

WINTERGREEN RESEARCH, INC.

**Wheelchair Market Description, Market Analysis, Product  
Description, and Company Profiles, 2006 to 2012**

---

**Wheelchairs**

---



*Picture by Susie Eustis*

**MOUNTAINS OF OPPORTUNITY**

**WinterGreen Research, Inc.  
Lexington, Massachusetts**

[www.wintergreenresearch.com](http://www.wintergreenresearch.com)

---

REPORT # SH29821479

310 PAGES

98 TABLES AND FIGURES

2006 \$2,800

**CHECK OUT THESE KEY TOPICS**

WHEELCHAIR LOW COST, HIGHEST QUALITY SUPPLY CHAIN  
INVACARE SHIFT TO PRODUCT MANUFACTURING  
ASIAN SOURCING  
SPECIFIC TYPES OF HOME MEDICAL EQUIPMENT  
SERVICE REFERRAL NETWORK  
INVACARE AT'M QUICK TRANSPORT LIGHT-WEIGHT CHAIR  
PRICE-CUTTING PROGRAMS  
REIMBURSEMENT DRIVES HEALTHCARE EQUIPMENT INDUSTRY  
WHEELCHAIR MARKET DRIVING FORCES  
WHEELCHAIR MARKET SHARES  
WHEELCHAIR MARKET FORECASTS  
WHEELCHAIR AND SCOOTER MARKET FORECASTS

***OPPORTUNITY ABOUNDS***

**WinterGreen Research, Inc.  
Lexington, Massachusetts  
[www.wintergreenresearch.com](http://www.wintergreenresearch.com)**

## **Wheelchair Market Description, Market Analysis, Product Description, and Company Profiles, 2006 to 2012**

Home delivery programs to HME providers through drop-ships are evolving in the market. ISG markets a home delivery program to HME providers through which ISG drop-ships supplies in the provider's name to the customer's address. Providers have no products to stock, no minimum order requirements and delivery is made within 24 to 48 hours nationwide.

As Wal-Mart brings DME dealers into the stores, there will be continuing demand for mobility products from the customers. The current DME networks will sell lift devices that let people load chairs to and from cars.

Folding wheelchairs facilitate personal mobility for disabled people. Even regular people may begin to wish to extend personal mobility using wheeled devices that work in short range campus environments. Wheelchair vendors seek to maintain low cost, high quality supply chains.

Companies seek to achieve this objective through a strategic combination of enterprise manufacturing facilities, contract manufacturing facilities, and key suppliers. The operational strategy supports the marketing strategy with assets that are fast, flexible providers of new and modified products that respond to the demands of the market.

The supply chain is focused on providing custom, configured, made-to-order products from facilities close to the customers in each of its major markets. As strategic choices are made on locations globally, those facilities that remain in higher cost regions of North America and Europe very focused factories that provide specific competitive advantage to the marketing and sales teams.

Companies have refined cost reduction plans and initiated outsourcing in the first half of 2005 for global manufacturing and implemented international distribution strategies. These are long term initiatives with some companies that have completion targeted for 2008. These actions are anticipated to generate savings. Companies expect global reductions positions and exiting a number of manufacturing operations worldwide.

Wheelchair markets are expected to grow as the baby boomers age. The aging of the population is expected to change markets. Older people need more support for continued mobility through disability. Rehabilitation becomes more prevalent.

**The ability to get reimbursement has been a significant market factor. As baby boomers age and need wheelchairs, they will be willing to pay directly for mobility and comfort as they do for homes and cars now. This trend will assure market growth worldwide.**

**Wheelchair and scooter markets at \$3.2 billion in 2005 are expected to grow to \$7.4 billion by 2012. (See Figure ES-3.) Wheelchairs and scooters provide mobility and move the healthcare delivery system toward the lower cost homecare.**

## Companies Profiled

- Amigo Mobility International
- ARAMARK Corporation (Galls) (Dyna Med)
- Bruno Independent Living Aids
  - CemcoLift Incorporated
  - Chance Rides Manufacturing
    - Columbia ParCar
    - Concord Elevator
  - Convaid Incorporated
    - Electric Mobility
    - Garaventa Canada
- Gillespie Corporation • Graham-Field Health Products (Everest & Jennings) (LaBac Systems)
  - Inclinor Company of America
  - Ingersoll-Rand Company (Club Car)
  - Invacare Corporation (Motion Concepts)
  - Johnson & Johnson (Independence Technology)
- Kurt Manufacturing Company (Theradyne Healthcare Products)
  - Leisure-Lift
  - National Wheel-O-Vator Company
    - Palmer Industries
    - Permobil AB
  - Pride Mobility Products
  - Savaria Corporation
    - Scooter Store
    - Segway LLC
    - Sunrise Medical
- Taylor-Dunn Manufacturing Company (United Tractor) (Tiger Manufacturing) • Teftec Corporation
  - Textron Incorporated
  - ThyssenKrupp AG (Access Industries)
    - Toro Company
    - 21st Century Scientific
  - Yamaha Motor Company

