



# Strategy for Healthcare Business

November 27, 2020

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# 1. Healthcare Business: Medium-term Business Strategy



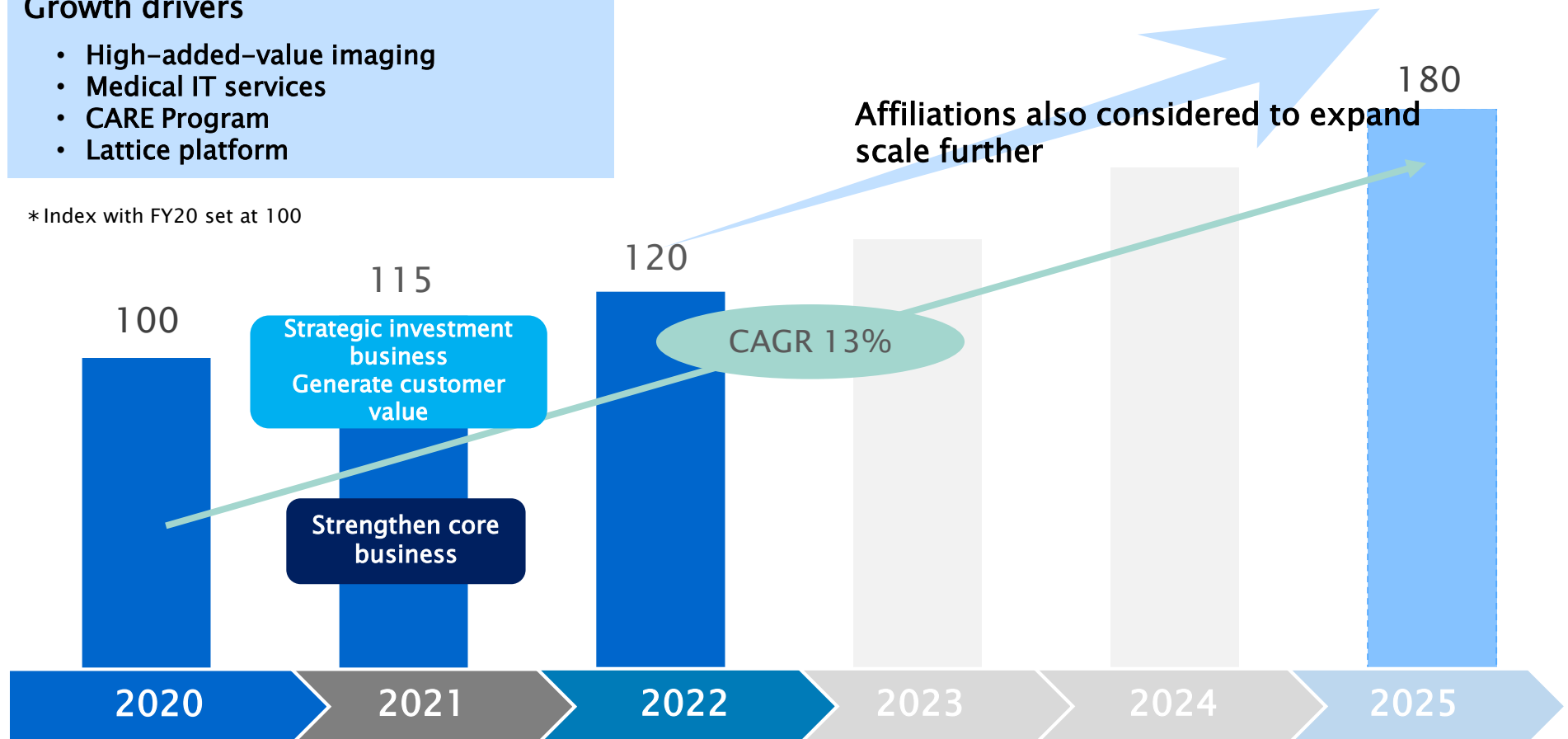
# Healthcare Business: Medium-term Business Strategy

- The healthcare (existing) business has set the DR integrated X-ray system, the high-added-value digital business in Asia, high-added-value imaging and medical IT services as its priority strategies.
- The precision medicine business will accelerate the CARE Program, multi-omics platform, and the business in Japan (laboratory).

## Growth drivers

- High-added-value imaging
- Medical IT services
- CARE Program
- Lattice platform

\* Index with FY20 set at 100

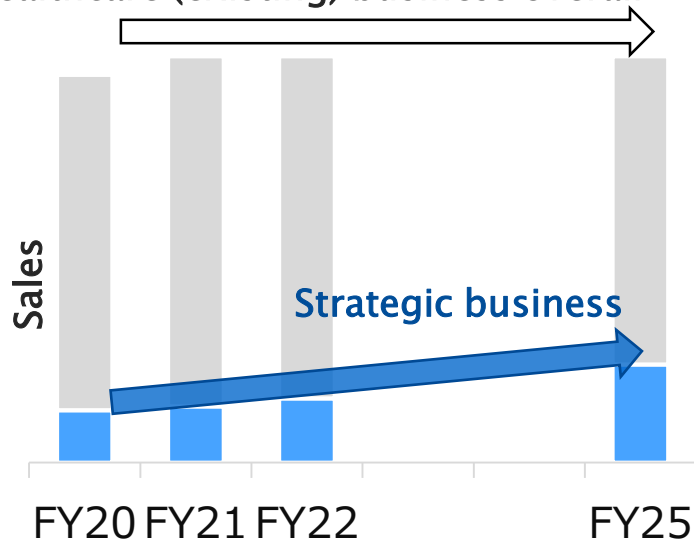


# Healthcare (Existing) Business: Vision to Complete by FY22 and Strategic KPI

Strategy emphasizing on high-added-value imaging, medical IT and software fields

		FY20	FY21	FY22
Sales growth rate	(FY20 estimate)	100%	106%	106%
Strategic business growth rate	(FY20 estimate)	100%	108%	123%
Increase in operating profit rate	(FY20 estimate)	-	+1%	+1%

## Healthcare (existing) business overall



### Strengthen high-added-value imaging

- Expand sales of high-added-value DR integrated X-ray systems
- Expand high-added-value digital business in Asia
- Establish clinical value of X-ray kinetic analysis in Japan, US and China

### Expand medical IT service business

- Link together patients, medical institutions and partner companies on medical IT platform, and develop medical IT services with differentiated imaging

### Promote global digital business

Reduction in purchased items in Japan at a low gross profit margin

Strategic KPI	FY20→21	FY21→22
Sales growth rate for DR integrated X-ray system, kinetic analysis and Asian digital business	8%+ $\alpha$	15%+ $\alpha$
Sales growth rate for medical IT services	5%+ $\alpha$	8%+ $\alpha$

# Precision Medicine Business: Accelerate Sales Growth and Revenue Improvement

## ■ Sales growth through core business growth and new platforms

### 1) Growth in core business

- Aggressive introduction of RNA testing
- Expand and reinforce imaging trial services in the central nervous system and oncology fields
- Japanese insurance reimbursement: Start of genetic testing for breast cancer and ovarian cancer

### 2) Expand CARE Program

- Pre-symptomatic platform: Expand to unaffected individuals and imaging centers

### 3) Lattice Platform expansion

- "Multi-Omics Platform" for pharmaceutical companies and medical institutions

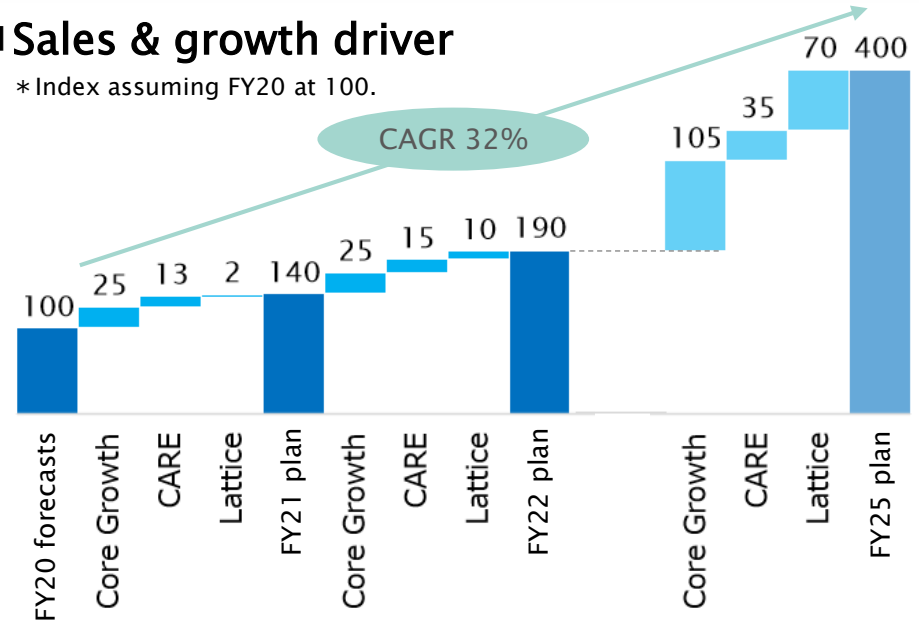
## ■ Improve gross profit by raising accuracy and efficiency of genetic testing

### 1) Balance shorter analysis time and lower cost of sales

- Introduce NovaSeq, a cutting-edge genetic analysis device
- Shift to cloud

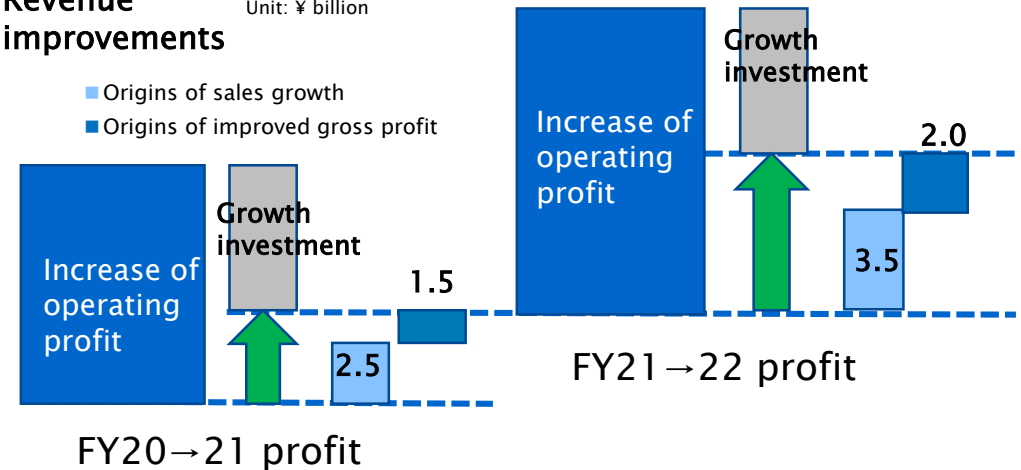
## ■ Sales & growth driver

\* Index assuming FY20 at 100.

