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## Emerging Markets Are Gaining Ground in Medical Technology Innovation; U.S. Maintains Lead, Finds PwC's Medical Technology Innovation Scorecard

NEW YORK, January 18, 2011 – The United States continues to lead the world in its capacity to produce the latest in medical technology innovation, but emerging markets led by China, India and Brazil are catching up, and their market power is shifting innovation resources and activity overseas, according to a new PwC report Medical Technology Innovation Scorecard: The race for global leadership. While the United States is expected to maintain its leadership for the foreseeable future, even a narrowing of the gap has implications for U.S. jobs, exports and Americans' access to advances in medical technology.

The report is based on the findings of the PwC Medical Technology Innovation Scorecard, a new, multifaceted assessment of the capacity of countries to adapt to the changing nature of innovation. While there has been much anecdotal evidence that the U.S. is losing ground as the world's innovation leader, PwC analyzed the specific factors that contribute to medical technology innovation and quantified them, using 86 different metrics to evaluate how well each nation promotes the factors that advance innovation. The nine nations evaluated are Brazil, China, France, Germany, India, Israel, Japan, the United Kingdom and the U.S.

In addition to providing a current view of innovative capacity and capability in these countries, the Innovation Scorecard looked at the past five years to gain a historical perspective and projected into the future to present the outlook for medical technology innovation leadership over the next decade to 2020.

A top-line view of current results of the Innovation Scorecard reveals:

- On a scale of 1 to 9, with 9 as the highest score, the U.S. currently has a total score of 7.1 and is the global leader in medical technology innovation. Because of decades of innovation dominance, the U.S. continues to show the greatest capacity for medical technology innovation.
- The scores of the other developed nations (the U.K., Germany, Japan and France) fall within a tight band of 4.8 to 5.4. Among the developed countries included in this study, Germany and the U.K. demonstrate the strongest support for innovation and Japan the weakest.
- Israel, despite its small size, ranks near the level of the European nations, which indicates its strong capacity to foster innovation.
- The emerging markets lag behind developed ones. China, with its powerful economic growth engine, scores 3.4, ranking it higher than India and Brazil, each of which scored 2.7.

Looking to the future, the U.S. is expected to continue to lead in medical technology innovation, but also will lose ground to other countries during the next decade. The Innovation Scorecard also projects relative declines for Japan, Israel, France, the U.K. and Germany. By contrast, China, India

and Brazil are likely to see gains during the coming decade. China, which has shown the largest improvement in its medical technology innovative capacity during the past five years, is expected to continue to outpace other countries and reach near-parity with the developed nations of Europe by 2020.

“The medical technology field in the U.S. has long benefited from a confluence of social, technical, political and economic forces that came together to create an ecosystem which fosters medical technology innovation,” said Michael Swanick, U.S. Pharmaceuticals, Medical Device and Life Sciences Industry Leader, PwC. “However, the balance of these forces is beginning to change, driven by global economic dynamics, governmental policies and the actions of individual companies and entrepreneurs. As the innovation ecosystem evolves, it creates challenges for those countries and companies that have ridden this wave – and offers opportunities to those, in the U.S. and around the world, who find themselves well-positioned to adapt to new modes of innovation.”

The Innovation Scorecard examined where each of the nine countries evaluated stands in relation to five broad “pillars” that have supported medical technology innovation in the U.S. for the past several decades: Powerful financial incentives, such as reimbursements for adoption of new technologies; resources for innovation, such as academic medical centers; a supportive regulatory system; demanding and price-insensitive patients; and a supportive investment community of venture capitalists and other investors.

The Innovation Scorecard indicated that the innovation ecosystem itself is moving offshore as the nature of medical technology innovation evolves. Some of this transformation is being driven by changes in the U.S., such as more expensive, less-predictable FDA regulatory approvals, an increased focus on value and cost-effective solutions in healthcare and increasingly international investments in R&D. Other dynamics are the result of changes abroad, including factors as diverse as investment in local academic medical centers; investment in research programs; the return of foreign-educated scientists and doctors to their homelands; advancement of mobile health technologies that expands access to care; and a focus on the lean, frugal and reverse innovation necessary to deliver faster, better, cheaper and more effective healthcare solutions in these markets.

As a result of these many factors, medical technology companies increasingly are going outside the U.S. to seek clinical data, new-product registration and first revenue. Accordingly, U.S. consumers are not always the first to benefit from advances in medical technology and could eventually be among the last to gain access to new innovation. Medical technology innovators already are going first to market in Europe and, by 2020, likely will move into emerging countries before entering the U.S.

The shift away from the U.S. to nations such as China, India and Brazil is not necessarily preordained. Factors related to intellectual property protection, difficulty of doing business in some emerging countries and weak local supplier networks could make these markets less attractive, despite their size, and could hinder these nations’ effort to assume innovation leadership.

“We created the Innovation Scorecard because we wanted to better understand how medical technology innovation is changing and which nations have the strongest capacity and capability for innovation,” said PwC managing director Christopher L. Wasden, co-author of the report. “The

findings will be helpful to government officials and regulators seeking to advance policies that foster innovation as well as medical technology companies working to develop their own commercialization strategies.”

The complete report is available for download at [www.pwc.com/InnovationScorecard](http://www.pwc.com/InnovationScorecard).

## Methodology

The PwC Medical Technology Innovation Scorecard incorporates 86 qualitative and quantitative data and analysis to identify and provide support for industry best practices. The overall scores and rankings in each of 10 dimensions, as well as in aggregate, should be regarded as a general guide to help support the advancement of regulatory and advocacy work within the medical device industry.

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