# Wheelchair Market Description, Market Analysis, Product Description, and Company Profiles, 2006- 2012

## REPORT METHODOLOGY

THIS IS THE *TWO-HUNDRED AND THIRTY-SIXTH* REPORT IN A SERIES OF MARKET RESEARCH REPORTS THAT PROVIDE FORECASTS IN COMMUNICATIONS, TELECOMMUNICATIONS, THE INTERNET, COMPUTER, SOFTWARE, TELEPHONE EQUIPMENT, HEALTH EQUIPMENT, AND ENERGY. 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. 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 PARTICIPATION 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. OUR RESEARCH INCLUDES ACCESS TO LARGE PROPRIETARY DATABASES. LITERATURE SEARCH INCLUDES ANALYSIS OF TRADE PUBLICATIONS, GOVERNMENT REPORTS, AND CORPORATE LITERATURE.

**YOU MUST HAVE THIS STUDY**

REPORT # SH29821479      310 PAGES      98 TABLES AND FIGURES      2006      \$2,800

## Wheelchair Market Description, Market Analysis, Product Description, and Company Profiles, 2006 to 2012

### Table of Contents

<b>WHEELCHAIR EXECUTIVE SUMMARY</b>	<b>ES-1</b>
Home Delivery Programs To HME Providers Through Drop-Ships	ES-1
Wal-Mart Brings DME Dealers Into The Stores	ES-1
Wheelchair Low Cost, Highest Quality Supply Chain	ES-2
Invacare Shift To Product Manufacturing Asian Sourcing	ES-3
Specific Types Of Home Medical Equipment	ES-3
Service Referral Network	ES-4
Invacare AT'M Quick Transport Light-Weight Compact Chair	ES-5
Price-Cutting Programs	ES-5
Reimbursement Drives Healthcare Equipment Industry	ES-5
Wheelchair Market Driving Forces	ES-6
Wheelchair Market Shares	ES-8
Wheelchair Market Forecasts	ES-10
Wheelchair And Scooter Market Forecasts	ES-10
<b>1. WHEELCHAIR MARKET DYNAMICS AND MARKET DESCRIPTION</b>	<b>1-1</b>
1.1 Health Care Cost Containment Trends	1-1
1.1.1 Home Health Care And Home Medical Equipment	1-1
1.1.2 Changing Home Health Care Market Distribution Channels	1-2
1.1.3 Mainstreaming Of People With Disabilities	1-2
1.1.4 Recovery And Active Lifestyles Of Disabled	
Portion of the Population	1-3
1.2 Healthcare Equipment Industry	1-7
1.3 Reimbursement Drives Healthcare Equipment Industry	1-7
1.3.1 Prospective Payment System (PPS)	1-8
1.3.2 Market-Driven Reforms	1-9
1.3.3 Home Medical Equipment Industry Segments	1-10
1.4 Marketing Globally	1-11
1.4.1 U.S. Healthcare Delivery Industry	1-14
1.4.2 Competition Forms Basis Of U.S. Medical	
Care Services Delivery	1-15
1.4.3 European Homecare Market Trends	1-16
1.5 Hospital and Home Care Services Billing Issues	1-17
1.5.1 Managed Care Requirements	1-19
1.6 Market Drivers For Healthcare Cost Containment	1-22
1.6.1 Managed Care Organization Impact	1-23
1.6.2 Reasons Home Health Care Has Gained	
Wide-Spread Acceptance	1-23
1.6.3 Managed Care Change In The Healthcare Industry	1-24
1.6.4 Homecare For People With Long Term Disabilities	1-24
1.6.5 Health Care Cost Containment Trends	1-25
1.7 Wheel Chair Distribution Channels	1-25
<b>2. WHEELCHAIR MARKET SHARES AND MARKET FORECASTS</b>	<b>2-1</b>

