Revision	Description of Change	Revision By	Position	Date
01	Initial release	Mechanical R&D Engineer	Rotem Sokolovsky	April 2024

Revision History

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1 Definitions & Abbreviations

Term	Description
NOPAT	Net operating profit after taxes
DCR	Discounted Cash Flow
Terminal multiple	How the market values the company's cash flow beyond the forecast period
GNSS	global navigation satellite systems
GPS	Globsl positioning system

2 Valuation and recommendation

Autodesk, a leader **in building and architecture software**, expands into manufacturing, mechanical engineering, and media & entertainment. However, breaking into these markets presents challenges against established players. I separated the company's analysis into 2 parts, revenues as described in the report and revenues according to the company's area of business and I saw that according to the 2 options **the company's growth** possibilities are **relatively low**. As a result, the price as of April 30, 2024 is $229 and after a reduction of 30 % margin of safety The purchase price is **$160.18** (currently the share price is $216).

3 History

Year	Event	Elaboration
1993	Introduced GPS 95, the world's first portable GPS unit for aviation. 	In a time when navigation was still foreign to most people, the GPS 95 was already capable of tracking up to 8 satellites while constantly updating the flight course. The GPS 95 featured an industry-leading graphical interface, making operations intuitive; it could even store up to 500 courses and return paths. The information displayed includes flight distance, time, estimated fuel consumption, sunrise and sunset times at origin and destination, pre-landing density altitude estimation, and real-time flight speed. Its functionality and ease of operation were widely acclaimed among pilots.
1998	Released NavTalk®, the world's first GPS-integrated cellular phone	In addition to being a full-featured GPS receiver, NavTalk is a high-performance cellular phone with exceptional features. NavTalk's GPS position reporting shows exactly where you're calling from on a high-resolution backlit display, and the GPS receiver technology is the same patented high-performance twelve parallel channel receiver found in the world-renowned GPS III® Plus. Also built into NavTalk is an extensive database including millions of miles

		of roads and highways across the entire United States, Canada, and South America. The NavTalk was the ultimate outdoor survival gear.
2000	The US government opened GPS data to the public, greatly improving the precision of GPS positioning for civilians. 	GPS provides two distinct positioning services, Standard Positioning Service (SPS) for all users, and Precise Positioning Service (PPS) for military use. As a preventive measure against hostile attacks by adversaries taking advantage of the GPS services, the US government used Selective Availability, a deliberate degradation of the GPS service to an accuracy of only about 100 meters. On May 1, 2000, the US government ended the use of Selective Availability, making GPS available for civil and commercial use worldwide.
2001	Launched StreetPilot® III, the world's first portable navigation product with voice prompts. 	The mission of all navigation devices is to provide essential information when needed, and let the driver focus on the road. Street Pilot III bestows confidence upon every driver with its simple and intuitive interface. The Street Pilot III offer the shortest and fastest routes with directions and ETA, and the voice prompts automatically alert drivers of upcoming turns and course deviations, safely guiding the driver to the destination.
2003	Unveiled the historic Forerunner™ 201, the world's first wrist-based GPS trainer. 	During one testing of a lightweight GPS navigator for climbers, Claudette, a software engineer, had the curious idea of strapping the GPS unit to her wrist, and discovered it did a pretty good job tracking distance and speed. This gave the young engineer, who'd spent much of her high school and college days rounding the oval track, an idea—delivering GPS-derived pace and distance data to runners' wrists. An idea that later became the Forerunner 201.
2007	Clifton A. Pemble was appointed president and chief operating officer. 	Clifton A. Pemble joined Garmin International in 1989 as a software engineer. As one of the company's first employees, he has served in a variety of leadership capacities, including systems engineering and software engineering management. In 2007, Pemble was appointed president and chief operating officer and served in that capacity until being named CEO in January 2013, succeeding co-founder Dr. Min Kao.
2011	Co-founder Dr. Min H. Kao was elected to National Academy of Engineering 	Dr. Min H. Kao was elected for his leadership in developing and commercializing compact GPS navigation systems. Election to the National Academy of Engineering is among the highest professional distinctions accorded to an engineer. Academy membership honors those who have made outstanding contributions to "engineering research, practice, or education, including, where appropriate, significant contributions to the engineering literature," and to the "pioneering of new and developing fields of technology, making major advancements in

