

COVID-19: World Healthcare Technology Market Impact Analysis

Signify Research – 11 June 2020

Introduction

In recent months the spread of COVID-19 has had a huge impact on global economies, healthcare services and health IT markets in general. For some market segments the crisis has changed the market outlook considerably. This paper provides Signify Research's initial assessment of how the pandemic will impact the imaging IT and imaging modality markets examined in this report.

It should be noted that this is a first pass, top-down impact assessment. With so many unknown variables relating to the impact of the virus, the timescales at which different countries will reduce lockdown restrictions and the pace that health systems will restart elective procedures, the truth is that for many markets there is not yet enough data to produce a reliable forecast using our usual bottom-up forecast method. For this reason, Signify Research has chosen at this point to update our forecasts by producing potential market development scenarios, rather than fixed projections.

Over the course of 2020 we will closely monitor developments and provide updated research to our clients and the healthcare technology industry.



How we're better....
it's all in the way we work

At Signify Research we are passionately curious about Healthcare Technology and we strive to deliver the most robust market data and insights, to help our customers make the right strategic decisions.

Contents



The following paper is based on rigorous primary research with leading healthcare technology vendors, supported by a range of secondary research sources.

The foundation of our market intelligence, consulting and advisory services is our range of multi-client, deep-dive global market reports and intelligence services.

Section	Market report / intelligence service	Lead analysts	Analyst contact:
Macro Trends	All research coverage	Steve Holloway, Principal Analyst Alex Green, Principal Analyst	steve.holloway@signifyresearch.net alex.green@signifyresearch.net
Ultrasound	Ultrasound – World – 2020	Simon Harris, Principal Analyst Mustafa Hassan, Market Analyst	simon.harris@signifyresearch.net mustafa.hassan@signifyresearch.net
General Radiography and Fluoroscopy X-ray	General Radiography and Fluoroscopy X-ray - 2020	Imogen Fitt, Market Analyst	imogen.fitt@signifyresearch.net
Imaging IT (Radiology, Cardiology, VNA, IE)	Imaging IT – World – 2020 Market Intelligence service	Steve Holloway, Principal Analyst	steve.holloway@signifyresearch.net
Digital Pathology	Digital Pathology – World – 2020	Steve Holloway, Principal Analyst Imogen Fitt, Market Analyst	steve.holloway@signifyresearch.net imogen.fitt@signifyresearch.net
Machine Learning in Medical Imaging	Machine Learning in Medical Imaging - World 2020 - Market Intelligence service	Simon Harris, Principal Analyst Sanjay Parekh, Senior Analyst	simon.harris@signifyresearch.net sanjay.parekh@signifyresearch.net
Teleradiology	Teleradiology – World - 2020	Alex Green, Principal Analyst Arun Gill, Senior Analyst	alex.green@signifyresearch.net arun.gill@signifyresearch.net
Telehealth	Telehealth – World – 2020	Alex Green, Principal Analyst Arun Gill, Senior Analyst	alex.green@signifyresearch.net arun.gill@signifyresearch.net

Further details on all of our products and services can be found at www.signifyresearch.net or by enquiring to enquiries@signifyresearch.net

Macro Trends

Macro Impact Evidence
Healthcare Budgets & Spending
Imaging Volumes
Telehealth Adoption
Market Recovery & Outlook

Macro Market Impact



Economic

Recession looms

- GDP in Q12020 dropped as COVID-19 hit economic growth; leading economies were hard-hit
- Q1 2020 quarter-on-quarter GDP growth: USA (-1.3%), Canada (-2.1%), Japan (-0.9%), China (-9.8%), Germany (-2.2%), Italy (-4.7%), South Korea (-1.3%), France (-5.3%), UK (-2.0%), Brazil (-1.5%)

Government

Trillions committed in unprecedented economic measures

- Global governments and financial institutions have announced unprecedented stimulus packages.
- Examples from leading markets include: USA (\$2.78T), Canada (\$152b), Japan (\$1.06T), China (508b), Europe (\$540b), South Korea (\$53b), UK (\$47b), Brazil (\$73b)

Health Systems

Financial pressure mounts

- American Hospital Association forecast a \$200b hit for lost services and pandemic response (Mar-Jun 2020)
- Chinese public hospitals forecast no growth for 2020, while growing private sector takes on substantial losses
- Health systems across Europe see significant drop-off in procedural volumes as they channel resources to virus response

Vendor Financials

Q1 impact limited but fears for Q2

- Analysis of Q1 2020 financials for leading healthcare technology vendors indicates significant impact on some product segments
- Vendors cite Q2 2020 as likely to be worse than Q1; most have suspended CY 2020 guidance

Regional

Emerging markets impact intensifies

- Chinese and Oceania market recovery towards “business as usual” in Q2
- EU and USA gradual and tentative easing of restrictions and return to normality, though pent-up demand from postponed procedures and risk of “second-wave” expected to add pressure to healthcare services
- Pandemic epicentre shifts to emerging markets – Brazil, Mexico, Russia, India, Chile, Peru all facing major outbreaks with limited healthcare resources

The global impact and response to COVID-19 has been unique, both in terms of scale of impact and speed of spread.

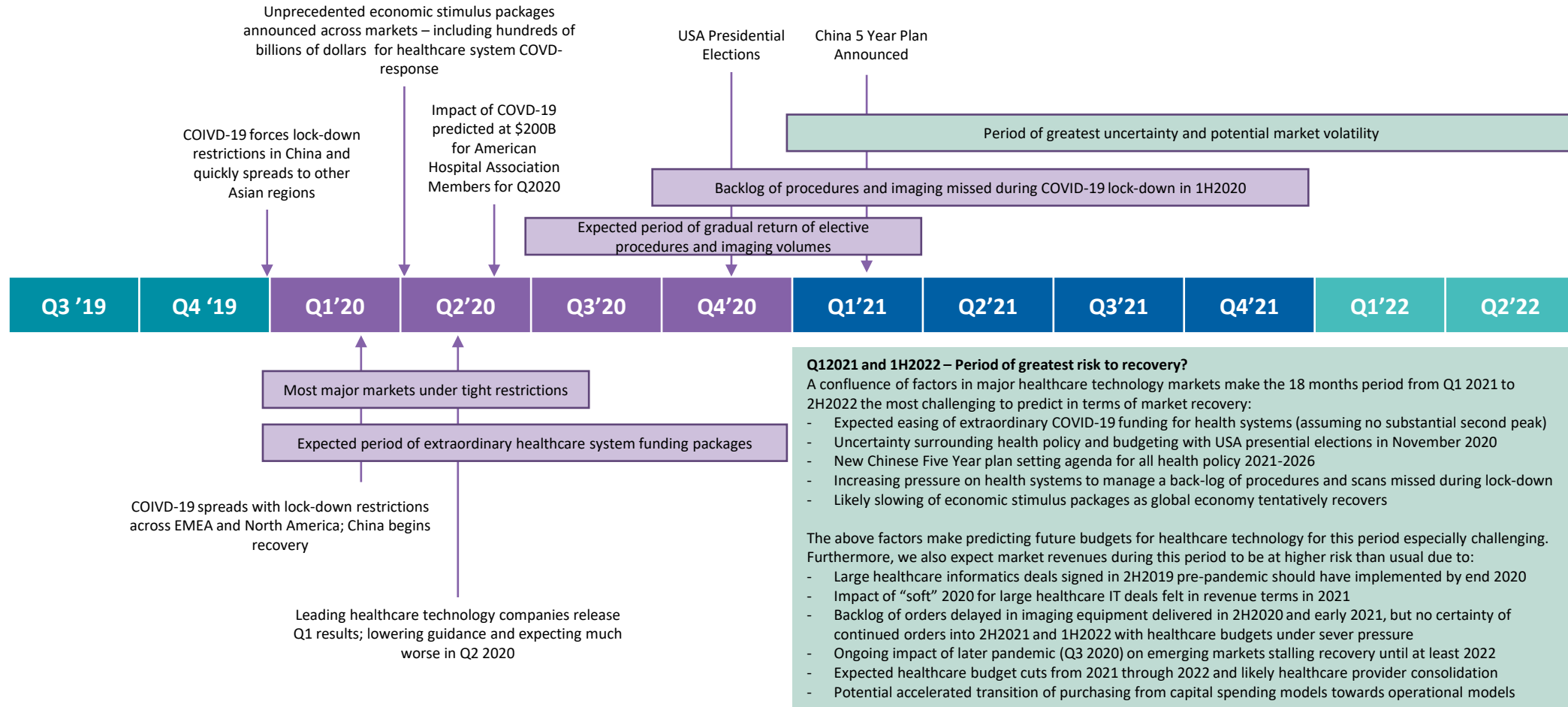
At the centre of the global response, governments and healthcare providers have been facing unprecedented challenges.