2.1	Wheelchair Market Driving Forces	2-1
2.1.1	Lifestyle Demands	2-5
2.1.2	Wheelchair Usage	2-6
2.1.3	Race And Ethnicity	2-7
2.1.4	Socioeconomic Status	2-8
2.1.5	Employment	2-8
2.1.6	Conditions Causing Disability	2-9
2.1.7	Active Patients	2-10
2.1.8	Customized and Lightweight Wheelchairs Transform Market	2-11
2.1.9	Wheelchair Market Issues	2-11
2.1.10	Wheelchair Insurance Reimbursement	2-13
2.2	Wheelchair Market Shares	2-14
2.2.1	Invacare Positioning	2-19
2.2.2	Sunrise Medical Positioning	2-23
2.3	Number of People in Wheelchairs	2-23
2.3.1	Transportation Significant Barrier To Employment And Full Community Participation	2-25
2.3.2	Public Transportation	2-26
2.3.3	Medicare Wheelchair Spending	2-26
2.4	Wheelchair Segments	2-27
2.5	Wheelchair Market Forecasts	2-31
2.5.1	Wheelchair and Scooter Market Forecasts	2-31
2.5.2	Wheelchair Market Forecasts	2-33
2.5.3	Standard Wheelchair Market Forecasts	2-34
2.5.4	Folding Wheelchair Market Forecasts	2-37
2.5.5	Custom Wheelchair Market Forecasts	2-42
2.5.6	Racing Wheelchair Market Forecasts	2-45
2.5.7	Sports and Racing Wheelchair Market Forecasts	2-46
2.5.8	Seating And Positioning Product Forecasts	2-47
2.5.9	Power Wheelchairs	2-48
2.6	Wheelchair Prices	2-49
2.6.1	Invacare Ultra Lightweight Frame Type:	2-49
2.7	Wheelchair Regional Market Analysis	2-51
<b>3.</b>	<b>WHEELCHAIR PRODUCT DESCRIPTION</b>	<b>3-1</b>
3.1	Wheelchairs	3-1
3.2	Manual Wheelchairs	3-1
3.2.1	Invacare Manual Wheelchairs	3-1
3.2.2	Quick Transport Light-Weight Compact Chair	3-3
3.2.3	Invacare MVP and Invacare Folding Performance Wheelchairs	3-5
3.2.4	Invacare A4 Rigid Performance Wheelchair	3-5
3.2.5	Invacare UltraLight Weight	3-6
3.2.6	Invacare Solara and Solara 2G	3-7
3.2.7	Invacare Compass SPT and XE	3-8
3.2.8	Invacare Careguard Wheelchairs	3-8
3.2.9	Invacare IVC Tracer EX2 Wheelchair	3-8
3.2.10	Invacare Aluminum Transport Chair	3-9
3.2.11	Invacare Top-End Manual Wheelchairs	3-9
3.2.12	Graham Field / Everest and Jennings Metro,	
3.2.13	Metro IC3, IC4, and LE	3-9
3.2.14	Graham Field / Everest and Jennings Traveler, Traveler Hemi, XD, and Recliner	3-10
3.2.14	Everest and Jennings Vista IC	3-10
3.2.15	Gunnell Manual Adult Wheelchairs	3-11
3.2.16	Convaid Compax	3-11
3.2.17	Drive Medical Manual Wheelchairs	3-11
3.2.18	Gendron Push Wheelchairs	3-13
3.2.19	Glide Rehabilitation Manual Wheelchairs	3-13

3.2.20	The Melrose Kiwi Condor	3-16
3.2.21	The Melrose Kiwi Panther	3-16
3.2.22	The Melrose Kiwi Extreme	3-17
3.2.23	The Melrose Kiwi Stallion	3-17
3.2.24	The Melrose Kiwi Panther AX	3-17
3.2.25	The Melrose Kiwi Shockwave	3-17
3.2.26	The Melrose Kiwi Tilt N Space	3-17
3.2.27	Permobil C300 CS	3-18
3.2.28	Permobil C300 Corpus	3-19
3.2.29	Permobil C400 CS	3-20
3.2.30	Permobil C400 Lowrider	3-20
3.2.31	Permobil C400 Stander Jr.	3-20
3.2.32	Permobil C500 PS	3-21
3.2.33	Pride Mobility Manual Wheelchairs	3-22
3.2.34	Product Design Group Astrotilt	3-22
3.2.35	Product Design Group Stellar	3-22
3.2.36	Product Design Group Bentley	3-23
3.2.37	RGK Lifestyle Wheelchairs	3-23
3.2.38	Sunrise Medical Quickie 2	3-25
3.2.39	Sunrise Medical Quickie LX	3-25
3.2.40	Sunrise Medical Quickie LXI	3-26
3.2.41	Sunrise Medical Quickie Revolution	3-26
3.2.42	Sunrise Medical Quickie Chameleon	3-26
3.2.43	Sunrise Medical Quickie GTX	3-27
3.2.44	Sunrise Medical Quickie GT	3-27
3.2.45	Sunrise Medical Quickie Ti Titanium	3-28
3.2.46	Sunrise Medical Quickie R2	3-28
3.2.47	Sunrise Medical Quickie XTR	3-29
3.2.48	Sunrise Medical Quickie GP/GPV	3-29
3.2.49	Sunrise Medical Quickie SD/DT	3-30
3.2.50	Sunrise Medical Quickie GPV Competition	3-30
3.2.51	Sunrise Medical Quickie GP Swing-Away	3-30
3.2.52	Sunrise Medical Quickie GPV Titanium	3-31
3.2.53	Sunrise Medical Quickie IRIS	3-31
3.2.54	Sunrise Medical Quickie TS	3-32
3.2.55	Sunrise Medical Quickie Recliner	3-32
3.2.56	Sunrise Medical Breezy Ultra 4	3-33
3.2.57	Sunrise Medical Guardian Easy Care 1000 Wheelchair	3-33
3.2.58	Sunrise Medical Guardian Easy Care 2000HD	3-33
3.2.59	Sunrise Medical Guardian Easy Care 3000	3-34
3.2.60	Sunrise Medical Guardian Easy Care 4000	3-34
3.2.61	Sunrise Medical Breezy 503	3-34
3.2.62	Sunrise Medical Breezy 510	3-35
3.2.63	Sunrise Medical H-1000 Wheelchair	3-35
3.2.64	Sunrise Medical H-2000 Extra Wide Wheelchair	3-35
3.2.65	Sunrise Medical H-2000	3-36
3.3	<b>Power Wheelchairs</b>	3-36
3.3.1	Invacare Power Wheelchairs	3-36
3.3.2	Invacare At'm Quick Transport Light-Weight Compact Chair	3-37
3.3.3	Invacare MK Series Electronics	3-37
3.3.4	Glide Rehabilitation Power Wheelchairs	3-39
3.3.5	Graham Field Power Wheelchairs	3-40
3.3.6	Hoveround MPV 5 Power Wheelchair	3-40
3.3.7	Hoveround MPV 4 Power Wheelchair	3-41
3.3.8	Hoveround Teknique FWD	3-42
3.3.9	Hoveround Teknique RWD	3-43
3.3.10	Hoveround Teknique GT	3-43
3.3.11	Hoveround REHAB SE-3	3-44
3.3.12	Hoveround REHAB MPV 4	3-44

