WinterGreen Research, INC.

Precision Strain Wave Reducer Gearboxes and RV and RD Reducers: Market Shares, Strategies, and Forecasts, Worldwide, 2018 to 2024

Mountains of Opportunity

Picture by Susan Eustis

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CHECK OUT THESE KEY TOPICS

Precision Gearbox Precision Strain Wave Reducer Gearboxes and RV and RD Reducers Industrial Robotic Capability

Precision Gearbox Precision Strain Wave Reducer Gearboxes

RV and RD Reducers Industrial Robotic Drive

Precision Gearbox Precision Strain Wave Reducer Gearboxes and RV and RD Reducers Industrial Robotic Industries

Description: WinterGreen Research provides Precision Gearbox Precision Strain Wave Reducer Gearboxes and RV and RD Reducers research, robot research, drone research, augmented reality research, and CBRNE research. Contact us.

Precision Gearbox Precision Strain Wave Reducer Gearboxes and RV and RD Reducers: Market Shares, Strategies, and Forecasts, Worldwide, 2018-2024

LEXINGTON, Massachusetts (April 3, 2018) – WinterGreen Research announces that it has published a new study Precision Strain Wave Reducer Gearboxes and RV and RD Reducers: Market Shares, Strategy, and Forecasts, Worldwide, 2018 to 2024. The 2018 study has 230 pages, 141 tables and figures. The leading vendors in the Precision Gearbox industry have invested in high-quality technology and processes to develop leading edge reducer strain relief gearbox capability.

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Other vendors are working to catch up. Precision Gearbox market driving forces relate primarily to the implementation of speed reduction capability for robots and wind turbines initially, providing industrial controls that are compelling.

The Precision Gearbox is used in situations where smooth, efficient gear operation is needed. Initial applications are in robotics, aerospace and solar tracking, the materials used in these applications can wear and break if the gearing in a motor is rough. Harmonic gear vendors offer a unique gear tooth profile that optimizes the tooth engagement. Only the high end vendors are able to provide harmonic drives that work, the other units become trash within days.

Revenue for harmonic drives was $838 million in 2017, and products are expected to generate revenue of $3.517 billion by 2024. Strong growth is the result of increasing use in industrial robots as they become integrated and able to perform multiple functions sequentially in an automated manner. Precision Gearbox reduction gearboxes are presented many new market opportunities from multiple types of applications. The VNTOL aircraft uses the drive reduction to enable vertical takeoff This lifts off like a helicopter and files like an airplane.

Demanding applications for the gear box include surgical robots. By application category, there was a substantial year-on-year increase in sales for industrial robots used on production lines for smartphones, tablet devices, household appliances, automobiles, and other products.

Sales for semiconductor manufacturing equipment increased due to rising capital investment against a backdrop of increasing demand for industrial equipment, automotive devices, and devices for data centers, among other factors. Sales for flat panel display manufacturing equipment increased due to high levels of investment to expand production capacity for LCD and organic EL panels.

Semiconductor liquid crystal production equipment, photovoltaic equipment, optical instruments, precision machine tools and other cutting-edge areas provide target applications.

