An Industry In Full Disruption

How Digitization Is Transforming MedTech

Digitization's Impact: A Breaking Wave

Digitization has come (relatively) late to the medical devices industry, but it is now here. Building since the beginning of the last decade, breaking through with the crisis of COVID, the 'resultant vector' of disruption will accelerate as we move deeper into the 2020s.

The ultimate imperative is to have a leadership team in place that can leverage innovative technologies within the context of a broader strategic vision. Those stewarding medtech companies will thus have to (often radically) rethink their approach not just to technology, but to their business models, talent, and transformation of mission and culture.

Digitization will inexorably separate medtech companies into 'winners' (those able to transform themselves internally to differentiate their offerings in a dramatically expanded market as they have the opportunity to become market places with a suite of devices and a number of indication areas) and those companies falling behind (who will either be acquired or forced into transactional portions of the value chain).

The key differentiator between market leaders and also-rans will be visionary technology-savvy leaders that are able to navigate a rapidly evolving market landscape. They will understand the organization's role in a shifting ecosystem that features new competitors, new stakeholders, and entirely new possibilities for connected health care, particularly vis-à-vis reengineering the experience of patients and leveraging their data to build stronger partnerships with patients, payors and providers (figure 1).

Figure 1: The migration of the medtech enterprise

Capability	Traditional model	Connected-health model
Business model	Hardware products	Platform-driven engagement
Business focus	B2B	Hybrid B2B/B2C (Patient, Payor, Provider)
Revenue stream	Asset-based	Data and insight-centric
Strategic focus	Protecting the core	Embedding into ecosystem
Speed to market	Traditional medtech (months to years)	Accelerated products (months to years) and fast digital services (days to weeks)
Technology focus	Software/Servers	Cloud and customer
Healthcare focus/ Patient interface	Via provider intermediaries	Direct to patients/providers Behavior-changing engagement

Source: Russell Reynolds Associates

> "If you turn back the clock 5 or 10 years, a lot of medical device companies were financially measured by the number of devices that they produced, put into the market, sold, and the margins per device. Now the medical device companies are looking to connect directly with their patients. They're looking at not just creating a device that addresses some kind of disease or condition, but more or less owning that condition."

Chet Kolley, Group Vice President, Healthcare and Life Sciences Business, GlobalLogic

A Burning Platform for Industry Incumbents

The current market players are at a stark crossroads where survival will mean adapting to an industry whose accelerating velocity increasingly resembles that of the technology sector. Medtech CEOs are publicly committing to being among the first to complete this digital transformation – showing that they're putting enough force behind it.
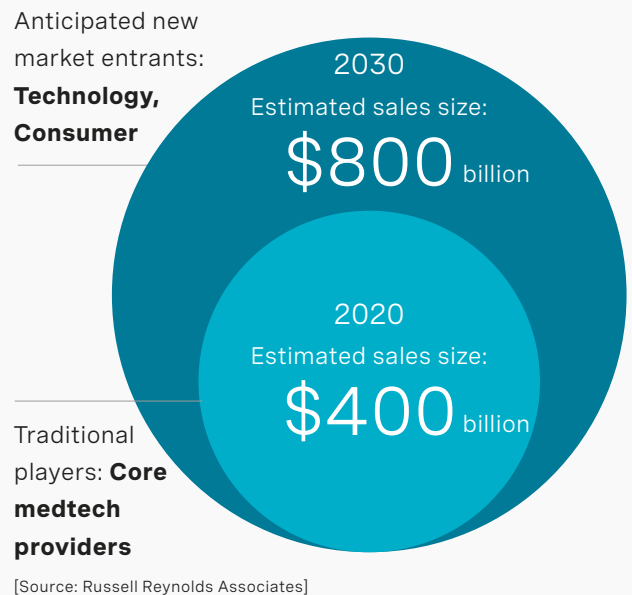
The window of time for companies to make this transformation is closing; those legacy players that simply attempt to consolidate existing profit pools will be swamped by more tech-savvy competitors.

The current 'core' medical technology industry as of 2020/2021 has an estimated sales size of $400 billion (figure 2). By 2030 the market is projected to double in size, along with all-but-inevitable new market entrants. Many of these new market entrants will help the 'core' medtech companies transform successfully, even further differentiating the winners and fueling the war for talent.

