

# MARKETWATCH

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## In this issue...

### This Israeli startup brings sensor-based smart tubes to the ICU“

In 2009, Liron Elia founded Art Medical with a goal: preventing pneumonia in ICU patients. Nearly nine years later, its mission has expanded. The startup's products seek to prevent complications that can come from intubation, such as aspiration pneumonia, ventilator-associated pneumonia and acute kidney injury. Its technology also seeks to optimize enteral feeding. The Israel- and Palo Alto-based company does this through its set of sensor-based tubes (smART feeding tubes) and its tech platform (smART console).

“Basically we are taking standard tubes and devices, and we are making them smart by putting on them sensors and communicating in real time with the smart console,” Elia said in a phone interview.

Complications like aspiration pneumonia, VAP and acute kidney injury can lengthen a patient's stay in the hospital and increase their mortality risk. To decrease the likelihood of these problems, providers have to monitor gastric reflux and saliva and quickly identify the complications when they do arise.

Art Medical wants to make the process simpler. Its sensor-based tubes do the monitoring and collect data. Via the console, nurses can keep track of this information and step in when there's a problem. “The patient is ventilated and under anesthesia. You don't know if he's aspirating,” Elia said. “We are [monitoring] with sensors that can detect this event in real time.”

The startup's technology received the CE Mark and FDA approval. It is now going through clinical studies in the United States, Elia noted. The platform only focuses on issues that are not the original cause of the patient's ICU admission. For instance, if an individual is hospitalized after having a stroke, Art Medical does not deal with the stroke in and of itself. Its sole purpose is intubation-related complications.

That reasoning partially contributed to the company's creation. Elia told a story of one patient who was hospitalized for a stroke. The man recovered from the stroke but later died from pneumonia while in the hospital. That incident was the trigger for the startup's founding, Elia explained.

Last summer, Art Medical raised \$20 million in a funding round led by Advanced Medical Technologies, according to MobiHealth News. “The goal of the \$20 million is to ... bring the complete product to the market,” Elia said. “Going forward, I see us in the market by the end of the year. And starting in 2019, I see the acceptance of the product in the market and [us] showing our value proposition to reduce the lengths of stay in the ICU.”

**500 Startups adds digital health track to focus on marketing, distribution, growth, I believe the most important part of this report is the following advice from KPMG companies to be able to reach the future:**

500 Startups has a history of investing in healthcare startups —49 actually, including uBiome, BetterDoctor, Dr. Chrono and Fitocracy. But with its 18th cohort in San Francisco, it has added a digital health track with eight companies that span medical tourism, clinical trial recruitment and smart fabrics. The founders of the venture capital seed fund and accelerator come from places like Google, PayPal, Facebook and YouTube. Last year, 500 Startups unveiled a \$30 million microfund for Japan to make investments in biotech, healthcare and technology businesses there. In 2014 it launched a \$10 million microfund to invest in mobile health companies to supplement the healthcare infrastructure of developing countries such as India and China and across the African continent.

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MedCity, Feb. 26, 2018

Marketwatch

BIÇAKCILAR, Corporate Marketing

## In this issue... *(The good...the bad and the...)*

### GE Healthcare allocates \$50M for startups focused on care in emerging markets

GE Healthcare has taken the wraps off a healthcare accelerator, five.eight, that will invest \$50 million in startups dedicated to improving healthcare in emerging markets. The goal is to improve healthcare outcomes for developing economies through education, services and low-cost digital technologies, a news release read.

The initiative seeks to help entrepreneurs scale their products for emerging economies by capitalizing on the distribution muscle of the global company or by integrating their services into GE Healthcare's Affordable Care portfolio.

*(The press release was out for this in Sept of 2016– no wonder they have now been selected in the Most Innovative Companies of 2018 and the top healthcare company, seeing the future is the biggest asset)*

### Patient portals: Pitfalls, promises, and potential

Most healthcare organizations have implemented some form of a patient portal to meet meaningful use requirements mandated by the federal government. Providers hope that their EHR patient portal will help improve communication with patients, enabling them to intervene before a small medical problem turns into a hospital re-admission, and help them boost patient satisfaction scores.

That sounds wonderful, but here is the problem with most portals today: Patients have little interest in using them because they don't offer enough value.

Patients don't care about meaningful use and the fact that their provider will lose money if they don't create an account and actually use the portal. Patient portals are notoriously obsolete and difficult to navigate, and patients often struggle to interpret medical information, such as test results.

A focus on the patient

I couldn't agree more with the need to focus on the patient. Technology alone doesn't impact outcomes. Providers must take a more holistic approach and integrate technology into care management process and structure if they hope to increase portal use. Those who continue to focus on the patient portal as a technology solution rather than a valuable tool for patients risk irrelevance.



Marketwatch

### Why I won't be switching to Medtronic's 670G insulin delivery system billed as the first artificial pancreas (End user power)

When Medtronic won approval for the MiniMed 670G from the FDA in 2016, it was a big deal. Advertised as "The World's First Hybrid Closed Loop System," it is the first commercial product of its kind – able to automate insulin delivery and requiring lesser patient input than in the past. However, after reading more about the specifics, and having heard more first-hand accounts, I can now safely say that I am somewhat underwhelmed.