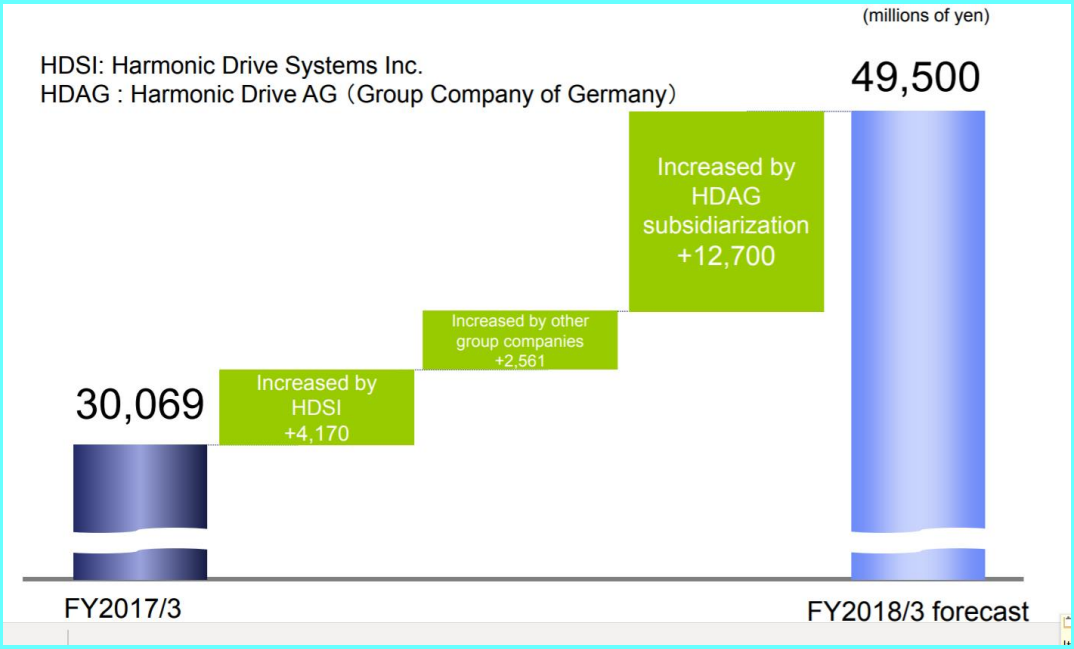
Japan manufactures reliable performance precision gears. Reliable performance of precision gear reducer manufacturing is not yet occurring at scale elsewhere, particularly in China. China with its huge investments in industrial robots would really like to be able to scale manufacture of Precision Gearbox precision strain wave reducer gearboxes.

The market has just begun. Early adopters are the robot manufacturers. Suppliers of the precision gears, Japanese companies, address markets for industrial robots. While the Chinese would like to be the primary suppliers of Precision Gearbox Precision Strain Wave Reducer Gearboxes, it has not happened yet.

Harmonic gear reducers are used in aviation, aerospace, energy, navigation, shipbuilding, bionic machinery, commonly used ordnance, machine tools, instruments, electronic equipment, mining and metallurgy, transportation, lifting machinery, petrochemical machinery, textile machinery, agricultural machinery and medical Instruments.

Japan's a precision reducer is used in industrial robots and airplane engines, wind turbines and for solar trackers.

Precision Gearbox Revenue Forecast



Source: Harmonic Drive.

According to Susan Eustis, leader of the team that prepared the research, "Gearbox precision gearing is known for zero backlash, high torque, compact size, and excellent positional accuracy. Precision reduction gears are mechanical, they are used as speed changing devices. Precision gearboxes have of a thin ring that provides elastically as it rolls on the inside of a slightly larger rigid circular ring.

"Precision gear boxes consist of a circular spline, flex spline, and wave generator. The flex spline component produces a repeated vibration, stimulated by the wave generator. A harmonic gear is a strain wave gear. It is characterized by the ability to transmit motion through sealed walls. Operation of precision gears is based on the thin-walled flexible cup with external splines on its lip, placed inside a circular thick walled rigid ring machined with internal splines.

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"High gear ratios, light weight, reconfigurable ratios within a standard housing, good resolution, and repeatability are features of the devices. Devices work when repositioning internal loads, they have high torque capability, coaxial input, and coaxial output."

WinterGreen Research is an independent research organization funded by the sale of market research studies all over the world and by the implementation of ROI models that are used to calculate the total cost of ownership of equipment, services, and software. The company has 35 distributors worldwide, including Global Information Info Shop, Market Research.com, Research and Markets, electronics.ca, and Thompson Financial. WinterGreen Research is positioned to help customers facing challenges that define the modern enterprises.

The increasingly global nature of science, technology and engineering is a reflection of the implementation of the globally integrated enterprise. Customers trust wintergreen research to work alongside them to ensure the success of the participation in a particular market segment.

WinterGreen Research supports various market segment programs; provides trusted technical services to the marketing departments. It carries out accurate market share and forecast analysis services for a range of commercial and government customers globally. These are all vital market research support solutions requiring trust and integrity.

