

A Strategic Analysis of Contract Manufacturing in Orthopedics

An international industry consultant charts current market forces and values in outsourced orthopedic manufacturing.

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The worldwide orthopedic end-user market represented \$34.5 billion in 2012. In the same year, for the manufacture of implants, instruments and other related products, orthopedic companies spent \$3.45 billion in-house and paid their contract manufacturers \$3.7 billion.

The main growth drivers for orthopedic products continue to be an aging population and an evolution of product mix, which have been the major historical parameters driving the market in recent years. They should remain the major growth contributors in the future.

Factors that are pulling the market in the opposite direction include increasing reimbursement and price pressures. Of course, price erosion for mature orthopedic products has been a constant variable during the past 20 years.

Avicenne analysts do not expect a major shift in these trends, however, some countries will suffer more significant price decreases than others.

The Contract Manufacturing Market

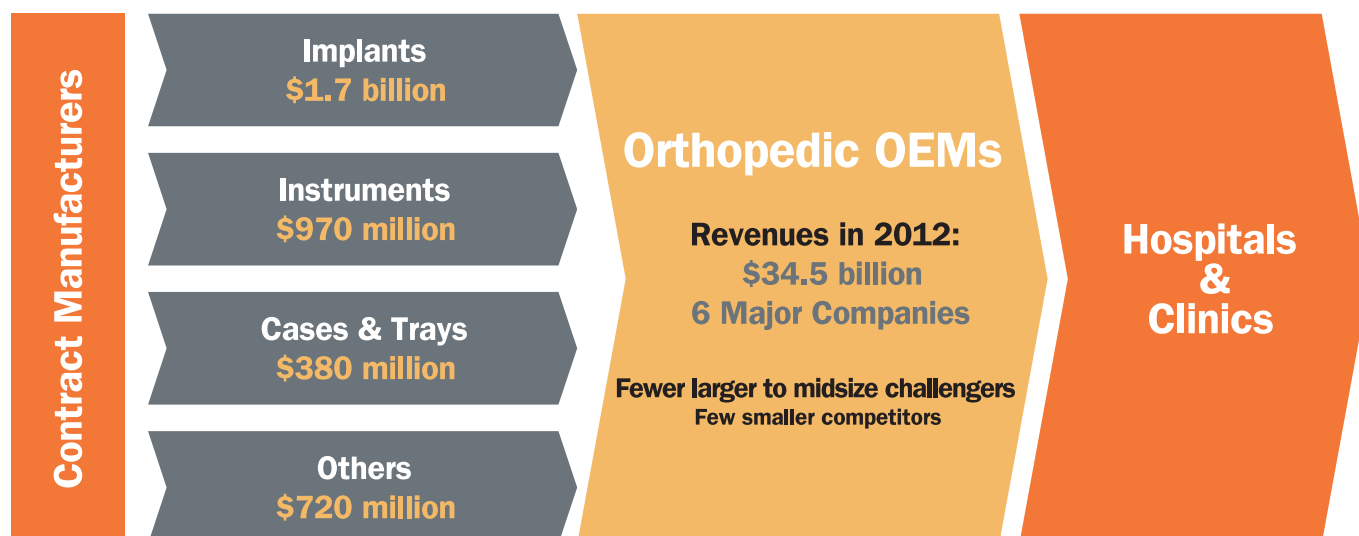
The major orthopedic medical device companies have a different outsourcing strategy than more of their smaller challengers. While the large OEMs manufacture a fair amount of product in-house, startups, small and midsize firms outsource almost all of their products.

Instruments were the biggest segment of the orthopedic contract manufacturing sector in 2012, with \$970 million in revenues, followed by spine and trauma machining and casting, and then hip and knee machining. Forging contract manufacturing accounted for \$380 million.

Market Forecasts

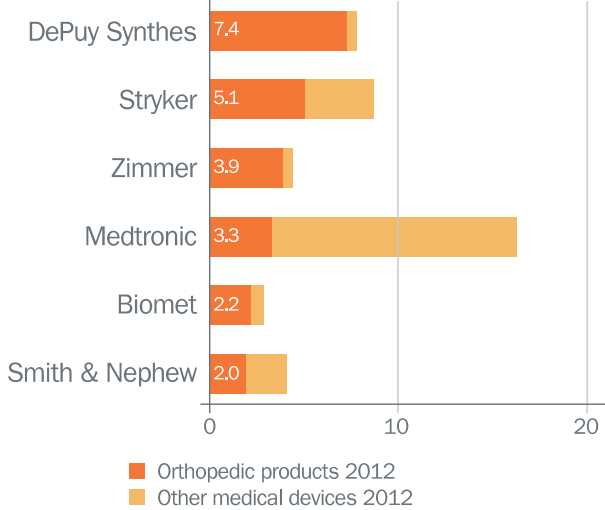
The contract manufacturing market amounted to \$3.7 billion in 2012, and we forecast a growth rate of 6.8 percent by 2017. Implant contract manufacturing is growing faster (with a compound annual growth rate of 8 percent) than instruments (5.6 percent), and cases and trays (5.3 percent).