The macro factors listed here all exemplify the challenge posed by the COVID-19 pandemic and point towards a very different market environment moving forwards.

In this paper we review the specific impact on the healthcare technology sector, with special focus on our core markets of coverage: medical imaging, healthcare IT and digital health.

Healthcare Budgets & Spending Impact

Below we have outlined our current view of the near-term developments and impacts on healthcare technology markets. In most product segments we expect recovery will be gradual during 2021 and 2022, with significant risk and volatility impacted by healthcare budget cuts as well as a confluence of macroeconomic drivers:



Imaging Volumes Decline

Medical imaging hardware and software accounts for a substantial proportion of the business of leading health technology vendors, with over \$25b of hardware sold annually, excluding services. A number of recent reports, research papers and imaging service provider financial reporting has shown a dramatic decline in imaging volumes in 1H2020, with some imaging providers citing a 75% drop, with outpatient imaging especially hard-hit.

Market impact – most likely scenario:

At this relatively early stage, the rate and shape of recovery of imaging volumes across regional markets is challenging to predict. However, based on initial feedback, the following trends are most likely in 2H2020 and 1H2021:

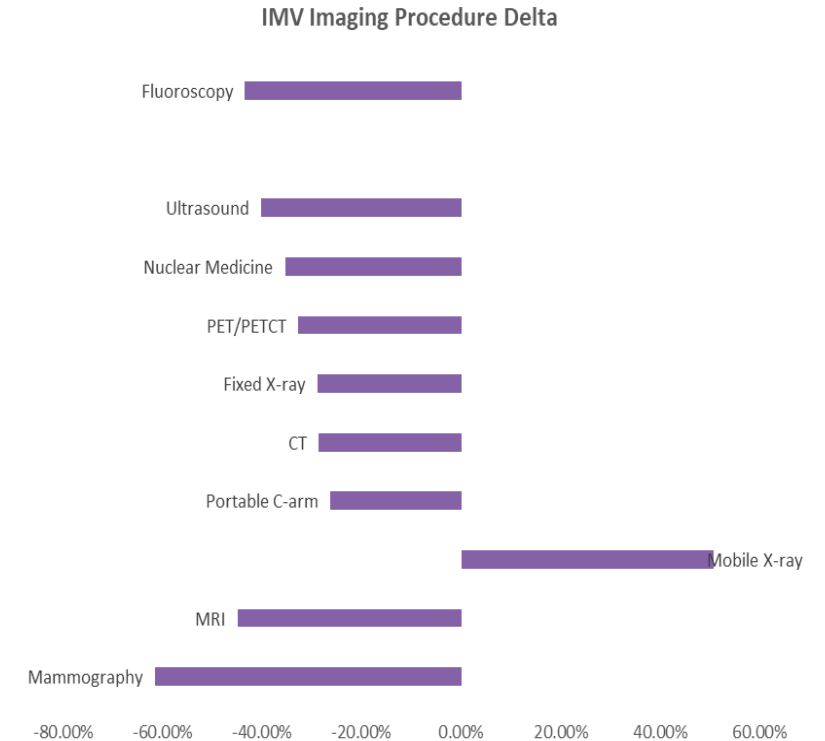
- A backlog of pent-up demand in mature markets in the US and EU, though maintaining ALARA principles
- Review and revision of imaging protocols, temporary changes to working practices (e.g. staffing, use of virtual waiting rooms) and increased utilization rates for modalities
- Increased remote or home-reporting by radiologists and referring provider consults

We currently expect it will take the remainder of 2H2020 for imaging volumes to return to a level close to pre-pandemic “normal”, with a potential upside of pent-up demand carrying into 2021. There is a downside risk of a second wave of the virus, especially in the US, China and EU, leading to additional healthcare budgetary pressure.

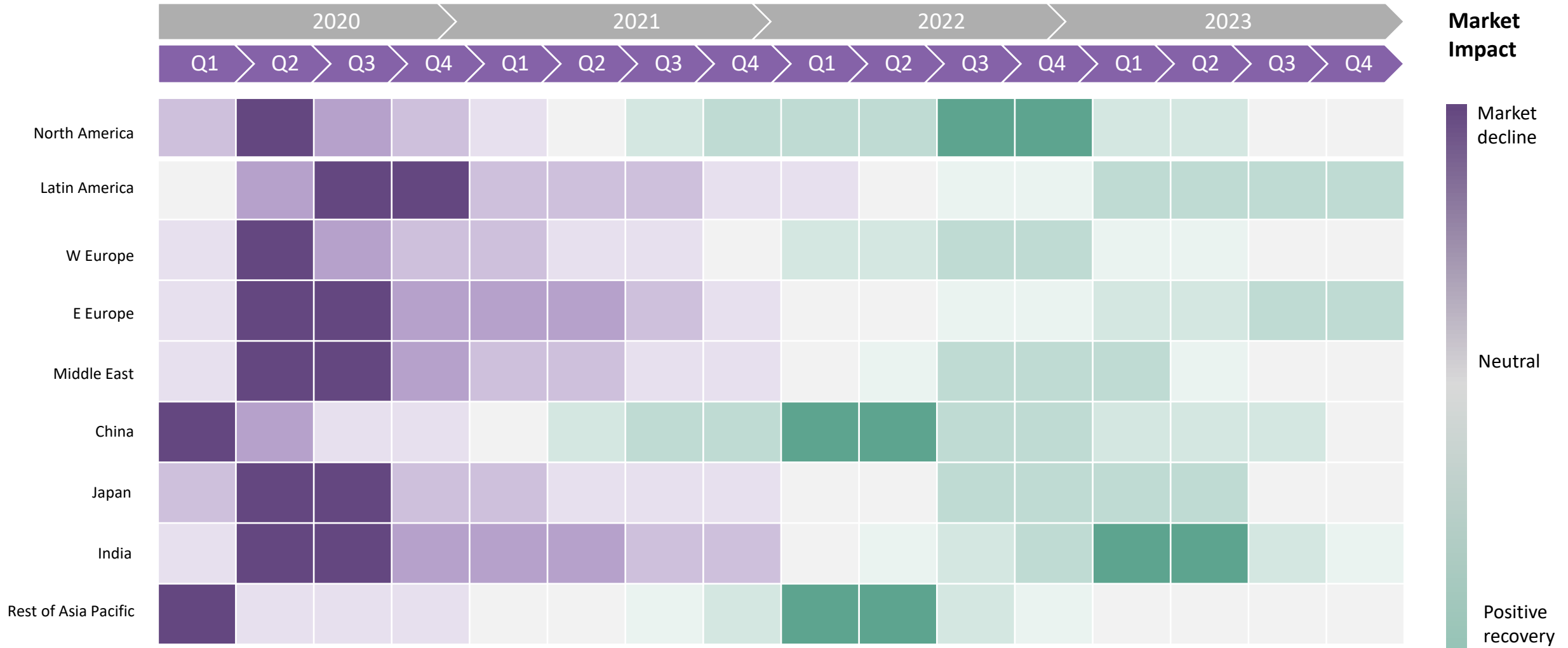
What we don't know at this stage:

The financial impact of the pandemic and rate of recovery also raises a number of key questions, for which we believe it is too soon to fully assess. In particular:

- *Will the balance of imaging service volume change between hospital and outpatient imaging location? Will patients actively avoid visiting hospitals for non-urgent imaging?*
- *Could a sharp rise in demand for imaging services spur faster adoption of AI-based tools for image analysis and reporting?*
- *How will large health systems under substantial financial pressure react in terms of imaging services – increase use of outsourcing and teleradiology or decrease use?*
- *With growing financial pressure, will imaging vendors more rapidly change their business models towards less-capital intensive business models?*



Regional Market Impact



Telehealth and Teleradiology Adoption Spikes



Without doubt COVID-19 has transformed the virtual care telehealth market. For most countries this has resulted in a significant increase in virtual consultations in recent months. Some countries were particularly well primed in terms of market conditions (e.g. France, US, Australia) for exceptional growth, whereas in others the impact is forecast to take a little longer (e.g. the UK, Portugal).

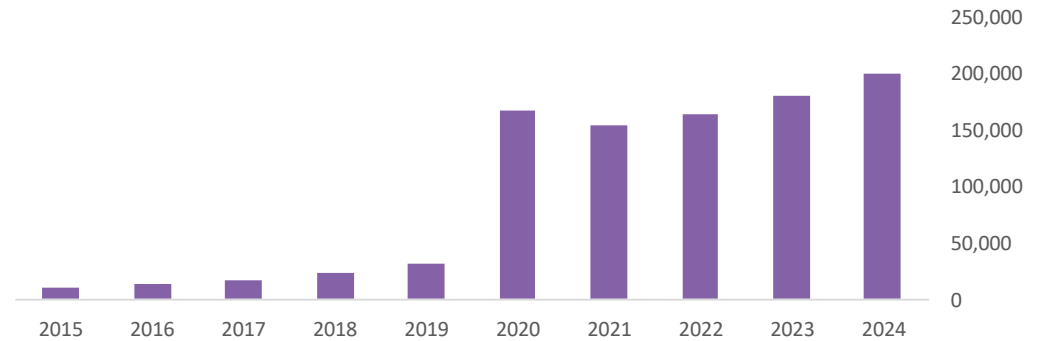
Growth is forecast to peak towards the end of 1H20 as new workflow processes that address COVID lockdown restrictions are standardized and the initial peak of new infections passes. While the new processes are in some ways temporary, the medium-term impact is forecast to be a huge increase in the number of virtual consultations over the next five years. However, this growth is predicated on the assumption that a significant number of countries keep most of the new reimbursement policies in place. As well as using telehealth as a strategic tool to manage health care system interactions during COVID-19, in many countries this strategy has relied on new, often temporary, reimbursement policies being put in place. This is the case in the US, Australia and Belgium for example. Should these countries revert completely to pre-COVID-19 structures, the growth projections outlined on the right would be very different. After 2020, growth is forecast to drop to well below pre-COVID levels and in fact volumes are projected to decline in 2021 as health systems at least to some extent revert to using more in person consultations. However, while Signify Research forecasts that there will be some declines in the volumes of virtual consultations in 2021, it still forecasts that they will remain much higher than pre-COVID levels. A “new normal” is forecast to follow that will help maintain the volumes seen during the COVID crisis.

Telehealth is also being used within hospital settings to support provider-to-provider consultations during the pandemic. However, the impact here is less stark. Primary care implementation often relies on the rollout of new software platforms, often on top of EHR solutions or, at least for the duration of the crisis, using consumer grade applications. This requires much less support in terms of implementation compared to a tele-ICU or cart-based surgical/medical support solution (which are hardware reliant, require significant training and have longer sales lead times). While the use of telehealth is projected to be positively impacted in these settings by COVID-19, the impact is not forecast to be as immediate or dramatic. However, it is projected to have greater longevity.

Unlike the above examples of telehealth, teleradiology is tied to diagnostic imaging procedure volumes. As already discussed, these have been negatively impacted during COVID-19, meaning that immediate demand for teleradiology has been negatively impacted. Pent-up demand during the latter half of 2020 and 2021 is projected to reverse this, as discussed in more detail later in this report.

Primary Care Telehealth Consultations - World

Consults (000s)



Care Setting/Application	Short-term Impact of COVID-19	Medium-term Impact of COVID-19
Primary/Ambulatory Care		
Inpatient/Emergent		
Remote Patient Monitoring/Post-acute Care		
Teleradiology		

When will product markets recover to pre COVID-19 levels?

Predicting how quickly markets will recover is complex, given the nuances of regional lock-down restrictions, healthcare funding models, purchasing cycles and the predominant business model of each product sector.

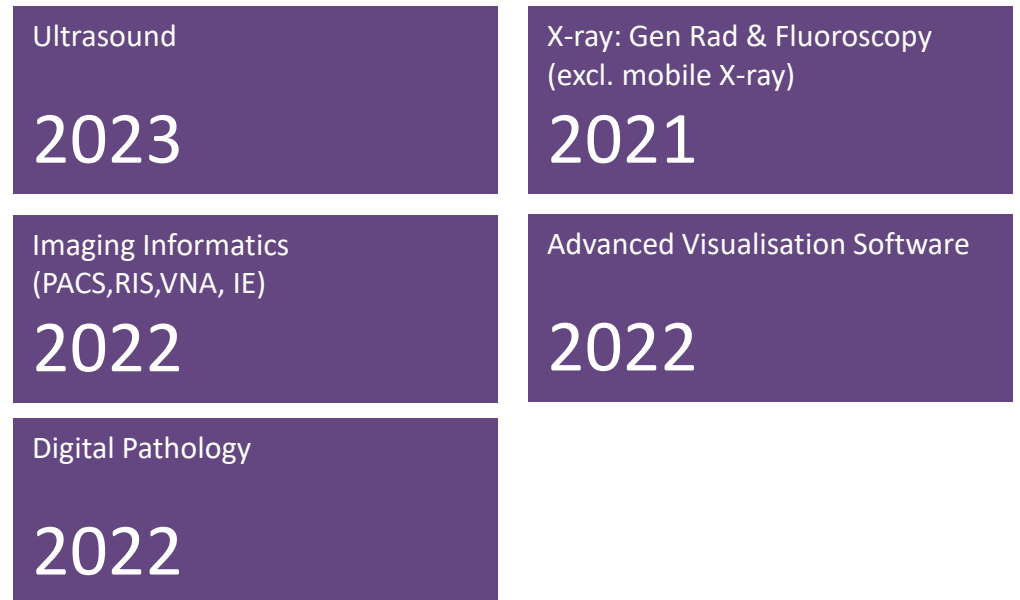
Based on our ongoing research discussions with leading healthcare technology vendors, our analyst team has offered a preliminary outlook based on the most likely market scenario we see at the time of writing (early June 2020) to outline how quickly we expect worldwide market revenues recover to pre-pandemic levels.