		traditional fields of engineering, or developing/implementing innovative approaches to engineering education."
2013	Became the provider of in-dash navigation system for Mercedes-Benz. 	Years of supplying major automakers with in-car navigation systems has accumulated Garmin with experiences in developing advanced active safety systems to assist drivers in identifying potential hazards and avoiding collisions. The MAP PILOT infotainment system utilizes both voice and touch, and displays 3D terrains and POIs in real-time, increasing the driver's awareness and abilities to react to road conditions ahead. Being selected by Daimler as their tier-one navigation solution partner is a testament to Garmin's solid R&D capability and exceptional product quality.
2014	Released Connect IQ, Garmin's open platform for third-party apps. 	In response to popular demands, Garmin released the open platform Connect IQ for developers to create apps and widgets for Garmin products. Connect IQ enables users to: install personalized watch faces and stylize their watch; customize apps and widgets to make life more convenient; create custom data fields and keep track of body metrics; and connect to smartphone apps to control streaming media.
2015	Launched Forerunner 225®, Garmin's first running watch with wrist-based heart rate monitor. 	Forerunner 225 is Garmin's first GPS running watch with heart rate tracking from the wrist. Runners and athletes finally had the option to track their heart rates on a run without wearing a chest strap thanks to the built-in optical heart rate sensor using Mio Heart Rate Technology.
2016	Released vívomove®, the smartwatch with analog hands, opening the door to the hybrid smartwatch market. 	The classic-timepiece design took a departure from the orthodox squarish design often seen on smartwatches. vívomove's stylish look incorporated the built-in step counter and move bar into the dual-arc displays. Fusing timeless designs and ingenious functions, vívomove turned a new page in the book of timepieces.
2017	Named Manufacturer of the Year by the NMEA (National Marine Electronics Association) for the third consecutive year, and won 8 Product of Excellent Awards. 	NMEA is the organization setting communication standards between marine electronic devices. Garmin not only won the Manufacturer of the Year award, but also received Product of Excellence Awards in 8 categories: Autopilot, Multi-Function Display, Radar, Fish Finder, AIS, Marine App-Aids to Navigation, Marine App-Technical, and Multimedia Entertainment.
2018	Introduced the first professional dive watch Descent® Mk1, officially stepping into the dive watch market.	Equipped with surface GPS navigation, full-color maps and much more, Descent Mk1 is a dive computer in the form of a watch that no divers would be able to resist. The watch is suitable for

		recreational, technical, or free dives. It calculates no-decompression limits using the Bühlmann ZHL-16c algorithm, and provides divers with comprehensive information including nitrogen loads and decompression stops.
2019	As Garmin entered its 30th year, we launched our flagship range of smart tool watches: the MARQ Collection. 	To coincide with our 30th anniversary, Garmin launched the brand's most premium range of smart tool watches, the MARQ Collection. The range comprised five distinctive watches: the MARQ Driver, the only racing watch with 250 preloaded racetracks around the world; the MARQ Athlete, the first watch with smart features that display recovery time and VO2 max scales on the bezel; as well as the MARQ Captain, MARQ Adventurer, and MARQ Aviator. The collection encapsulates Garmin's outstanding performance across all applications of design and development—"Forged from our DNA, Authentic in Every Detail".
2020	Garmin introduced proprietary solar charging technology that redefined the possibilities for smart wearable devices' battery life. 	Garmin introduced exclusive, proprietary solar charging technology to produce the world's only solar-charging smart watches that can support a variety of smart movement modes, encompassing more than 30 patented solar power module technologies. The breakthrough Power Glass™ solar charging lens technology and a world first UPS design achieved an industry-leading five times extension of battery life. Three series of solar-powered GPS smart watches were launched: fēnix 6 Solar, Instinct Solar, and tactix Delta Solar, raising the bar for smart solar-powered wearables to new heights.
2021	Set up Thailand and Vietnam office and an advanced manufacturing plant in Poland and Taiwan. 	Expanded its presence in Southeast Asia with the opening of offices in Thailand and Vietnam, and increased manufacturing capabilities with advanced manufacturing plants in Wroclaw, Poland and Tainan, Taiwan.
2022	Garmin Response Center (formerly known as IERCC) has accumulated 10,000 SOS outdoor rescue records 	Garmin announced the acquisition of GEOS Worldwide Limited and its subsidiaries including the International Emergency Response Coordination Center (IERCC) in 2021. It was officially renamed to Garmin Response Center in 2022 and coordinated support for 10,000 SOS incidents reported with an inReach device. Garmin offers a wide variety of handheld devices equipped with inReach location tracking, allowing for two-way text messaging, location tracking and critical SOS emergency response services, providing individuals around the world with a peace of mind.
2023	Acquisition of leading audio solution company JL Audio, strengthening our marine entertainment product portfolio	Garmin acquired JL Audio, a respected U.S. audio solutions company known for its premium speakers, amplifiers, subwoofers, and related components catered to marine, automotive, powersports, home, and RV customers. These products are renowned for their

		exceptional quality and will be integrated into Garmin's marine segment, enhancing its audio offerings.

4 Business

4.1 General

Garmin was founded in 1989 with headquarters located in the United States. Garmin first set foot in the aviation industry with its cutting-edge GPS[1] navigation products almost three decades ago. Since then, Garmin's product lines have expanded to fully cover the aviation, marine, and automotive industries. Today, Garmin is the renowned leader in the aviation, marine, automotive, outdoor, and fitness markets. Built on a healthy product ecosystem, and combining awe-inspiring designs, impeccable quality, and superior reliability into excellent user experiences, Garmin strives to become the number one brand for all who enjoy their lives.Performance (https://youtu.be/3dth9Dd3S9Q?si=ZbrfvZAV6X_UPhUu).