3.3.13	Magic Mobility The Frontier X5	3-44
3.3.14	Magic Mobility Extreme 4 X 4	3-45
3.3.15	Magic Mobility Jewel	3-45
3.3.16	Permobil Street Corpus	3-46
3.3.17	Permobil Trax Standard	3-47
3.3.18	Pride Mobility Power Chairs	3-48
3.3.19	Soleus Mobility Freedom I	3-52
3.3.20	Soleus Mobility Freedom II	3-53
3.3.21	Sunrise Quickie Rhythm	3-55
3.3.22	Sunrise Quickie Groove	3-55
3.3.23	Sunrise Quickie S-11	3-56
3.3.24	Sunrise Quickie Freestyle	3-56
3.3.25	Sunrise Quickie Aspire	3-56
3.3.26	Sunrise Quickie P-11	3-56
3.3.27	Sunrise Quickie S-646 and S-646 SE	3-57
3.3.28	Sunrise Quickie P-222 SE	3-57
3.3.29	Sunrise Quickie G-424	3-57
3.3.30	Sunrise Guardian Microlite Ruby	3-58
3.4	<b>Bariatric</b>	3-58
3.4.1	Invacare IVC Tracer IV Wheelchair and Bariatric Wheelchairs	3-58
	3.4.2 Convaquip Model 926 BWC and 930 BWC	
	and 926XL, 928XL, 930XL	3-59
3.4.3	Convaquip Model 650-H Hoss and Model 500 LJ Hoss, Jr.	3-60
3.4.4	Gendron Manual Bariatric	3-60
3.4.5	Gendron Power Bariatric	3-60
3.4.6	Gunnell Manual Bariatric Wheelchairs	3-61
3.4.7	Hoveround Technique HXD	3-61
3.4.8	Hoveround HD-7	3-62
3.4.9	Permobil Chairman HD3	3-63
3.4.10	Pride Mobility Bariatric Wheelchair	3-64
3.4.11	Product Design Group Eclipse	3-65
3.4.12	Sunrise Medical Quckie M6	3-65
3.5	<b>Pediatric Wheelchairs</b>	3-66
3.5.1	Invacare Spree GT, XT, and XT Limited	3-66
3.5.2	Invacare Orbit	3-66
3.5.3	Invacare MVP jr.	3-66
3.5.4	Invacare Comet	3-67
3.5.5	Invacare IVC 9000 Jymni Pediatric Wheelchair	3-67
3.5.6	Convaid Mountee	3-67
3.5.7	Convaid Cruiser Planar and Profiler	3-68
3.5.8	Convaid EZ Rider and Convertible	3-68
3.5.9	Convaid Lite Rider	3-68
3.5.10	Convaid Safari Tilt	3-69
3.5.11	Convaid Fixed-Tilt Wheelchairs	3-69
3.5.12	Glide Pediatric Wheelchairs	3-70
3.5.13	Glide Pediatric Power Wheelchairs	3-71
3.5.14	Gunnell Pediatric Bariatric Manual Wheelchairs	3-71
3.5.15	Magic Mobility Eclipse	3-71
3.5.16	Permobil Koala	3-72
3.5.17	Permobil Playman Robo	3-73
3.5.18	Permobil C300 Corpus Jr.	3-73
3.5.19	Permobil Trax Miniflex	3-74
3.5.20	Pride Mobility Pediatric Wheelchairs	3-75
3.5.21	Sunrise Zippie, Zippie 2, IRIS, TS, and GS	3-76
3.5.22	Sunrise Mighty Lite Wheelchair by Kid Kart	3-77
3.5.23	Sunrise Quickie Kidz	3-77
3.6	<b>Sportschairs</b>	3-77
3.6.1	Invacare Sportschairs	3-77
3.6.2	Sunrise Sports Wheelchairs	3-81