In general, we expect a “swoosh” shaped recovery (short term decline followed by a gradual recovery) for imaging equipment, tied to the recovery of imaging volumes such as screening programs. Software and service markets have seen less drastic near-term impact, but we expect to see market decline and recovery over a longer period than the imaging modality markets due to the lag between implementation of contracts signed pre-pandemic and “refilling” of new deal pipeline.

Of course, some market segments and sub-segments have seen substantial increases in response to COVID-19, with 2020 revenues expected to far exceed 2019 levels. These are:

- Mobile X-ray systems (General Radiography)
- Hand-carried and portable Ultrasound
- Teleradiology (Software and Services)
- Telehealth
- AI-based clinical applications for lung imaging (CT, X-ray and ultrasound)
- Lung CT AV / Cardiac CT AV toolsets

Further detail and some additional commentary on each market is provided in the additional slides in section two.



Markets set to exceed pre-pandemic levels in 2020



Market Impact

Ultrasound

General Radiography, Fluoroscopy and Mammography

Imaging IT (Radiology IT, Cardiology IT, VNA, IE)

Digital Pathology

Machine Learning in Medical Imaging

Teleradiology

Telehealth

Ultrasound

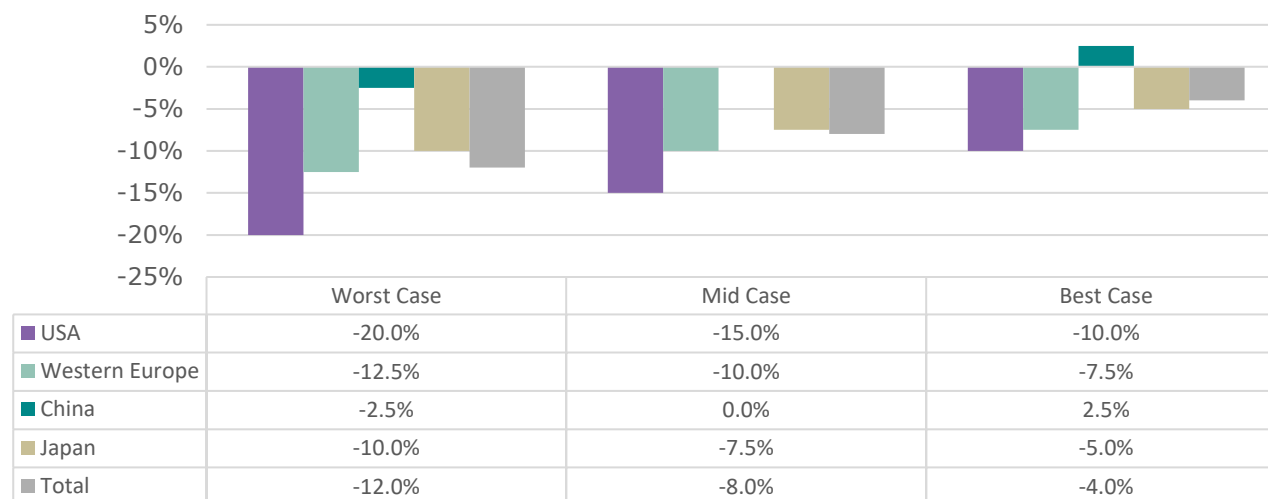
Clinical Segment	Expected Impact 2020
Radiology	↓ High
Cardiovascular	↓ Mid
Women's Health	↓ Mid
POC	↑ Low
Other Segments	↓ Mid
Total Market	↓ Low

When will global market revenue recover to pre-pandemic (2019) levels?

Total Ultrasound:
2023

Very Low (0-5%); Low (5-10%); Mid (10-15%), High (15-20%)

2020 Revenue Forecast Scenarios - World Market (June 2020)



Analyst commentary (June 2020):

- Ultrasound is playing a key role in the management of patients with COVID-19. It offers many advantages over CT and X-ray in that the equipment is comparatively cheap, is more widely accessible, is easier to disinfect, is radiation-free for close monitoring, and it can be performed at the bedside to minimize the risk of contamination during patient transport.
- There has been a surge in demand for ultrasound systems for use in emergency medicine and critical care departments, especially portable systems such as compacts and handhelds. In some instances, ultrasound systems from other department have been repurposed for use in frontline COVID-19 care.
- The pandemic is having a negative impact on the main clinical ultrasound markets (radiology, cardiovascular and women's health), due to a combination of reduced vendor sales activity (on-site demos, new product launches, conferences) and plummeting elective procedure volumes during national lockdowns. Overall, the global market is forecast to decline by around 8% in 2020.
- At this stage, it seems customers are postponing rather than cancelling orders and a soft recovery is forecast for 2021. The market recovery is forecast to be gradual rather than "V" shaped. While there is expected to be pent-up demand as providers restart elective inpatient services, the massive financial burden from COVID-19 on healthcare systems around the world is expected to result in reduced capital expenditure budgets for imaging equipment.

General Radiography, Fluoroscopy & Mammography X-ray



Product	Expected Impact 2020
Mammography	↓ High
Fluoroscopy	↓ High
Fixed Radiography	↓ Mid
CR/Retrofit Systems	↓ Very Low
Mobile Radiography	↑ High

When will global market revenue recover to pre-pandemic (2019) levels?

X-ray: Gen Rad & Fluoroscopy (excl. mobile X-ray)
2021

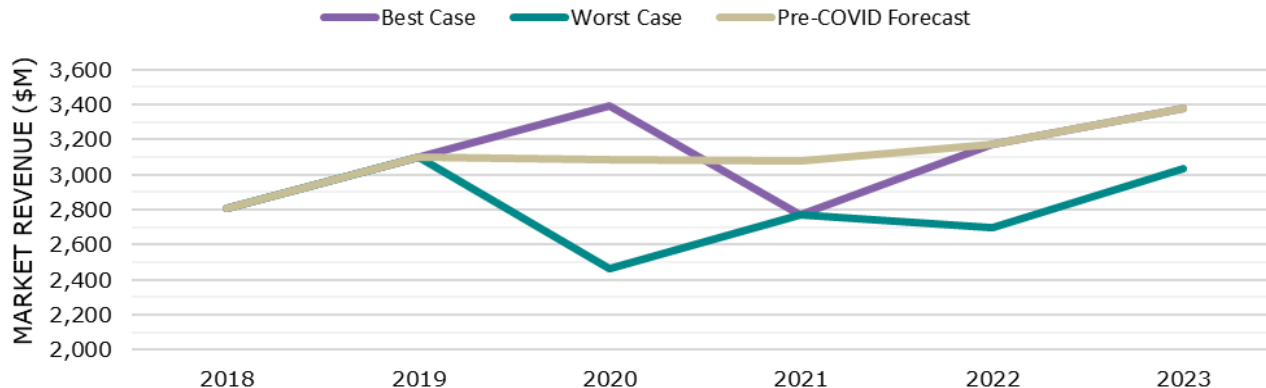
Mammography X-ray
2021

Analyst commentary (June 2020):

- Demand for digital mobile systems has surged as providers use chest X-ray to diagnose and triage patients. Portable units can be transported to the patient bedside and can be relatively easily disinfected compared to dedicated rooms.
- The wider availability and comparatively cheaper prices of general radiography equipment comparative to CT means that the modality is expected to be favoured, especially in emerging markets.
- Demand for fixed radiography equipment, particularly fluoroscopy and mammography systems, has dropped as budgets are sequestered for the pandemic. This is expected to partially rebound during 2021 as postponed orders resume.
- Participation in breast cancer screening has halted globally as national programmes are suspended. This will create a surge in imaging volumes post-pandemic as screening is restarted.
- COVID-19 is predicted to have little impact on retrofit & computed radiography (CR) system sales, as these systems are cheaper to purchase than fully digitalised counterparts.

