Investment Advantages of Taiwan's Medical Equipment and Medical Channel Industries

I. Ten Investment Advantages

1. Major supply center of homecare medical equipment worldwide.
2. World’s top three items in walking aids.
3. High market value of medical furniture in emerging markets.
4. History of success in cooperation with world-leading medical equipment manufacturers.
5. History of success in medical service export.
6. High C/P value for medical equipment around the world.
7. Supplier of global important medical electronic components.
8. Core technology of horizontal application in the medical equipment industry.
9. Government promotion of industrial development.
10. Great developmental environment for dentistry and orthopedics with the formation of industrial clusters.

II. Introduction to Leading Taiwanese Manufacturers

The total output value of Taiwan’s medical equipment market in 2013 was NT$81.4 billion, and is expected to reach NT$86.34 billion in 2014 with 6.1% annual growth (Table 1). Although the domestic market scale is not that big, domestic demand and average medical equipment expense per capita are increasing with the rise of the aging population and the public demand for quality healthcare.

In terms of the value and structure of the medical equipment industry, there are about 626 medical-equipment-related manufacturers in Taiwan, and most of them are SMEs with less than 300 employees. They operate their businesses under OEM/ODM models, most products are mid- and low-level medical equipment, and manufacture is the main business activity of about 90% of manufacturers. In addition to the medical reform in China and the USA and the recovery of demand in the European and US markets, the successful deployment in the Chinese market has been the push that is pushing the overall value of Taiwan's medical equipment industry.

Table 1 Output Value of Taiwan's Medical Equipment Industry

Unit: NT$ million

	2010	2011	2012	2013(e)	2014(f)	2013 Growth (%)	2014 Growth (%)
Diagnostic & Monitoring	17,210	10,711	10,512	8,231	8,133	-21.70	-1.20
Surgical and Therapeutic	11,920	15,466	16,758	18,066	18,952	7.80	4.90
Aids and Compensational	12,580	13,815	17,351	21,202	23,654	22.20	11.60
In Vitro Diagnostic	11,250	13,187	14,729	15,319	15,998	4.00	4.40
Other	13,240	15,024	16,699	18,599	19,605	11.40	5.40
Total	**66,200**	**68,203**	**76,049**	**81,418**	**86,343**	**7.10**	**6.10**

Source:IEK(2014/02)

Thanks to the revenue growth of the glucose meter and strips, blood pressure monitor and contact lens manufacturers, public companies manufacturing these products have created significant revenue growth, and the performance of contact lens manufacturers was the brightest. Looking at 2014, with the push of the new factories for glucose meters and contact lenses and a greater number of new production lines for medical consumptives and medical supplies, the overall output vale is expected to increase to a historic new high.

Table 1 Major Medical Equipment Manufacturers and Channels in Taiwan

Unit: NT$ million

Secondary Industry Type	Company English Name	2010 Revenue	2011 Revenue	2012 Revenue	2013 Revenue	2013 Growth (%)
Diagnostic and Monitory Medical	HEALTH & LIFE CO., LTD.	1,207	762	1,308	1,345	2.03
	Microlife	4,877	4,268	4,503	5,897	11.00

Secondary Industry Type	Company English Name	2010 Revenue	2011 Revenue	2012 Revenue	2013 Revenue	2013 Growth (%)
Equipment	Corporation					
	Rossmax International Ltd	858	772	707	2,854	0.00
	RADIANT INNOVATION INC	633	581	571	663	2.32
	Actherm Inc	194	77	94	100	-165.00
	DIVA Laboratories, Ltd	698	674	674	777	8.41
	Avita Corporation	462	375	432	586	-5.00
	EBM Technologies Inc.	221	192	151	235	1.00
Surgical and Therapeutic Medical Equipment	APEX MEDICAL CORP	1,450	1,484	1,287	2,017	7.25
	Dynamic Medical Technologies Inc.	929	1,088	963	898	4.00
	Dr. Wells Technology Co., Ltd.	142	135	63.57	103.87	-35.55
Aids and Compensational Devices	PIHSIANG MACHINERY MFG. CO., LTD.	1,421	1,198	1,217	926	-66.00
	St. Shine Optical Co., Ltd.	3,038	3,396	4,103	5,222	30.60
	Polylite Taiwan Co., Ltd.	426	427	481	423	22.96
	United Orthopedic Corporation	651	700	807	956	2.23
	Unicon Optical Co., Ltd.	187	427	269.76	265.92	-87.00
IVD	APEX BIOTECHNOLOGY CORP.	1,749	1,876	2,026	1,829	20.27
	DR.Chip BIOTECH, INC.	37	37	40	61	-74.00
	TaiDoc Corporation	1,887	1,834	2,129	2,304	13.95
	Tyson Bioresearch Inc.	195	192	126.23	164.69	-36.26

