12% market share. However, we do identify promising opportunities in the Buildings & Infrastructure division within the United States, due to a strong capex boom driven by regulation (IRA, IIJA, CHIPS acts).

At the current valuation, we assess the risk-reward profile as reasonably balanced. Accordingly, we recommend a HOLD rating for Trimble, Inc.

Valuation

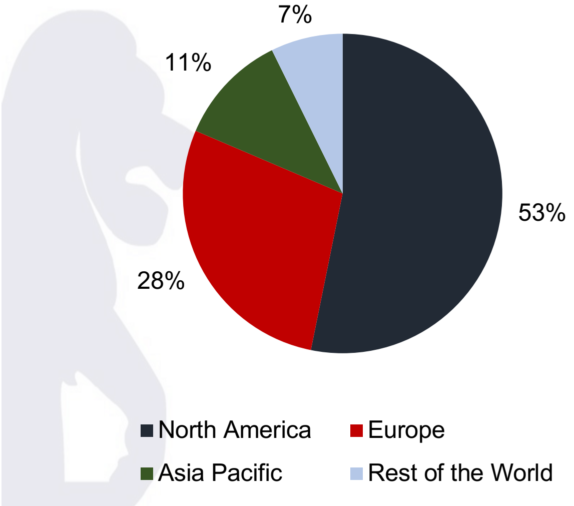
We are valuing Trimble using a 50/50 blend of intrinsic value (DCF) and relative valuation (FY24 P/E, EV/EBIT), arriving at a target price of $49.3, a 4.9% decrease from its last close price (16/12/2023).

Key Risks:

Upside risks: Higher market share gain than expected, stronger customer acquisition strategy, faster shift to software services.
Downside risks: Slower transition to Software, lower than expected performance in newly formed JV with AGCO Corporation, downturn in the US market, higher cost of debt.

Exhibit 1: Trimble's revenues are concentrated in the US…

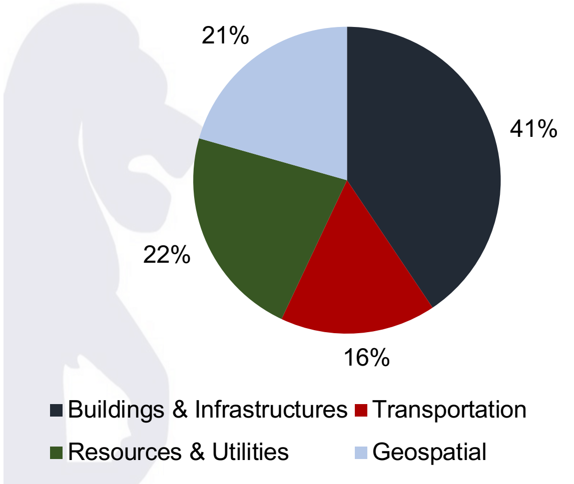
Revenue breakdown by Geography (FY2022)



Source: Company Filings

Exhibit 2: … with a large exposure to Buildings & Infr.

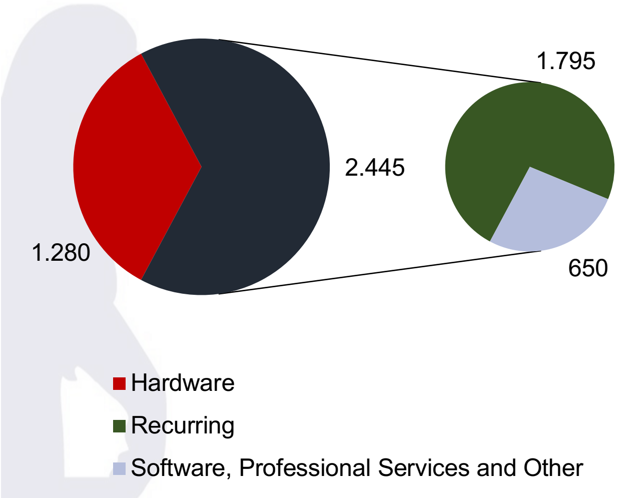
Revenue breakdown by Geography (FY2022)



Source: Company Filings

Exhibit 3: Trimble generates $2.5bn of software revenues, out of which 75% are recurring

Revenue breakdown by Product (TTM, in $million)



Source: Company Filings

Company Overview

Trimble Inc. [NASDAQ: TRMB] is a leading American technology solutions provider for office and mobile professionals in more than 125 countries. The company offers the integration of cutting-edge sensors, software applications, cloud platform services, and hardware to enhance the productivity and efficiency of customers' specific workflows. It has a large exposure to the North American and European markets (82% of revenues).

Revenues

Trimble's product offering can be split into four main segments, namely Buildings and Infrastructure, Geospatial, Resources and Utilities, and Transportation. In addition to a blend of software licensing and hardware sales, Trimble's revenue streams come from value-added services that include professional assistance such as training, consulting, and technical support.

Product Offering

Trimble generates revenues through the sale of hardware and software and services. The latter include recurring revenues, services and term licenses, and software and professional services, including perpetual licenses and other miscellaneous.

End Markets

Trimble primarily caters end-users and aftermarket, with more than 90% of its products targeting this customer segment. The remaining 10% is sold to original equipment manufacturers (OEMs), who integrate Trimble's technology into their own products.

Segment Descriptions

Buildings and Infrastructure: It's the largest segment in Trimble's portfolio, and provides software such as 3D for modeling, BIM for designing, and data sharing to track progress of work in real-time and ensure worker safety. The suite also includes applications for sub-contractors and construction trades such as steel, concrete, and mechanical.

Geospatial: The revenue comes from Surveying and Geospatial, field-based data collection systems and back-office software for data analysis, and Geographic Information Systems, which collects authoritative field data and integrates that data into GIS databases.

Resources and Utilities: The precision agriculture products and services consist of manual and automated navigation guidance and positioning systems such as GNSS satellite. For situations in which GNSS signals are insufficient, Trimble Positioning Services provides augmentation services with higher levels of precision and automation.

Transportation: Aiming at creating a connected supply chain and comprehensive transportation management, solutions encompass business intelligence and data analytics, supply chain visibility and final mile, navigation and routing, and predictive modeling. In addition to cloud-hosted solutions, applications are integrated directly into the customer's IT infrastructure.

Industry Outlook

Construction

According to Deloitte, in 2023 the construction industry experienced a 7% increase in nominal value added and a 6% increase in nominal gross output compared to the previous year. The third quarter of 2023 showed a steady upward trend in nominal construction spending, but there are concerns that much of the growth may be driven by price inflation rather than volume. The industry is facing challenges such as inflation, volatility in material prices, rising labor costs, a shortage of skilled labor, high interest rates, and tighter lending standards.

Looking ahead to 2024, there are many sources of optimism for the sector, especially in manufacturing, transportation infrastructure, and clean energy infrastructure. This optimism is fueled by funds from key legislation passed in 2021 and 2022, including the Infrastructure Investment and Jobs Act, the Inflation Reduction Act, and the CHIPS act. Construction confidence is high, with expectations for increased profit margins and staffing levels, particularly in the first half of 2024, according to the Associated Builders and Contractors (ABC).

Analyzing trends within the industry, we note a few relevant factors (both long-term and medium/short-term) for the industry:

1. **Sustainability (Long-term)**

The construction industry grapples with the challenge of prioritizing sustainability while adapting to market trends and environmental regulations. Buildings contribute significantly to global energy consumption and emissions, prompting a shift towards efficient materials and sustainable practices. E&C firms adopt strategies such as reducing embodied carbon, passive design, and energy-efficient equipment to accelerate decarbonization, aligning with government initiatives like the Federal Buy Clean Initiative and the Inflation Reduction Act.

Efficiency is crucial for sustainable construction, and E&C firms focus on innovative materials and passive design techniques. Additionally, resilient design gains importance due to increased severe weather events. The industry anticipates the development of advanced materials to meet sustainability and resilience goals.

