

The World Market for Level Measurement Devices

Core Study: The World Market for Radar Level Devices
Module A: The World Market for Magnetic Level Indicators
Module B: The World Market for Ultrasonic Level Devices
Module C: The World Market for Displacer Level Devices
Module D: The World Market for Level Switches

Overview



**Publication Date:
Q4 2015–Q2 2016**



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Five New Level Market Studies

Flow Research is conducting five new market studies on the worldwide level measurement market. A primary goal is to determine the size of these level measurement markets in 2014, and to forecast market size through 2019. The five studies are called:

Core Study: The World Market for Radar Level Devices

Module A: The World Market for Magnetic Level Indicators

Module B: The World Market for Ultrasonic Level Devices

Module C: The World Market for Displacer Level Devices

Module D: The World Market for Level Switches

The five studies identify the following global elements:

- Market size and market shares for that level device in 2014 by region
- Market growth and forecasts for that level device through 2019
- Product analyses for the main companies selling into that level measurement market
- Industries where that level measurement device is used, and areas of new market growth
- Strategies for manufacturers selling into that level measurement market
- Company profiles of the main suppliers of that level measurement device

Background of Technology

There are a number of different technologies used to measure level. Most level measurement is done inside a closed tank. An exception to this is open channel measurement. However, level measurement is restricted to either liquids or solids, and it is necessary for the liquid or solid to be contained by some kind of structure.

Continuous vs. Point Level Devices

Point level measurement measures level at a single point, such as the height of a liquid in the tank. In continuous level measurement, the level measurement changes as the level varies. For example, if the height of the liquid in a tank goes up and down, continuous level measurement gives changing readings as the height varies.

Level Device Technologies

Just as there are many technologies used to measure flow, there are many different technologies used to measure level. Some of these have been around for many years, while others have been introduced more recently. Some technologies are mechanical in nature, while others are mainly electronic.

Rationale for Study

There is a compelling need for comprehensive studies of level devices markets. In fact, Flow Research was specifically asked by several suppliers to undertake these studies because it has been several years since any such market research has been done. While this is our first study of the level measurement market, we have been researching the related topics of flow, pressure, temperature, analytical instrumentation, and valves since 2000.

The level device market is somewhat complex due to the number of different technologies. All of these technologies are important to the total market, but some level device markets are growing faster than others. We will look at growth factors affecting the level device market and specific technologies of level devices. One important issue is the contrast in growth between new-technology and traditional technology level devices. We expect to determine the extent to which the newer level technologies such as radar and ultrasonic are displacing the more traditional technologies such as magnetic.

Flow Research has identified four significant level device technologies – radar, magnetic, ultrasonic, and displacer – and will devote a study to each of them. At the same time we are conducting a study of the level device markets, we are also researching the closely related area of level switches. There is some overlap in the technologies used for level measurement devices and level switches. We will also devote a study to level switches.

These studies address the key issues in the level device market, including:

- Growth factors affecting the level device market and the specific technologies
- Shipments of each level device technology by revenues and units
- Growth rates for each level device technology market
- Industry segmentation for each level device technology market
- Mergers and acquisitions in the level device market
- New entrants into the level device market
- New products being introduced by suppliers of each level device technology

Publication Dates

The World Market for Level Measurement Devices will be published in five volumes from Q4 2015 to Q2 2016:

- *Core Study*: The World Market for Radar Level Devices — Q4 2015
- *Module A*: The World Market for Magnetic Level Indicators — Q4 2015
- *Module B*: The World Market for Ultrasonic Level Devices — Q1 2016
- *Module C*: The World Market for Displacer Level Devices — Q1 2016
- *Module D*: The World Market for Level Switches — Q2 2016

We have begun work on these studies, but can still incorporate your segmentation suggestions.

The Five Separate Studies

In order to most effectively treat each of the different level measurement device markets and the level switch market, we are dividing the study into a Core Study plus four modules.

Each separate level device study is designed to work as a stand-alone that can be purchased individually. Taken together, however, they will provide a better composite view of the level device market.

All segmentation in each study will be divided by eight geographic regions, with 2014 market size and shares data in dollars and units, and with forecast data provided through 2019.