4.1.1 Operating margin:

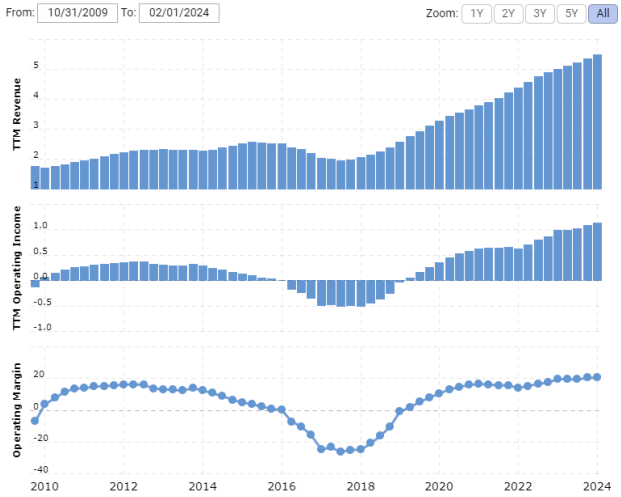


Figure 1: Operating Margin | macrotrends

[1] The GPS is a space based radio- navigation system, owned by the U.S government and operated by the United Stated Air Force (USAF). It can pinpoint a three dimensional position to meter- level accuracy and time to the 10-nanosecond level, worldwide and 24/7.

4.1.2 Share Outstanding

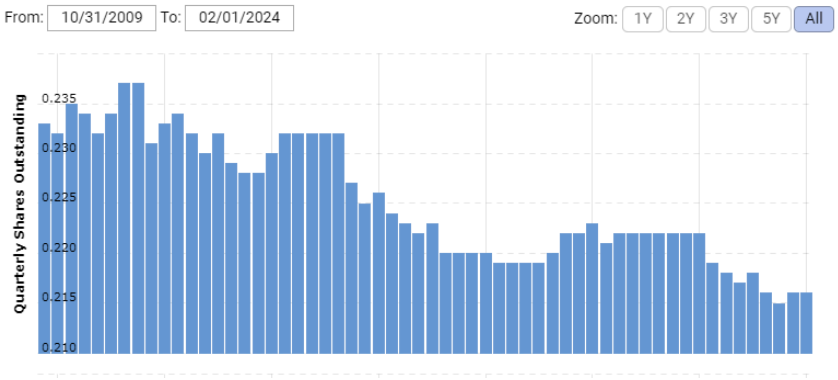


Figure 2: Share outstanding | macrotrends

4.2 GPS and other global navigation

Many of the Company's products utilize GPS (commercial signal bands is provided free of charge). In addition to GPS, Garmin utilizre:

1. Global Navigation Satellite Systems (GNSS): These are satellite-based systems that provide users with positioning, navigation, and timing services worldwide. They are crucial for various applications, including transportation, agriculture, emergency services, and more.

- **GPS (Global Positioning System):** Developed by the United States, GPS is the most widely used satellite navigation system globally, providing users with accurate positioning, velocity, and timing information.
- **GLONASS (Global Navigation Satellite System):** Russia's satellite navigation system, offering global coverage and providing users with positioning, velocity, and timing information.
- **Galileo:** The European Union's satellite navigation system, designed to provide highly accurate and reliable positioning and timing services for civilian and commercial applications.
- **BeiDou Navigation Satellite System (BDS):** China's satellite navigation system, offering global coverage and aiming for independence from foreign navigation systems.

2. Satellite-Based Augmentation Systems (SBAS): These systems enhance the accuracy and integrity of GPS signals for specific regions or applications, such as aviation and maritime navigation.

- **Wide Area Augmentation System (WAAS):** Developed by the United States, WAAS improves GPS accuracy for aviation within the U.S. and surrounding areas.
- **MTSAT-based Satellite Augmentation System (MSAS):** Developed by Japan, MSAS enhances GPS accuracy for aviation and maritime use in Japan and nearby regions.
- **European Geostationary Navigation Overlay Service (EGNOS):** Europe's system to improve GPS accuracy for civil aviation, maritime, and land-based users across Europe.

3. Localized Satellite-Based Systems: These systems provide enhanced positioning services for specific regions or countries, often working alongside global navigation systems like GPS.

- **Quasi-Zenith Satellite System (QZSS):** Japan's system to improve positioning accuracy over Japan and the Asia-Oceania region, particularly in urban and mountainous areas.
- **Indian Regional Navigation Satellite System (IRNSS), NavIC:** India's system providing accurate positioning and timing information over the Indian subcontinent and surrounding regions, enhancing GPS services in India.

4.3 Management

4.3.1 Biographies

Andrew Anagnost- age 58, has been with Autodesk since 1997 and has served as President and CEO since 2017. He holds a bachelor's degree in mechanical engineering, a master's degree in engineering science, and a Ph.D. in Aeronautical Engineering and Computer Science.