E&C companies prioritize sustainable design tactics early in the conceptual phase, incorporating circular economy principles. Technologies like generative design, simulations, and BIM enable companies to model a building's performance and reduce project expenses and risks. Integration of BIM, IoT sensors, data analytics, and energy optimization techniques contributes to emission reduction in the construction industry. ***With Trimble's strong Buildings & Infrastructure division offering those services, we note this as a tailwind for the revenues.***

2. **Digitalization & Generative AI (Long-term)**

The engineering and construction (E&C) industry has been gradually integrating digital technologies to enhance processes. The emergence of generative AI, a subset of artificial intelligence, is poised to bring significant improvements in project design, schedule optimization, cost controls, site inspection, safety, compliance, and quality assurance. Industry leaders are prioritizing technology investments to address workforce, cost, and supply chain challenges.

Generative AI is gaining attention, with E&C firms and construction technology companies actively exploring its potential. However, concerns around identifying suitable use cases, cyber risk, data security, and trust need to be addressed. Deloitte's survey highlights that 55% of chief operating officers see identifying the right use cases as a major challenge.

Potential use cases for generative AI in 2024 and beyond include cost reduction, enhanced building performance and safety, and greater sustainability. While experimenting with generative AI, companies can also leverage other emerging technologies such as drones, autonomous guided vehicles, robotics, BIM, and IoT sensors to drive value realization in construction processes. ***Trimble has been integrating AI into Buildings & Infrastructure applications (e.g.: SiteVision) and has filed numerous patents within this area, as mentioned in their 10-K report. We view this trend also as a potential tailwind for the company.***

3. **Economic Uncertainty (Short to Medium Term)**

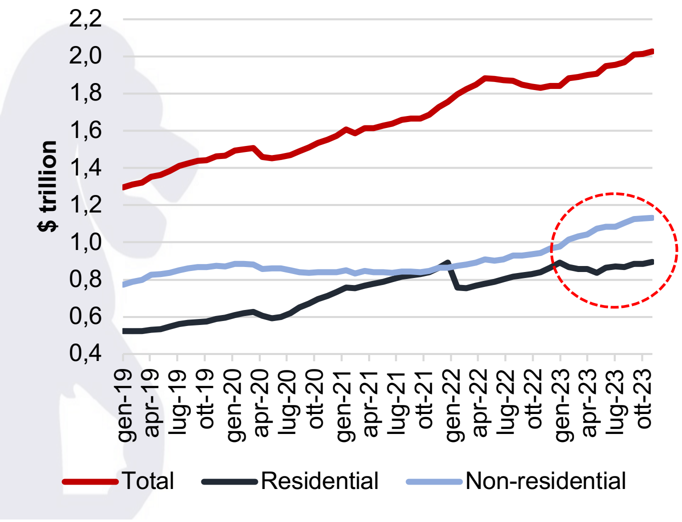
The construction industry is navigating economic uncertainties marked by rising interest rates and high inflation. The federal funds interest rate reached a 22-year high in September 2023 at 5.3%, triggering concerns of a potential economic downturn. Total construction spending increased by 7.4% to $1.98 trillion in August 2023, driven mainly by nonresidential construction, which saw a 17.6% YoY increase.

The nonresidential segment is expected to grow steadily, fueled by federal funds in chip fabrication plants, biotechnology facilities, EV battery factories, and clean energy projects. Manufacturing construction spending had a significant annual increase of 65.5% in August 2023, likely to continue in 2024 with funding from the CHIPS Act and IRA/IIJA.

Despite public funds flowing in, market uncertainty may lead to delays, fluctuating margins, and increased financing costs in the nonresidential segment. Backlogs in this segment, vital for E&C firms during economic uncertainties, increased to 9.2 months in August 2023. The industry may see increased mergers and acquisitions (M&A) activity as companies aim for strategic expansion or cost efficiency. Between October 2022 and September 2023, 184 M&A deals were recorded, totaling $3.7 billion, with an additional 84 deals by private equity investors worth $4.5 billion. ***We note Trimble has both headwinds and tailwinds from the current economic situation. In particular, we see federal funds (CHIPS/IRA/IIJA) as strong tailwinds, while the current interest rate environment and recession fears as a headwind. As Goldman Sachs predicts the chance of a US recession to be 15% with the economy continuing to outperform vs consensus and inflation falling in 2024, we expect to see the tailwind prevailing here and demand to continue to be strong for Trimble's offerings.***

Exhibit 4: 2023 has seen US total construction spending rise, driven by non-residential capex (IRA/IIJA tailwind)

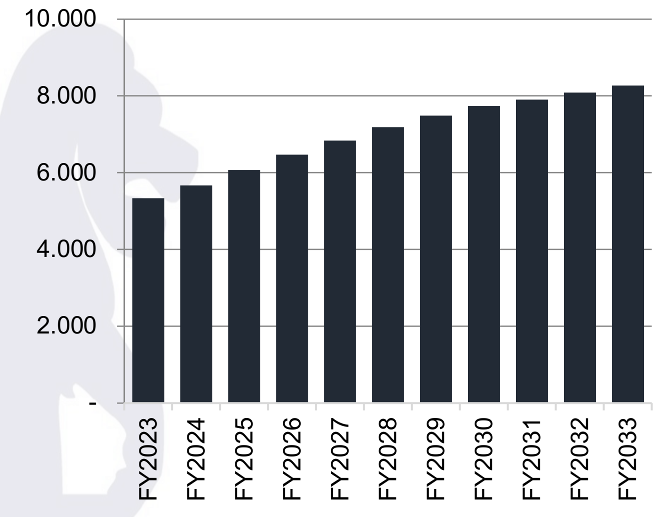
Total US Construction spending ($ trillion)



Source: Minerva Investment Management Society, US Census Bureau

Exhibit 5: We expect this capex boom to continue and drive growth into the US construction software market

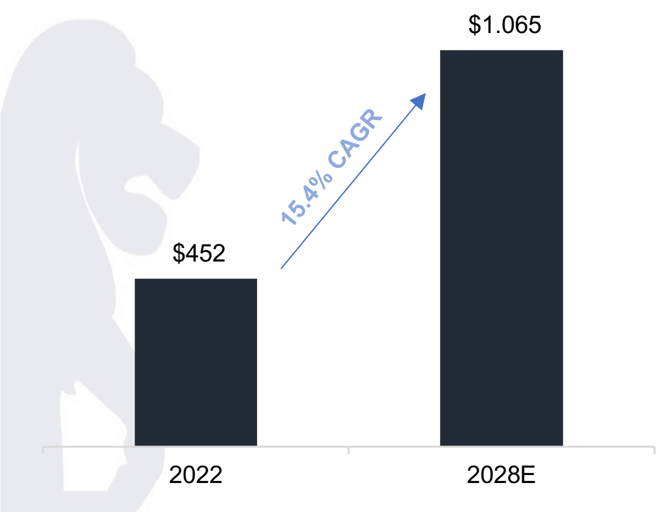
Construction Software Market (US$ millions)



Source: Minerva Investment Management Society, Statista

Exhibit 6: According to our estimates, the global geospatial market will reach $1tn by 2028

Global Geospatial Industry ($ billions)



Source: GW Consulting, Minerva Investment Management Society

Geospatial

The geospatial industry is a rapidly growing sector that encompasses a wide range of technologies and applications. Trimble, as a leading provider of geospatial solutions, offers a comprehensive suite of products and services that cater to the needs of various industries. The company's offerings include hardware, software, and services that enable users to collect, manage, and analyze geospatial data.

We note that the geospatial industry is expected to grow at a rapid pace in the coming years. According to a report by GW Consulting, the global geospatial market is expected to grow at a CAGR of 14.6% between 2021 and 2025, reaching a market value of $680bn. The growth of the industry is being driven by several factors, including the increasing demand for geospatial data in various applications such as urban planning (Digital Twins), disaster management, and environmental monitoring.