Secondary Industry Type	Company English Name	2010 Revenue	2011 Revenue	2012 Revenue	2013 Revenue	2013 Growth (%)
	General Biologicals Corporation	125	123	59.18	194.75	1.82
	BIONIME CORPORATION	1,101	1,364	1,336	1,561	5.76
	Medigen Biotechnology Corp	37	74	133	73	-551.00
Miscellaneous	BIOTEQUE CORPORATION	821	759	842	958	22.47
	PACIFIC HOSPITAL SUPPLY CO. LTD.	1,248	1,343	1,438	1,444	22.29
	BenQ Medical Technology.	589	506	278.88	830.08	5.00
	Kang Na Hsiung Enterprise Co. Ltd.	3,224	3,687	3,388	4,433	-0.42
	FUBURG INDUSTRIAL CO.,LTD	1,382	1,089	855	1,327	6.00
Channel Operation	Excelsior Medical Co., Ltd.	2,986	3,158	3,116	5,741	5.69
	Sunty Property Development Co.,LTD	531	1,066	466	6,607	26.00
	UNIVERSAL VISION BIOTECHNOLOGY CO., LTD.	691	831	767	916	9.44
	HI-CLEARANCE INC.	1,933	2,034	2,239	2,650	8.34

III. Major supply center of homecare medical equipment worldwide

In terms of structure, Taiwan's medical equipment industry at present is quite different from the global medical equipment industry, because the latter focuses on hospital supply and equipment; while Taiwan emphasizes consumer medical equipment for homecare. Among all homecare medical equipment, Taiwanese manufacturers possess mature know-how in manufacturing BP monitors, thermometers, and electric cars. Through OEM, ODM and OBM practices, Taiwanese manufacturers have taken over the leadership of these products on the global market.

Take the electric car and electric wheelchair as examples, Taiwan is the world's major supplier of electric cars for the disabled. In 2013, the production volume in Taiwan commanded 21.3% of the world, thus making it the world's second largest supplier. Also, the contact lens and glucose meter production and export volume have increased significantly in recent years, making both products the potential export medical equipment from Taiwan. As shown in the above examples, although the scale of Taiwan's medical equipment industry is small, its performance in particular niche products is brilliant and allows Taiwan to play an important role in the global market. If manufacturers can capture niches like R&D and technology, there is still space to make a profit.

Overall, a huge change has emerged in Taiwan's export of niche products over times, following the changes in demand and industrial characteristics. These changes also reflect on Taiwan's top 10 exporting products. From the medical plastics and gloves in earlier time to the mid-level homecare medical equipment (including BP monitors, thermometers, wheelchairs, and electric cars), the glucose meters and contact lens with industrial energy will become the targets of world-leading manufacturers seeking OEM/ODM service to compensate the demand shortage when market demand emerges significantly in recent years.

IV. Stable Import/Export Structures and Competitive in Emerging Markets

In recent years, there are no significant changes in the top ten importing countries of medical equipment products. In 2012 the United States is the most important importer of Taiwan, with 33% of total import; followed by Japan, Germany and Mainland China. United States, Japan and Germany are the top three importing countries, accounting for about 57% of the import value, which shows Taiwan’s imports are highly concentrated and the overall structure is relatively stable. However, because more international companies set up factories in Mainland China and then imported to Taiwan, imports from China continue to rise over the years. With the rapid growth of cross-strait trade in medical equipment, the product quality checks of China’s goods will certainly draw more attention. As for exports, in 2012 the United States is also the largest exporting country of Taiwan, which reached 29% of total export value; followed by Japan (13%), China (7%), Germany (6%) and the United Kingdom (5%). These areas support the export of Taiwan’s medical equipments, accounting for 60% of total exports, showing Europe and America is still most important exporting area of Taiwan's medical equipment industry.

Beside Europe and America market, the emerging markets become more important. Driven by policy and health care reform, health care industry in these emerging countries are experiencing a rapid growing period with strong demand and changes in the market.

Table 3 Top 10 Import/Export Countries of Taiwan’s Medical Equipments in 2012

Unit: NT$ million；%

Ranking	Import Country	Import Value	Percentage (%)	Export Country	Export Value	Percentage (%)
1	USA	19,023	33	USA	13,386	29
2	Japan	8,077	14	Japan	6,142	13
3	Germany	5,749	10	China	3,400	7
4	China	5,578	10	Germany	2,639	6
5	Ireland	2,721	5	UK	2,191	5
6	Switzerland	1,727	3	Hong Kong	1,169	3
7	Thailand	1,664	3	Australia	1,047	2
8	UK	1,649	3	Netherlands	900	2
9	S. Korea	1,460	3	S. Korea	794	2
10	France	1,340	2	Belgium	728	2
	Others	8,181	14	Others	14,117	29

Source：IEK(2013/05)

V. Opportunities for cooperation with global manufacturers seeking partners for the medical equipment supply chain

Observation of the development trends of the global medical equipment industry shows that the augmentation in healthcare demand and the desperate need for an innovative solution as a result of the uneven healthcare concerns in Europe, USA and emerging countries have brought a significant change to the industrial chain of the global healthcare electronics industry. Particularly, to cope with the rise of the demand for low-price medical products as a result of the medical reform in China, low cost, low energy consumption, easy and simple operation, high accuracy, and high reliability will be the foci of medical equipment development in the future. With the rise of the price-sensitive demand of medical products in China, world-leading manufacturers have established R&D centers in China and began sourcing related parts and components in nearby regions and countries, thus forming a supply chain in Asia. It is projected that Asia will become the production base of the medical electronics industry.