Very Low (0-5%); Low (5-10%); Mid (10-15%), High (15-20%)

Forecast Scenario – World Market (June 2020)



Imaging IT (Radiology IT, Cardiology IT, VNA, IE)

Product	Expected Impact 2020
Radiology IT	↓ Low
Cardiology IT	↓ Mid
VNA and IE	↓ Low
Advanced Visualisation	↓ Mid
Operational Workflow / Business Intelligence	↑ Low

When will global market revenue recover to pre-pandemic level (2019)?

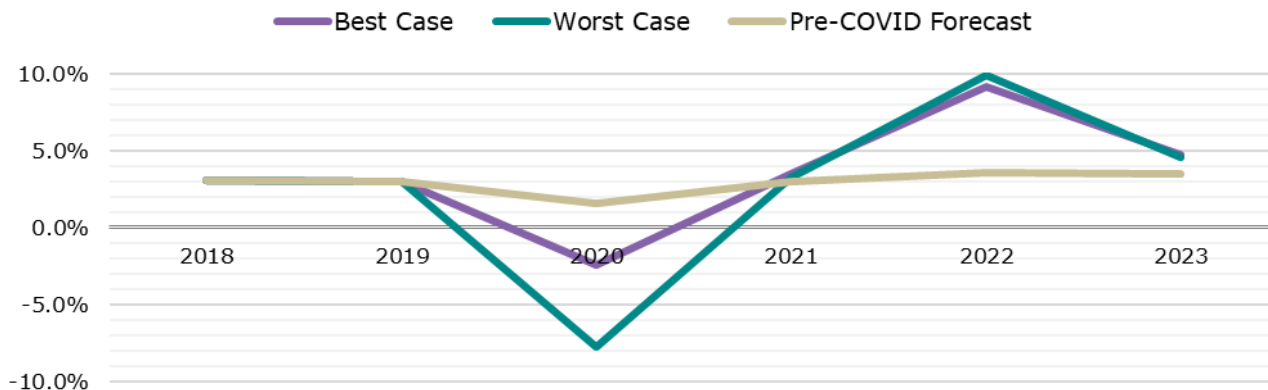
Total Market – Imaging IT:
2022

Analyst commentary (June 2020):

- Software and service markets have seen less drastic near-term impact compared to some equipment markets, with a substantial proportion of the market tied to recurring revenue from software licenses and maintenance for imaging IT platforms. However, COVID-19 is likely to affect the market over a longer period in comparison to medical imaging hardware due to the lag between the implementation of contracts signed pre-pandemic and the "refilling" of new deal pipelines.
- Large regional tenders for PACS or enterprise imaging in Europe and major imaging IT deals with acute hospital in the US have also slowed, with healthcare provider executives shifting resources and focus toward COVID-19 response and tackling new initiatives such as telehealth adoption in the near term. This could also lead to further delays or downgrading of more complex enterprise imaging platform deals as budgets tighten and other initiatives take precedence.
- The pandemic has also spurred some bright-spots for imaging informatics, with strong demand for home-reporting workstations, operational workflow tools (triage, case-load balancing), and specific advanced visualization toolsets for COVID-19 analysis.
- There has been limited evidence so far that remote reporting and renewed interest in teleradiology will have a substantial impact on the rate of cloud-based platform adoption in mature markets.

Very Low (0-5%); Low (5-10%); Mid (10-15%), High (15-20%)

Forecast Scenario – World Market (June 2020)



Digital Pathology



Product	Expected Impact 2020
Scanner Hardware	↓ Mid
Software - Closed	↓ Mid
Software – Open Platform	↓ Very Low
Software – Image Analysis	↓ Very Low
Software – Machine Learning	↑ High

Very Low (0-5%); Low (5-10%); Mid (10-15%), High (15-20%)

When will global market revenue recover to pre-pandemic (2019) levels?

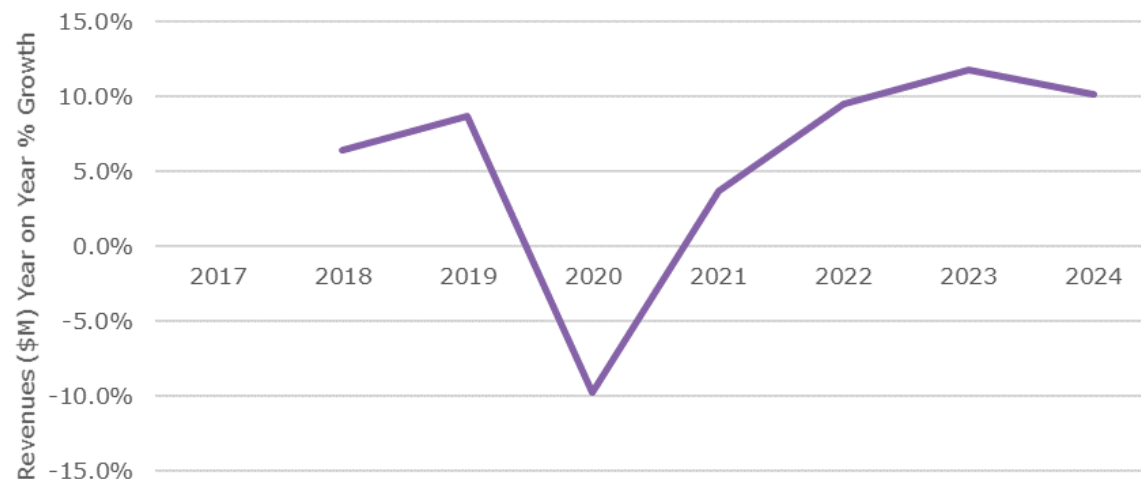
Scanner Hardware:
2023

Software Total:
2022

Analyst commentary (June 2020):

- The market for digital pathology has been moderately impacted, with a “swoosh” shaped market recovery expected (initial sharp market decline, followed by a gradual recovery). Hardware scanner shipments and new platform implementations have been delayed in some markets (in part due to local restrictions limiting on-site implementations), although the impact has been offset partially by new demand in the pre-clinical segments.
- The software market for digital pathology has been less severely impacted, with only a small decline forecast for 2020, before a return to market growth in 2021. The market for closed-software products (normally sold with scanners) has been more severely impacted.
- There is significant uncertainty and risk for the mid-term forecast given the expected budgetary pressure for health systems and commercial labs; while we expect a return to market growth relatively quickly, there is a risk digital pathology implementations will be delayed, reduced in scope or cancelled. Moreover, pathology departments are often poorly funded in comparison to other departments such as radiology, cardiology and oncology; this may drive market adoption towards a collaborative multi-disciplinary approach.
- Temporary easing of FDA regulations in the USA for use of digital pathology for primary diagnosis is not expected to be extended beyond 2020 in our current market forecast.