Stacy J. Smith, aged 60, brings over two decades of technology industry experience to his role as Non-executive Chair of the Board of Directors at Autodesk, having held executive positions at Intel Corporation and Kioxia Corporation.

Karen Blasing, aged 66, boasts over 25 years of executive operational and financial leadership, currently serving as a Director at Autodesk after previously being the Chief Financial Officer at Guidewire Software, Inc.

Reid French, aged 51, holds a Bachelor's degree in Economics from Davidson College and an MBA from Harvard Business School, contributing over 20 years of executive leadership experience in the software industry to his role as a Director at Autodesk, having previously served as CEO of Applied Systems, Inc.

Dr. Ayanna Howard, aged 51, is an entrepreneur and expert in robotics, human-computer interaction, and artificial intelligence, currently serving as a Director at Autodesk with degrees from Brown University, the University of Southern California, and an MBA from the Drucker Graduate School of Management, having previously been the Dean of the College of Engineering at The Ohio State University.

Blake Irving, aged 63, with over 25 years in executive leadership roles in the technology industry, serves as a Director at Autodesk, previously holding the position of CEO at GoDaddy Inc.

Mary T. McDowell, aged 58, brings over two and a half decades of management experience in the technology industry to her role as a Director at Autodesk, having previously been the CEO of Mitel Networks Corporation.

Stephen Milligan, aged 59, holds a Bachelor of Science degree in Accounting from The Ohio State University, contributing over 30 years of executive operational and financial leadership in the technology industry to his role as a Director at Autodesk, having previously served as CEO of Western Digital Corporation.

Lorrie M. Norrington, aged 63, with over 40 years of operating experience in technology, software, and internet businesses, serves as a Director at Autodesk, having previously held roles such as President of eBay Marketplaces.

Betsy Rafael, aged 61, brings over 30 years of executive financial experience in the technology industry to her role as a Director at Autodesk, having previously been the Chief Transformation Officer at GoDaddy Inc.

Rami Rahim, aged 52, holds a Bachelor of Science degree in Electrical Engineering from the University of Toronto and a Master of Science degree in Electrical Engineering from Stanford University, currently serving as CEO of Juniper Networks, bringing over 25 years of technology industry experience to his role as a Director at Autodesk. Experience in cybersecurity and a deep understanding of technology industry challenges.

4.3.2 Executive Compensation

Autodesk's Compensation Committee aims to design an executive compensation program that attracts, motivates, and retains top talent, closely linked to stockholder returns, company performance, and individual achievements. The program seeks to:

- Recruit and retain high-caliber executives with competitive rewards.
- Motivate executives to meet business and financial goals.
- Balance short- and long-term performance incentives.
- Align rewards with shareholder value creation.

Factors determining executive compensation include:

- Achievement of financial and non-financial objectives.
- Autodesk's Total Shareholder Return relative to industry benchmarks.
- Role and responsibilities of the executive.
- Individual skills, contributions, and performance.
- Internal pay alignment and retention considerations.

4.3.3 Autodesk's Compensation and Human Resources Committee

Autodesk's Compensation and Human Resources Committee manages executive compensation based on performance. They use various metrics like total revenue and relative total stockholder return (TSR) to determine pay outcomes for executives. In fiscal year 2023, all Named Executive Officers (NEOs) opted for Performance Share Units (PSUs) over cash-based incentives, with the majority of compensation being variable and linked to financial and stock performance.

Moreover, the executive compensation program emphasizes Environmental, Social, and Governance (ESG) priorities, allowing adjustments to awards based on ESG performance. The committee values stockholder feedback, which has led to no requested changes in executive compensation programs, indicating strong alignment with company performance.

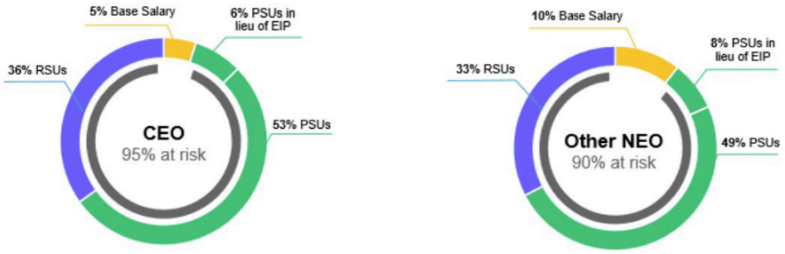


Figure 5:"At risk" performance based executive compensation (Autodesk 2023 annual report)