However, the industry is also facing several challenges. One of the major challenges is the lack of standardization in data formats and protocols. This makes it difficult for different systems to communicate with each other and share data. ***We note here that Trimble's offerings in terms of data integration can be useful in facing this challenge.***

Another challenge is the increasing competition in the market, which is leading to price pressures and margin erosion for some players. ***Here, we note a potential headwind for Trimble, as it has experienced market share losses over time.***

Despite this, the geospatial industry is expected to continue its growth trajectory in the coming years. The industry is likely to benefit from the increasing adoption of new technologies such as artificial intelligence, machine learning, and the Internet of Things (IoT). These technologies are expected to drive innovation and create new opportunities for players in the industry. Some examples include:

Digital Twins: Emerging as a key trend, Digital Twins involve creating digital replicas of physical spaces enriched with non-spatial data for enhanced digital support in business and community operations.

Fusion of Sensors: Utilizing hybrid positioning solutions, the fusion of GNSS with technologies like MEMs, IMUs, LiDAR, and optical data provides positioning accuracy in the millimeter or centimeter range. This is particularly crucial for applications like assisted and autonomous driving.

LiDAR: Central to the development of digital cities, LiDAR technology enables efficient and cost-effective 3D mapping, supporting advanced driver assistance systems and autonomous vehicles. It significantly contributes to safety, sustainability, and efficiency in motion.

PNT Technology: Addressing vulnerabilities in GPS, Position, Navigation, and Timing (PNT) technology plays a vital role in ensuring precise vertical location, especially in urban environments with multi-level structures.

Precision Agriculture

Precision Agriculture (PA) represents a modern and transformative approach to farming, leveraging technology to elevate farm management, optimize resource utilization, and enhance overall performance in both crop and livestock farming. This technology is poised to significantly impact the agricultural industry, offering promising investment opportunities within the sector.

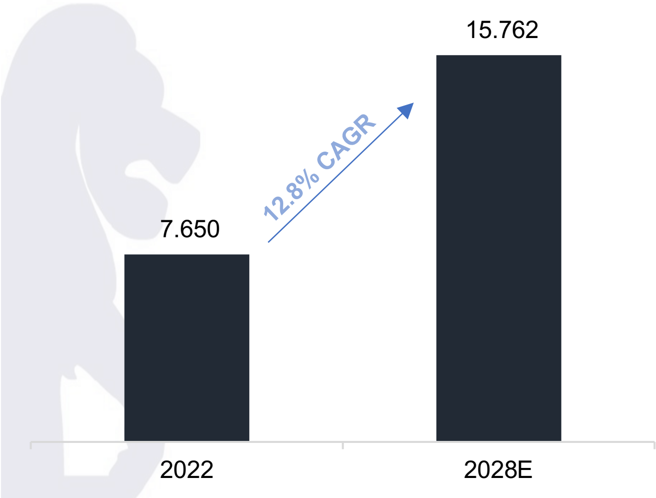
Within our industry report, we noted that the sector is poised to grow at a CAGR of 12%, from $7.5bn in 2022 to $20.5bn in 2031. We also see strong investment interest from both the public side and the private side. For example, Horizon Europe, allocating €10bn, focuses on research and innovation in the domains of food, farming, and rural development. Also, in the United States, significant financial backing is provided to encourage innovation and technology adoption in agriculture. The Farm Bill of 2018, with an allocation of $428 billion over 5 years, supports advancements in the field. Moreover, we also note a significant increase in investments from sovereign wealth funds in agritech, forestry, and renewable sectors demonstrating a keen interest in promoting smart farming. Additionally, aging infrastructure provides opportunities for technology companies and service providers to offer upgrades and modernization solutions. This includes the replacement of outdated sensors, connectivity hardware, and control systems with more advanced and efficient alternatives. There is a growing prevalence of digital tools and sensors, including technologies like satellite remote sensing, UAV imaging systems, Internet of Things (IoT) sensors, and ground-based robotic systems. These tools are rapidly gaining popularity for gathering vast amounts of detailed data related to crops, livestock, the environment, and farm machinery, both in terms of time and location. With the advancements in big data analysis and artificial intelligence, this digital information can now be effectively utilized to oversee production, enhance efficiency, and promote sustainability in agriculture. As the global precision agriculture market is expecting steady growth until 2031, the subsequent demand pull-forward for infrastructure follows suit.

We expect all of those factors to act as tailwinds for Trimble, considering its product offering encompassing GNSS devices.

There are also a few headwinds. In particular, there are connectivity challenges: particularly insufficient internet access in rural areas pose a barrier to the widespread adoption of precision agriculture techniques. Additionally, barriers for smallholders, including high costs and a lack of digital education, present challenges in embracing precision agriculture techniques. This is a particularly big issue in Europe, where there are a large number of small farms clustered in countries with low GDP per capita. Education and age significantly impact the adoption of new technologies in precision agriculture, presenting notable challenges for the industry. Older farmers tend to be more risk-averse towards emerging technologies, and the average age of farmers in the United States is over 57.5, having increased by 1.2 years from 2012, according to the National Agriculture Census. In Europe, a majority of farmers are aged 55 or above, with only approximately 6.9% being younger than 35. Moreover, nearly one-third of all farmers surpass the typical retirement age of 65.

Exhibit 7: According to our estimates, the global precision agriculture market will reach $15.8 billion by 2028

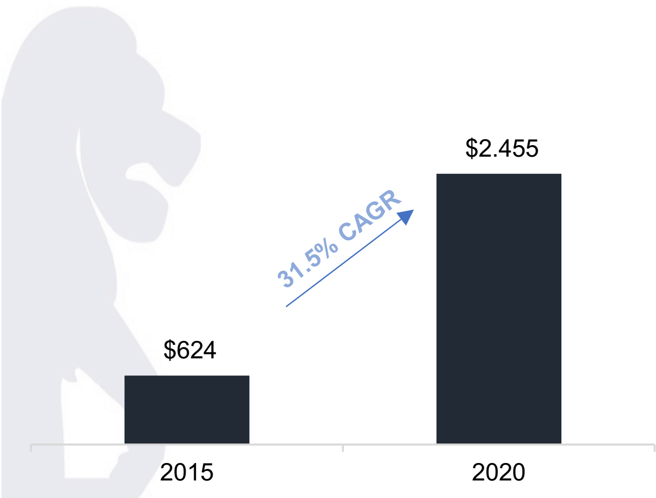
Global Precision Agriculture Industry ($ millions)



Source: Minerva Investment Management Society, JEME, EUSPA, Statista

Exhibit 8: Besides public investments, sovereign wealth fund interest has also driven growth in this sector

Sovereign Wealth Fund Investments in PA ($ million)



Source: Minerva Investment Management Society, JEME, IFSWF

The agricultural sector also faces a demographic challenge, with a lower proportion of young individuals compared to other economic sectors in Europe, and the number of young people engaged in farming is declining at a faster rate than the older farming population.

Furthermore, there is a discernible correlation between higher education levels and a greater openness to innovation. Farmers with advanced education are generally more receptive to adopting new technologies, as evidenced in various contexts such as forward pricing methods, microcomputer adoption, internet usage, and reduced tillage practices. However, only 38% of farmers in the U.S. hold a bachelor's degree, and educational levels in the European agricultural workforce lag behind national averages, posing a barrier to the smooth adoption of technology in the sector.

As the majority of Trimble's revenues from R&U are in Europe, we note those headwinds as potentially impacting the company's ability to materialize their opportunities within this sector.

Transportation

The Global Logistics Industry market size soared $10.41 trillion in 2022 and is expected to reach $14.08 trillion by 2028, growing with a CAGR of 5.2% during the forecast period 2022-2028 (Statista). Particularly, the transport and logistics sector will see growth of 4% in 2023 and 3% in 2024 (ING). Retail giants and cloud service providers are expected to emerge as leaders to pursue the profit stream, highlighting the significance of well-managed data as a key differentiator.

A few key factors are the following:

1. **Rising Demand for Delivery**

The global e-commerce market is expected to reach $6.3 trillion in 2023. This growth has surged demand for efficient last-mile delivery services; in fact, the last-mile delivery market is expected to expand at a CAGR of 20.6% from 2022 to 2030. Presently, the final mile of a good's transport represents 53% of the cost of transportation. While this translates to a more convenient shopping experience for consumers, it signifies a mounting expense for businesses and logistics firms. This necessitates the adoption of more effective methods leveraging technology like AI, autonomous vehicles, and crowdsourcing. Trimble's enterprise transportation management system automates business processes spanning the entire surface transportation lifecycle for shippers, carriers and intermediaries, delivering visibility, control, and decision support for the intricate relationships and complex processes involved in the movement of freight.