Key words: Harmonic Drive, Precision Strain, Wave Reducer, Gearboxes, RV and RD Reducers

Companies Profiled

Selected Market Leaders

Harmonic Drive
Beijing CTKM Precision Gearbox
Zhejiang Laifu
Cone Drive
Sumitomo Heavy Industries
Leaderdrive
Nidec-Shimpo

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Selected Market Participants

Beijing Precision Gearbox Technology Institute (BHDI)
Beijing Zhong Ke Ke Mei Precision Gearbox Limited Liability Company
China Precision Gearbox (CHD®)
Motion Control Products
Nabtesco
Nidec-Shimpo
Parker Bayside
Suzhou Green Precision Gearbox Technology Co., Ltd.
Totel Industry Group / Ningbo Haishu Totel Imp. & Exp. Co., Ltd.

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Report Methodology

This is the 796th report in a series of primary market research reports that provide forecasts in robots, communications, telecommunications, the Internet, computer, software, telephone equipment, health equipment, and energy. Automated process and significant growth potential are priorities in topic selection. The project leaders take direct responsibility for writing and preparing each report. They have significant experience preparing industry studies. Forecasts are based on primary research and proprietary data bases.

This Precision Gearbox study is based on tracking integration software and dynamic processing that provides significant insight into the technology of harmonic drives. Experience implementing broadband networking and mobile systems for different technologies using the harmonic drives has been evaluated in many different contexts. Evaluation of the changes brought to the supply chain and transaction processing by the Internet are among factors that contribute to development of triangulation regarding market forecasts for the sector.

The primary research is conducted by talking to customers, distributors and companies. The survey data is not enough to make accurate assessment of market size, so WinterGreen Research looks at the value of shipments and the average price to achieve market assessments. Our track record in achieving accuracy is unsurpassed in the industry. We are known for being able to develop accurate market shares and projections. This is our specialty.

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The analyst process is concentrated on getting good market numbers. This process involves looking at the markets from several different perspectives, including vendor shipments. The interview process is an essential aspect as well. We do have a lot of granular analysis of the different shipments by vendor in the study and addenda prepared after the study was published if that is appropriate.

Forecasts reflect analysis of the market trends in the segment and related segments. Unit and dollar shipments are analyzed through consideration of dollar volume of each market participant in the segment. Installed base analysis and unit analysis is based on interviews and an information search. Market share analysis includes conversations with key customers of products, industry segment leaders, marketing directors, distributors, leading market participants, opinion leaders, and companies seeking to develop measurable market share.

Over 200 in depth interviews are conducted for each report with a broad range of key participants and industry leaders in the market segment. We establish accurate market forecasts based on economic and market conditions as a base. Use input/output ratios, flow charts, and other economic methods to quantify data. Use in-house analysts who meet stringent quality standards.

Interviewing key industry participants, experts and end-users is a central part of the study. Our research includes access to large proprietary databases. Literature search includes analysis of trade publications, government reports, and corporate literature.

Findings and conclusions of this report are based on information gathered from industry sources, including manufacturers, distributors, partners, opinion leaders, and users. Interview data was combined with information gathered through an extensive review of internet and printed sources such as trade publications, trade associations, company literature, and online databases. The projections contained in this report are checked from top down and bottom up analysis to be sure there is congruence from that perspective.

The base year for analysis and projection is 2017. With 2017 and several years prior to that as a baseline, market projections were developed for 2018 through 2024. These projections are based on a combination of a consensus among the opinion leader contacts interviewed combined with understanding of the key market drivers and their impact from a historical and analytical perspective. The analytical methodologies used to generate the market estimates are based on penetration analyses, similar market analyses, and delta calculations to supplement independent and dependent variable analysis. All analyses are displaying selected descriptions of products and services.

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This research includes reference to an ROI model that is part of a series that provides IT systems financial planners access to information that supports analysis of all the numbers that impact management of a product launch or large and complex data center. The methodology used in the models relates to having a sophisticated analytical technique for understanding the impact of workload on processor consumption and cost.

WinterGreen Research has looked at the metrics and independent research to develop assumptions that reflect the actual anticipated usage and cost of systems. Comparative analyses reflect the input of these values into models.

The variables and assumptions provided in the market research study and the ROI models are based on extensive experience in providing research to large enterprise organizations and data centers. The ROI models have lists of servers from different manufacturers, Systems z models from IBM, and labor costs by category around the world.