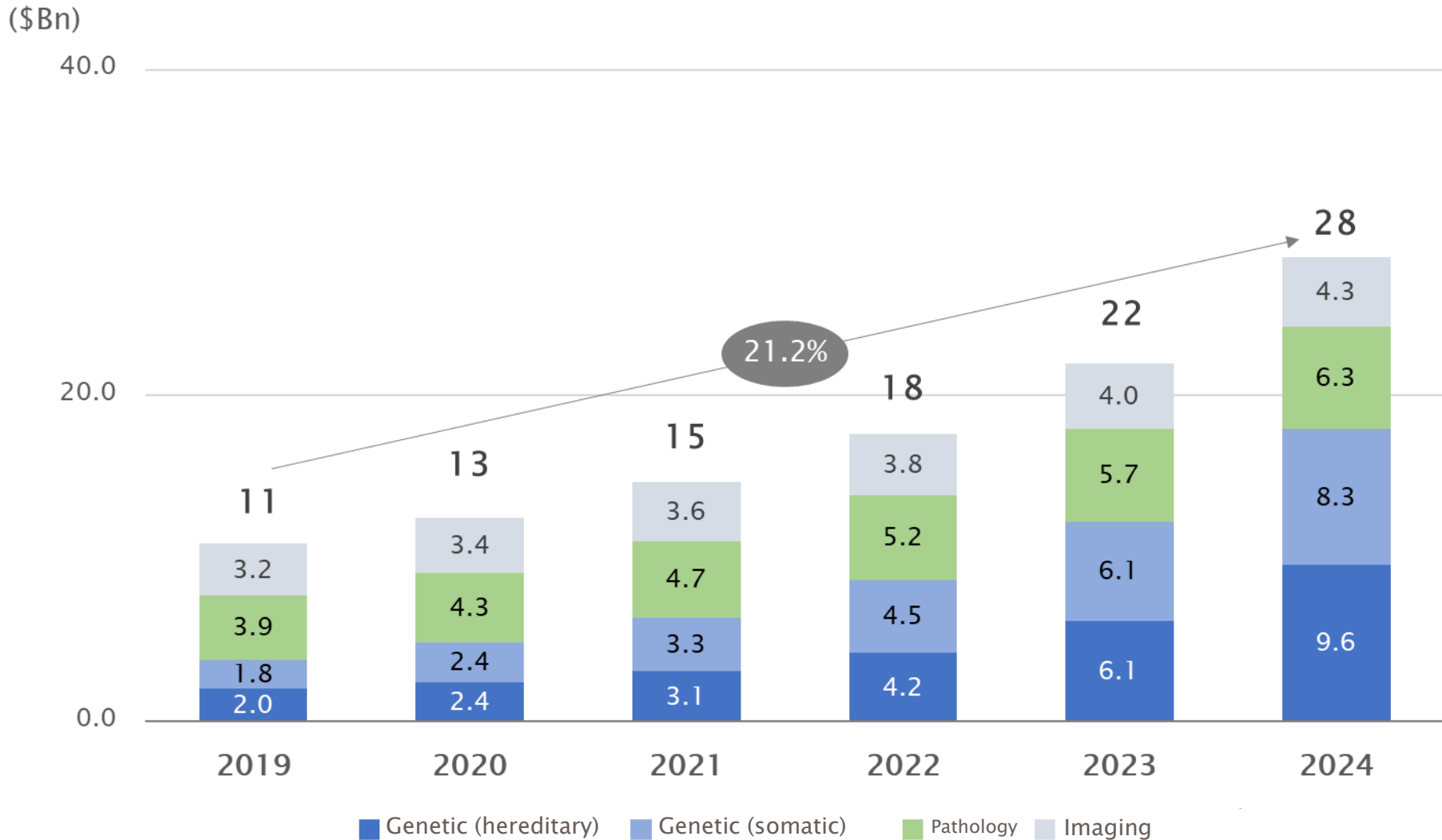


## ■ Revenue improvements

Unit: ¥ billion



# Large Scale and High Growth for Bio Markets that Konica Minolta Focuses on

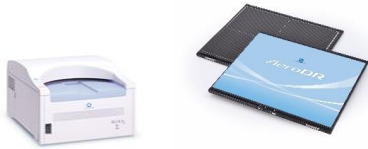


## 2. Business Concept

## *Science Driven Powered by Data Science Patient Focus*

**Pursue advanced medicine  
by making it “visible” and  
“digital”**

**X-ray diagnostic  
equipment**



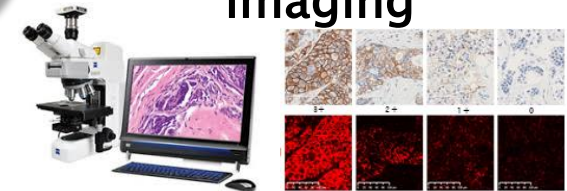
**Genetic diagnosis**



**Ultrasound diagnostic  
equipment**

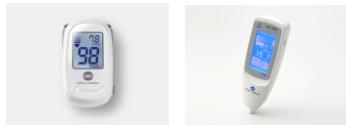


**Pathology/medical  
imaging**



**Vital sensing**

(Pulse oximeter, icterus meter)



**Medical ICT services**

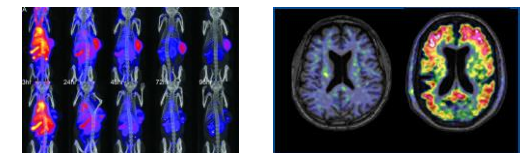
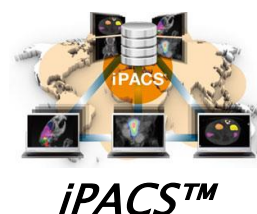


**Drug discovery  
support services**  
(Cancer, Alzheimer's)

**Medical information  
system  
(PACS)**



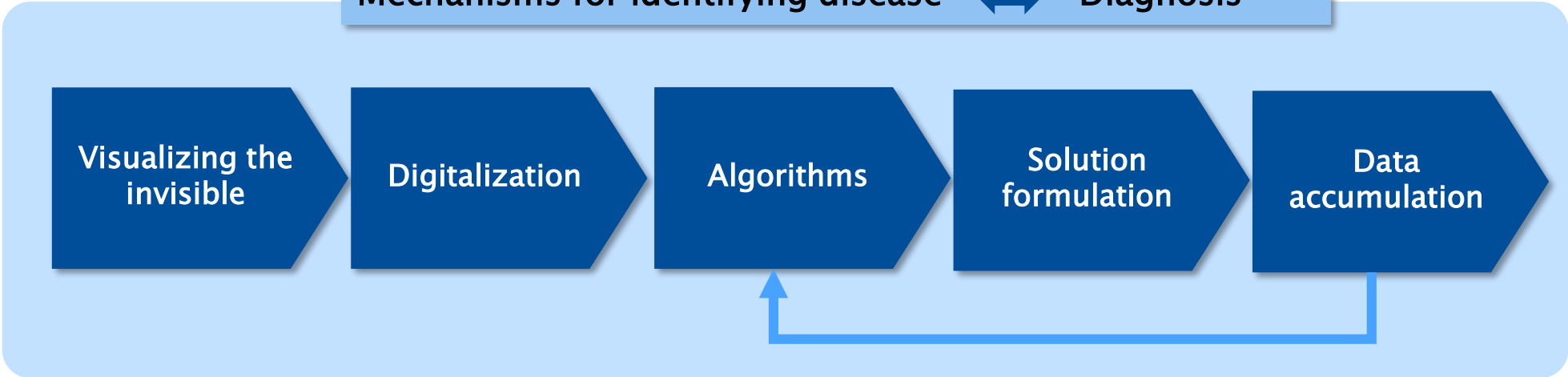
**Diagnostic support**  
(Imaging processing/  
analysis)





# Konica Minolta's Healthcare = Focus on Digital Diagnosis

Mechanisms for identifying disease ↔ Diagnosis



- X-ray, ultrasound
- Various modalities
- Photo composite technology
- Cutting-edge laboratory
- PACS

- Genetic
- Cells, protein
- Organs
- Overall

- Bio Informatics
- AI

- Imaging diagnosis
- Genetic diagnosis
- Pathology diagnosis
- Drug discovery support

- Cancer
- Dementia
- Incurable diseases



Early diagnosis  
*Prevention*

Individualized medical care  
*Precision*

# 3. Strategy for Healthcare (Existing) Business: Early Diagnosis

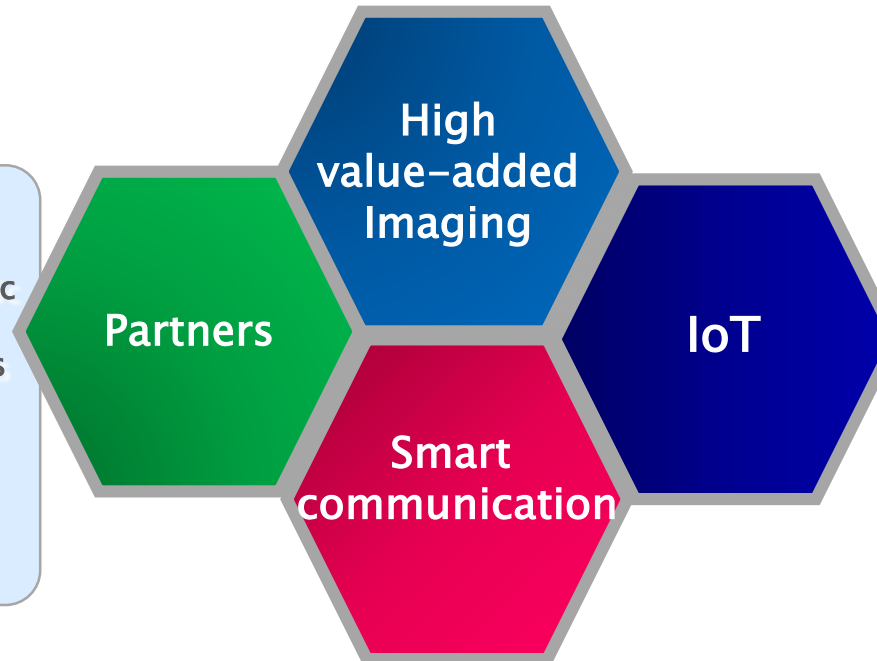
Focus on high-added-value imaging that “visualizes the invisible” and the medical IT and software fields