Digital Pathology - World Market Annual Growth



Machine Learning in Medical Imaging



Clinical Segment	Expected Impact 2020
Pulmonology	↑ Mid
Cardiovascular	↑ Low
Breast	↓ Low
Neurology	↓ Mid
Other Segments	↓ Mid
Total Market	↓ Low

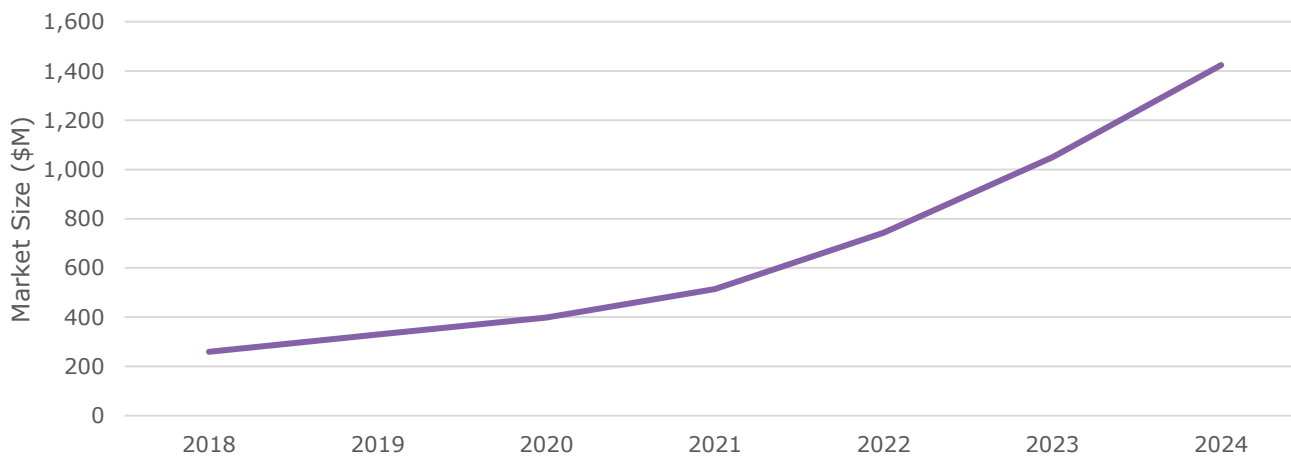
When will global market revenue recover to pre-pandemic (2019) levels?

The market will continue to grow and surpass 2019 revenue levels

Analyst commentary (June 2020):

- COVID-19 is expected to have a negative impact on the market in the short term (2020/2021). However, the fundamental market growth drivers will remain intact and the longer term (2022 and beyond) growth forecast remains positive.
- Reduced sales activities during the national stay-at-home (lockdown) initiatives will negatively impact the market in 2020 and the effects from this will still be seen in 2021. Many health providers will be more risk adverse due to financial pressures and reduced IT budgets and are likely to prioritize known and trusted technologies. AI may be considered too risky and given a lower priority.
- As the year progresses, the expected backlog of imaging studies will put additional pressure on radiology departments, and this will drive increased interest in AI tools that help to maximize productivity and those that prioritize cases. However, the above points are expected to have a greater impact, and the net result is lower growth than would have been expected pre-COVID.
- The market for AI-based clinical applications that are directly relevant to COVID-19, such as quantitative lung applications and solutions that detect and triage COVID-19 pneumonia, are forecast to experience a short term boost, but this will be tempered by the challenges of commercializing, selling and deploying these solutions during the pandemic. Moreover, the lack of clinical validation for the many COVID-related tools that have recently entered the market will restrict growth.

COVID-19 Adjusted Forecast - World Market (June 2020)



Teleradiology

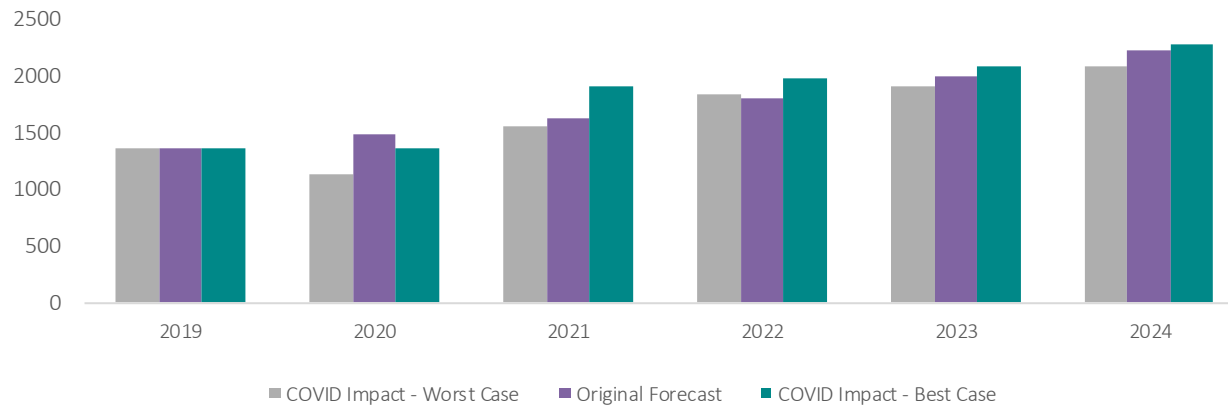


When will global market revenue recover to pre-pandemic (2019) levels?

Total Market:
2021

Teleradiology - COVID-19 Impact Scenarios

Revenue (\$m) - Reading Services and Associated IT



Analyst commentary (June 2020):

- In 2019, teleradiology was used in just over 1.6% of diagnostic imaging procedures. Its main use was in supporting out-of-hours diagnostic image reading requirements, followed by capacity relief and specialist reporting.
- In both the best- and worst-case scenarios, the assumption is there will be huge reductions in diagnostic imaging procedures during the first half of 2020. The upside scenario assumes that there will be some bounce back in the second half of 2020, and a rapid increase in 2021 as pent-up demand is relieved. The downside scenario assumes similar but with a delayed and less dramatic upswing, mostly focused on 2021 with limited impact in 2020.
- The upside scenario assumes that despite a drop off in total volumes, the fact that teleradiology is used to service out-of-hours reading services means it will be sheltered to some extent, and overall penetration remains at pre-COVID levels. The downside forecast assumes that penetration drops as greater hospital/imaging centre capacity is available due to overall imaging procedure volume declines.
- The upside scenario assumes that there is significant increase in penetration in 2021, as teleradiology is used to address the additional capacity required to serve pent-up demand. With a slower upswing in pent-up demand in the worse case scenario as the requirement for extra capacity via teleradiology is less.
- Over the medium term, both scenarios tend toward the original pre-COVID Signify Research projection.

Telehealth

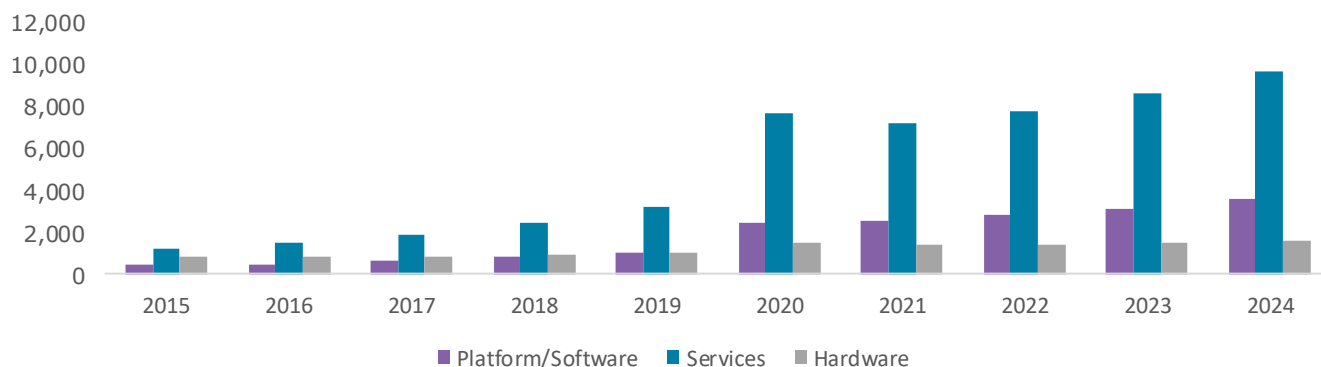
Setting	Expected Impact 2020
Primary Care - Consumer	↑ High
Primary Care - Patient	↑ Very High
Inpatient – Surgical/Medical Support	↑ Mid
Inpatient – Tele-ICU	↑ Mid
Remote Patient Monitoring	↑ High
Total Market	↑ High

When will global market revenue recover to pre-pandemic (2019) levels?