2. **Governmental Regulations and Environmentally Friendly Trends**

In May 2022, the Surface Transportation Board issued a decision requiring detailed weekly reports on service performance. ***TRIMBLE's products ensure that data is stored and analyzed, thus meeting the regulations.***

In Europe, the European emissions trading system is initiating carbon pricing for aviation and shipping. Furthermore, a recent survey of more than 8,000 consumers across Europe, the U.S. and Canada, revealed a consumer preference for retailers offering eco-friendly delivery options that reduce environmental impact and transportation costs. In fact, over 50% of respondents indicated they were "quite/very interested" in environmentally friendly delivery methods, with 54% willing to accept longer lead times for eco-friendly deliveries. ***Trimble is actively working towards this initiative with innovations of greater fuel efficiency and reduced carbon emissions.***

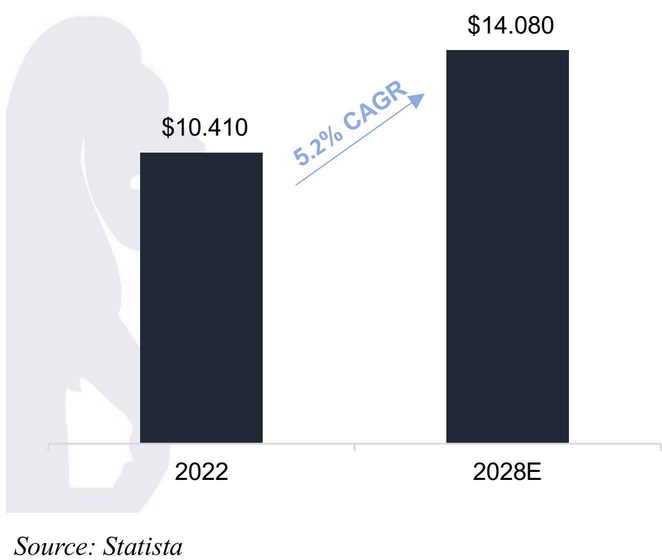
3. **Supply Chain Disruption and The Global Trade Challenges**

The supply shock from the pandemic and the impact of the war in Ukraine have left their mark on various parts of the transport and logistics sector. According to Barclays, manufacturers struggle with supply chain disruptions in obtaining key components and materials from China – a post-pandemic hangover – leading to increased expenses. Additionally, raw materials like oil, wheat, and fertilizers are in short supply due to the war in Ukraine. According to the Chain Reaction report, 70% of UK manufacturers are holding incomplete items they cannot sell in their warehouses because key parts or materials are unavailable – goods worth an incredible £23.6bn. ***This disruption may negatively impact demand for Trimble's products.***

The WTO forecasts a sharp slowdown in world trade to 1% in 2023 from 3.4%, particularly affecting intermediate logistics players in sea freight due to plummeting container rates. Spot rates on the China-Europe trade were as much as 80% lower in the first quarter of 2023 on a yearly basis. Meanwhile, as advanced economies including the US and the EU are struggling to avoid recession, China's economy has bounced back after its post-pandemic re-opening, and India is returning to trend growth. ***With a decrease from 12% revenue coming from the Asia-Pacific region in 2021 to 11% in 2022, we note that Trimble is not exploiting the fastest-growing segment effectively.***

Exhibit 9: We expect the global logistics industry to grow at a 5.2% CAGR

Global Logistics Industry ($ billions)



Source: Statista

Porter's Five Forces

Rivalry among competitors: high. The industry in which the company operates is characterized by fierce competition which depends on several factors, including pricing strategy, quality and performance of the services offered, the level of customer service and the development of new technology. However, the most important driver of competitive advantage consists in offering new products with differentiated features and that best fit the customer's needs compared to the currently available products. This is why all the major players, including Trimble, invest heavily in R&D to introduce products, especially software and services, with better features. This contributes to high exit barriers. Furthermore, Trimble operates in a sector characterized by a high level of concentration: in all the four business segments in which the company operates, the first 5 companies account for most of the market share (>60%). ***Within each of the markets, Trimble faces direct competition from other GNSS, software, optical, and laser suppliers, especially from other US-based firms and China. Some of its main competitors include Hexagon AB, Autodesk Inc, Topcon Corp and Raven Industries.***

Potential of new entrants within the industry: moderate. Investing in patents and R&D, as showcased by Trimble's $540 million expenditure in 2022, remains pivotal to uphold technological supremacy and establish barriers to entry within the industrial tech domain. Escalating competition may witness nimble entrants, notably from markets like China, swiftly adapting to evolving technologies and customer demands, uncharted by the company. This prospect could empower new contenders to surpass entry impediments, leveraging technological or geographical advantages to secure market share and outmaneuver rivals by delivering cost-efficient services. Such dynamics underscore the sector's volatility, necessitating continual innovation to counter emerging threats and sustain competitiveness. ***Trimble's advantage lies in its highly diversified and customized offer, as well as its excellent initial positioning. Being one of the main players in this industry in terms of size and timing gives the firm a considerable competitive advantage, able to attract customers also thanks to its international and multi-sector reputation.***

Threats of Substitute Products: high. Such a growing sector, in which the technological component is the main driver, is undoubtedly subject to the risk of developing alternative products that can improve customer service or meet customer demand more satisfactorily. Trimble's products, which commonly use GNSS for basic location information, may be subject to competition from alternative location technologies such as simultaneous location and mapping technology. Their integrated hardware and software products may be susceptible to increasing competition from mass market devices of the kind as smartphones and tablets used in conjunction with relatively inexpensive applications, which have not been heavily used for commercial applications in the past. Furthermore, over the past year, due to extended component lead times, they made binding commitments over a longer horizon for certain components. This could make the company more constrained in the use of certain parts and therefore less flexible in developing new solutions. ***On the other hand, the excellent performance in terms of ESG and the first-mover advantage, make Trimble less subject to regulatory risks and more attractive from a sustainability point of view, as well as being able to identify potential changes in customer demand more readily.***

Bargaining Power of Suppliers: moderate. Trimble's suppliers include components manufacturers, hardware and software providers and raw material suppliers. Trimble relies on a limited number of manufacturers for the manufacture and assembly of certain products and suppliers for key components. Hardware manufacturing partners, including Jabil and Flex Ltd, are responsible for the procurement of materials, assembly and testing, whereas Trimble is responsible for part of the design process. Similarly, Trimble licenses software, technology and IP underlying some of its software services from third parties and developed a network of strategic partnerships with some of the prominent technology firms including AWS and Microsoft, limiting their bargaining power. Finally, the bargaining power of raw material suppliers is low due to the large availability of suppliers from all over the globe and the standardization of the materials required by Trimble. ***The company is exposed, however, to the fluctuation of commodity prices and supply-chain disruptions related to the shortage of key components for hardware products, for example semiconductors, often driven by major macroeconomic events. In this regard, Trimble has limited supplier options with substantial bargaining power.***

Power of customers: low. In terms of customer power, due to the high need for customization in services related to industrial technology, the latter is moderately significant. Nevertheless, Trimble adopts a strategy focused on diversifying its offering in terms of geography and sector, with the aim of moving into sectors with high growth rates, in addition to those already covered. This ensures that the company is very capable of offering tailored services to customers by industry and activity and, above all, broadening the potential audience of customers it can reach, thus reducing their power. Furthermore, Trimble's customer base is composed of a multitude of different players, none of which can significantly impact the company's turnover compared to the others. ***From this, we deduce that no customer particularly affects the company's performance and thus can exercise a high degree of bargaining power. This is evidenced by the events of 2022. In response to the price increase of the past year, Trimble decided to raise the prices of its services offered to clients, causing the increased costs incurred to fall largely on the clientele through increased tariffs. Despite this, the turnover for 2022 did not drop.***