Named Executive Officer and Principal Position	Fiscal Year	Salary ($)	Bonus ($) (1)	Stock Awards ($) (2)	Non-Equity Incentive Plan Compensation ($) (3)	All Other Compensation ($) (4)	Total ($)
Andrew Anagnost	2023	1,040,416	—	16,494,632	—	65,704	17,600,752
Chief Executive Officer and	2022	1,000,452	—	21,095,069	—	—	22,095,521
President (5)	2021	975,559	—	13,559,493	1,221,311	—	15,756,363
Deborah L. Clifford	2023	626,318	91,233	3,781,422	—	69,449	4,568,422
Executive Vice President and	2022	540,247	—	9,943,056	420,300	—	10,903,603
Chief Financial Officer (6)							
Steven M. Blum,	2023	704,586	—	7,363,064	—	92,992	8,160,642
Executive Vice President and	2022	610,909	—	6,140,367	—	—	6,751,276
Chief Operating Officer (7)	2021	591,187	—	6,306,531	444,000	—	7,341,718
Ruth Ann Keene	2023	536,982	—	2,324,237	—	59,977	2,921,196
Executive Vice President							
Corporate Affairs, Chief Legal Officer and Corporate Secretary (8)							
Rebecca Pearce	2023	371,859	—	2,040,421	—	151,614	2,563,894
Executive Vice President and							
Chief People Officer (9)							
Former Executive Officer							
Pascal W. Di Fronzo,	2023	144,965	—	1,023,354	—	2,235,995	3,404,314
Executive Vice President	2022	514,500	—	3,660,539	—	—	4,175,039
Corporate Affairs, Chief Legal Officer and Secretary (10)	2021	513,793	—	2,805,623	385,875	—	3,705,291

4.3.4 Autodesk buy/sell stocks

Since 2023- August until 2024-April the CEO, CAO, CFO, CPO and non executive director sold many of them share, befor that the sales were many planned sales. At the 2024-03-27 the CEO, CAO, CFO sold 28,093 shares which represent 0.013% from the total shares at the **24-04-01 EDGAR realsed a note that Autodesk the annual report for the year ended 2024-01-31 could not be filed within the prescribed time period.**

Figure 6: Autodesk sell/buy stock by the management | Insiderscreener

4.4 Autodesk's Commitment and Impact

Autodesk is dedicated to advancing sustainability and inclusion through proactive engagement and impactful programs, focusing on areas such as energy, materials, and workforce diversity. The company prioritizes talent management strategies that foster diversity, inclusion, and professional development, while also ensuring transparency and progress tracking in its environmental, social, and governance initiatives.

4.4.1 Comprehensive total rewards packages

Comprehensive total rewards packages, including competitive compensation, benefits, and development opportunities, aim to attract, retain, and support a diverse global workforce.

4.4.2 Education

Autodesk provides students and educators with access to its professional software through free educational licenses, aiming to equip them with the skills needed for current and emerging roles in various industries. They also offer self-paced learning modules and curriculum for K-12, post-secondary students, and educators, with the goal of making Autodesk software the preferred choice for the next generation of design, engineering, and construction professionals.

4.4.3 Climate change response

Autodesk is actively addressing climate change by enabling customers to innovate and adapt to regulatory and environmental shifts, aligning with their commitment to climate action. Internally, they invest in mitigation strategies such as renewable energy and emissions reduction targets, while externally expanding support for clean technology entrepreneurs and organizations addressing climate challenges.

5 Products

Garmin believes that its products are known for their value, high performance, ease of use, innovation, and appealing design.

- Subscription- offers access to private satellite networks (Iridium satellite networks, a synchronized constellation of 66 low Earth orbit (LEO) satellites offering global data communication coverage. Iridium's satellite constellation offers global coverage to enable reliable satellite-based communication

Table 1: Fitness

Product Name	Description	Price per year (2024)	New Users per year
Running and Multi-sport Watches (Forerunner)	GPS-enabled watches designed for running and multi-sport activities. Features may include heart rate monitoring, pulse oximeter, AMOLED displays, music storage, and Garmin Pay™.	1820	
Cycling Products	Includes cycling computers, power meters, bike radars, cameras, smart lights, speed and cadence sensors, Tacx® indoor training equipment, and a smart bike.		
Smartwatch Devices	Offers GPS-enabled smartwatches, hybrid smartwatches, and activity tracking fitness bands under various series such as Venu®, vívoactive®, vívomove®, Lily®, vívosmart®, and Bounce™.	3115	
Scales and Monitors	Range of fitness accessories including chest strap heart rate monitors, smart scales, and blood pressure monitors.	1550	
Garmin Connect and Garmin Connect Mobile:	Web and mobile platforms for tracking and analyzing fitness, activities, and wellness data. Also enables sharing accomplishments, creating training groups, and more.	2545	
Connect IQ	Application development platform allowing third parties to create applications for Garmin devices. Offers SDK for developing watch faces, apps, widgets, and data fields		

Table 2: Outdoor

Product Name	Description	Price per year (2024)
Adventure Watches	Garmin adventure watches cater to various user needs and preferences. The fēnix® and Epix™ series offer premium smartwatch experiences for active lifestyle users. The Instinct® series provides rugged and reliable outdoor GPS smartwatches. The tactix® series is tailored for users seeking tactical-inspired features like night vision compatibility. The Descent™ series offers additional diving functionalities. The Enduro™ series targets extreme endurance athletes, offering enhanced battery life and solar charging. The MARQ® series comprises luxury smart tool watches with premium materials.	