Telehealth:
All segments will continue to grow and surpass 2019 revenue levels

Telehealth Market by Product - World

Revenues (000s of USD)



Analyst commentary (June 2020):

Primary Care

- Strategic use of telehealth in managing primary care interactions during COVID-19 lockdown, alongside dramatic changes in reimbursement policies in many countries, has had a major impact on the volume of virtual care consultations.
- China, the US, Australia, France, Indonesia and Finland have seen consultation volumes increase by several multiples.
- However, changes in reimbursement policies in several countries have been only temporary and questions still exist as to whether these policies will be reversed or watered down in the medium term.

Acute Care

- In inpatient/emergent markets, provider-to-provider telehealth solutions, such as surgical/medical support carts and tele-ICU, have been used to support remote working for clinical staff, preserve PPE in COVID-19 wards, support intelligent patient assessment, workforce optimisation and improve ICU capacity.
- However, these solutions have longer lead times in terms of commercial deals, installations and professional support. COVID-19 will have a positive impact on these markets, but not as stark or immediate compared to primary care.

Post-acute/Chronic Care

- Remote Patient Monitoring (RPM) is being strategically used by healthcare providers in order to monitor COVID-19 suspected patients at home, prior to any hospital admission, and to keep non-COVID patients out of clinical settings. This has driven an immediate and sharp increase in demand.
- However, demand to manage both COVID and non-COVID patients remotely is likely to drop once the initial peak in COVID-19 cases passes.

About Us

Our Services

- Reliable market data you can trust, insightful analysis and exceptional Analyst support.
- A world-class team of Analysts delivering the market intelligence you need, when you need it.
- Focused on providing high quality market data and forecasts for the healthcare technology industry.
- Not just a publisher of market reports, customers have direct access to market analysts for questions, presentations, additional analysis, etc.



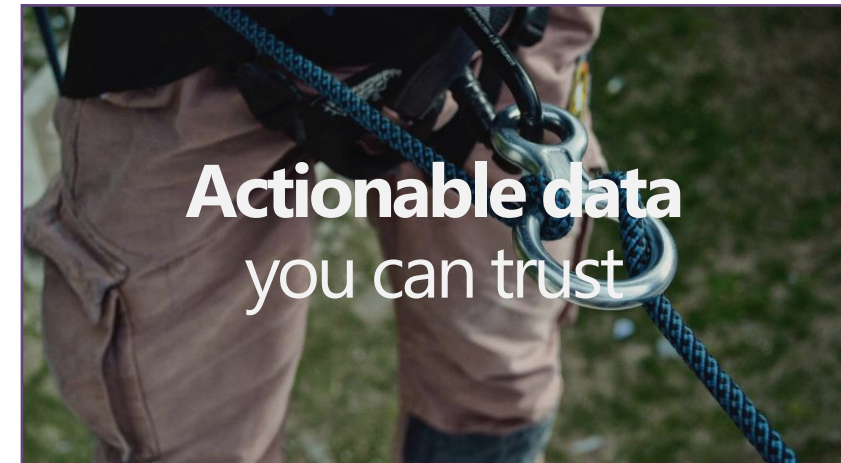
How we're better....
it's all in the way we work

At Signify Research we are passionately curious about Healthcare Technology and we strive to deliver the most robust market data and insights, to help our customers make the right strategic decisions.

Customer Credentials

Signify Research Customers

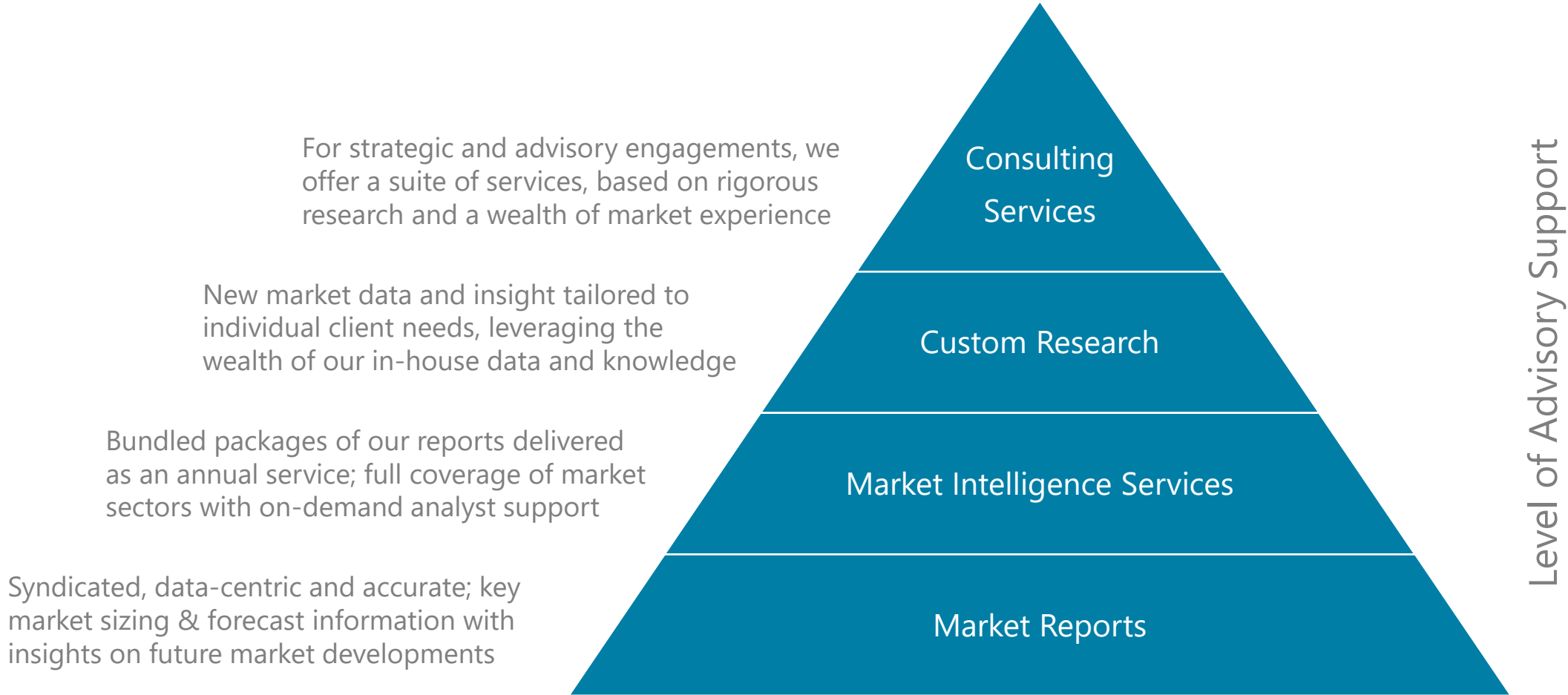
- Four of the top five US EHR vendors
- Three of the top five North American PHM vendors
- Four of the top five global Imaging IT/PACS vendors
- Four of the top five global Ultrasound Hardware vendors
- Five of the top five global Advanced Visualisation IT vendors



“We recently purchased one of Signify Research’s reports. We felt we can trust the insights they provided to make informed strategic decisions.” – Vera Borislavova, Global Customer & Market Insight Business Partner, GE Healthcare

“Signify Research’s greatest strengths are its subject matter expertise and deep understanding of the industry.” – Ken Sutherland, President, Toshiba Medical Visualization Systems Europe