Spurred by these ongoing disruptions, the flourishing companies will be those agile enough to navigate increasingly turbulent markets via five key capabilities:

Figure 2: Projected growth of the medtech landscape

Anticipated new market entrants: **Technology, Consumer**

2030
Estimated sales size:
$800 billion

2020
Estimated sales size:
$400 billion

Traditional players: **Core medtech providers**

[Source: Russell Reynolds Associates]

Tapping into an Expanding and Evolving Ecosystem

The medtech landscape is changing around four themes:

Digital: There is a need for interconnectivity to become a digitally enabled organization as well as to enhance the enterprise through the increasing use of data; Organizations are moving from backbone infrastructure to using AI, data, analytics to influence the direction of treatment.

Patient experience: Organizations need to understand how data relates to better patient care as patients are becoming more sophisticated and there is an increase in focus on connectivity between health care providers and patients. There is a need to develop IT solutions to allow for this personalized level of care. Medtech organization own the patient workflow and shift from a hospital to a consumer orientation. Brand value will become increasingly important as patients interact directly with an organization's digital platform.

Home care and hospitals: Where healthcare will occur is changing:

Treatment is moving into the home expanding patient pools through continuous care, wearables, and connected devices.

The hospital footprint is moving away from chronic care to a more acute setting. There is a need to integrate products into hospital systems to improve care.

Data monetization: Companies see an increased demand from the healthcare market to demonstrate clinical value with analytics and there is a desire from organizations to own and generate patient care data.

As the capabilities of the leading players in the medtech industry expand, they will transform their relationships with key stakeholders (figure 3), with opportunities increasing in tandem with expectations.

Working with these stakeholders allows for synergistic learnings across relationships and channels. Companies that can leverage data for predictive/analytic capabilities are poised to identify value-add opportunities across their entire range of strategic partnerships. This begins with the critical step of improving patient outcomes/adherence to drive value to patients themselves as well as the health care providers that serve them.

Direct interface with patients constitutes both a special opportunity and a special problem: On the one hand, it allows for leveraging of vital data flow along the value chain, but it also places pressure on medtech providers to provide value directly to patients through a B2C framework for which they must fast-cycle specialized software development and service.

"As to the power of data, now you're getting access to the aggregated data set, which allows one to compare oneself against an organized cohort. You can glean what is normal vs abnormal. As a patient-consumer, because you are subscribing to access the information that's being gathered by the medtech company, you have the power of insights derived from these data sets for your own health at your convenience..."

Sue Siegel, Board Member at Align, Illumina, Nevro; Chairman, The Engine; Trustee, KFF

"No company will be able to make standalone products in the future — they must be Internet of Things enabled, connected to the ecosystem and sharing data. The technology needs to be pervasive and non-intrusive — it needs to be intuitive, connecting, interacting in a subtle sense. It works if it can become part of the lifestyle."
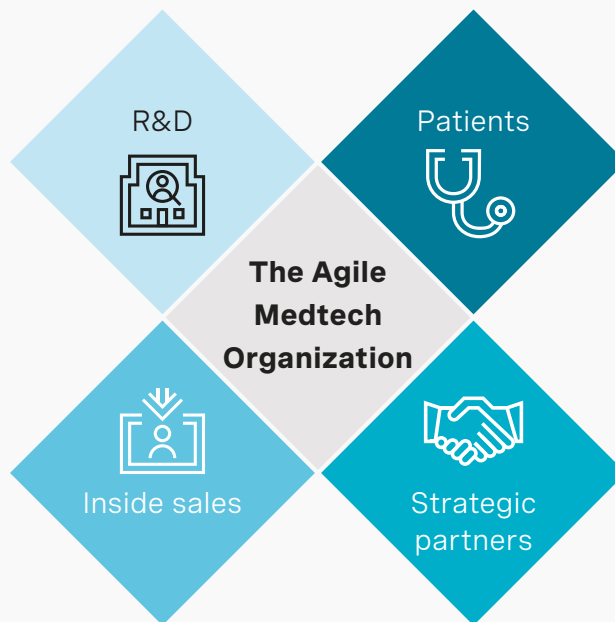
Raj Harapanahalli, Vice President, IT, Innovations and Insights, Medtronic

"We went from being a medical device-only company to being a medical device plus software plus analytics company."