3.6.3	Eagle Sportschairs	3-82
3.6.4	The Melrose Kiwi Orion	3-84
3.6.5	The Melrose Kiwi Rhino	3-84
3.6.6	The Melrose Kiwi Gazelle	3-84
3.6.7	RGK Sport Wheelchairs	3-84
<b>4. WHEELCHAIR TECHNOLOGY</b>		<b>4-1</b>
4.1	Government Regulation	4-1
4.1.1	Competitive Bidding	4-4
4.2	Technological Trends	45
4.2.1	Thin Film Lithium And Lithium Ion Batteries	4-6
4.2.2	Thin Film Battery Market Driving Forces	4-7
4.3	Thin Film Solid-State Battery Construction	4-7
4.4	Science And Medical Technology	4-9
4.4.1	Physical Therapy	4-10
4.4.2	Treatment Trends	4-10
4.5	Wheel Chair Technological Trends	4-12
4.5.1	Power Wheelchairs	4-12
4.5.2	Sport Wheelchairs	4-12
4.5.3	Lightweight Wheelchairs	4-13
4.5.4	Transport Wheelchairs (Folding)	4-13
4.6	Medical Equipment Government Regulation	4-15
4.6.1	U.S. Medical Equipment Government Regulation	4-15
4.6.2	Safe Medical Devices Act of 1990 and Medical Device Amendments of 1976	4-16
4.6.3	Companies Gain Market Credibility For Adhering To High Standards Of Quality And Safety	4-17
4.6.4	U.S. Legislation Related To Providing Prescription Drug Coverage For The Elderly -- November 2003	4-17
<b>5. WHEELCHAIR COMPANY PROFILES</b>		<b>5-1</b>
5.1	Wheelchair Companies	5-1
5.2	Amigo Mobility	5-3
5.3	Convaid	5-5
5.4	Convaquip	5-5
5.5	Drive Medical	5-7
5.6	Eagle Sportschairs	5-8
5.7	Gendron Inc.	5-8
5.8	Glide Rehabilitation Products	5-9
5.9	Graham-Field	5-10
5.9.1	Everest & Jennings	5-12
5.9.2	Graham-Field Launches Everest Power Wheelchair Line	5-12
5.9.3	Graham Field Health Products Third Quarter Revenues	5-13
5.9.4	CEO of Graham-Field Health Products	5-13
5.10	Gunnell	5-14
5.11	Hoveround	5-15
5.11.1	Products	5-15
5.12	Invacare	5-17
5.12.1	Invacare Manufacturing And Suppliers	5-18
5.12.2	Invacare North America	5-19
5.12.3	Invacare Asia/Pacific	5-20
5.12.4	Invacare Europe	5-20
5.12.5	Invacare Acquisitions	5-20
5.12.6	Invacare Strategy	5-22
5.12.7	Invacare Products	5-23
5.12.8	Financial Data	5-24

5.12.9	Invacare Intersegment Revenues	5-28
5.13	Magic Mobility	5-29
5.14	Melrose Kiwi Concept Chairs	5-29
5.15	Product Design Group	5-29
5.16	Permobil	5-29
5.17	Piaggio	5-30
5.18	Pride Mobility	5-30
5.19	RGK	5-31
5.20	Soleus Mobility	5-31
5.21	Sunrise	5-32
5.21.1	Products	5-32
5.21.2	Sunrise Acquires Adaptive Equipment Systems, RehabiliTech and Whitmyer Biomechanix.	5-33
5.22	Yamaha Motor	5-34
5.23	Wheelcare Power Mobilizers	5-36
<b>6.</b>	<b>WHEELCHAIR DISTRIBUTION DISCUSSION</b>	<b>6-1</b>
6.1	Wheelchair Distribution	6-1
6.1.1	Invacare Continues To Enhance www.invacare.com	6-4
6.1.2	Invacare Continues To Generate Greater Consumer Awareness	6-6
6.2	Positioning the Team as a Partnership of To Achieve Distribution Leverage In Long term Care Software Marketing	6-8
6.2.1	IBM And Microsoft Working With Vendors	6-9
6.2.2	Long Term Care Providers Mid Market Distribution	6-10
6.3	Partnering As Teams to Enable Distribution	6-11
6.3.1	Partner Business Drivers	6-13
6.3.2	Business Process Integration	6-14
6.3.3	Integration Of Business Processes	6-17
6.3.4	Impact Of Mergers And Acquisitions	6-17
6.3.5	Expand Strategic Partnerships	6-20
6.3.6	Electronic Commerce	6-20
6.3.7	Vendors With A Broad Suite Of Products	6-24
6.3.8	Total Segments By Vendor	6-24
6.4	Meditech	6-25
6.4.1	Meditech Client/Server Platform	6-25
6.4.2	Marketing and Distribution Invacare Strategy	6-25
6.4.3	Territory Business Managers In North America and Asia/Pacific	6-26
6.4.4	Continuing Care Group Distribution To The Non-Acute Care Market	6-27
6.4.5	Europe	6-28
6.5	Sunrise Medical	6-29
6.6	Graham-Field Illustrates Distribution of A Wide Variety of Goods	6-29
6.7	Global Digital Environment Depends on Leadership and Partnering	6-30
6.7.1	Sam Palmisano at IBM Leads with Global Innovation Outlook	6-31
6.7.2	John Chambers at Cisco Leads with On Line Technology Message	6-33
6.8	Enabling Mid Size Business Environment	6-34
6.9	Growth Potential Of Small Businesses Becoming Mid Size Businesses	6-35