This information has been developed from WinterGreen research proprietary data bases constructed as a result of preparing market research studies that address the software, energy, healthcare, telecommunicatons, and hardware businesses.

YOU MUST HAVE THIS STUDY

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The study is designed to give a comprehensive overview of the Precision Gearbox Precision Gearboxes market segment. Research represents a selection from the mountains of data available of the most relevant and cogent market materials, with selections made by the most senior analysts. Commentary on every aspect of the market from independent analysts creates an independent perspective in the evaluation of the market. In this manner the study presents a comprehensive overview of what is going on in this market, assisting managers with designing market strategies likely to succeed.

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ABOUT THE COMPANY

WinterGreen Research, research strategy relates to identifying market trends through reading and interviewing opinion leaders. By using analysis of published materials, interview material, private research, detailed research, social network materials, blogs, and electronic analytics, the market size, shares, and trends are identified. Analysis of the published materials and interviews permits WinterGreen Research senior analysts to learn a lot more about markets. Discovering, tracking, and thinking about market trends is a high priority at WinterGreen Research. As with all research, the value proposition for competitive analysis comes from intellectual input.

WinterGreen Research, founded in 1985, provides strategic market assessments in telecommunications, communications equipment, health care, Software, Internet, Energy Generation, Energy Storage, Renewable energy, and advanced computer technology.

Industry reports focus on opportunities that expand existing markets or develop major new markets. The reports access new product and service positioning strategies, new and evolving technologies, and technological impact on products, services, and markets. Innovation that drives markets is explored. Market shares are provided. Leading market participants are profiled, and their marketing strategies, acquisitions, and strategic alliances are discussed. The principals of WinterGreen Research have been involved in analysis and forecasting of international business opportunities in telecommunications and advanced computer technology markets for over 30 years.

The studies provide primary analytical insight about the market participants. By publishing material relevant to the positioning of each company, readers can look at the basis for analysis. By providing descriptions of each major participant in the market, the reader is not dependent on analyst assumptions, the information backing the assumptions is provided, permitting readers to examine the basis for the conclusions.

About The Principal Authors

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Susan Eustis, President, co-founder of WinterGreen Research is a senior analyst. She has done research in communications and computer markets and applications. She holds several patents in microcomputing and parallel processing. She has the original patents in electronic voting machines where she was featured in People Magazine in 1976. She has new patent applications in format varying, mulitprocessing, and electronic voting. She is the author of recent studies of the Solar Renewable Energy, Wind Energy, Thin Film Batteries, Business Process Management marketing strategies, Internet equipment, biometrics, a study of Internet Equipment, Worldwide Telecommunications Equipment, Top Ten Telecommunications, Digital Loop Carrier, Web Hosting, Web Services, and Application Integration markets. Ms. Eustis is a graduate of Barnard College. Susan Eustis was named as top female executive of the year by Who's Who Worldwide in 2012. She was named page one of the top 100 Industry leaders in Who's Who Worldwide in 2013, 2014, 2015, and 2016. She has been twice featured on the cover of the Women of Distinction magazine. She was cited in a recent Time Magazine cover article and major media Washington Post and WSJ articles on Youth Sports market growth.

About the WinterGreen Research Team: The WinterGreen Research Team is comprised of senior analysts that prepare the market research and analysis that is offered to the client and developed using an iterative process to achieve a final study. Typical projects include providing market/viability research. The team can look at how drones can be applied to critical infrastructures safety, including: type of market existing, Barriers, Forecast demand and competitors, SWOT and competitive advantages, Price Analysis, product design recommendations (marketing orientation).

Research is typically for many different regions or localities, for example EU countries including Spain, UK, Nordic, Germany, and France. Typical projects profile the United States and areas of Asia. It is common to three representative countries from South America, Brazil, Argentina, Chile, and Mexico. Representative countries from Asia APAC typically include Japan, China, India, and Australia.

Critical infrastructure safety, including: type of market existing, barriers to entry and to faithful execution of product provision, forecast of demand, market share, SWOT, competitive advantage of major competitors, identification of new technologies and new companies, price performance analysis, product design recommendations, and marketing considerations are typical topics covered.