Tailwinds	Headwinds
• Highly diversified and customized offer • Excellent initial positioning • ESG First-Mover Advantage • High growth rates markets • Customer base is composed of a multitude of different players • Low bargaining power of suppliers	• Need to invest heavily in R&D • High level of concentration • Increasing competition from mass market devices • Need to quickly adapt to changes in customer preference • Exposed to the fluctuation of commodity prices and supply-chain disruptions

Financial Analysis

Profitability

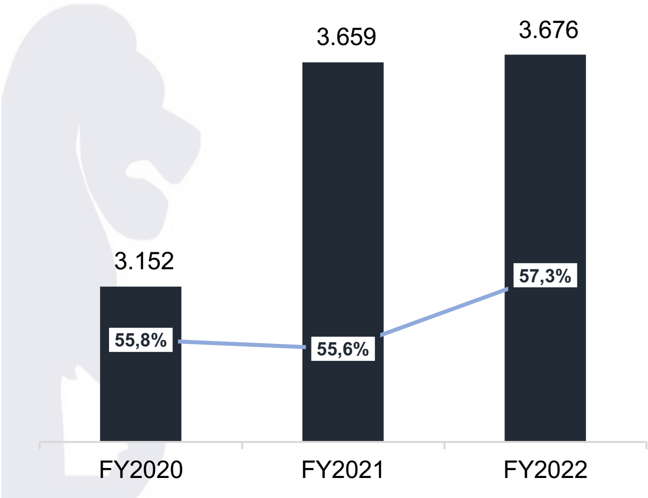
Trimble shows seasonality in its business as its revenues mainly come from construction projects and agriculture and the company operates primarily in the Northern hemisphere. Consequently, its sales volumes are strongly affected by weather conditions, mainly due to the impact of the cold season on construction timelines.

In particular, TRMB registers highest revenues for the Buildings and Infrastructure Segment in early spring, while the Resources and Utilities revenue is highest in the first quarter, followed by the second quarter, reflecting buying in anticipation of the spring planting season in the Northern hemisphere. However, since the company has been moving towards increased dependence on subscription revenue (+16% in FY2022), it has been experiencing less seasonality.

Overall, revenue grew at a 3.41% CAGR over the past 5 years, while net profit outperformed the latter by more than 6% (9.7% CAGR over the past 5 years). Gross margin is at 57%, a further increase from the previous year's 56%. TRMB's higher focus on software and subscription revenue enables the company to outperform the peers' median gross margin of 42.5%.

Exhibit 10: Trimble's Gross margin sat at around 56-57% between FY2020 and FY2022

Trimble Revenue ($ million) and Gross Margin (%)



Source: Minerva Investment Management Society

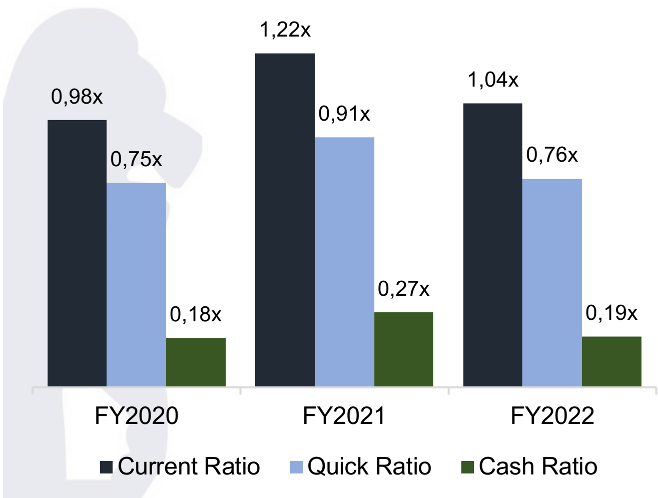
The YoY improvement has been caused by increased bargaining power with suppliers and economies of scale arising from the natural growth of the company, as well as a favorable inflation disbalance arising from long-term contracts with suppliers which were stipulated before the rise in inflation rates expectations, while prices are inelastic and adjusted more easily to the new inflationary environment, thus improving gross margins.

Further, net margin sits at roughly 12.2%, a slight decrease from the previous year's figure of 13.5% but still in line with its peers. We note that Trimble vastly outperforms its peers when it comes to gross margins but performs in line with them when it comes to net margin, this is due to higher relative operating expenses, in particular the company's R&D costs as a percentage of revenue are well above its comparables' figure.

This is in line with the company's strategic technological shift from hardware-driven point solutions to integrated work process solutions by developing domain expertise and heavily reinvesting in research and innovation. Further, as this R&D gets closer to materializing, the company will capitalize it, resulting in an improvement in the net margin.

Exhibit 11: Trimble's liquidity appears stable

Trimble Current, Quick & Cash Ratios (2020-2022)



Source: Minerva Investment Management Society

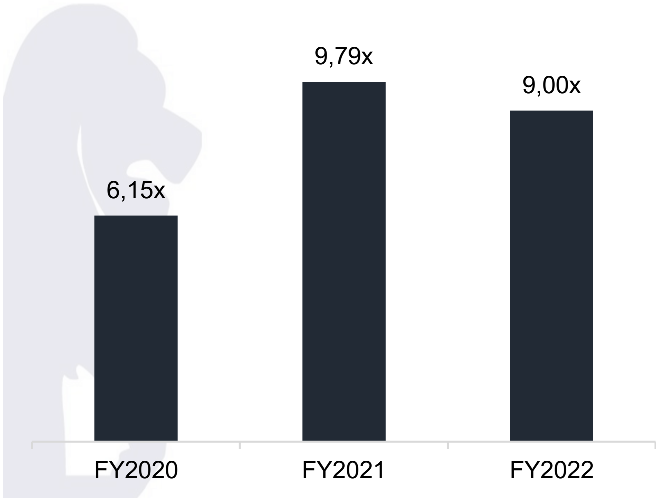
Liquidity

Taking a closer look at its liquidity, its current ratio in the analyzed period has been above 1, and has been increasing in 2022, signaling a greater amount of current assets compared to current liabilities.

The company quick ratio, which shows the ability to pay its current liabilities without needing to sell inventory or obtain additional financing, has been slightly below 1 for the analyzed period. However, the 2023 LTM figures have been showing signs of improvement and have been consistently greater than 1.

Exhibit 12: Trimble has had a solid 9x Interest Coverage Ratio in FY2022

Trimble Interest Coverage Ratio (2020-2022)



Source: Minerva Investment Management Society

Exhibit 13: Trimble's Days Inventory increased due to a strategy shift towards a building a dealer network

Trimble Cash Conversion Cycle Calculations (2020-2022)

	FY2020	FY2021	FY2022
DIO	76	71	86
DSO	71	62	63
DPO	38	36	42
CCC	**109**	**97**	**107**

Source: Minerva Investment Management Society

Lastly, the cash ratio, which measures its ability to cover its short-term obligations using only cash and cash equivalents, has historically been considerably below one, signaling the company's inability to cover all short-term debt and still have cash remaining. Although the recent low figure is explained by the company's latest acquisitions, investors should be on the lookout for an improvement in this metric.

Solvency

In order to assess Trimble's ability to sustain its debt obligations, we decided to look at its Interest Coverage Ratio (ICR) and Net Debt-to-EBITDA. In recent quarters, we have seen an increase in Net Debt-to-EBITDA caused by a substantial increase in total debt due to the Transporeon acquisition.

While it is true that TRMB's ratio is higher than its competitors, we must also consider that the company is going through a strategic shift from hardware to software which requires significant R&D investments and acquisitions that are necessarily going to be at least partially debt funded. Additionally, Trimble is finalizing a JV with AGCO which will result in net proceeds of $1.5bn. The company has announced that it will use $1.bn of this to repay existing debt and the remaining $400mn to buy back shares. This should reduce Net Debt-to-EBITDA considerably. Investors should monitor the evolution of this ratio, nonetheless.