Additional Research Capabilities



Syndicated Research

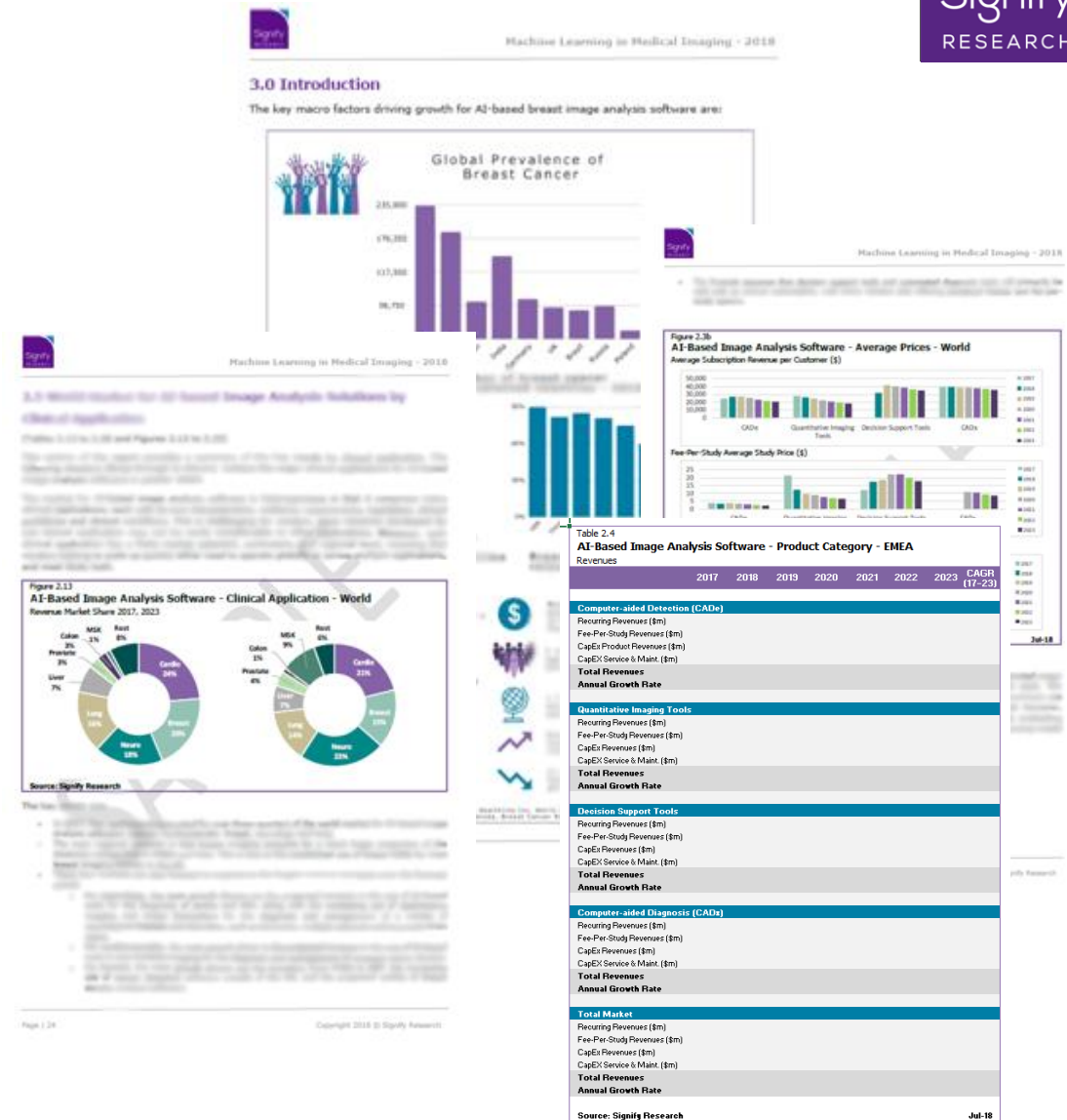
The structure and format of our syndicated projects can vary depending on topic, but generally include:

Report Features

-  Expert commentary on the market trends
-  Detailed analysis by application and by product to highlight growth opportunities
-  Primary research method ensures accuracy and reliability
-  Robust forecasts driven by proprietary database of hospital infrastructure
-  Direct access to the lead Analyst
-  Worldwide coverage with detailed country-level analysis
-  Highly data-centric, with numerous segmentations of the market
-  Actionable, jargon-free analyst insight and opinion

Report deliverables are offered in a variety of formats (per topic):

- Full written report commentary (.pdf or .ppt)
- Shorter executive summary covering key trends
- Excel dataset with data in three formats:
 - Static tables
 - Dynamic pivots
 - Raw pivot data list



Custom Research & Consultancy

Extension or deep dive on specific product or geographic market:

- Additional segmentation of existing syndicated project
- New market assessment (sizing, forecasting)
- Re-mapping of our syndicated data into specific structure or definitions for central MI or business planning
- Executive briefings on single or multiple markets or trends

Content Marketing Support:

- Whitepaper or content creation on defined market trends and topics in given product or regional market
- Webinar support
- Speaking engagements (conferences and customer-focused events)

Competitive:

- Competitive landscape analysis in given product or market (basic profiling, product matrices and market presence)
- Strategic analysis of defined competitors (e.g. SWOT, portfolio analysis, strategy in context of market trends)
- Early phase of M&A due diligence
- Identify potential customers, distributors and tech partners

Strategic Consulting:

- Develop, evaluate and update a strategic growth plan
- Opportunity analysis to identify and evaluate new markets
- Competitive assessments with strategic advice on how to defend or grow market share
- Strategy planning workshops to “road test” your existing strategy or formulate a new strategy

Content Marketing Services – White Papers / Webinars



Signify Research

What's new for machine learning in medical imaging

Predictions for 2019 and beyond

Published: October 2018



Introduction

It is becoming increasingly clear that machine learning will transform many aspects of healthcare delivery, with imaging specialties such as radiology and pathology set to be early adopters. In the clinical medical imaging professionals will be expanding AI-enabled diagnostic capabilities, to support with all aspects of interpretation from detection, classification and segmentation, through to the quantitative imaging features and analysis. In addition to supporting the diagnosis and improving clinical outcomes, machine learning will also boost productivity of smart workflow and reporting tools, also applications for machine learning in image interpretation, from helping departments to maximise their performance, to tools that enhance the acquisition process, ensuring the image is obtained for each exam.

With the medical imaging industry facing a new wave of AI-fuelled technology and one that is set to disrupt the profession, now is the time for health providers to establish an AI roadmap to ensure they benefit and remain competitive. This white paper is to highlight some of the key technologies that are reshaping the medical imaging landscape and to provide insights into the challenges that are being faced.

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WHITE PAPER

Managing unstructured clinical content

A roadmap for health providers to adopt clinical archives that augment multi-disciplinary care

Published: November 2018



Introduction

Healthcare providers today are struggling to cope with managing the scale and diversity of data generated as healthcare networks grow. Clinical content, which includes medical images, unstructured clinical notes, clinical device data, visible light images, audio recordings, and external charts and records, is often unavailable to central administration and operational IT systems such as electronic medical records (EMRs). Many key stakeholders in clinical and operational functions need to access, manage and exchange this information, but too often these needs have been overlooked or underserved. IT administrators have also become paralysed by the growing volume of legacy applications and unstructured content in their organisations. These data silos have only become more problematic as health systems have consolidated and grown. Clinical content integration is therefore one of the biggest challenges facing health informaticists today. It is also fundamental to improving care standards, especially as providers look to offer more integrated, personalised care for their patients.

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