## Co-creating value with customers

- Shift to high added value by co-creating value with customers
  - ① X-ray kinetic analysis
  - ② Diagnostic support AI
  - ③ Treatment support using high-performance ultrasound

## Strategic collaboration

- Value co-creation with strategic partners
  - ① Products/development tie-ups
  - ② B to B
  - ③ Sales tie-ups
- Strengthen overseas sales capacity



## IoT Platform Utilization

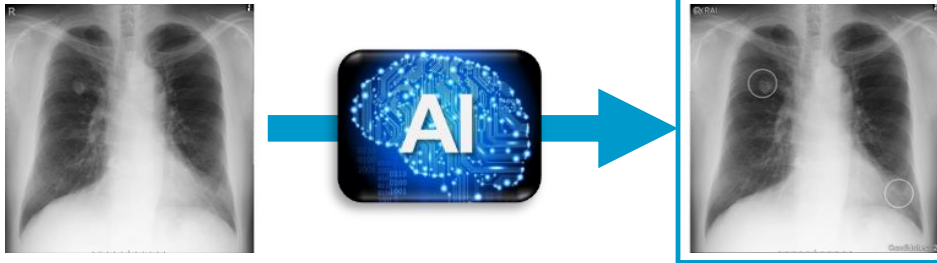
- Cloud service model
- Collaboration with medical institutions, patients and related industries
- Remote exams, remote image interpretation
- Diagnostic support service

## DX in Communication

- Expand customer communication without physical or personal restrictions
  - ① Non-face-to-face sales demonstrations
  - ② Online installations and education

## Using AI to support interpretation of chest X-ray images and prevent oversight

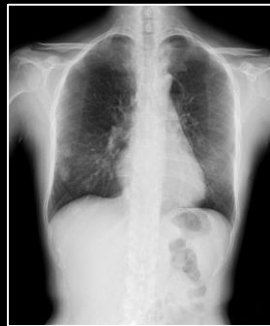
AI for simple chest X-ray: detection of nodes and infiltrative shadows



- By using AI results as a second opinion, oversight of important pathological changes can be prevented
- Easier use of AI by cloud services

Lung functions can be visualized by using X-ray kinetic analysis technology: In addition to conventional information on form, dynamic information on ventilation and blood flow can be provided

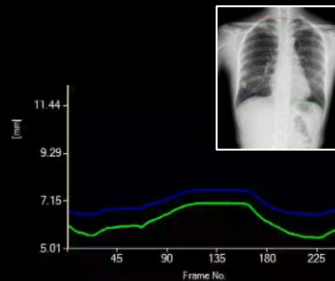
Bone attenuation processing



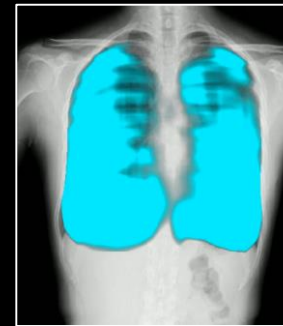
Frequency emphasis processing



Tracking specific element (amount of diaphragm movement)



Identify changes in signal value (when breathing)



Identify changes in signal value (when blood vessels pulse)



**Improved discrimination functions**

Easier to visualize targets

**Quantification of movements**

Corroboration with objective information

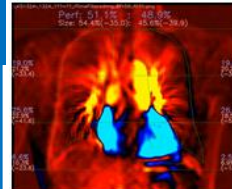
**Visualize lung functional information**

Functional diagnosis is possible even with simple X-ray

### Value of X-ray kinetic analysis technology

#### Raise accuracy and convenience of pulmonary thromboembolism diagnoses

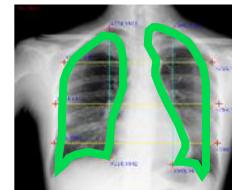
- Visualize and quantify lung blood-flow functions
- Acquire information on blood-flow function equivalent to lung scintigraphy
- Screening for pulmonary thromboembolism
- Raise accuracy and convenience of follow-up observation



Lung perfusion functions

#### Reduce risk of infection from respiratory function tests

- Visualize and quantify movements of lung tissue
- Acquire information on respiratory function equivalent to high-precision lung function tests
- Reduced risk of infection from respiratory function tests



Lung movement measurements

#### Early detection of potential COPD patients and prevention of severe illness

- Use numerical measurements of lung tissue movement to determine the normality/abnormality risks for COPD
- Detect potential COPD patients early and prevent disease from worsening



Lung ventilation function

### Solving COVID-19 issues

#### Thrombosis countermeasures

Pulmonary thromboembolism occurs in a high percentage of serious COVID-19 patients. Taking measures to prevent thrombosis from becoming severe.

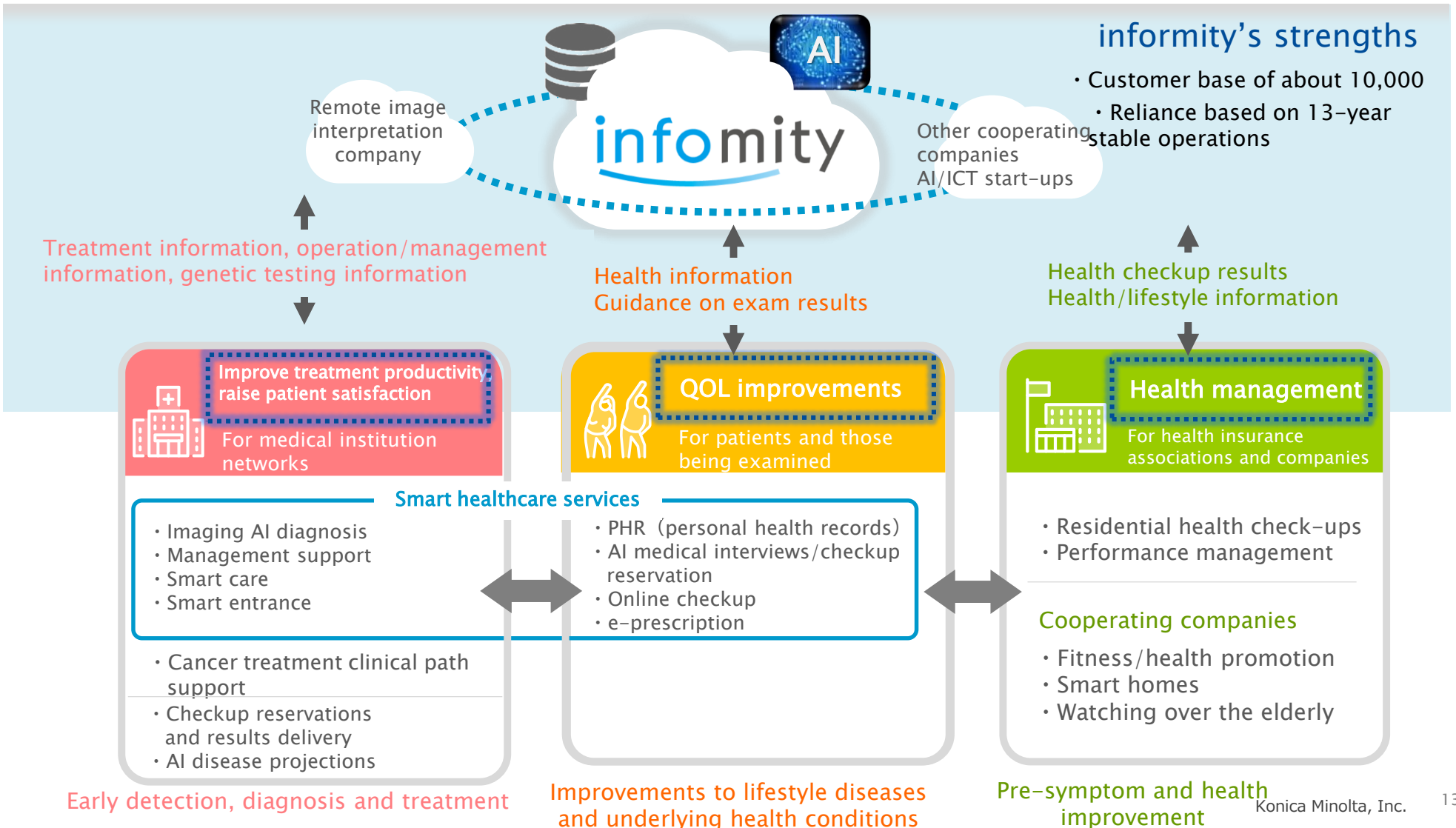
#### Measures to prevent infection in respiratory function tests

Respiratory function tests (spirometer, high-precision lung function tests) have stopped being conducted or have been restricted to prevent the spread of COVID-19 within hospitals.