Although the ICR was at a healthy 9.00x in FY2022, it has decreased to 2.2x over the past quarters due to macroeconomic conditions, namely increased cost of borrowing, as Trimble has a significant portion of debt that is variable rate, as well as increased borrowing in connection with recent acquisitions. This uncertainty may limit Trimble's ability to access cheap funding and take on more debt in the near future, potentially limiting strategic acquisitions.

Cash Conversion Cycle

The Cash Conversion Cycle (CCC) for Trimble is calculated using three key metrics: Days Sales Outstanding (DSO), Days of Inventory Outstanding (DIO), and Day Payables Outstanding (DPO). The CCC formula is employed to assess a company's working capital management efficiency. A shorter cash conversion cycle indicates that the company is more adept at selling inventories, recovering cash from sales, and paying suppliers. Moreover, a shorter CCC has a positive influence on the company's cash flows due to the increased availability of cash.

In the case of TRMB, DPO values historically oscillate around 37, however, this value grew to 42 in 2022. Inventory days have been around 74 over the past 5 years. In FY2022, however, this figure has increased to 86 due to a strategic shift by TRMB, which entails no longer supplying aftermarket precision agriculture products to CNH for resale through the CNH dealer network, but doing so directly, further building out an independent dealer network to ensure better access, service, and support for customers as part of the Connect and Scale strategy. We expect this effect to be temporary and to benefit Trimble in the medium-to-long term. Finally, The DSO remains stable around 63. The DSO figure is consistent with a company whose customer base is mainly composed of large businesses and the government.

The overall cash conversion cycle: after a significant increase to 107 in FY2022, the LTM CCC figure has shown remarkable improvement with a gradual decrease to 87 propelled by a bettering in all three DSO, DPO, and DIO. Despite this decreasing trend might signal an improvement in efficiency, investors should track this key metric carefully in the coming years.

Valuation

Our analysis followed two main approaches:

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

WACC

WACC Calculations	
Cost of Equity	11.3%
Total Debt 2023	3,101
Total Equity 2023	11,780
E/(D+E)	79%
Cost of Debt	5.1%
D/(D+E)	21%
Tax Rate	21.0%
WACC	**9.8%**

Cost of Equity - CAPM	
Risk-Free Rate (10Y T)	3.7%
Beta (5Y monthly)	1.53
ERP (Damodaran US)	5.0%
Cost of Equity	**11.3%**

Risk Free Rate	
Current 10Y T (assumed top level)	4.3%
LT Assumption	3.0%
Risk-Free Rate	**3.7%**

Cost of Debt - Credit Rating Approach	
Risk-Free Rate	3.7%
TRMB Credit Rating	BBB-
Spread onBBB- (ICE BofA OAS)	1.4%
Cost of Debt	**5.1%**

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 credit spread associated with the company's bonds to an average of the current yield on 10-yr Treasury Bonds and our long-term assumption of this figure. The spread was estimated using ICE BofA OAS Index for BBB rated corporate bonds, resulting in a cost of debt equal to 4.8%.

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 are displayed below, along with the respective assumptions.

WACC (9.8%)

- Risk-Free Rate: 3.7% [Average of the current Yield on 10-Year US Treasuries and our assumptions for the long-term level of interest rates across the forecast horizon]
- Equity Risk Premium ERP: 5.00% [Damodaran]
- Beta: 1.53 [estimated through regression analysis 5Y monthly (S&P 500 vs TRMB)]
- D/E ratio: 0.26 [Calculated using the market value of equity and debt]

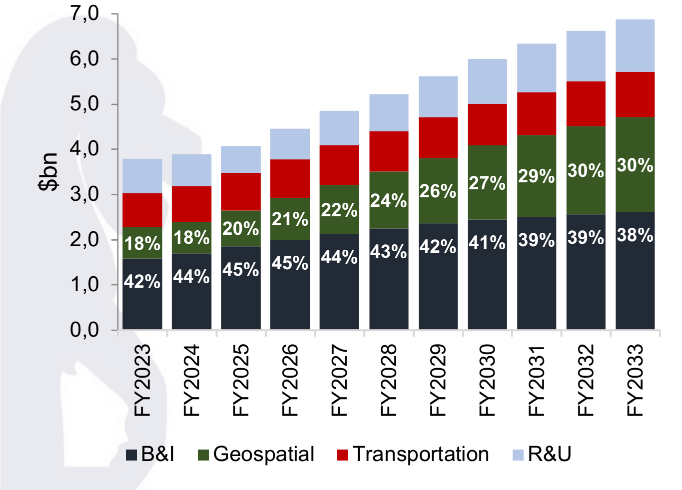
DCF Valuation

To project revenue assumptions, we first analyzed the evolution of the revenues by segments. By analyzing the end markets of Trimble's value-add products, we projected potential demand and market share accretion/dilution for the company up to 2033.

Looking at Buildings & Infrastructure, we note that, in FY2022, 63% of revenues were made in the US, followed by Europe (23%) and APAC (13%). This overexposure to the US market will act as a revenue driver for Trimble, as the US construction industry is poised to benefit from recent policies such as the

Exhibit 14: We expect that B&I and Geospatial will account for most of the revenues

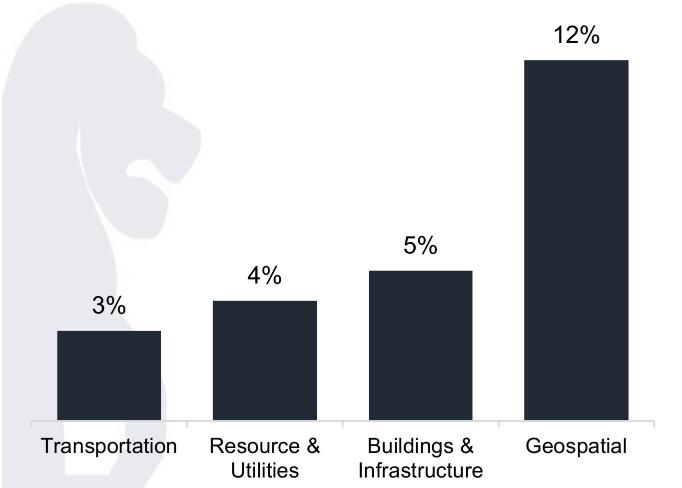
Revenue growth and split by segment over time



Source: Minerva Investment Management Society

Exhibit 15: The geospatial segment is forecasted to expand at the fastest rate until 2033

CAGR across all segments (FY2023-FY2033)



Source: Minerva Investment Management Society

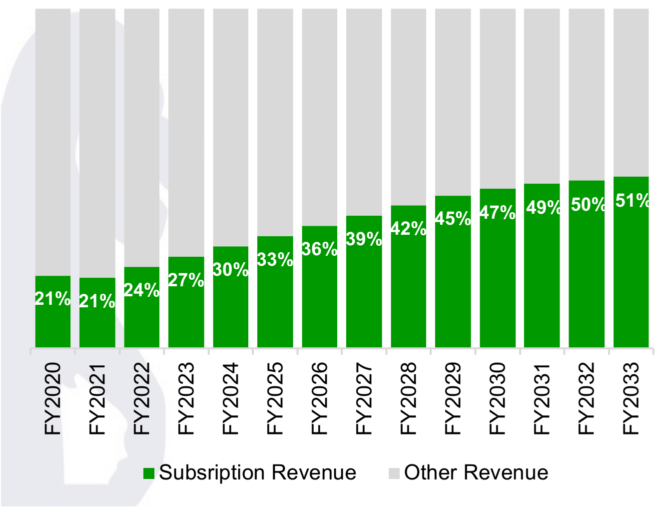
IIJA, the CHIPS act, and the IRA. In particular, we estimated a 9% CAGR from 2023 through 2028 for the US market, with a long-term conversion to the GDP rate (for conservativism). We expect (similar to previous periods FY2021-FY2023) for Trimble to overperform this growth, while at the same time converging to 1-to-1 with the market growth as the terminal period approaches, leading to a 3pp market share accretion over the period. EU, compared to Northern America, has been lagging in sector growth, with a contraction in FY2022 by 4%. While growth has recovered in FY2023, we expect it to lag the US over the forecast period due to the absence of IRA/IIJA/CHIPS – like tailwinds, with a 3% CAGR to FY2028, followed by a convergence to long-term GDP growth. During previous years, Trimble has actually underperformed the growth of the software market, and our view is that the performance will not improve drastically, with the company's market share remaining flat over the forecast period. In APAC, potentially the fastest growing region, we note that Trimble has not been capitalizing on this trend with significant underperformance in revenue vs sector growth (4pp in 2021, 2pp in 2021, 4 pp in 2023) and we expect this to continue over the forecast period. Therefore, our result for the whole division is a CAGR of 5%, with revenues growing from $1.6bn in 2023, to $2.3bn in 2028, and converging to $2.6bn in 2033.