InReach® and Garmin Response	Garmin's InReach® devices utilize Iridium's global satellite communication technology to provide 2-way text messaging, weather forecasts, and S.O.S. capabilities globally. Garmin Response ensures 24/7 emergency response coordination.	680
Outdoor Handhelds and Communicators	Garmin offers handheld devices under various product lines like Montana®, eTrex®, and GPSMAP®. These devices range from basic navigators to advanced touchscreen devices with features such as barometric altimeter, 3-axis compass, camera, preloaded maps, and two-way satellite communication using InReach technology.	2500
Golf Devices	Garmin's Approach® product line includes watches, laser range finders, launch monitors, club sensors, and handhelds for golfers. The devices provide comprehensive golf course maps and yardage distances to aid players during rounds. The Approach R10 launch monitor offers swing metrics and simulated rounds when paired with the Garmin Golf™ mobile app.	2440
Consumer Automotive	Garmin offers a range of navigation devices, dash cams, and auto accessories tailored to different vehicle and driver needs. The Drive series and Garmin Dash Cam™ series serve general consumers, while the dēzl™ ecosystem targets professional truck drivers. The zūmo® series is designed for motorcycle enthusiasts, and the RV series caters to RV owners. The Tread® line offers off-road guidance, and the Garmin Catalyst™ serves as a racing coach and driving performance optimizer.	840
Dog Devices	Garmin provides dog tracking and training devices under various product lines such as Alpha®, PRO, BarkLimiter™, and Delta®. These devices assist in tracking and training dogs for various purposes.	

Table 3: Aviation

Garmin is a leading company in the aviation industry, providing a diverse range of avionics solutions for various sectors including general aviation, business aviation, rotorcraft, and experimental/light sport markets. Their products cater to all aircraft categories and classes, from small piston planes to large business jets and helicopters. Additionally, Garmin offers innovative solutions for commercial air-carriers, military and defense, electric aircraft, and the Advanced Air Mobility/eVTOL space. They provide both off-the-shelf and custom solutions, making them a strong competitor in these markets.

Product Name	**Description**	**Price per Year (2024)**
Integrated Flight Decks	Garmin offers integrated flight deck systems for various aircraft sizes, providing communication, navigation, weather information, terrain and traffic awareness, aircraft performance, and safety features.	Variable
Electronic Flight Displays and Instrumentation	These systems serve as primary or backup displays in the cockpit, enhancing situational awareness and capability with valuable information.	Variable
Navigation and Communication Products	Garmin provides GPS navigation and VHF radio communication products with various capabilities for all aviation segments.	Variable

Automatic Flight Control Systems	Garmin's flight control systems include autopilots and safety-enhancing technologies for different aircraft, featuring unique safety features such as Autoland and Smart Glide™.	Variable
Audio Control Systems	Garmin produces advanced audio systems with Bluetooth connectivity, voice command technology, and integrated intercoms for cockpit communication.	Variable
Engine Indication Systems	Garmin offers engine indication systems with data-logging capabilities and wireless data offloading for piston and turbine-powered aircraft.	Variable
Traffic Awareness and Avoidance Solutions	Garmin provides traffic advisory and collision avoidance systems, including TAS and TCAS/ACAS solutions, suitable for all types of aircraft.	Variable
ADS-B and Transponders	Garmin offers a range of ADS-B and transponder solutions compliant with various requirements, including ADS-B "Out" and "In" capabilities and Bluetooth connectivity for mobile devices.	Variable
Weather Information and Avoidance Solutions	Garmin offers multiple weather solutions, including onboard radar, SiriusXM, ADS-B, and satellite-based options, providing pilots with comprehensive weather information and avoidance capabilities.	Variable
Datalink and Connectivity	Garmin provides datalink and connectivity solutions for global weather data, text/voice communication, mobile app integration, database management, real-time aircraft system monitoring, and traffic data streaming.	Variable
Services	Garmin offers various services including web and mobile app-based flight planning and management tools, safety management systems, AeroData solutions, product support, databases, training, warranties, and subscriptions.	Variable

Table 4: Marine

Product Name	**Description**	**Price per Year (2024)**
Chartplotters and Multi-Function Displays (MFDs)	Garmin offers chartplotters/MFDs ranging from portable to fully integrated Glass Helm systems under the GPSMAP® and ECHOMAP™ product lines. These systems feature wireless connectivity to the ActiveCaptain® mobile app and include various display sizes with high resolutions.	Variable
Cartography	Garmin is a leading supplier of cartography for recreational marine market, including Navionics® branded charting products. Their cartography features patented Auto Guidance+™ routing technology for efficient navigation.	Variable
Fishfinders	Garmin's Striker™ series fishfinders incorporate GPS technology enabling Garmin Quickdraw™ Contours and wireless features via the ActiveCaptain and StrikerCast mobile apps, providing advanced fishfinding capabilities.	Variable
SONAR	Garmin offers LiveScope™ sonar for high-resolution, live underwater views and Panoptix™ for detailed 3D underwater views. Their CHIRP "black-box" sounders and "smart transducers" interface with Garmin MFDs to enhance deep-water sounders and fishfinder functions.	Variable
Autopilot Systems	Garmin's marine autopilot systems are designed for sailboats and powerboats, featuring remote steering, speed control, and Shadow Drive™ technology. They also offer steer-by-wire autopilot capabilities for various steering systems.	Variable