Figure 1: Orthopedic Market Value Chain in 2012



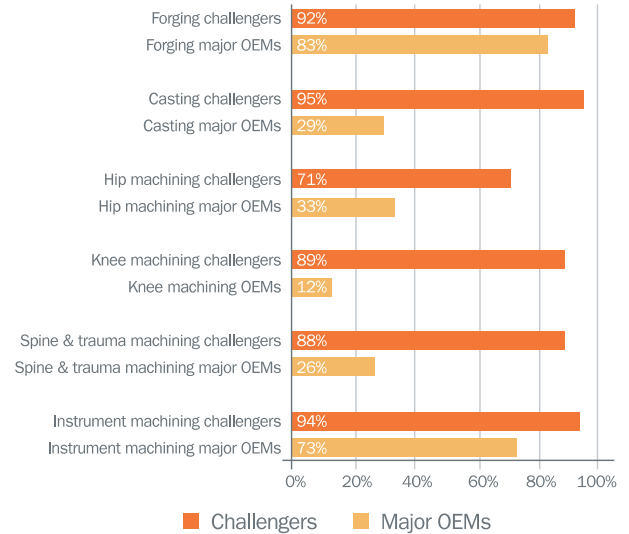
Source: Avicenne research and analysis, 2013.

Figure 2: Revenue for the Major Orthopedic Companies in 2012 (in billions \$ U.S.)



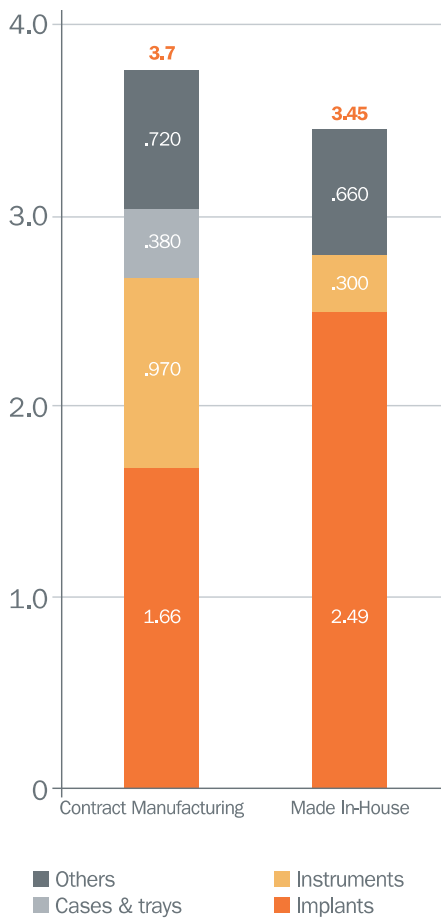
Source: Major orthopedic companies, Avicenne 2013.

Figure 3: Outsourcing Rates by Capability for Major OEMs and Their Competition



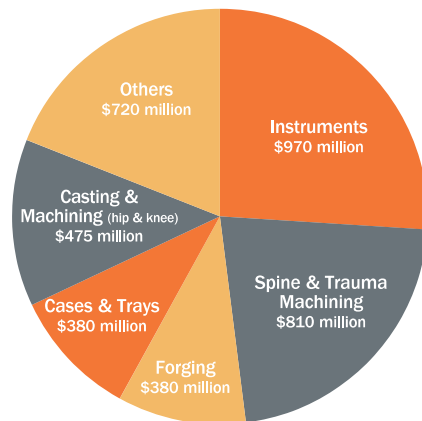
Source: Orthopedic company interviews and Avicenne analysis, 2013

Figure 4: Orthopedic Contract Manufacturing & In-House Costs in 2012 (in billions \$ U.S.)