#### Early detection of COPD

COPD, an underlying health condition that can lead to serious disease, has a high prevalence ratio and there are many potential patients (estimated number of potential patients: 5 million)

## Use Japan's medical IT service infrastructure to provide one-stop medical services based on remote medicine linking patients and clinics



# 4. Strategies for Precision Medicine Business

# Strategy for Precision Medicine Business

## Ambry Genetics

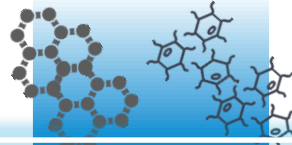
Genetic diagnostic technology, a “blueprint” for the human body



Blood

## KONICA MINOLTA

Precision quantifying technology for the protein; “construction materials” for the human body



Pathology

## Invicro

Imaging analysis technology for the organs; the “finished product”



Imaging

Molecular Level Diagnosis  
 • Bio informatics  
 • Database  
 • AI

Patients



- Appropriate prevention, medication & treatment tailored to individual’s characteristics
- Reduce side effects
- Improve quality of life

New needs



Data application

pharmaceutical

- Biomarker discovery and designation
- Improve success rate of new drug development

Insurance reimbursement



Clinical trial

- RWD/RWE accumulation
- Reduction in clinical trial period by patient classification

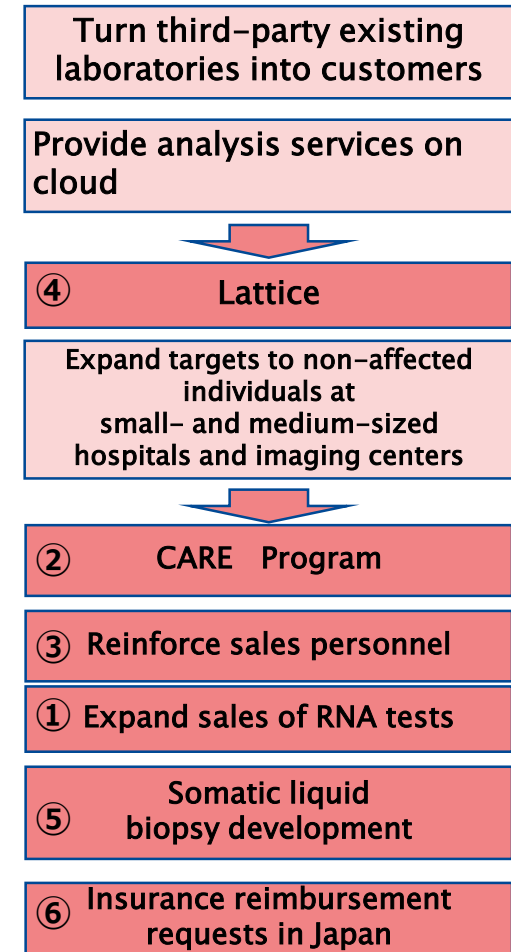
Drug discovery

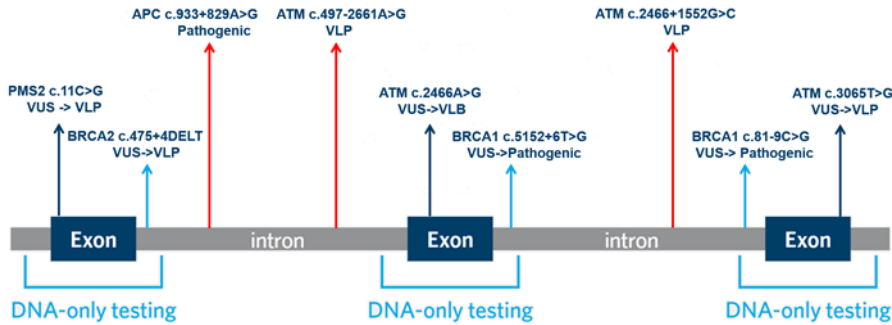


## Ambry's strengths

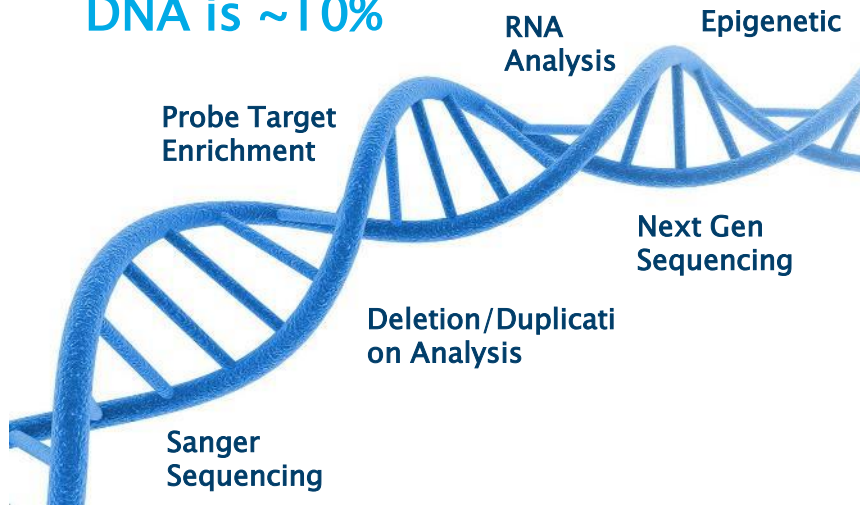
Wet	Cutting-edge, large scale laboratory	<ul style="list-style-type: none"> <li>• Massive capacity of up to 7,000 samples per day</li> <li>• Automated, fast and optimized work flow</li> </ul>
Dry	Genetic analysis Bioinformatics	<ul style="list-style-type: none"> <li>• Top analysis accuracy in the industry</li> </ul>
	Genetic mutation database	<ul style="list-style-type: none"> <li>• Built up analysis database on 1.5 million people</li> <li>• Top-class data quality in the industry</li> </ul>
Channels	Genetic counselors at large hospitals	<ul style="list-style-type: none"> <li>• 70% share of genetic counselors</li> <li>• Targets academic centers at large hospitals</li> </ul>
Customers	Primarily ill patients	<ul style="list-style-type: none"> <li>• 60% of tests targeting ill patients</li> </ul>
Science HR	Capability to develop new products	<ul style="list-style-type: none"> <li>• Vast improvement in diagnostic accuracy due to development of RNA tests</li> <li>• Many first NGS product in the industry</li> </ul>
Pricing	Insurance coverage	<ul style="list-style-type: none"> <li>• 95% of patients are covered by insurance</li> <li>• Premium prices are top class in industry</li> </ul>

## Growth strategy





DNA is ~10%



## +RNAinsight

### OPPORTUNITY

- The first RNA test in the industry
- Most progress in past 10 years in genetic testing field
- Supported for its ability to contribute to selection of appropriate clinical approach and treatment strategy for patients, and achieved approximately 200% year on year (H1 FY19 → H1 FY20)
- Currently considering acquiring eligibility for insurance reimbursement

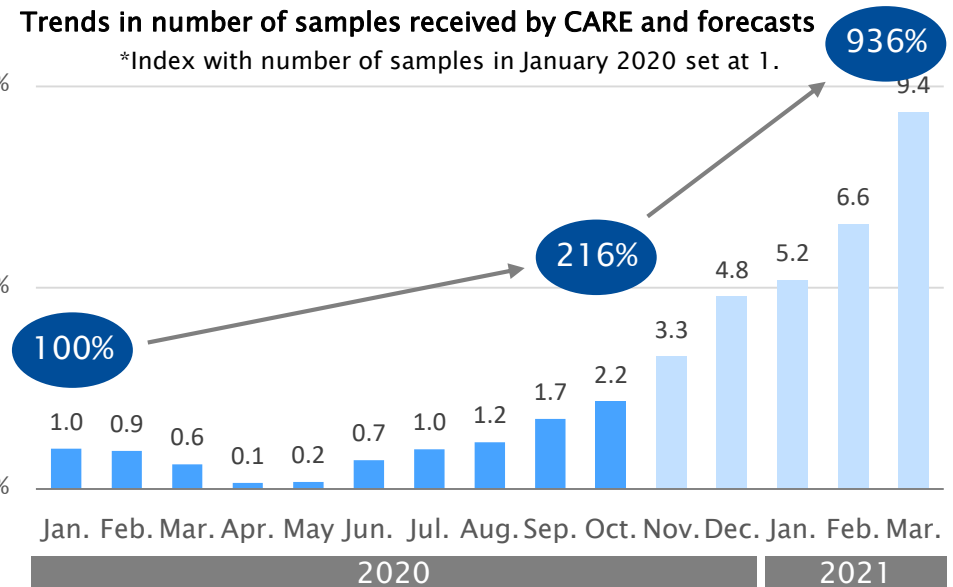
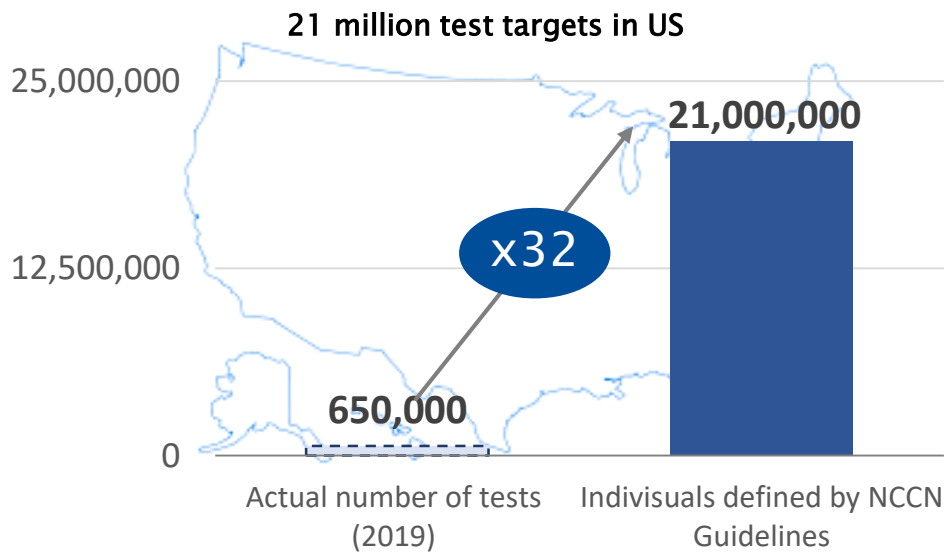
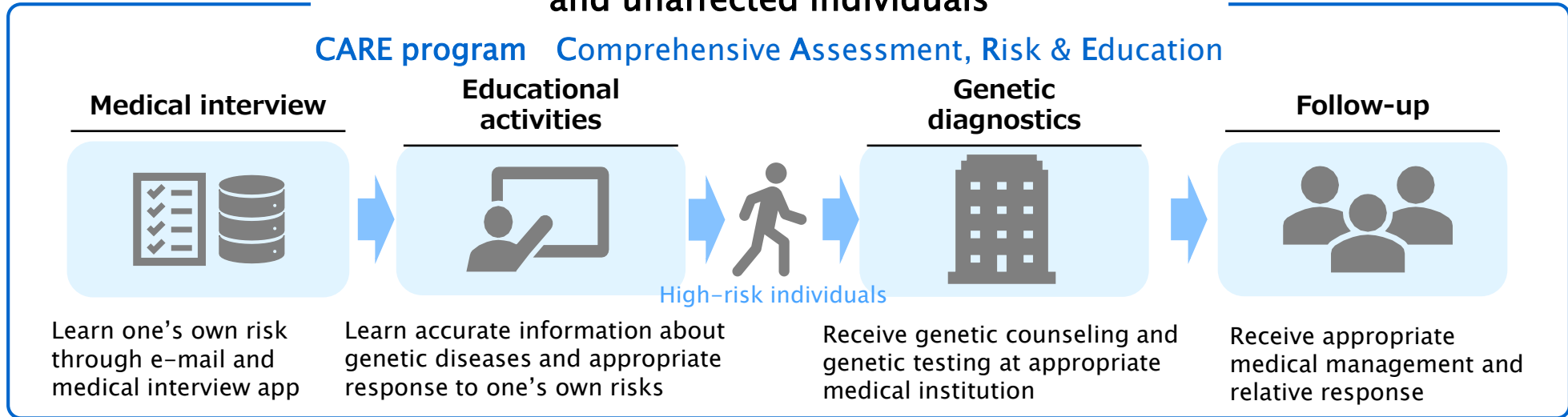
### DIFFERENTIATION