RADAR	Garmin provides Fantom™ radar with MotionScope™ Doppler technology for improved situational awareness, available in both radome and open array radar products. They also offer magnetron radars with up to 25kW of transmit power for radar compatibility with any network-compatible Garmin chartplotter.	Variable
Instruments	Garmin offers NMEA 2000 and NMEA 0183 compliant instrument displays and sensors that consolidate data from multiple sources on one screen.	Variable
VHF Communication Radios	Garmin's marine VHF radios and AIS transceivers feature integrated GPS receivers and support NMEA 2000, offering multi-station support and monitoring of all AIS channels.	Variable
Handhelds and Wearable Devices	Garmin's quatix® series smartwatches for mariners include marine features like navigation, sailing, autopilot functions, tidal information, and built-in InReach® satellite communication. They also offer floating marine GPS handhelds with wireless data transfer and preloaded cartography.	Variable
Sailing	Garmin integrates basic and advanced sailing features into MFD and instrument systems with SailAssist™ features such as enhanced wind rose, POLAR tables, race guidance, synchronized race timer, virtual starting line, time to burn, and lay line data fields.	Variable
Audio	Garmin's audio brands, Fusion® and JL Audio®, offer premium audio products designed for marine, powersports, automotive, home, or RV environments. These products provide premium sound quality and support various connectivity options for integration with MFDs, smartphones, and Garmin wearables.	Variable
Digital Switching	Garmin's EmpirBus™ products offer power distribution and control solutions for marine and RV applications, enabling advanced logic controls and smart electrical systems. These products feature customizable graphics and user interfaces controllable through Garmin's marine MFDs and RV OEM products.	Variable
Trolling Motors	Garmin's Force® Trolling Motor series includes powerful, efficient trolling motors with built-in CHIRP and Ultra High-Definition ClearVü™ and SideVü™ sonar. The Force Kraken model features up to a 90" shaft length and smaller mounting footprint, with wireless integration to Garmin chartplotters/MFDs for navigation, autopilot, and anchor lock.	Variable

Table 5: Auto OEM

Product Name	Description	Price per Year (2024)
Domain Controllers	Garmin supplies tier-one domain controllers, which are remote computing modules controlling multiple vehicle systems such as infotainment, instrumentation, advanced driver-assistance systems (ADAS), and rear-seat entertainment.	Variable
Infotainment Units	As a tier-one supplier, Garmin offers infotainment solutions with centralized control and integrated multi-display platforms. These units provide premium audio, multimedia, navigation, cameras, smartphone links, voice recognition, personal assistants, and rear-seat entertainment features.	Variable
Other	Garmin provides various automotive solutions including software, map databases, cameras, wearables, and other related products.	Variable

5.1 Sales and Marketing

Garmin employs a broad distribution strategy, maintaining high quality standards to ensure customer satisfaction. Their products are sold through diverse indirect channels including independent retailers, dealers, distributors, installation and repair shops, and OEMs. Additionally, Garmin sells directly through their online webshop, subscriptions for connected services, and retail stores. In 2023, sales through direct distribution channels accounted for over 10% of total net sales. Marketing support is provided globally from Garmin's offices across different regions.

5.2 Research and Development

Garmin's innovative products are the result of close collaboration between its engineering and manufacturing teams. The company's development staff, including industrial designers and engineers, work together to create products, while manufacturing process engineers ensure efficient production and cost control.

5.3 Manufacturing and Operations

Garmin considers its vertically integrated manufacturing capabilities at various global facilities as a core technological strength. These facilities are in Taiwan (Xizhi, Jhongli, LinKou, and Xinshi), China (Yangzhou), the Netherlands (Oegstgeest), Poland (Wroclaw), and the United States (Olathe, Kansas; Salem, Oregon; and Miramar, Florida). Operating its manufacturing facilities and distribution networks allows Garmin to efficiently address the diverse needs of its products and markets, providing significant capability and flexibility.