Each study will also include the following sales channel and customer type segmentation:

By Sales Channel

- Direct Sales
- Independent Representatives
- Distributors
- E-Business

By Customer Type

- End-Users
- Original Equipment Manufacturers (OEMs)
- Systems Integrators
- Engineers/Consultants

Core Study: The World Market for Radar Level Devices

Geographic Segmentation

- North America (United States and Canada)
- Europe (including Russia/FSU)
- Mideast/Africa
- Japan
- China
- India
- Asia/Pacific (not including Japan, China, India)
- Latin America (Mexico, Central and South America)

Average Selling Price of Radar Level Measurement Devices Worldwide and by Region

Radar Level Measurement Devices by Type

Shipments of radar level measurement devices are further segmented by these types:

- Guided Wave
- Non-contact Pulse
- Non-contact FMCW (Frequency Modulated Continuous Wave)

Radar Level Measurement Devices by Industry

- Oil & Gas (upstream, midstream and downstream)
- Refining
- Petrochemical
- Chemical
- Pharmaceutical
- Food & Beverage
- Pulp & Paper
- Metals & Mining
- Power
- Water & Wastewater
- Other



Market Shares of Leading Radar Level Measurement Device Manufacturers

- Worldwide
- For each geographic region

Company Profiles of the Leading Suppliers

Profiles of the leading radar level measurement device manufacturers.

Strategies for Success

Strategies for selling into the competitive level measurement market

Module A: The World Market for Magnetic Level Indicators

Geographic Segmentation

- North America (United States and Canada)
- Europe (including Russia/FSU)
- Mideast/Africa
- Japan
- China
- India
- Asia/Pacific (not including Japan, China, India)
- Latin America (Mexico, Central and South America)

Average Selling Price of Magnetic Level Indicators Worldwide and by Region

Magnetic Level Indicators by Industry

- Oil & Gas (upstream, midstream and downstream)
- Refining
- Petrochemical
- Chemical
- Pharmaceutical
- Food & Beverage
- Pulp & Paper

- Metals & Mining
- Power
- Water & Wastewater
- Other

Market Shares of Leading Magnetic Level Indicator Manufacturers

- Worldwide
- For each geographic region

Strategies for Success

Strategies for selling into the competitive level measurement market.



Company Profiles of the Leading Suppliers

Profiles of the leading magnetic level indicators manufacturers.

Module B: The World Market for Ultrasonic Level Devices

Geographic Segmentation

- North America (United States and Canada)
- Europe (including Russia/FSU)
- Mideast/Africa
- Japan
- China
- India
- Asia/Pacific (not including Japan, China, India)
- Latin America (Mexico, Central and South America)

Average Selling Price of Ultrasonic Level Measurement Devices Worldwide and by Region

Ultrasonic Level Measurement Devices by Industry

- Oil & Gas (upstream, midstream and downstream)
- Refining
- Petrochemical
- Chemical
- Pharmaceutical
- Food & Beverage
- Pulp & Paper
- Metals & Mining
- Power
- Water & Wastewater
- Other

Market Shares of Leading Ultrasonic Level Measurement Device Manufacturers

- Worldwide
- For each geographic region

Strategies for Success

Strategies for selling into the competitive level measurement market.

Company Profiles of the Leading Suppliers

Profiles of the leading ultrasonic level measurement device manufacturers.



Module C: The World Market for Displacer Level Devices

Geographic Segmentation

- North America (United States and Canada)
- Europe (including Russia/FSU)
- Mideast/Africa
- Japan
- China
- India
- Asia/Pacific (not including Japan, China, India)
- Latin America (Mexico, Central and South America)

Average Selling Price of Displacer Level Measurement Devices Worldwide and by Region

Displacer Level Measurement Devices by Industry

- Oil & Gas (upstream, midstream and downstream)
- Refining
- Petrochemical
- Chemical
- Pharmaceutical
- Food & Beverage
- Pulp & Paper
- Metals & Mining
- Power
- Water & Wastewater
- Other

Market Shares of Leading Displacer Level Measurement Device Manufacturers

- Worldwide
- For each geographic region

Strategies for Success

Strategies for selling into the competitive level measurement market.

Company Profiles of the Leading Suppliers

Profiles of the leading displacer level measurement device manufacturers.

Module D: The World Market for Level Switches

At the same time we are conducting a study of the level devices markets, we are also researching the closely related area of level switches. There is some overlap in the technologies used for level measurement devices and level switches. However, because of some significant differences, level switches merit their own separate study. Module D contains an analysis of the world market for level switches.