- 9% improvement in diagnostic accuracy (decrease in false negatives)
- 5% improvement in inconsistent test results
- Achieved through bioinformatics and optimization of laboratory work flow

# AG's Growth Strategy ②: CARE Program – Platform for pre-symptom

Expand sales into massive market targeting healthy and unaffected individuals

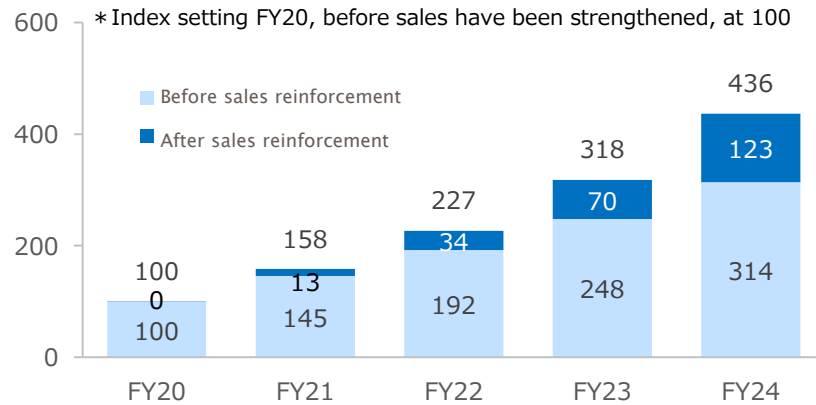
**CARE program** Comprehensive Assessment, Risk & Education



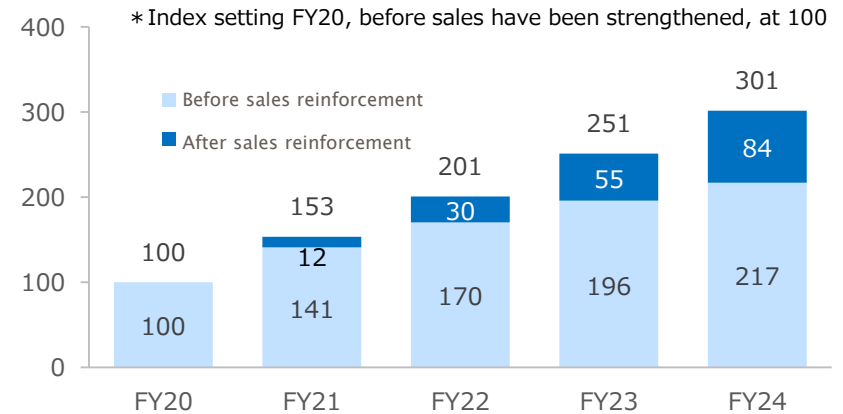
# AG's Growth Strategy ③: Strengthen Sales Personnel

By strengthening sales personnel, the number of received samples is expected to increase four-fold and sales to triple in FY24 compared to FY20

