Social Innovation and Healthcare:

From Personalization to Preventing Pandemics

FROST & SULLIVAN

A Frost & Sullivan White Paper

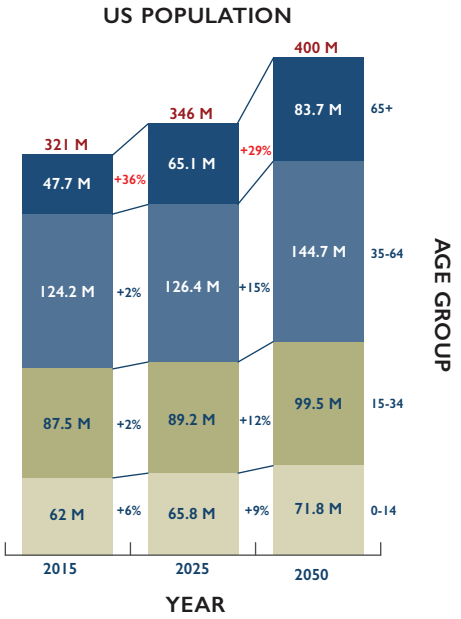
INTRODUCTION

Our world is awash in connectivity and information. It is rather astonishing to step back and think about how much information we can access, and how quickly we can access it, today as compared to any other era in history. Even more astounding is the vast amount of data being generated and transmitted beyond the familiar cell phones and tablets—from hospitals, utility meters, traffic lights, and oil rigs. This amount of information can often overwhelm, and how we can leverage it for our betterment—of our society, our companies, and ourselves as individuals—often seems a daunting task. Correctly analyzing and utilizing this data from the Internet of Things that matter, however, can provide benefits that will resound across an organization, from productivity to customer value, revenue generation through cost savings.

Social Innovation is the nexus of technology, people, and processes that allows information to drive meaningful improvement. The value of these improvements starts at the fundamental sources of information, from machine to machine (M2M) communication where much of the data is gathered, for example, and must be executed efficiently and securely. It continues across the world of telecommunications, where information is translated and transmitted in increasing amounts, creating an industry that is both critical to our society and, at the same time, more and more commoditized. Social innovation reaches both individuals and society through community-centric applications in cities and governments, such as healthcare, as well as through applications across the spectrum of industries, from energy and aviation to research and manufacturing.

Hitachi brings to Social Innovation decades of expertise across key vertical markets such as healthcare. It also brings the technology to support the sophisticated Big Data analytics that makes data effective for change, as well as the people and processes to help design and direct that change. At the end of the day, Hitachi and the solutions it presents embody Social Innovation itself, a symbol of the intersection between technology, processes, and people working to create a better company, industry, and society.

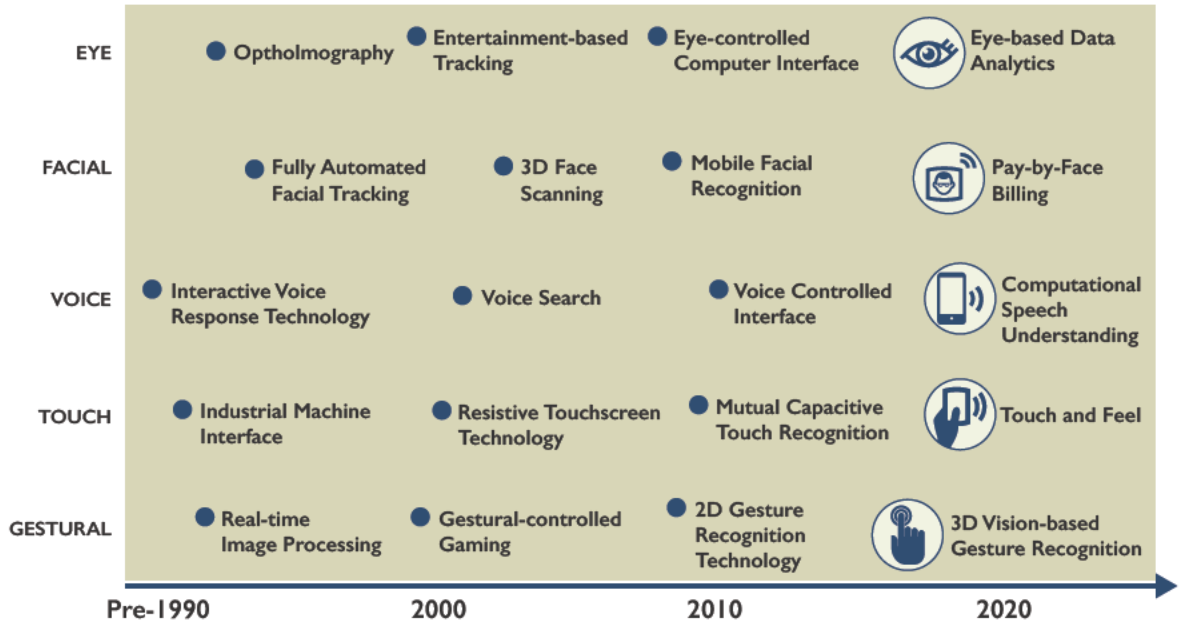
In January 2011, the first baby boomers turned 65. Since then, and until 2030, an estimated 10,000 people will cross the age of 65 every day; this means that by 2030, about 20% of the US population—72 million people—will be over the age of 65, up from about 40 million today. This population spends twice the amount per capita on healthcare services than younger groups, and it is but one reason the healthcare industry needs to rapidly change and adapt to a new paradigm in the industry.