6.10	Mid Market Application Integration Market Driving Forces	6-35
6.10.1	Enterprise Application Integration (EAI) Integration	
	Demands Of E-Business	6-36
6.10.2	Market Driving Forces For Real Time Exchange of Information	6-41
6.11	Challenges Facing Small To Medium Businesses (Long Term Care Facilities)	6-43
6.11.1	Exporting	6-43
6.11.2	Business Opportunity	6-44
6.11.3	Critical to the World Economy	6-45
6.11.4	Internet As An Integral Part Of The Global Economy	6-46
6.11.5	Internet-Based Businesses	6-48
6.11.6	Digital Inclusion	6-48
6.11.7	Hoveround Corporation Direct Sales	6-49

## List of Tables and Figures

Table ES-1	ES-7
Wheelchair Market Driving Forces	
Figure ES-2	ES-9
Worldwide Wheelchair	
Shipments Market Shares, Dollars, First Half 2006	
Figure ES-3	ES-11
Worldwide Wheelchair and Scooter	
Shipments Market Forecasts, Dollars, 2005 -2012	
Table 1-1	1-4
Wheelchair Target Markets	
Table 1-2	1-5
Wheelchair Target Market Positioning	
Table 1-3	1-6
Wheelchair Market Positioning Functions	
Table 1-4	1-10
Home Medical Equipment Market Segments	
Table 1-5	1-13
Marketing Globally	
Table 1-6	1-18
Home Care Services Billing Issues	
Table 1-7	1-18
Home Care Services Billing Changes Needed	
Table 1-8	1-20
JCAHO ORYX Requirements	
Table 2-1	2-2
Wheelchair Market Driving Forces	
Table 2-2	2-3
Wheelchair Market Home Health Care Treatment Trends	
Table 2-3	2-4
Wheelchair Market Aspects	
Table 2-4	2-12
Wheelchair Market Issues	
Table 2-5	2-15
Worldwide Wheelchair	
Shipments Market Shares, Dollars, First Half 2006	
Table 2-6	2-16

Worldwide Wheelchair Shipments Market Shares, Dollars, First Half 2006 Figure 2-7	2-17
Worldwide Wheelchair Shipments Market Shares, Dollars, 2005 Table 2-8	2-18
Worldwide Wheelchair Shipments Market Shares, Dollars, 2005 Table 2-9	2-20
Invacare Positioning Figure 2-10	2-28
Worldwide Wheelchair Shipments Market Segments, Dollars, 2005 Figure 2-11	2-29
Worldwide Wheelchair Shipments Market Segments, Dollars, 2012 Table 2-12	2-30
Worldwide Wheelchair and Scooter Shipments Market Forecasts and Segments, Dollars, 2005 -2012 Figure 2-13	2-32
Worldwide Wheelchair and Scooter Shipments Market Forecasts, Dollars, 2005 -2012 Figure 2-14	2-33
Worldwide Wheelchair Shipments Market Forecasts, Dollars, 2005 -2012 Figure 2-15	2-35
Worldwide Standard Wheelchair Shipments Market Forecasts, Dollars, 2005 -2012 Table 2-16	2-36
Worldwide Standard Wheelchair Shipments Market Forecasts, Dollars, 2005 -2012 Figure 2-17	2-38
Worldwide Folding Wheelchair Shipments Market Forecasts, Dollars, 2005 -2012 Table 2-18	2-39
Worldwide Folding Wheelchair Shipments Market Forecasts, Dollars, 2005 -2012 Table 2-19	2-40
Worldwide Folding Wheelchair Auto Lift Device Shipments Market Forecasts, Dollars, 2005 -2012 Table 2-20	2-40
Worldwide Folding Wheelchair Auto Lift Device Shipments Market Forecasts, Dollars, 2005 -2012 Table 2-21	2-42
Worldwide Custom Wheelchair Shipments Market Forecasts, Dollars, 2005 -2012 Table 2-22	2-44
Worldwide Custom Wheelchair Shipments Market Forecasts, Dollars, 2005 -2012 Figure 2-23	2-45
Worldwide Racing Wheelchair Shipments Market Forecasts, Dollars, 2005 -2012 Table 2-24	2-46