Jim Hollingshead, President, Sleep & Respiratory Care Business, ResMed

Figure 3: Expansion of organizational capabilities in relation to key stakeholders

- Access to unprecedented pools of patient data
- Fast-cycle iteration of software
- Impact from immediate treatments to foundational genomics

- Smart wearable devices
- Opportunity to capture massive quantities of data
- Opportunity to build direct relationships with customers

R&D

Patients

The Agile Medtech Organization

- Access to invaluable insight across value chain
- Opportunity to deepen relationships with existing customers
- Alignment of messages across sales channels

Inside sales

Strategic partners

- Opportunity to pool, integrate data, profits
- Consolidating value-chain offers alliance and / or M&A opportunity

Source: Russell Reynolds Associates

Shifting to a Connected-Health Model

Technological capabilities have reached a critical mass on multiple fronts, bringing a competitive advantage to any medtech company that can effectively harness the data with a focus on data interoperability as well as successful AI/ML platforms.

To date, most of the hype around digital has focused on AI/ML platforms that operate in siloes, which very few companies have successfully built at scale. In addition, organizations have traditionally underinvested in their data foundation (data governance, quality, interoperability, etc.).

While key market players have become adept at the 'legacy' model of creating hardware and software products, many leadership teams will experience difficulty with the change management that is required to migrate to a frictionless digital business platform, accelerate products' time to market, and build deep engagement across customers and business partners.

This is especially true since a robust technology strategy involves integrating three key elements: (1) transforming patient experiences and improving patient outcomes to (2) access vast arrays of patient data that can then (3) be leveraged by AI/machine intelligence/algorithms to provide 'virtuous circle' feedback loops to add value to relationships across the entire expanded ecosystem.

"When we went into the cloud and put the activity on the cloud, it completely changed the way the industry treated patients.

In the sleep business, we now have this number that blows my mind, because we have had so many devices on the market now. Since 2014, we have twelve-and-a-half-billion nights of data. We are using real-world evidence to build the health economics models to demonstrate that it does pay to find and treat sleep apnea patients."

Jim Hollingshead, President, Sleep & Respiratory Care Business, ResMed

The War for (Technology) Talent

"...there is an incredible rush to compete with the tech world to hire some of the most technically-savvy talent: engineers, data scientists, AI/ML experts, to mention a few. The scramble to find that type of talent is real.

It affects the entire organization, from the boardroom, all across the organization... the culture of digital transformation, particularly in a mature, analog-based organization, has been and will continue to be a continuous, full-time effort.

Sue Siegel, Board Member at Align, Illumina, Nevro; Chairman, The Engine; Trustee, KFF

"We ended up remodeling an entire floor of our San Diego headquarters because of the architectural layout of the floor. It wasn't open space, and it didn't look familiar to most of the software engineers we were trying to hire."