Moving to Transportation, we observe again that in 2022 most revenues came from the US (78%), followed by Europe (13%) and APAC (5%). Sales in this segment have been declining since 2018, negatively impacted by the restriction and disruption to transportation due to COVID and divestitures. The outlook for Trimble's revenues in the transportation segment is particularly promising in Europe, as the company is expected to consolidate its position in the region thanks to the recent acquisition of Transporeon. This growth is anticipated to begin in 2023, with the share of European revenues doubling within this segment, and will continue until 2033. We are also expecting Trimble to gain a few percentage points of EU market share driven by synergies resulting from the acquisition. Similarly to B&I, APAC is seen to potentially be the fastest growing market, but Trimble has been struggling to keep up with the growth on this segment. Overall, since entry barriers are not particularly high, and the fact that Trimble has been struggling to compete in the fastest growing market, we expect the company to steadily lose global market share until 2033, despite the European market and the potential strong position in the US, driven by the fast growth of the e-commerce sector. We expect revenues to grow at a CAGR of 3%, moving from $745mn in 2023 to $889mn in 2028, eventually reaching $1.01bn in 2033.

Regarding the Resource & Utilities segment, we note that, from a geographical perspective, a significant portion of the revenue comes from Europe (46%), followed by North America (28%), and finally APAC (6%). This sector has proven to be the most resilient during the Covid pandemic, recording a double-digit average growth between 2018 and 2022 globally. To estimate future sales levels, we've adopted a top-down approach, estimating the growth and market size of the R&U sector to then calculate Trimble's market share and expected sales. Looking at the market, we expect it to grow at a strong CAGR of 13.7% until 2028, increasing from a value of $7.6bn to $15.8bn, then moving to a 9.2% growth rate until 2031, reaching a size of $20.5bn. Subsequently, we forecast the CAGR to decrease by 50% each year, tending towards 2.3%, in line with inflation rate

Exhibit 16: We expect the company to focus towards a software-subscription based model...

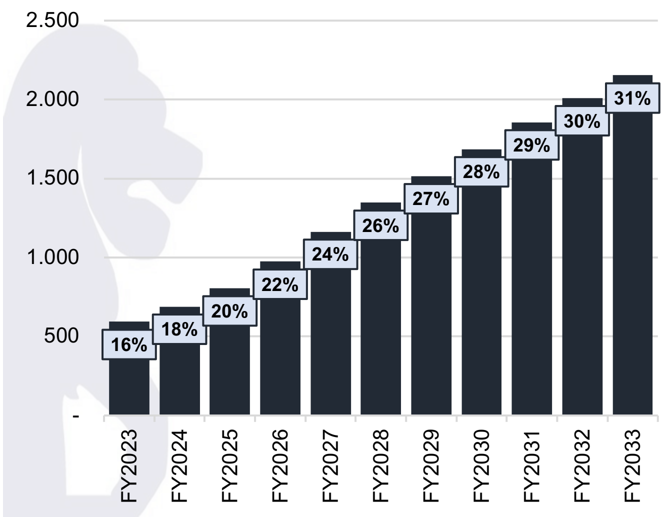
Subscription-based revenue vs Other Revenue over time



Source: Minerva Investment Management Society

Exhibit 17: … which will lead to higher operating margins, similar to other enterprise software companies

EBIT and EBIT margins ($m) (FY2023-2033)



Source: Minerva Investment Management Society

targets, reaching a final value of $21.9bn in 2033. We have therefore calculated the revenues by multiplying the market value by Trimble's market share. Following the sale of the majority interest of R&U towards a JV with AGCO Corporation, we expect a large drop in revenues, with a small rise in the at-equity income line. Market share should drop as a result of this transaction from 10.7% to approximately 5.3%, according to our forecasts. Following this, we expect the division to grow in-line with the PA industry globally, converging to $1.2bn of revenues in 2033.

In examining the geospatial segment of Trimble, we observed a future landscape marked by fluctuating growth rates and revenue shares. Our research indicates that market size in this division is expected to experience a CAGR of about 16.1% from FY2026 to FY2028, before decelerating to 6.6% by FY2033. Sales figures, reflecting market share, are anticipated to rise in absolute terms from $930m in FY2026 to $2.1bn by FY2033, yet the market share percentage remains constant at 0.12%. This suggests that Trimble is expected to grow in line with the market, maintaining a low market share in this segment. Contrastingly, the percentage of revenue from the geospatial sector within the company's portfolio is projected to increase significantly, from 19.85% in FY2026 to 30.41% in FY2033. This increase is indicative of the geospatial sector becoming a more dominant player in Trimble's revenue streams over time. The increasing revenue share of the geospatial division indicate Trimble's strategic focus or alignment with industry trends in geospatial technologies. This includes developments in autonomous vehicles, GPS technology, and other location-based services, which are becoming essential in various industries. While we do expect some volatility related to external market conditions or internal strategic shifts that may impact performance year over year, the overarching trend for Trimble's geospatial division appears to be one of robust long-term growth, outpacing some of the company's other segments.

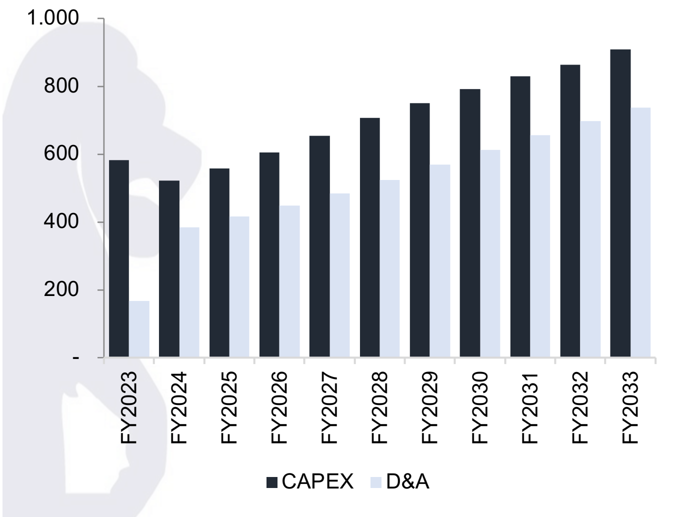
As the company transitions to a subscription-based model, we expect the company to reach 50% subscription revenues by 2033. During the terminal period, we adjust our growth rate to converge to the 3% estimate of the long-run US GDP growth (1961-2022).

Profitability of the business increases over time due to efficiency gains from economies of scale and networking effects as the company's software division becomes more mature and integrates its offerings through its "Connect and Scale" strategy. Considering those effects, and the company's transition towards being more of a software company, we note a decrease of Operating Expenses (S&M, G&A, R&D) as a % of revenue as we get closer to the terminal period. This will be reflected in the EBIT margin of the company, converging to around 30-31%, similar with other enterprise software companies (Damodaran).

The company's growth capital expenditures have been projected to be at around 3-4% of revenue, with the company building its asset base more towards intangibles in the future through acquisitions as well as R&D capitalisation as it transitions towards a software proposition. By FY2033, the CAPEX arrives at close to $800m, with D&A hovering at around $600m.

Exhibit 18: We expect a positive growth CAPEX strategy as the company builds its asset base with a focus on intangibles

CAPEX incl. acquisitions and capitalized R&D over time ($m)



Source: Minerva Investment Management Society

We have used the following formula to calculate the FCFFs:

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

Discounting all the cash flows and adding them up leads us to an enterprise value of $14.8 bn, which, after doing the equity bridge, and adjusting the share count for unvested RSU, and applying a 10% conglomerate discount, results in a share price of $43.8.