Source: Orthopedic company interviews and Avicenne analysis, 2013

Figure 5: Contract Manufacturing Market by Segment in 2012

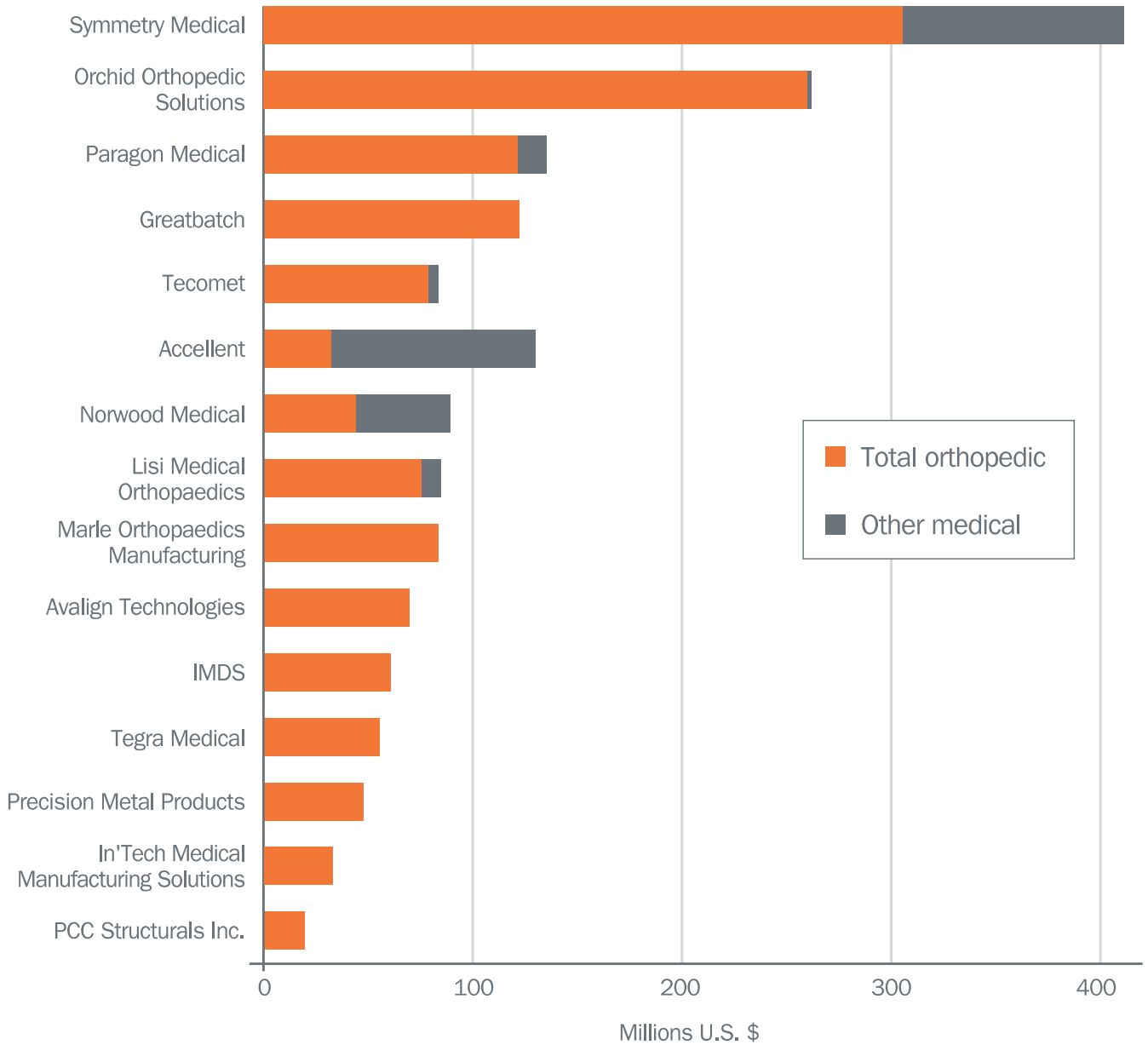


Source: Avicenne research and analysis, 2013

The main drivers for the orthopedic contract manufacturing market will continue to be implant manufacturing and OEM facility divestitures. Many OEMs have sold manufacturing facilities to contract manufacturers. The main trends in implants are:

- **Forging:** In the long term, almost all activities will be outsourced. Forging will stay in the United States and Europe;
- **Casting:** In the mid and short term, casting will stay in-house for the majors. A small percentage will go to the major OEM facilities in low-cost labor countries;
- **Spine and Trauma Machining:** Machining companies in low-cost countries will attract a greater share of lower-end products. High-end manufacturing will remain in the United States and Europe.

Figure 6: Top 15 Orthopedic Contract Manufacturers Revenues in 2012 (in millions \$)



Source: Orthopedic company interviews and Avicenne analysis, 2013

By 2017, contract manufacturing in the orthopedic sector will outpace in-house manufacturing, mainly due to facility disinvestments and challenger growth. ❖

Ali Madani founded Avicenne in 1992. The Paris, France-based consulting company focuses on three main industries: healthcare and medical devices (orthopedics, prostheses, implants, biomaterials, etc.); batteries and power supply (batteries, mobile phones, etc.); and information technology (Internet, mobile communication, etc.). The compa-

ny has offices in San Diego, Calif.; Vienna, Austria; and Tokyo, Japan. Since 1990, Mr. Madani has worked on strategic and marketing studies in the medical sector. He has advised major players in the industry in terms of strategy development and implementation, technical and economical appraisal, and mergers and acquisitions. He also has advised multiple private equity firms about prospective acquisitions. Mr. Madani also has worked with midsize companies on their entry strategies for new product and services as well as business-model improvements and partnership strategies. Contact him via www.avicenne.com.