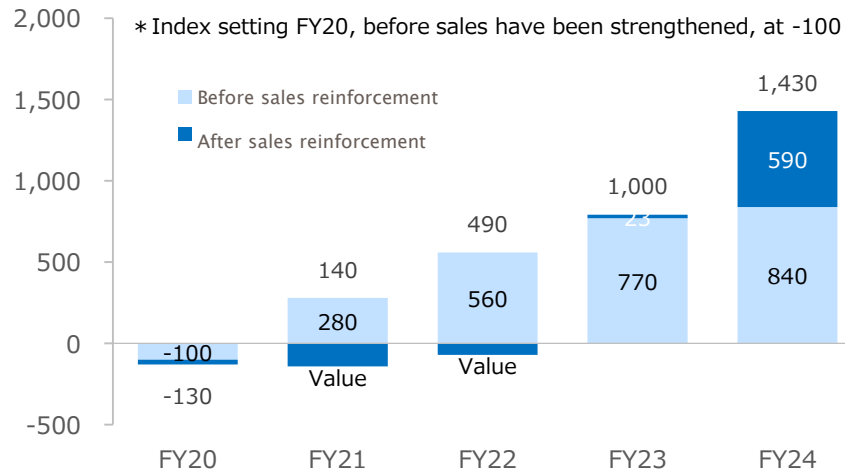
Estimated samples received



Forecasts for sales due to sales reinforcement



Forecasts for EBITDA due to sales reinforcement

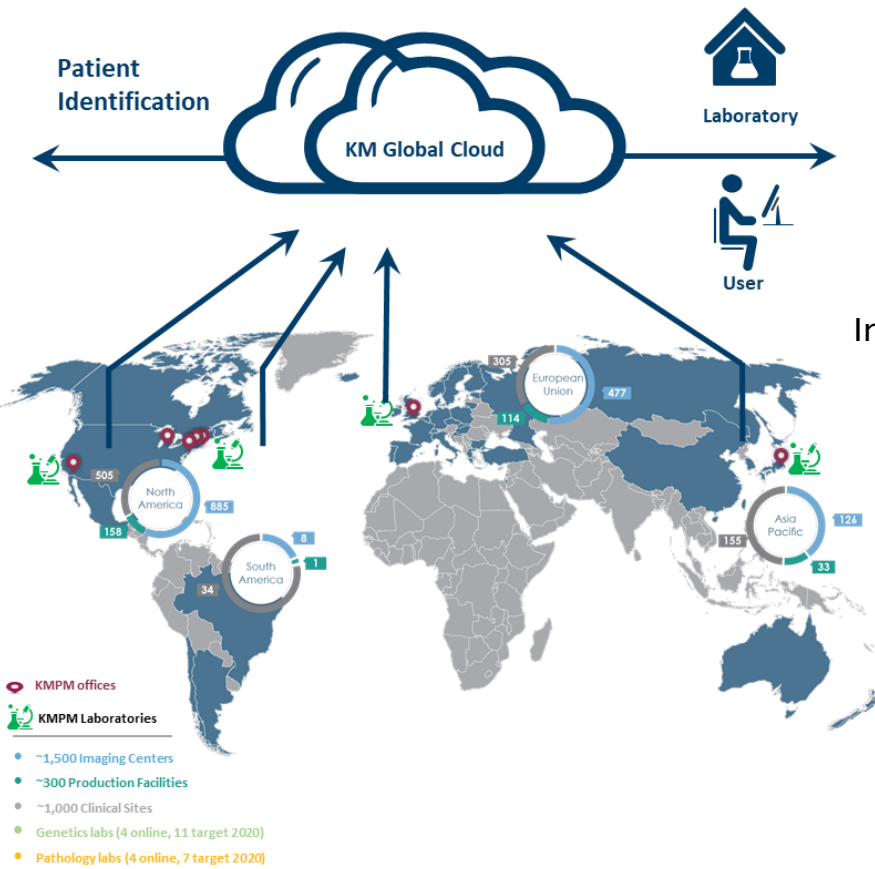


Plans to improve sales efficiency after reinforcing personnel

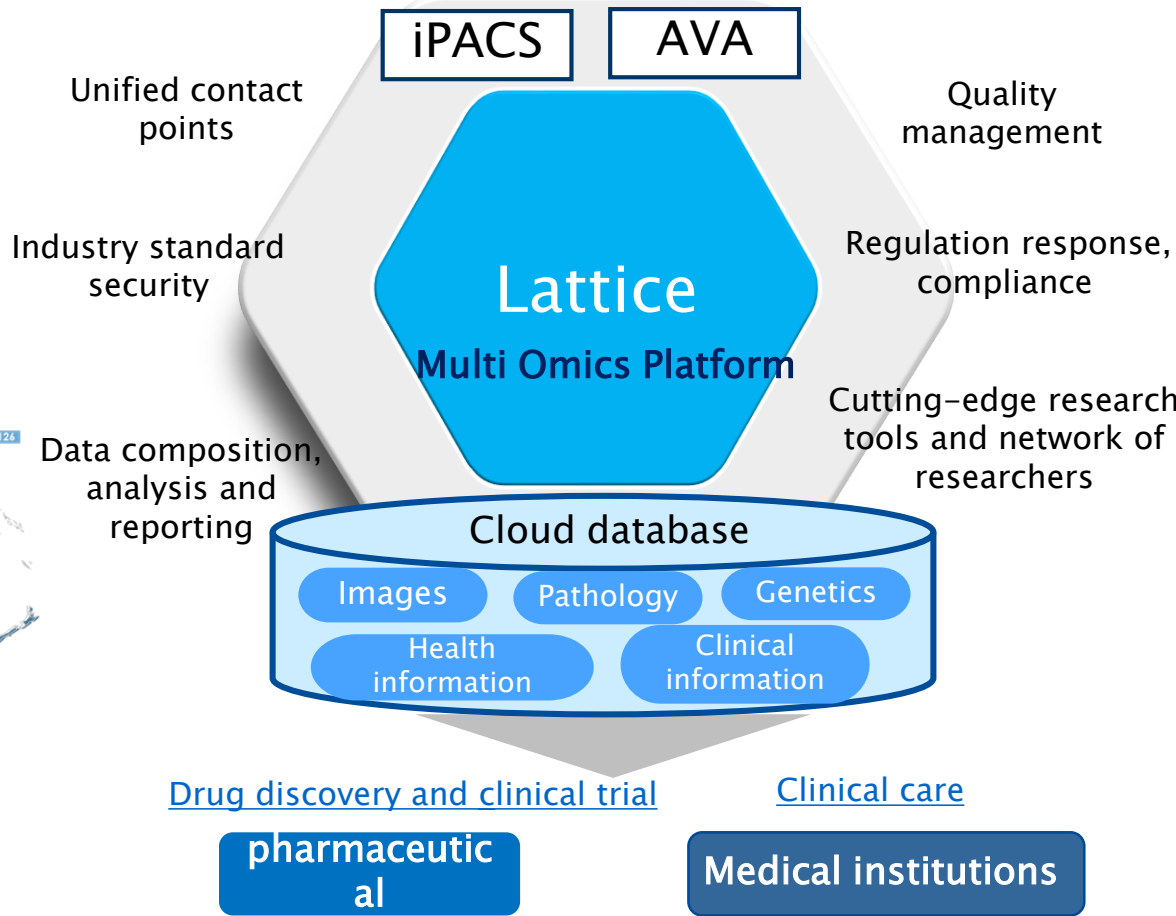
	Ambry(after reinforcement)	Competitor I
Sales per person*	132	100

\*Index assuming 100 for competing company

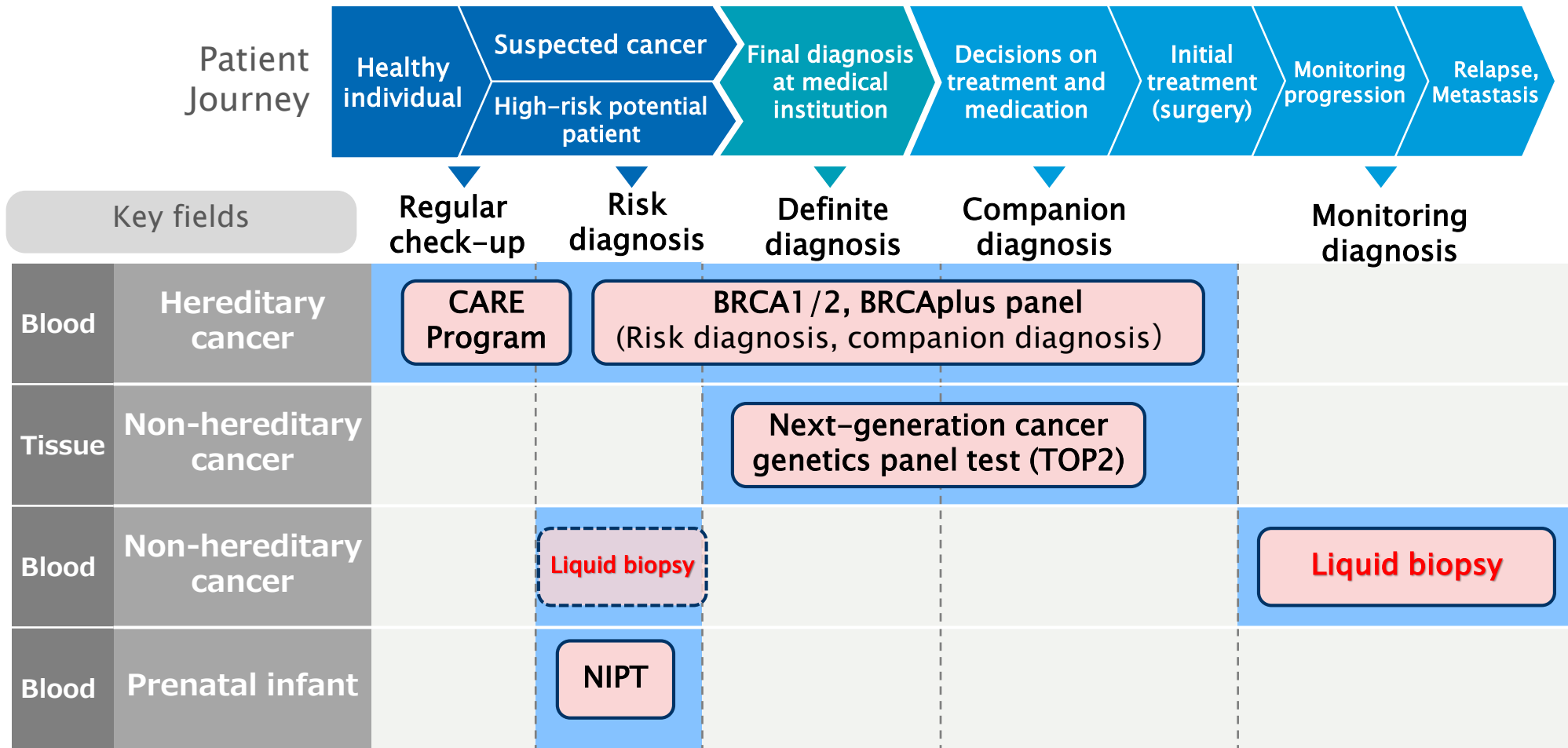
# AG's Growth Strategy ④: Lattice – Genetic Analysis Service



## Laboratory network



# AG's Growth Strategy ⑤: Somatic and liquid biopsy development



Medical treatment at one's own expense

Medical treatment reimbursed by health insurance

Area in which AG is active

AG products

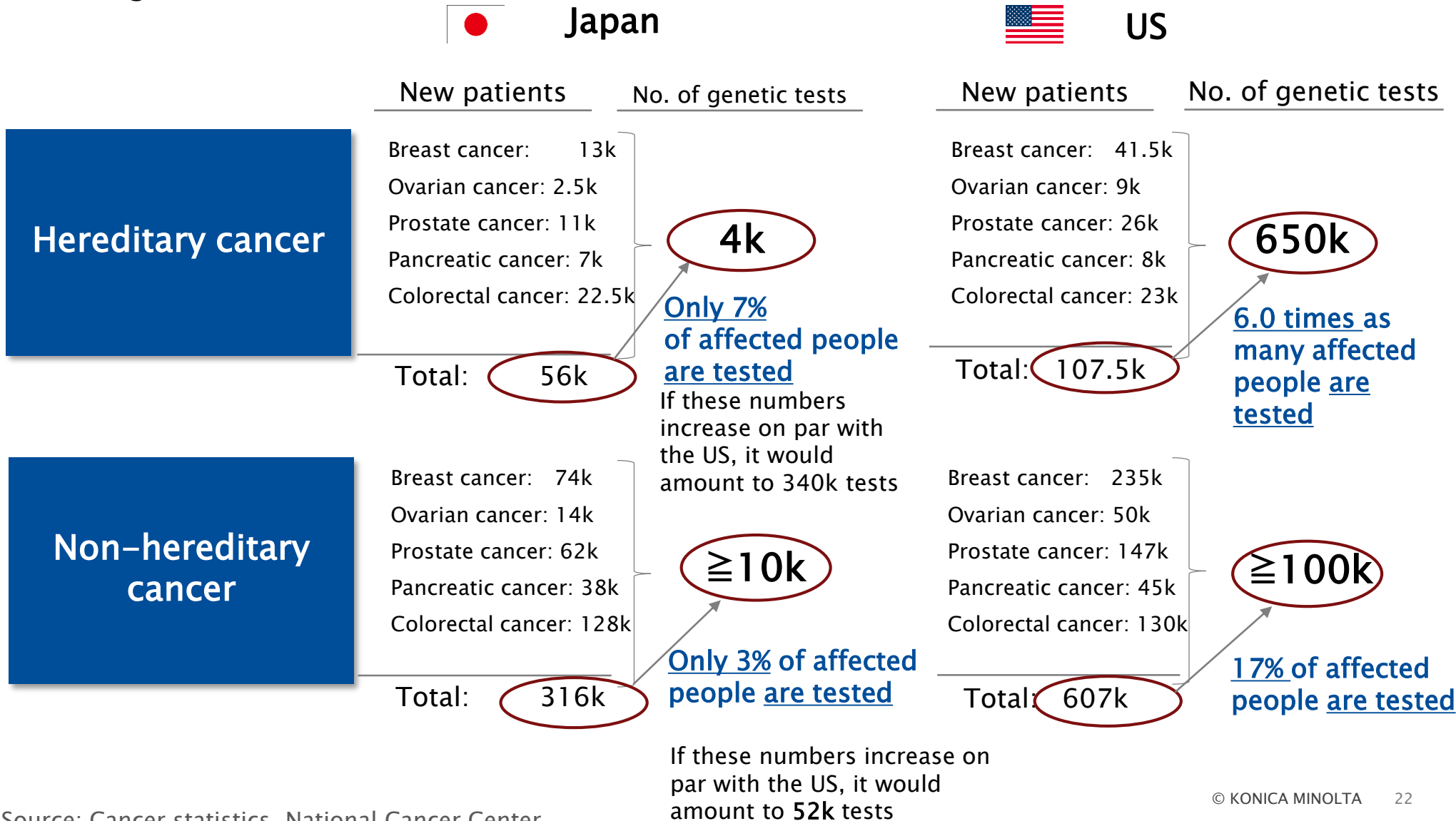
CARE Program: Comprehensive Assessment, Risk & Education

BRCA panel (2 genes), BRCAplus (8 genes) panel system: Konica Minolta filed application for pharmaceutical approval on April 23, 2020

NIPT: Non-invasive pre-natal testing

# AG's Growth Strategy ⑥: Expansion of Japanese business

Opportunities for genetic testing in Japan will increase sharply after it is approved as medical care eligible for insurance reimbursement (from 2021).