Market Multiples Approach

Peers Group

In selecting the peer group, we have looked at direct competitors across Trimble's key 4 segments presented in the company description.

Peer Group	
Buildings and Infrastructure	**Country**
Bentley Systems, Incorporated	US
Novanta Inc.	US
Garmin Ltd	CH
Geospatial	**Country**
Novanta Inc.	US
Vishay Precision Group, Inc.	US
Cognex Corporation	US
Resource & Utilities	**Country**
Deere and Co.	US
Agco Corporation	US
Corteva Inc.	US
Transportation	**Country**
The Descartes Systems Group Inc.	US
Manhattan Associaates, Inc.	US
Arcbest Corporation	US

Exhibit 19: DCF Assumptions

Assumptions	
Final period in forecast horizon	FY2033
Terminal growth rate	3.0%
Tax rate	21%
Forecast WACC	9.8%
Terminal WACC	9.8%
Calculations	
Final forecast FCFF	1,613
Terminal value	24,465
Present value of forecast cash flows	5,866
Present value of terminal value	9,612
Enterprise value	**15,478**
Less: debt & other capital claims	3,100
Add: cash & cash equivalents	317
Less: Pension provisions	-
Less: other debt-like items	-
Add: Non-operating assets	-
Less: Minority Interests	-
Less: Value of options (Damodaran approach)	-
Equity value	**12,694**
Weighted average basic shares outstanding	261
Value per share	**$48.66**
Conglomerate discount	10%
Adjusted Value per Share	**$43.79**
Current value per share	$ 51.77
Premium (discount to last close)	-15.41%

Source: Minerva Investment Management Society

Exhibit 20: Multiple Valuation done with FY2024 P/E and EV/EBIT

	FY 2024 P/E			
	Construction	Geospatial	Agriculture	Transportation
Multiple	51.8x	41.5x	13.6x	45.8x
Weight	41%	21%	25%	13%
Final Multiple	**39.3x**			
Trimble Metric	$402.9			
Implied Equity Value	**$15,828**			
Conglomerate Discount Factor	0.9			
NOSH	261.0			
Implied TRMB Share Price	**$54.6**			

	FY2024 EV/EBIT			
	Construction	Geospatial	Agriculture	Transportation
Multiple	34.4x	31.2x	12.1x	36.7x
Weight	41%	21%	25%	13%
Final Multiple	**28.4x**			
Trimble Metric	$658.9			
Implied EV	**$18,735**			
(Net Debt)	(2,784)			
Implied Equity Value	**$15,951**			
Conglomerate Discount Factor	0.9			
NOSH	261.0			
Implied TRMB Share Price	**$55.0**			

Source: Minerva Investment Management Society

Exhibit 21: Sensitivity Table (DCF)

Share Price vs WACC and TGR

	9.4%	9.6%	9.8%	10.0%	10.2%
2.60%	$45.26	$43.47	$41.83	$40.17	$38.65
2.80%	$46.37	$44.49	$42.78	$41.05	$39.48
3.00%	$47.54	$45.58	$43.79	$41.99	$40.35
3.20%	$48.79	$46.73	$44.87	$42.98	$41.27
3.40%	$50.13	$47.96	$46.01	$44.03	$42.25

Source: Minerva Investment Management Society

Exhibit 22: Final Valuation Analysis

DCF Valuation	$	43.8	*50%*
Multiples Valuation	$	54.7	*50%*
Final Valuation	**$**	**49.3**	

Source: Minerva Investment Management Society

Computation

To enhance our DCF valuation, we have also used the forward P/E and EV/EBIT multiples across our peer set. The reasoning is as follows. P/E ratio is relevant for industrial-focused companies as they trade more closely with earnings and are more cyclical, while EV/EBIT is used in order to not ignore capital structure differences between companies. Additionally, we apply a 10% conglomerate discount to account for exposure to difference sectors.

When looking at the results, we note a $54.6 valuation on P/E basis and $55 on EV/EBIT. We also looked at the tax and interest burden that comparables face versus Trimble, and we observe that while taxes and interest account for 30% of the comparables' EBIT in general, for Trimble, this effect is closer to 40%, with similar debt levels in the capital structure (20%). From this perspective, we overweight (66%) our P/E value, with a 33% weight to EV/EBIT, to arrive at our multiples target price at $54.7.

Final Valuation Methodology

For deriving the price target, we computed a weighted average of the values obtained from the two analyses, attributing equal weights to the DCF and comparables results. This leads to a target price of $49.3 / share, a 4.9% decrease from the last close price (16/12/2023).

Exhibit 23: Minerva Estimates vs Consensus (US GAAP)

	FY2023			FY2024			FY2025		
	MIMS Est.	Consensus	MIMS vs Cons.	MIMS Est.	Consensus	MIMS vs Cons.	MIMS Est.	Consensus	MIMS vs Cons.
Revenue	3,796	3,780	0.4%	3,887	3,853	0.9%	4,072	4,033	1.0%
EPS	$1.27	$1.28	-1.4%	$1.65	$1.54	7.2%	$2.18	$1.91	14.3%

Source: Minerva Investment Management Society, Bloomberg

Investment Risks

Upside Risk Factors

Higher market share gain than expected: *Trimble may achieve higher market share and faster growth than expected, particularly in Buildings & Infrastructure. The company may benefit from its overexposure to the US market, with many legislations (IIJA, IRA, CHIPS) acting as tailwinds that can contribute to an increase in construction spending in the next years. These legislations may also have the effect of accelerating the digitalization of the construction sector, which can generate a higher demand for Trimble's solutions.*

Stronger customer acquisition strategy: *The company may succeed in adopting more efficient customer acquisition strategies. In the past, Trimble distributed its products through dealer networks who also carried products that competed with Trimble's solutions. Starting from February 2023, Trimble has ended its dealership agreement with CNH and will sell its aftermarket precision agriculture solution autonomously. Trimble may be able to adopt more successful marketing or selling strategies and capture more clients.*

Faster shift to Software services: *Trimble's strategic shift to software and services could take place faster than anticipated, resulting in superior margins. Profitability may also increase thanks to the bigger efficiency gains deriving from economies of scale as the company matures. The transition will also allow Trimble to collect more stable revenues and build a more resilient portfolio, less vulnerable to the cyclical character of the agricultural and construction segments.*

Downside Risk Factors

Slow transition to Software and subscriptions: *Trimble's transition to software and subscription revenues may be slower than expected.*

Newly formed JV with AGCO Corporation: *In September 2023, a definitive agreement was signed by the company to transfer its Trimble Ag business, excluding specific GNSS and guidance technologies, to a joint venture (JV) with AGCO, while maintaining a 15% ownership. The transaction's closure is anticipated in the first half of 2024, yet completion might deviate from planned timelines or may not occur, potentially disrupting operations and impacting profitability. Major risks tied to the JV involve potential failure to realize expected benefits, uncertainties in deriving benefits from the noncontrolling stake and potential integration issues with AGCO's JCA Technologies business.*

Downturn US market: *A potential downturn in the US market would pose a significant risk for Trimble. Operating in sectors like agriculture and construction, both sensitive to economic fluctuations, a US market decline could reduce demand for Trimble's solutions and technologies. This might negatively impact revenue streams and profitability, potentially undermining investor confidence. Close monitoring of domestic market trends and adopting strategies for geographical or product diversification could be crucial in mitigating this risk and preserving Trimble's stock value.*

Higher cost of debt: *The rising cost of refinancing debt presents a concerning risk for Trimble, especially considering the company's increasing debt-to-equity ratio. With the Federal Reserve's recent interest rate hikes to combat inflation, borrowing costs are surging. Trimble's escalating debt levels coupled with higher interest rates might elevate the financial burden through increased interest expenses, potentially constraining profitability and cash flows. This situation could negatively impact investor sentiment, especially if proactive measures to manage or reduce debt aren't effectively implemented.*

Disclaimer