- I can't see what the device is doing
- No personalized targets for glucose levels
- 48 hour warm up period
- The Guardian 3 sensor is "not intended to be directly for making therapy"



BIÇAKCILAR, Corporate Marketing

Loop Medical, a start-up based from Switzerland's École Polytechnique Fédérale de Lausanne (EPFL), has entered a collaboration agreement with French firm Cerba HealthCare for the development of a new needleless, palm-sized device to provide pain-free blood sampling. Using the new device, Loop Medical intends to simplify the process of obtaining blood samples by facilitating at-home use and eliminating the need for professional help. Under terms of the alliance, Loop Medical will leverage Cerba HealthCare's technical, scientific and medical support to complete the development and finalise market-access strategy as well as commercialisation of the new device.

Loop Medical founder and CEO Arthur Queval said: "We are thrilled to announce this strategic partnership that is proof of Loop Medical's potential to revolutionise blood sampling by finding a solution that will not only improve the patient's experience, but the samplers' safety and the traceability of samples." "It will be designed to draw an amount that will be sufficient for an expanded range of tests in approximately the same duration that is taken for a conventional blood draw." "The device will come with a connectivity system that will enable traceability of the sample throughout the process. It will be designed to draw an amount that will be sufficient for an expanded range of tests in approximately the same duration that is taken for a conventional blood draw.

Cerba HealthCare Innovation and Development director Jérôme Sallette said: "This partnership with Loop Medical shows we are following through with our open-innovation strategy that involves identifying early on innovative start-ups,

**Future of Medical Devices- Loop Medical to develop needleless device for blood sampling**

## In this issue...

### Medtronic unveils 2mm drug-eluting stent for coronary artery disease

The 2mm stent expands the firm's existing portfolio of Resolute Onyx 4.5mm and 5mm DES. This new stent is devised to expand from 2mm to a maximum-labelled diameter of 3.25mm after delivery.

For the approval, FDA reviewed the data obtained from the RESOLUTE ONYX 2mm clinical study, where the stent demonstrated low target lesion failure and target lesion revascularisation of 5% and 2%, respectively.

In addition, results did not indicate any stent thrombosis episodes or cardiac death at 12 months.

Medtronic also received new FDA indication for its continuous glucose monitoring sensor, Guardian Sensor 3, allowing its use on the upper arm of patients to manage automated insulin delivery through the firm's MiniMed 670G system.



## MARKETS

*What to expect from the medical devices market in China*

*By GlobalData Healthcare*



### Medical Device Market—China

The Chinese government desires explosive growth in biomedical and high-end medical device manufacturing under the “Made in China 2025” plan.

The plan identifies the goal of raising the domestic content of core components and materials to 40% by 2020 and 70% by 2025. The medical device industry is one of the key breakthrough in technological development among ten major focus areas. The goals of increasing domestic device use in high tier hospitals are to 50%, 70%, and 95% by 2020, 2025, and 2030, respectively.

Domestic manufacturers in China are providing cheaper local alternatives to marketed medical devices in Chinese hospitals while directly growing the Chinese economy.

Traditionally, the majority of products from China’s domestic medical device manufacturers have been low-cost and require only low technology. The plan focuses on the development of high-performance devices such as diagnostic imaging equipment, robotic surgery devices, high-end medical consumables like fully degradable cardiovascular stents, wearable devices, and telemedicine. Innovations in the field of biological 3D printing and precision medicine based on gene sequencing and immune therapy are also highlighted. As local Chinese companies increase their technological capabilities and produce high-end medical devices, it will continue to strengthen China’s medical device market.

In the past decade, local Chinese companies have been steadily taking share from international companies. The import data of the major medical devices category (Harmonized System Codes 90) in China declined 12.7% from 2012 to 2016 with a negative Compound Annual Growth Rate (CAGR) of 3.3%. GlobalData expects imports of medical devices to further reduce with implementation of the “Made in China 2025” plan in the long term. Competition in the Chinese medical device market, the most important battleground for medical device firms of all emerging economies, will become more intense than ever.

# This is “For Us” page...

## Becton-Dickinson’s exciting acquisition

*An example of a good-fit between two partners*

Yet more mergers and acquisitions activity has taken place in the medical device space, with Becton Dickinson (BD) acquiring C. R. Bard in a deal worth \$24bn. The deal is expected to expand BD’s product portfolio in multiple high-growth areas and help the company grow its presence in markets outside the US. As 2017 saw a number of high-profile mergers and acquisitions in the medical device space, how does this partnership between Bard and BD strengthen the company’s position in the market? BD’s main revenue generators have been its product portfolios within medication management and infection prevention. The combined revenues from medication management solutions and medication and procedural solutions contributed to almost 48% of the company’s overall revenue for 2017. The revenues from these product lines have been growing historically.

Unlike BD, Bard’s legacy is built on the development of interventional solutions, mainly for vascular, oncological, urological, and surgical purposes. These therapy areas also offer potential for high growth. Bard has enjoyed a leadership position in areas such as oncology and hernia repair thanks to its strong product offerings in these areas. With the acquisition of Bard, BD can now leverage a broader product portfolio, which will help it gain a stronger market position against bigger companies such as Medtronic and Johnson & Johnson in markets such as hernia repair and surgical interventions, and to solidify its position within the market for oncology devices.

**The lesson for us:** As hospitals continue to face financial constraints and purchasing processes become increasingly streamlined, the partnership between BD and Bard will help the company position itself as **one provider** for a wide range of solutions to hospital needs.



**“You caught a virus from your computer and we had to erase your brain. I hope you’ve got a back-up copy!”**



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**“These concierge medical services are really convenient. I can get a check up, dinner reservations and show tickets.”**

### Contact Us

If you have any specific area that you need information on, please contact Corporate Marketing so we can focus on the specific areas to research to speed up your efforts.

**Gülderen Somar, Director, Corporate Marketing**