Based on sophisticated medical imaging analysis technology utilizing AI, biomarkers are selected and risks in drug discovery process are significantly reduced

## Invicro's strengths

- Medical imaging analysis capability
- Imaging data management platform
- World's largest AD/PD image database
- Digital pathology
- Imaging treatment Project management
- Top-class scientists
- Solid customer base

- Deep understanding of disease and ability to specify biomarkers with AI and software
- Experts in nuclear medicine
- Imaging data management using cutting-edge software in the industry(iPACS)
- Quantification of images using TauIQ and AβIQ
- IHC
- PK/PD using QuantiCell
- Imaging partner network at 2,000 places globally
- Familiar with laws and regulations, compliance and QA in different countries
- Over 100 scientists with PhDs and MDs
- Medical and data science experts
- 23 of 25 top pharmaceutical companies are clients
- Over 200 client companies, including bio companies

## Growth strategy

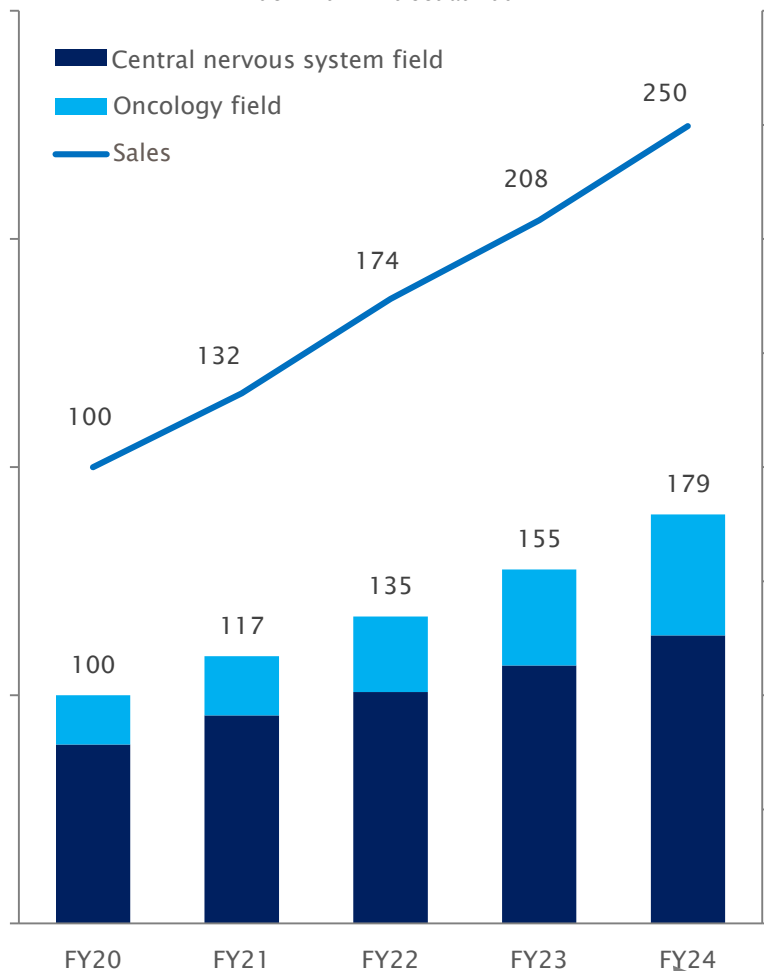
- ① Take opportunity to resume AD clinical trial and secure position as leader in central nervous system market
  - ① Achieve high growth in cancer market with biomarker and data management capability
  - ② Growth in digital pathology field based on Quanticell technology; customer base, IP, data platforms Consider M&A targets
- Break into markets in Japan and Asia



# IC's Growth Strategy ①: Central Nervous System Field and Oncology Field

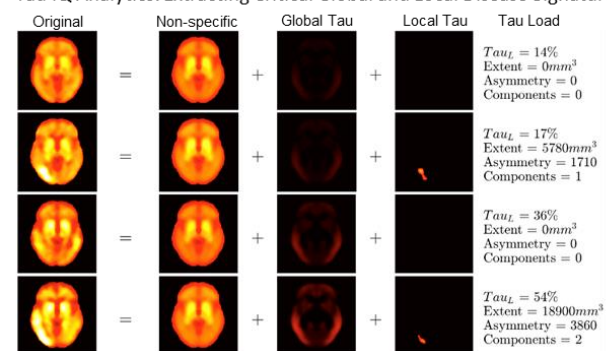
IC's sales and backlog

\*Index with FY20 set at 100

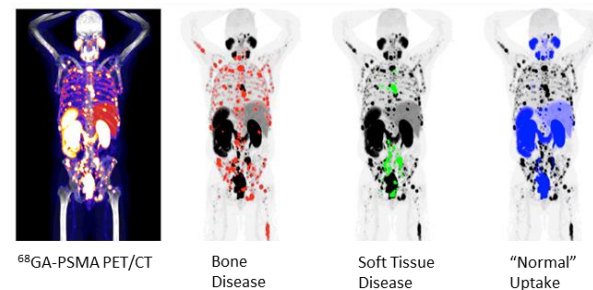


Take opportunity to resume AD clinical trial and secure position as leader in central nervous system market

Tau IQ Analytics: Extracting Critical Global and Local Disease Signatures



Strong growth in cancer market with biomarkers and data management skills



\*CNS IQ in AD and PD \*Prostate Cancer PSMA Tracking \*Super Resolution MRI

## Quanticell™ IHC

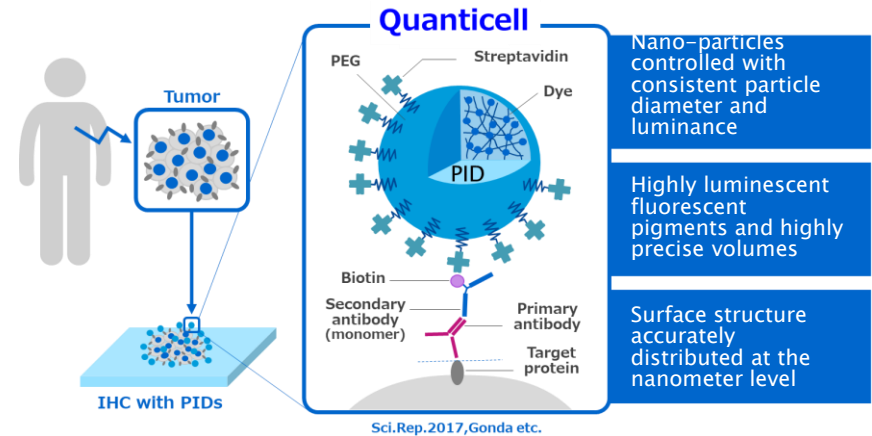
### Phosphor-integrated Dots (PID)-based Detection Technology

#### Key characteristics


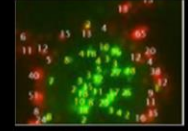
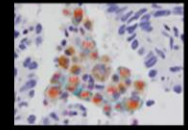
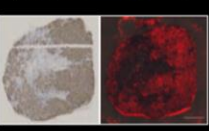
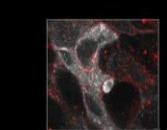
- **Sensitivity:** Brightness is 100 times higher than Quantum Dots (QDs), and elements that cannot be detected with standard IHC methods can be measured.
- **Quantification:** Highly precise measurements can be made at 300 times dynamic range compared to QDs
- **Clarification of physiological significance:** Physiological significance can be analyzed through analysis of location within the cells

#### Value for pharmaceutical companies

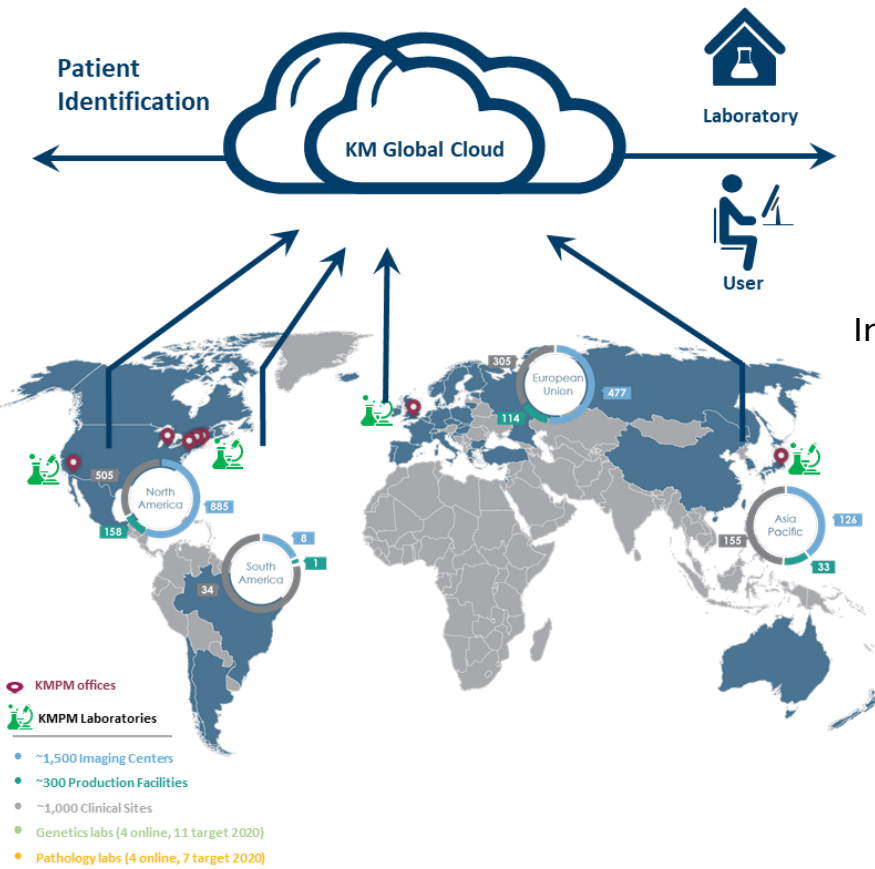
- Can detect low-incidence proteins that are difficult to detect (Her2, PDL-1, etc.)
- Improve patients' QOL and pharmaceutical companies' economic potential by increasing target patients