Jim Hollingshead, President, Sleep & Respiratory Care Business, ResMed

Legacy medtech companies face the classic 'how to build the plane while it's taking off' problem. The central element in any such solution is a transformed talent management strategy, usually placing a premium on external hires, particularly those with technology skills.
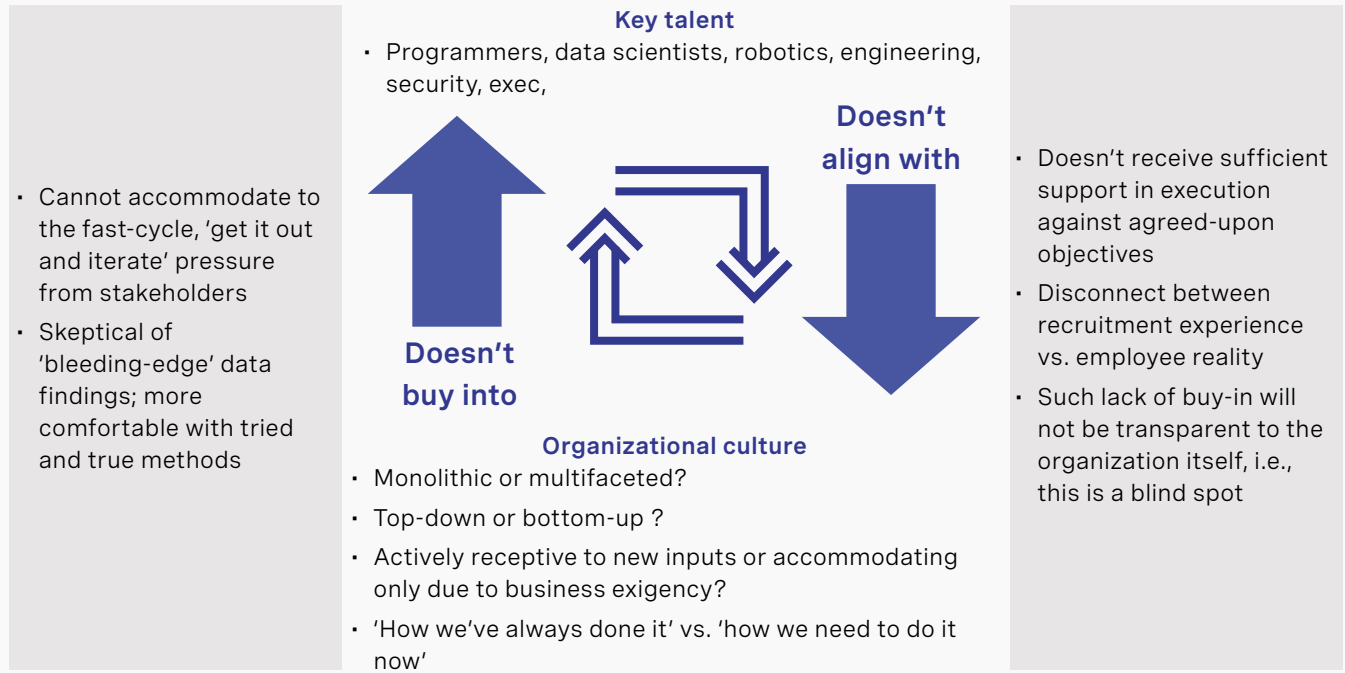
Coming out of the pandemic, the market for technology talent is very frothy. Strong digital leaders receive daily outreach from recruiters. A key to attracting technology leaders is a public stance and commitment to the digital transformation of the business—not just of the organization's technology leadership. In addition, it is imperative to take advantage of the digital grounds in your own company and identify talent that can quickly take up these new technologies, business models, and engagements.

Technology talent will look for organizations where their talent, insight, and background are valued and recognized (figure 4). In order to retain technology talent, organizations need to provide this recognition as well as exciting career options.

Although technology talent may be recruited, they can only be retained if they feel part of an enterprise that reflects their own values and visions. Technology leaders should be empowered to have an instrumental role as culture changers within the organization. In addition, both the executive committee and the broader C-suite need to demonstrate a full commitment—internally and externally—that they are willing to change the organization's culture.

The question for medtech companies is therefore how to prepare a landing ground for new hires that either provides them with the organizational culture they're seeking or allows them to participate in its creation to drive talent retention and engagement.

Figure 4: Mismatch between legacy medtech companies and digital talent

Key talent
- Programmers, data scientists, robotics, engineering, security, exec,

Doesn't align with

Doesn't buy into

Organizational culture
- Monolithic or multifaceted?
- Top-down or bottom-up ?
- Actively receptive to new inputs or accommodating only due to business exigency?
- 'How we've always done it' vs. 'how we need to do it now'

- Cannot accommodate to the fast-cycle, 'get it out and iterate' pressure from stakeholders
- Skeptical of 'bleeding-edge' data findings; more comfortable with tried and true methods

- Doesn't receive sufficient support in execution against agreed-upon objectives
- Disconnect between recruitment experience vs. employee reality
- Such lack of buy-in will not be transparent to the organization itself, i.e., this is a blind spot

Source: Russell Reynolds Associates

A Flexible 'Buy, Build, or Partner' Strategy

Even the most agile medtech company is unlikely to achieve its ambitions solely through organic growth; there are good reasons why M&A activity in this sector is now approaching frenzied levels.

Such M&A deals aren't just about the formal IP, they're about the talent, as acquiring that talent within its own natural ecosystem is sometimes the only way to harness its full value.

The optimal strategy for many companies is likely to be a hybrid model of in-house incubators and external acquisitions, either integrated or held at arm's length from the legacy enterprise (figure 5).