Observation of Taiwan's industries from the viewpoint of the value chain of Taiwan's medical equipment industry shows that there is high mutual support between the upstream of Taiwan's medical equipment industry and Taiwan's existing industries. Therefore, whether it is component, sensor, biomaterial, electronic component, machine tool, or machinery, Taiwan has a solid foundation and considerable energy. The solid foundation of these industries will also become the strength attracting horizontal cooperation from world-leading manufacturers. Also, it will be the most tool with the highest potential for Taiwan to connect with the global medical equipment industrial chain and enter the global medical equipment supply chain in the future.

VI. Promoting value-adding of the medical equipment industry through horizontal cooperation

Manufacturers from other industries have begun their deployment in the medical equipment industry. These include promising leading electronics manufactures like Delta Electronics, Hon Hai Precision Industrial Co., Ltd., Quanta Computer lnc., Advantech Co., Ltd., BenQ Corporation, Tatung Co., and Chimei Innolux Corporation; and many traditional industries. Horizontal cooperation will surely increase the technical capacity, reduce production cost, and enhance the overall competition of Taiwan’s medical equipment industry.

As the medical equipment industry has higher added value and will not be easily affected by the business environment, and the increasing aging population will continuously increase the medical and healthcare demands, the integration of the medical equipment industry with the electronics and communication industries have become a popular practice. Seeing the developmental potential of the medical electronics industry, many businesses from other industries have entered the medical electronics industry. At present, these businesses can be divided into (1) total solution providers based on niche products; (2) members of the global medical equipment supply chain supplying key components by extending the core technologies of their industries; and (3) rising businesses shortening the learning curve by getting familiar with the product verification and quality management processes through acquisition.

The medical equipment is a field integrating interdisciplinary technologies. As Taiwan has promising strength, scale and R&D capacity in electronics, communication, and fundamental industries, continuous horizontal cooperation will provide increasing capital and technical support for the medical equipment industry, and this will benefit the development of Taiwan’s medical equipment industry.

VII. Promising future of Taiwan’s medical equipment industry and channels

Seeing the considerable change in the business environment for the medical equipment industry in Asia-Pacific, and the emergence of opportunities for expansion of various industries, the innovation and development of related new products to meet the demands of emerging markets will push the R&D and manufacture of relevant parts and components. As global medical equipment manufacturers have begun sourcing related parts and components in Taiwan, Taiwanese electronics manufacturers can grasp this opportunity to become the R&D partner of world-leading manufacturers. In the beginning, they can start with the supply of existing products after minor modifications. When customers have developed trust in them, they can develop new products through collaboration with world-leading manufacturers and become innovation partners of low-cost, low-power-consumption, easy-to-operate, high-accuracy, and high-reliability parts and components.

Additionally, although as the Chinese medical equipment market is the one that worldwide manufacturers want to share due to its huge market potential, intangible barriers arise when they enter the Chinese market as a result of cultural differences. Many foreign manufacturers are unable to deeply penetrate the Chinese market due to the language and cultural barriers, except for a few world-leading manufacturers that are able to form a marketing team in China of their own. In this case, Taiwanese manufacturers can play the coordinator role as they are more westernized. Also, as Taiwanese manufacturers can enjoy free tariffs when exporting products to China after the signing of the ECFA, this will attract more foreign companies to set up their cross-strait headquarters in Taiwan, in order to deploy the Chinese market with Taiwan’s advantages. When compared with China, as the clinical test and authentication and registration processes of Taiwan are more similar to that of Western countries, Chinese manufacturers can accelerate product review in foreign countries and re-sell products back to China and distribute products worldwide with the better image of Taiwan when they establish production bases in Taiwan.

At present, Taiwanese manufacturers have developed solid R&D capacity supported with a great number of successful products. In addition to the collaborative R&D capacity of the parts and components for medical equipment, they have global marketing experience. When foreign manufacturers invest in Taiwan in the future, this will accelerate the R&D and shorten the lead-time to launch low-priced products. Along with Taiwan’s Europe and US marketing experience, foreign manufacturers can distribute the newly developed products to China, other emerging markets, Europe and the USA. These can help to grasp this new opportunity in the global medical equipment industry to create a win-win scenario.