Worldwide Racing Wheelchair Shipments Market Forecasts, Dollars, 2005 -2012 Table 2-25	2-48
Worldwide Wheelchair Seating Shipments Market Forecasts, Dollars, 2005 -2012 Table 2-26	2-50
Invacare Custom Wheelchairs Front Frame Figure 2-27	2-52
Worldwide Wheelchair Regional Shipments, Dollars, First Half 2006 Table 2-28	2-53
Worldwide Wheelchair Regional Shipments, Dollars, First Half 2006 Figure 3-1	3-2
Invacare Wheelchair Positioning Table 3-2	3-4
Invacare Frame Variations Table 3-3	3-5
Invacare Folding Performance Wheelchairs Figure 3-5	3-7
Invacare Ultra Light Weight Unit Table 3-6	3-12
Drive Medical Manual Wheelchairs Table 3-7	3-14
Glide Rehabilitation Adult Manual Wheelchairs Table 3-8	3-18
Melrose Kiwi Tilt N Space Features Table 3-9	3-19
Permobil C300 Corpus Features Table 3-10	3-21
Permobil C400 Stander Jr. Features Table 3-11	3-23
Product Design Group Bentley Features Table 3-12	3-24
Product Design Group Lifestyle Wheelchairs Features Table 3-13	3-37
Invacare Power Wheelchair Lines Table 3-14	3-39
Glide Rehabilitation Power Wheelchairs Table 3-15	3-41
Hoveround MPV 5 Features Table 3-16	3-42
Hoveround MPV 4 Features Table 3-17	3-43
Hoveround Teknique RWD Features Table 3-18	3-45
Magic Mobility Extreme 4X4 Features Table 3-19	3-47
Permobil Street Corpus Features Table 3-20	3-49
Pride Mobility's Jazzy Wheelchair Features Table 3-21	3-53

Soleus Freedom I Features	
Table 3-22	3-54
Soleus Freedom II Features	
Table 3-23	3-59
Invacare Bariatric Wheelchairs	
Table 3-24	3-62
Hoveround Teknique HXD Features	
Table 3-25	3-63
Permobil Chairman HD3 Features	
Table 3-26	3-69
Convaid Safari Tilt Models	
Table 3-27	3-70
Glide Pediatric Wheelchairs	
Table 3-28	3-72
Permobil Koala Features	
Table 3-29	3-74
Permobil C300 Corpus Jr. Features	
Table 3-30	3-75
Features of Pride Mobility's Pediatric Wheelchairs	
Figure 3-31	3-78
Invacare Basketball Sportschair	
Figure 3-32	3-78
Invacare Handcycling Sportschair	
Figure 3-33	3-79
Invacare Quad Rugby Sportschair	
Figure 3-34	3-79
Invacare Racing Sportschair	
Figure 3-35	3-80
Invacare Tennis Sportschair	
Figure 3-36	3-81
Invacare Top End Transformer Sportschair	
Table 3-37	3-82
Sunrise Medical Sports Wheelchairs	
Table 3-38	3-83
Eagle Sports chairs Wheelchairs	
Table 3-39	3-85
RGK Sport Wheelchairs Features	
Figure 4-1	4-8
Typical Structure Of A Thin Film Solid State Battery	
Table 4-2	4-11
Factors Relating To Value Of Home Health Care Over Institutional Care	
Table 4-3	4-14
Transport Wheelchair Features	
Table 5-1	5-1
Selected Wheelchair Companies	
Table 5-2	5-4
Amigo Scooters	
Table 5-3	5-6
Convaquip Equipment Offerings	

Table 5-4	5-9
Glide Rehabilitation Product Areas	
Table 5-5	5-11
Graham Field Product Lines	
Table 5-6	5-12
Graham Field Everest Wheelchair New Features	
Table 5-7	5-15
Gunnell Product Categories	
Table 5-8	5-16
Hoveround Adult Power Wheelchair Lines	
Table 5-9	5-17
Hoveround Scooter	
Table 5-10	5-22
Invacare's Strategy	
Table 5-11	5-27
Invacare Quarterly Revenue	
Table 5-12	5-27
Invacare Annual Revenue	
Table 6-1	6-13
Integration Targeted To B2B And Exchanges	
Table 6-2	6-15
Long Term Care Provider Business Process Integration Advantages	
Table 6-3	6-19
Enterprise Application Integration (EAI) Processes	
Table 6-4	6-21
E-Business Objectives	
Table 6-5	6-22
Electronic Commerce Infrastructure Requirements	
Table 6-6	
EAI Functions Enable E-commerce	
Table 6-7	6-23
EAI Support For Internet Commerce And EDI	
Table 6-8	6-39
Mid Market Enterprise Application Integration Market Driving Forces	

## **ABOUT THE COMPANY**

**WINTERGREEN RESEARCH**, HAS A UNIQUE RESEARCH STRATEGY THAT RELATES TO IDENTIFYING MARKET TRENDS THROUGH READING AND INTERVIEWING OPINION LEADERS. BY READING THE ELECTRONIC EQUIVALENT OF 40 FEET OF PAPER, WINTERGREEN RESEARCH SENIOR ANALYSTS CAN LEARN A LOT MORE ABOUT MARKETS, A LOT FASTER THAN CAN BE LEARNED THROUGH EXPENSIVE SURVEYS AND FOCUS GROUPS. 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.