However, it's not just black or white with regards to organic and inorganic growth. It is equally important to build an effective ecosystem that surrounds the company. The edges of the company boundaries fluctuate and are becoming grayer as the number of partners of the organization expands. Key to the strategy here is OpenAPI that will allow your ecosystem to add services on the platforms for better customer engagement and satisfaction.
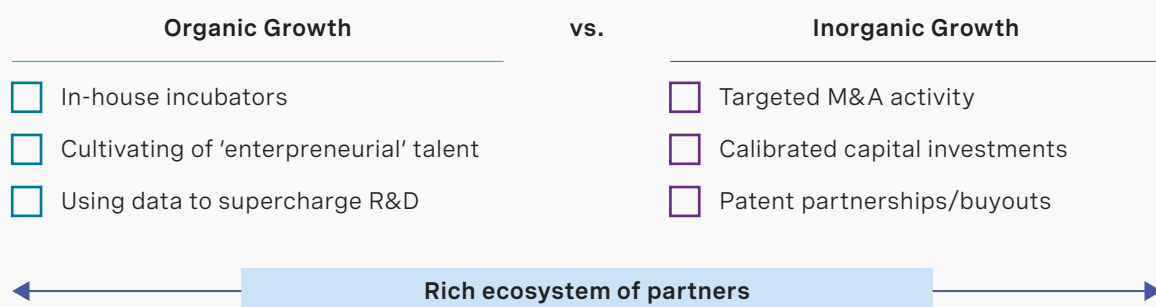
Indeed, many companies are opting for an explicit 'two-track' model whereby the core and the frontier businesses are managed under different sets of expectations, in particular with regards to speed-to-market.

"The talent war will intensify, as will the M&A hunt. Most companies will seek to stand up a hybrid business model on their digital transformation journey. They'll go from hardware to adding services to then adding content/data plays, like Apple has done so brilliantly.

Boards and executives who embrace that this is the future of medtech's value expansion will create healthy TSR while providing solutions to patients, providers, and payors through digitally engaging user experience.

Sue Siegel, Board Member at Align, Illumina, Nevro; Chairman, The Engine; Trustee, KFF

Figure 5: Hybrid strategy for digital transformation in medtech

Organic Growth	vs.	Inorganic Growth
☐ In-house incubators		☐ Targeted M&A activity
☐ Cultivating of 'enterpreneurial' talent		☐ Calibrated capital investments
☐ Using data to supercharge R&D		☐ Patent partnerships/buyouts

← **Rich ecosystem of partners** →

Source: Russell Reynolds Associates

Digital Leadership: An Urgent C-suite Priority

All of these factors—the technology, the talent needed to steer that technology, the reengineered relationships with patients, the more expansive approach to the market ecosystem—will depend on the caliber of the leadership stewarding this transition.

Successful leadership teams will be those able to ask hard questions regarding their own capabilities: for many such teams, the key insight they will bring to this industry disruption is the recognition that they don't have the entirety of the expertise required; this may be particularly true at the board level, which might need to diversify its knowledge base and actively seek out the 'digital native' perspective in its deliberations.

In the intensifying scramble for leadership talent, fast-cycling of succession planning/ finding 'force multiplier' internal moves will be vital, but most companies will also have to aggressively go external to seed their leadership with hires directly from (adjacent or otherwise) technology sectors.

Organizations will need talent that is willing and able to challenge the organization with the ability to break some glass to change the organizational mindset and culture. One individual will not be able to lead the transition alone – it needs to be a broad-based organizational reckoning and passion instilled from the top and driven by the board and C-suite.

> "You might be able to put what you believe to be the toolsets in place to enable that digital transformation to occur, but without the appropriate culture from leadership, how many have actually really done it in the medtech space?"

Sue Siegel, Board Member at Align, Illumina, Nevro; Chairman, The Engine; Trustee, KFF

> "More and more you see a CEO, or executives with titles like chief digital officer; it's really become a prominent part of the company strategy: the way they go to market, the way they differentiate themselves, the way they build relationships directly with the people whom they consider their stakeholders with whatever business that they do."