Geographic Segmentation

- North America (United States and Canada)
- Europe (including Russia and FSU)
- Mideast/Africa
- Japan
- China
- India
- Asia/Pacific (not including Japan, China, India)
- Latin America (Mexico, Central and South America)

Level Switch Technologies

Shipments of traditional technology level measurement devices are segmented by individual technology by region with forecasts to 2019. These technologies include:

- Capacitance
- Displacer
- Hydrostatic
- Load Cell
- Magnetic
- Membrane
- Optical
- Paddle
- Servo Gauge
- Sight Glass
- Thermal Dispersion
- Tilt

Average Selling Price of Level Switches Worldwide and by Region

Level Switches by Industry

- Oil & Gas (upstream, midstream and downstream)
- Refining
- Petrochemical
- Chemical
- Pharmaceutical
- Food & Beverage
- Pulp & Paper
- Metals & Mining
- Power
- Water & Wastewater
- Other



Market Shares of Leading Level Switch Manufacturers

- Worldwide
- For each geographic region

Strategies for Success

Strategies for selling into the competitive level measurement market.

Company Profiles of the Leading Suppliers

Profiles of the leading level switch manufacturers.

Flow Research

Dr. Jesse Yoder is President of Flow Research Inc., a company he founded in 1998. Dr. Yoder has 26 years' experience as a writer and analyst in process control and instrumentation.

Since 1990, he has written more than 180 market research studies, most of them in the area of flow and instrumentation. Some of the recent and currently-scheduled Flow Research studies are listed below. These and other available studies are described at www.flowstudies.com.



Dr. Yoder has also written more than 240 articles on flow and instrumentation for trade journals. Links to these can be found at www.flowarticles.com.

Flow Research is the only market research company whose primary mission is to research flowmeter, calibration, pressure, temperature, level, and other process control instrumentation markets. Flow Research studies can be purchased by anyone interested in the topics. We create these studies through interviews with suppliers, distributors, and end-users. Topics include all of the flowmeter technologies – both new and traditional – as well as pressure transmitters; temperature sensors and transmitters, infrared thermometers and thermal imagers; analytical instrumentation; selected API-certified valves; and studies specifically focused on certain major markets for flowmeters such as the oil and gas markets. Flow Research also started a working group focusing on flowmeter calibration, and is working on studies of flowmeter calibration labs. For more information on Flow Research, please visit our website at www.flowresearch.com.

Recent and currently scheduled Flow Research studies

Websites

New-Technology Flowmeter Studies

The World Market for Coriolis Flowmeters, 4th Edition
 The World Market for Magnetic Flowmeters, 5th Edition
 The World Market for Ultrasonic Flowmeters, 4th Edition
 The World Market for Vortex Flowmeters, 5th Edition
 The World Market for Thermal Flowmeters
 The World Market for Mass Flow Controllers, 2nd Edition

www.flowcoriolis.com
www.flowmags.com
www.flowultrasonic.com
www.flowvortex.com
www.flowthermal.com
www.flowmfc.com

Traditional Technology Flowmeter Studies

The World Market for Pressure Transmitters, 4th Edition
 The World Market for Positive Displacement Flowmeters, 2nd Edition
 The World Market for Turbine Flowmeters, 2nd Edition

www.worldpressure.com
www.flowpd.com
www.flowturbine.com

Emerging Technology Flowmeter Studies

The World Market for Multiphase Flowmeters, 2nd Edition
 Multiphase: Module A: The World Market for Watercut Meters

www.flowmultiphase.com
www.flowmultiphase.com

Mass Flow Controllers

The World Market for Mass Flow Controllers, 2nd Edition
 The World Market Update for Mass Flow Controllers

www.flowmfc.com
www.flowmfc.com

Cross-Technology Flowmeter Studies

Volume X: The World Market for Flowmeters, 5 th Edition	www.flowvolumex.com
Volume X: Module A: Strategies, Industries, and Applications	www.flowvolumex.com
The World Market for Natural Gas and Gas Flow Measurement, 3 rd Edition	www.gasflows.com
The World Market for Liquefied Natural Gas (LNG)	www.flowlng.com
The World Market for Oil and Oil Flow Measurement	www.oilflows.com

Calibration

Core Study: The World Market for Gas Flow Calibration Facilities	www.flowcalibration.org
Module A: The World Market for Liquid Flow Calibration Facilities	www.flowcalibration.org

Custom work, users surveys, and other market news and analysis

In addition to off-the-shelf studies, Flow Research specializes in **custom projects** for companies who are looking to expand their product line, merge with or acquire another company, or understand their customer needs better. We also conduct **user surveys** that include a detailed analysis of customer perceptions.