IT IS A LUXURY REALLY, AVAILABLE TO ONLY A VERY FEW PEOPLE, TO BE ABLE TO GATHER INFORMATION, LOTS OF INFORMATION FROM READING MASSIVE AMOUNTS OF CONTENT, AND THEN TRYING TO MAKE SENSE OF THAT CONTENT. THE ABILITY TO THINK ABOUT MARKET TRENDS IS ENHANCED BY DOING IT OVER AND OVER FOR MANY DIFFERENT MARKETS. THAT IS WHAT WINTERGREEN RESEARCH IS ALL ABOUT: READING AND THINKING IS AN ESSENTIAL ASPECT OF COMPETITIVE ANALYSIS. TALKING TO OPINION LEADERS IS THE THIRD ESSENTIAL ASPECT OF PRODUCING GOOD, RELIABLE DATA.

**WINTERGREEN RESEARCH**, FOUNDED IN 1985, PROVIDES STRATEGIC MARKET ASSESSMENTS IN TELECOMMUNICATIONS, COMMUNICATIONS EQUIPMENT, HEALTH CARE, INTERNET AND ADVANCED COMPUTER TECHNOLOGY. INDUSTRY REPORTS FOCUS ON OPPORTUNITIES THAT EXPAND EXISTING MARKETS OR DEVELOP MAJOR NEW MARKETS. THE REPORTS ASSESS NEW PRODUCT AND SERVICE POSITIONING STRATEGIES, NEW AND EVOLVING TECHNOLOGIES, AND TECHNOLOGICAL IMPACT ON PRODUCTS, SERVICES, AND MARKETS. 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.

**ABOUT THE PRINCIPAL AUTHORS**

**ELLEN T. CURTISS**, TECHNICAL DIRECTOR, CO-FOUNDER OF WINTERGREEN RESEARCH, CONDUCTS STRATEGIC AND MARKET ASSESSMENTS IN TECHNOLOGY-BASED INDUSTRIES. PREVIOUSLY SHE WAS A MEMBER OF THE STAFF OF ARTHUR D. LITTLE, INC., FOR 23 YEARS, MOST RECENTLY AS VICE PRESIDENT OF ARTHUR D. LITTLE DECISION RESOURCES, SPECIALIZING IN STRATEGIC PLANNING AND MARKET DEVELOPMENT SERVICES. SHE IS A GRADUATE OF BOSTON UNIVERSITY AND THE PROGRAM FOR MANAGEMENT DEVELOPMENT AT HARVARD GRADUATE SCHOOL OF BUSINESS ADMINISTRATION. SHE IS THE AUTHOR OF RECENT STUDIES ON WORLDWIDE TELECOMMUNICATIONS MARKETS, THE TOP TEN INTERNET EQUIPMENT COMPANIES, THE TOP TEN CONTRACT MANUFACTURING COMPANIES, AND THE TOP TEN TELECOMMUNICATIONS MARKET ANALYSIS AND FORECASTS.

**SUSAN EUSTIS**, PRESIDENT, CO-FOUNDER OF WINTERGREEN RESEARCH, 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. SHE HAS NEW PATENT APPLICATIONS IN FORMAT VARYING, MULTIPROCESSING, AND ELECTRONIC VOTING. SHE IS THE AUTHOR OF RECENT STUDIES OF THE REGIONAL BELL OPERATING COMPANIES' 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.

WINTERGREEN RESEARCH, INC.

ORDER FORM

Return To: WinterGreen Research, Inc.  
6 Raymond Street  
Lexington, MA 02421 USA  
Phone: (781) 863-5078 --- Fax: (781) 863-1235 or (781) 860-0897

PLEASE ENTER MY ORDER FOR:

**Wheelchair Market Description,  
Market Analysis, Product  
Description, and Company Profiles,  
2006 to 2012**

*-ALL REPORTS ARE AVAILABLE IN EITHER PRINT OR PDF-*

\_\_\_\_\_ *PDF* \_\_\_\_\_ *PRINT*

\_\_\_ ENCLOSED IS MY CHECK FOR \$2,800 FOR SINGLE COPY, \$3,800 FOR WEB SITE POSTING

\_\_\_ PLEASE BILL MY COMPANY USING P.O. NUMBER \_\_\_\_\_

\_\_\_ PLEASE CHARGE MY MASTERCARD/VISA/AMERICAN EXPRESS—

CARD NUMBER \_\_\_\_\_ EXP. DATE \_\_\_\_\_

If charging to a Credit card you may e-mail the order form, but not the card information

Fax or Call with credit card information - Do not send card number as e-mail - You may send the order as e-mail

\_\_\_ ADDITIONAL COPIES, @ \$375 (EXTRA COPY PRICE IN EFFECT ONLY WITH INITIAL ORDER)

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

SIGNATURE \_\_\_\_\_

COMPANY \_\_\_\_\_ DIVISION \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE / ZIP \_\_\_\_\_

TELEPHONE \_\_\_\_\_

FAX \_\_\_\_\_

EMAIL \_\_\_\_\_

*PLEASE NOTE:* RESIDENTS OF MASSACHUSETTS AND CONNECTICUT MUST INCLUDE APPROPRIATE SALES TAX

SUBSCRIBERS OUTSIDE THE UNITED STATES MUST PROVIDE PREPAYMENT IN U.S. FUNDS

REPORT # SH29821479    310 PAGES    98 TABLES AND FIGURES    2006    \$2,800