Garmin attributes several advantages to its vertically integrated manufacturing capabilities, particularly in terms of cost, quality, and time to market:

- **Cost**: Garmin's rapid and iterative prototyping processes efficiently drive down costs by leveraging manufacturing resources across different product volumes. The company's ownership and integration of resources optimize design for manufacturing, resulting in improved cost efficiencies.
- **Quality**: Automation and advanced production processes ensure robustness and reliability, maintaining strict quality control standards throughout manufacturing. Immediate feedback loops facilitate continuous improvement, enhancing overall product quality.
- **Time to Market**: Multi-disciplinary teams swiftly move from concept to manufacturing, thanks to integrated ownership and inherent flexibility, enabling faster time to market.
- **Certifications**: Garmin's facilities are certified to international quality standards such as ISO 9001, IATF 16949 for automotive operations, and AS9100 for aviation operations. Health and safety management systems are also certified to the ISO 45001 standard.
- **Materials**: While Garmin sources components from various suppliers, reliance on single or limited sources for key components poses supply and pricing risks. However, the company believes potential disruptions would not disproportionately disadvantage it compared to competitors.

6 Competition

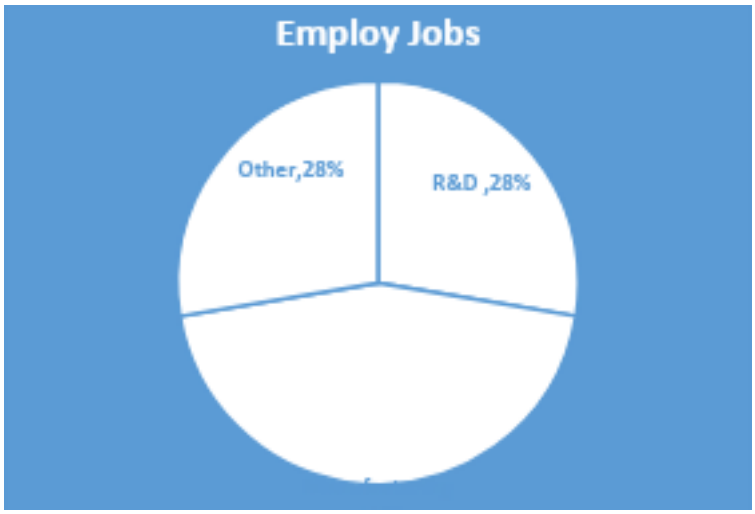
The markets for Garmin’s products are highly competitive, subject to rapid change, and characterized by complex interdependencies among major businesses. To enhance competitive separation, Autodesk invests significantly in research and development to introduce new products and innovative versions of existing ones. They also focus on marketing and sales investments to reach and serve customers effectively.

Table 6: Competitors and Category

Category	Principal competitive

Fitness	Apple, Bryton, Coros, Elite, Fitbit (Google), Huawei, Polar, Samsung, SRAM, Suunto, Wahoo Fitness, Whoop, Xiaomi, Zepp Health, Zwift
Outdoor	Casio, Coros, Dogtra, Globalstar, Rand McNally, Shearwater Research, SportDOG, Suunto, TAG Heuer, Tissot, TomTom, Trackman, Vista Outdoor, Zoleo
Avionics	Aspen Avionics, Avidyne, Dynon Avionics, ForeFlight, Genesys Aerosystems, Honeywell Aerospace & Defense, Innovative Solutions and Support Inc., Jeppesen (Boeing), L-3 Avionics Systems, Collins Aerospace (Raytheon), Safran, Thales, Universal Avionics Systems Corporation
Marine	Furuno, Johnson Outdoors, Navico (Brunswick), Raymarine (Teledyne)
Auto OEM	Alpine Electronics, Aptiv, Bosch, Continental, Harman (Samsung), Panasonic, Visteon

7 Human Capital



8 Analysis

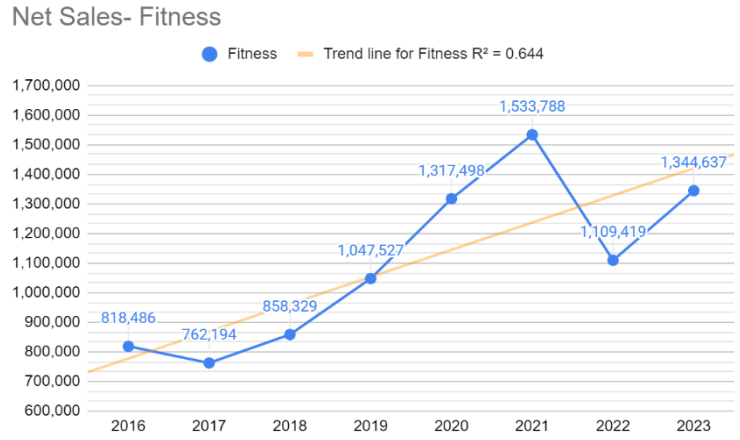
8.1 Playing with the numbers

After inserting all the financial information since 2016 until 2023 include. Then I tried to predict the NOPAT for 2024 until 2029 without any other information.

At the current moment, as of May 28, 2024, the share price stands at approximately $163.81. In order for the DCF result per share, **without any margin of safety**, to align with the current stock price, **a Terminal Multiple of 29** is required.

8.2 Graphs

8.2.1 Fitness



8.3 Calculated analysis

I want to preface by stating that I don't have experience working with Autodesk software. As a mechanical

9 Moat

10 Disruption

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11 Thesis