We are very experienced at doing user surveys that reveal hidden problems, emerging applications, and new product requirements. We gather the data and analyze it in light of our wealth of data on instrumentation. We then formulate strategies that help you achieve your goals.

We work with companies individually to **formulate strategies** that will help them succeed in an increasingly complex world. Dr. Yoder has been working in process control since 1986 and creating market research studies since 1990. He and his team have studied hundreds of companies during this time and have advised most of the top flowmeter suppliers on market and product strategies.

Flow Research also offers the **Worldflow Monitoring Service** that provides subscribers with quarterly updates on the flow and energy industries in the *Market Barometer* and the *Energy Monitor*, plus Flash Reports and access to other information. The *Market Barometer* covers news and analysis for flowmeters, level measurement devices and some other process industry instrumentation, plus calibration. The *Energy Monitor* covers news and analysis for the oil & gas, refining, power, and renewables industries. More details are available at www.worldflow.com.

Staff Profiles

Belinda Burum, Vice President, worked in journalism and advertising before entering high tech 18 years ago as a writer, marketing communications manager, and customer references consultant. She joined Flow Research in 2002, and has worked on many projects, studies and publications.

Norm Weeks, Senior Market Analyst, joined Flow Research in November 2004 after 24-years with Verizon specializing in innovative solutions for major enterprises, introducing new products and lifecycle management, and product marketing. He also served as Director of the Urban Fellows Institute in New York. At Flow Research, his contributions in development, research

and writing are significant, and include involvement with studies, custom projects, White Papers, and Worldflow's *Energy Monitor* and *Market Barometer*.

Leslie Buchanan, Research Assistant and Publication Production Assistant, joined Flow Research in March 2010, with skills from a variety of work and life experiences. Early on, she took on management of the contacts database, assistance with customer liaison, and developing and implementing standards for our publication formats. She has since become increasingly involved in many capacities with Flow Research studies, Worldflow and other publications.

Nicole Riordan, Marketing Assistant, joined Flow Research in 2009. In addition to her previous work experience, Flow Research benefits from her continuing education. She capably handles a wide variety of essential office functions, and also assists with our marketing and direct outreach efforts.

Vicki Tuck, Administrative Assistant, joined Flow Research in June, 2012. She has experience in both the fast-paced law firms of Boston and in various nonprofit organizations. She assists with administrative and other tasks, including database, outreach, and Worldflow publications.

Christina Glaser, Website Maintenance and Research Assistant, is a seasoned software programmer, systems architect, and developer with significant website experience. She joined Flow Research in October 2010 assisting with various tasks, and soon took on the major role of refreshing, improving and maintaining our many company websites.

Rich West, Database and Research Assistant, joined Flow Research in 2014. He has experience in computer- and finance-related businesses. He works with our database and outreach, assisting with customer liaison and providing input and updates to manufacturer databases that are maintained for a variety of research purposes.



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Christian Doppler

The Flow Research *Founding Sponsor Program*

To produce studies that most closely match our clients' needs, Flow Research instituted the Founding Sponsor Program. This program enables companies who wish to participate at a high level in a study's research to influence its scope and segmentation. In addition, Founding Sponsors receive regular updates from Flow Research on study progress, and receive a significant discount on the standard retail price of the study.

Procedure: Early in the planning phase of a study, Founding Sponsors receive a proposal that includes the proposed segmentation. Founding Sponsors can propose additional segmentation, and can also suggest changes to the proposed segmentation. While the decision to adopt particular segmentation ultimately lies with Flow Research, and is based on input from all contributors, we will do our best to accommodate the specific needs of each of our clients.

During the research phase of a study, Flow Research will issue regular reports that provide updates on the progress of the research. These reports will be sent to Founding Sponsors, who are then invited to provide any additional input or comments into the study.

Being a Founding Sponsor requires making an early commitment to purchase the study. However, in return, Founding Sponsors receive a significant discount off the regular price of the study. Payment can be made either in one amount at the beginning of the study, or split into two, with the second payment due upon delivery of the study.

For additional details, or to find out how the Founding Sponsor program applies to any particular study, please contact Flow Research. We look forward to working with you!

If you have any questions about the Founding Sponsor program, please contact Norm Weeks at +1 781 245-3200, or norm@flowresearch.com.

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Why Flow Research?

- We specialize in flowmeter and level markets and technologies
- We are researching all level technologies
- We study suppliers, distributors, and end-users
- Our worldwide network of contacts provides a unique perspective
- Our mission is to supply the data to help your business succeed

www.LevelResearch.com