Chet Kolley, Group Vice President, Healthcare and Life Sciences Business, GlobalLogic

> "For the C-suite, it is of paramount importance for medical device players to move in this direction. It will take some time to have that restructuring occurring. The risk of not starting down that path now is that there will not be a lot of fast followers. The company that is ahead will stay ahead. If you don't start in the next year, you will be behind and not be able to catch up."

David Feygin, Vice President, IT and Chief Digital Health Officer, Boston Scientific

Questions for the Board/C-suite

- Do we have a digitally-savvy leadership team to support our digital agenda?

- Do we have capabilities at the C-suite level and within the board to steer the enterprise through the next industry transition into new business models?

- If not, how do we get those capabilities?

- How do we organize ourselves around our digital agenda?

- How do we scale our many digital initiatives or '1000 flowers blooming'?

- How do we leverage the groundswell in our organization?

- Do we need more digitally-savvy board directors?

- Do we need a chief digital/technology officer?

- How do we become a magnet for digital talent?

- Are our next generation of leaders 'digitally conversant'?

- How do we take advantage of the fact that the next generation of leaders have grown up in a completely digital world?

- Do we have the feedback loops and a mindset in place to ensure the organization doesn't 'tune out' (and force out) new hires who get it?

- To what extent are we hardwiring comfort with ambiguity into ongoing leadership development programs?

Source: Russell Reynolds Associates

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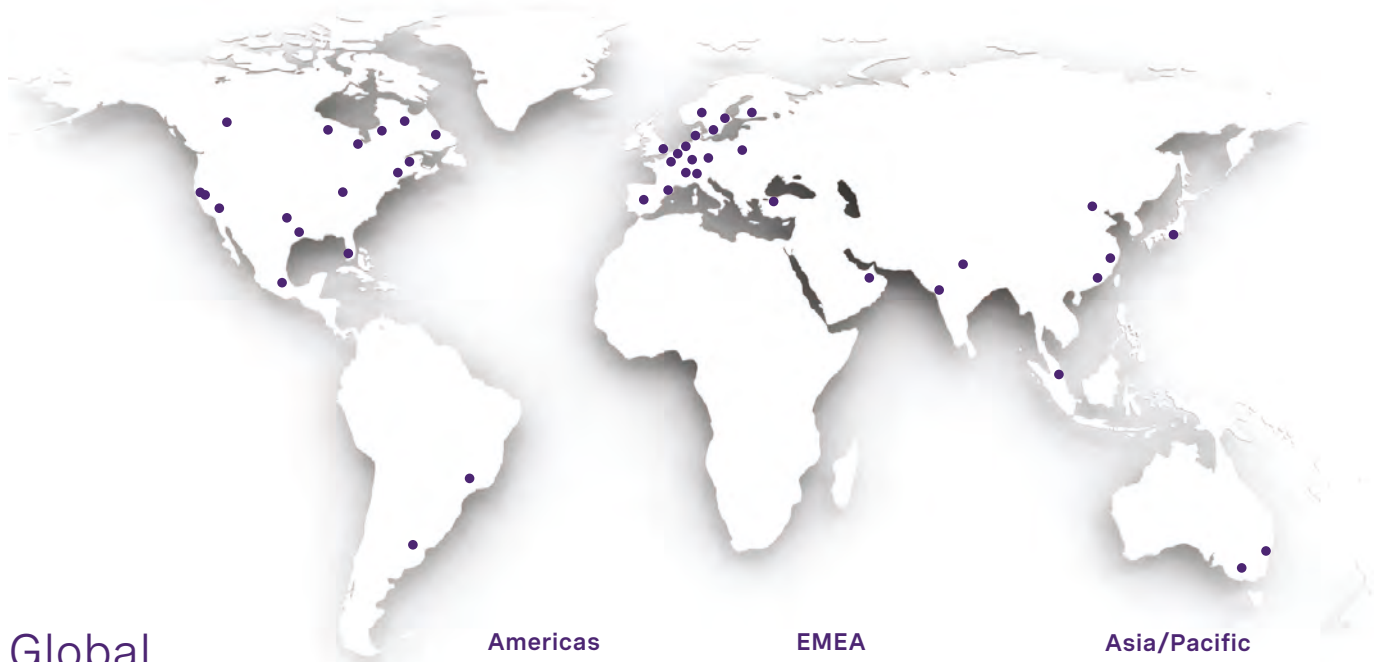
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