To expand as quickly as its patient list grows, the industry needs to adopt new business models and apply systematic improvements to how it uses data. Social Innovation, the convergence of people, processes, and technologies for a modern world, can leverage Big Data and analytics to create a healthcare system that is more efficient, flexible, and successful concerning patient outcomes. But in order to do this, comprehensive solutions that look beyond data—and address the true aims of a hospital or healthcare network—need to be implemented.

Information has always played a key role in sustaining modern healthcare, particularly in tracking information from individual patients, to medical studies and broad societal health trends. Along with in-hospital data, the past few years have seen growth in new sources of information. Frost & Sullivan estimates the wearable healthcare devices market will generate over $5.4 billion in revenues by 2020. That market is expected to fuel a remote healthcare monitoring industry of over $1 billion. From smart beds to smart pacemakers, this data will be collected in addition to medical images and clinical records from an industry already awash in the never-ending flow of information.

Increasing Automation and Sensors in Healthcare Drive a Need for Better Data Management



In response, hospitals have engaged in sophisticated data management systems, driven by their IT team and often geared toward a specific department or challenge, spanning radiology, cardiology, the pharmacy, and even the customer service call center. However, these solutions tend to be technology focused rather than customer focused and challenge driven. In fact, many hospitals are struggling with difficulties stemming from the lack of interoperability across systems used in different departments. In turn, systems often become underused.

An underutilized system is problematic on many levels: it costs the hospital by reducing or extending its return on investment, and it does not offer the state-of-the-art solutions for patient care. Yet the right system, implemented correctly, will save the hospital money. Until these benefits become apparent, however, the hospital is keenly aware of the expenditure it has undergone to meet federal or state mandates. Ultimately, information needs to be doctor-driven, patient-centric, and have multiple secure access points, available remotely as well as at the hospital or other healthcare facility.

A major international private healthcare group realized that one of its main hospitals was facing such challenges. The hospital used a picture archiving and communication system, but it was limited in that it did not capture all of the hospital's various electronic health record (EHR) formats and had an interface that was more frustrating than helpful. The hospital recognized it needed a vender-neutral archive to capture and communicate the entire scope of its digital records. However, it also needed a solution doctors would value, one that would make accessing the right information straightforward rather than cumbersome.

The hospital chose Hitachi Clinical Repository (HCR) to pave its road to modernity. The solution was developed in collaboration with clinicians specifically designed for the hospital setting. Hitachi had the industry-leading combination of cutting-edge technology, decades of experience in the healthcare industry, and a mission of realizing connected healthcare through Social Innovation.

HCR provided the hospital and its doctors a single-portal dashboard that captured all information from one platform. The system is also security accessible across the hospital infrastructure, whether at the point of care,

on a mobile device, or at a workstation for a telephone consultation. Along with being clear and accurate, the system is also quick: a local data repository makes retrieval virtually instantaneous, while a background trickle feed keeps data constantly updated.

The approach Hitachi took in delivering the solution to the hospital is as progressive and valuable as its technology; Hitachi's familiarity with the industry inspired a solution that performs beyond the implementation of a new data repository. The HCR process ensures the total outcome is optimized by consulting the key stakeholders from the start on how the system will enable the hospital's ultimate goals and mission. In fact, doctors were able to test drive the new system before fully engaging Hitachi across the organization, and it was through their positive feedback that HCR was determined to be the best partner. The rollout was so successful that the hospital quickly realized it could be used to engage all aspects of the business within one main repository.

Long term, such systems that empower Social Innovation will have a marked impact on the world. Data will continue to flood in at a faster rate, and, correctly utilized, the healthcare industry will benefit greatly. For example, already major universities and healthcare systems are taking advantage of the preponderance of wearable fitness devices and mobility tracking apps to collect data around heart health and longevity from millions of people worldwide. Outbreaks—whether measles at a school or Ebola across a country—could be more readily detected and contained as their diagnoses becomes more immediate and their spread more predictable. At a personal level, medications can be customized for the individual based on genomics and habits: a doctor could tell, based on solid evidence derived from billions of data points, if a patient's high blood pressure would react better to medication or dietary changes, or which cancer treatment would yield the best result with the least discomfort. In short, Social Innovation is a long-term mission that realizes the potential for how technology can enable societal improvements when driven by organizations using the right tools and processes to achieve their goals.

For More Information

To learn more about Hitachi Social Innovation solutions and services, visit www.hds.com/go/social-innovation.

Auckland
Bahrain
Bangkok
Beijing
Bengaluru
Buenos Aires
Cape Town
Chennai
Dammam
Delhi
Detroit
Dubai
Frankfurt
Herzliya
Houston
Irvine
Iskander Malaysia/Johor Bahru
Istanbul
Jakarta
Kolkata
Kotte Colombo
Kuala Lumpur
London
Manhattan
Miami
Milan
Moscow
Mountain View
Mumbai
Oxford
Paris
Pune
Rockville Centre
San Antonio
São Paulo
Seoul
Shanghai
Shenzhen
Singapore
Sydney
Taipei
Tokyo
Toronto
Valbonne
Warsaw

Silicon Valley
331 E. Evelyn Ave., Suite 100
Mountain View, CA 94041
Tel 650.475.4500
Fax 650.475.1570

San Antonio
7550 West Interstate 10,
Suite 400
San Antonio, TX 78229
Tel 210.348.1000
Fax 210.348.1003

London
4 Grosvenor Gardens
London SWIW 0DH
Tel +44 (0)20 7343 8383
Fax +44 (0)20 7730 3343

877.GoFrost
myfrost@frost.com
www.frost.com

Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today's market participants. For more than 50 years, we have been developing growth strategies for the Global 1000, emerging businesses, the public sector and the investment community. Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics and emerging economies?

For information regarding permission, write:
Frost & Sullivan
331 E. Evelyn Ave., Suite 100
Mountain View, CA 94041