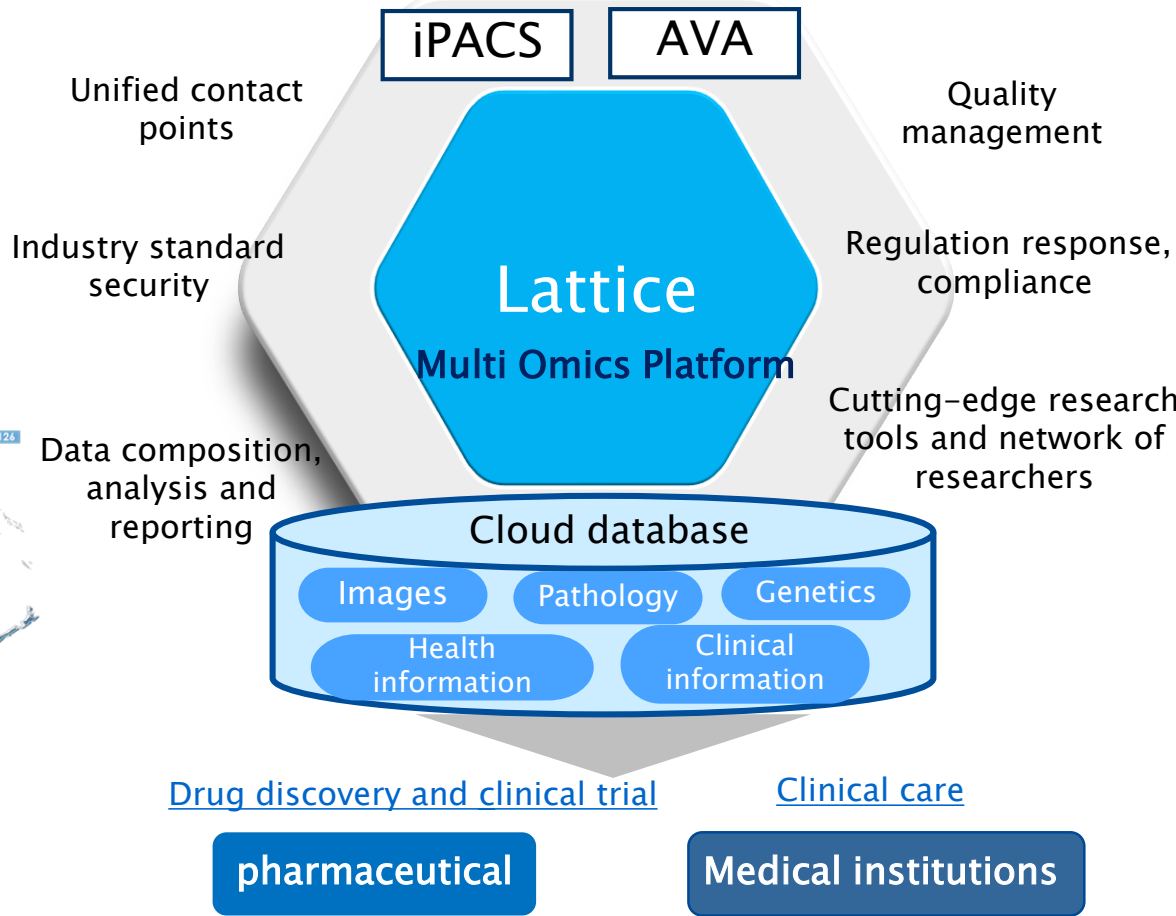
Quanticell: **Q**uantification of **c**ells  
 PIDs : **P**hosphor **I**ntegrated **D**ots

- Analysis through quantification and analytics 
- Locational analysis of target particle 
- Classification of specific people with diseases and identify patients with false negatives 
- Analysis of location and amount of drug and target particle 
- Dynamic analysis of target particle within living cell 

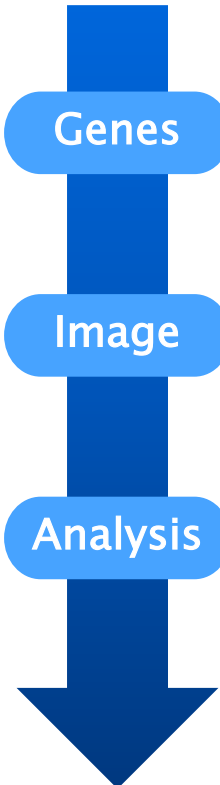
# KMPM Synergy Strategy: Lattice Platform



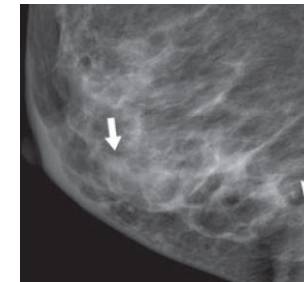
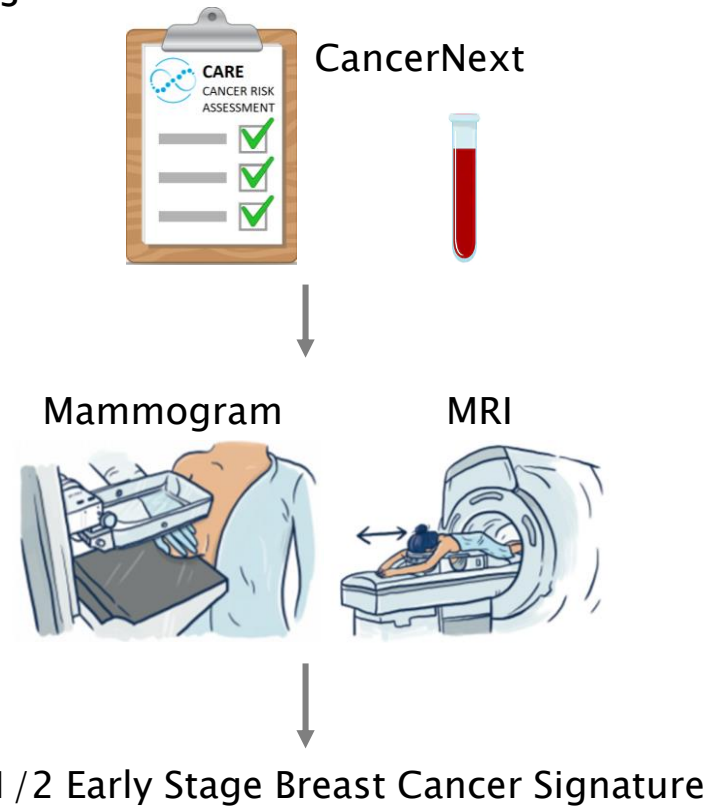
## Laboratory network



- False negative rate among early breast cancer patients is high for mammography (50%) and MRI (10%).



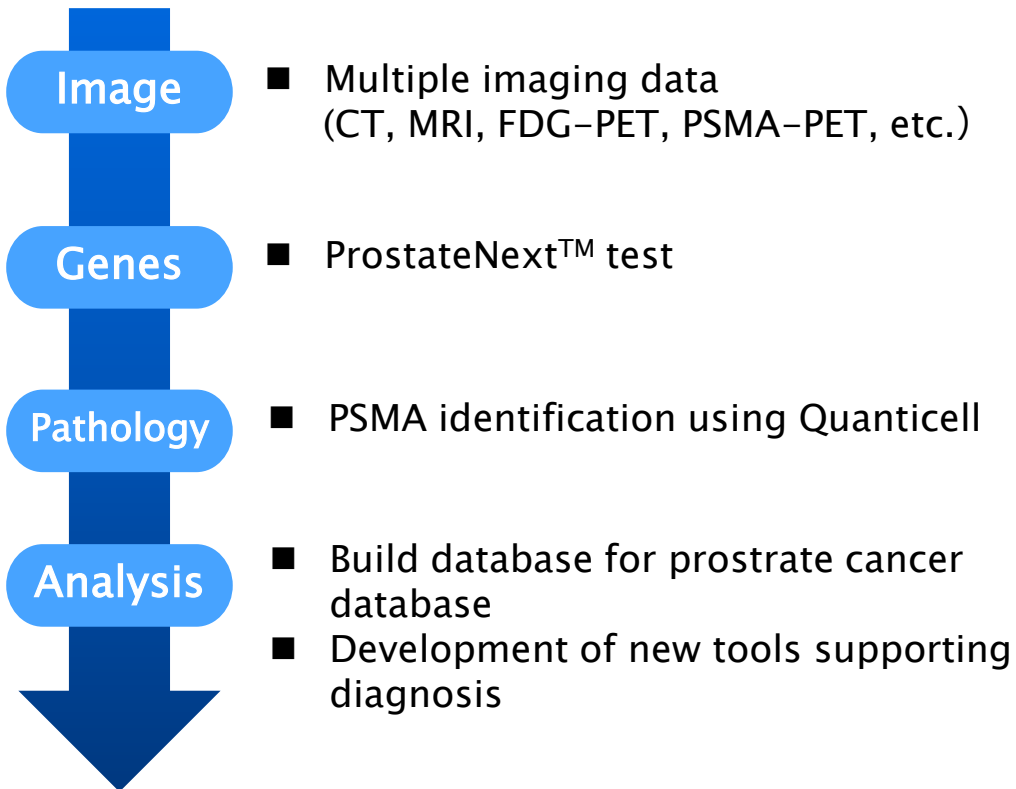
- CancerNext™ test
- Multiple image data (mammography, MRI)
- Detect images typical of early breast cancer patients who are positive for BRCA 1 / 2



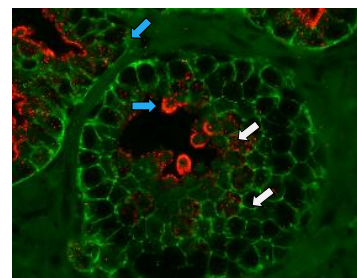
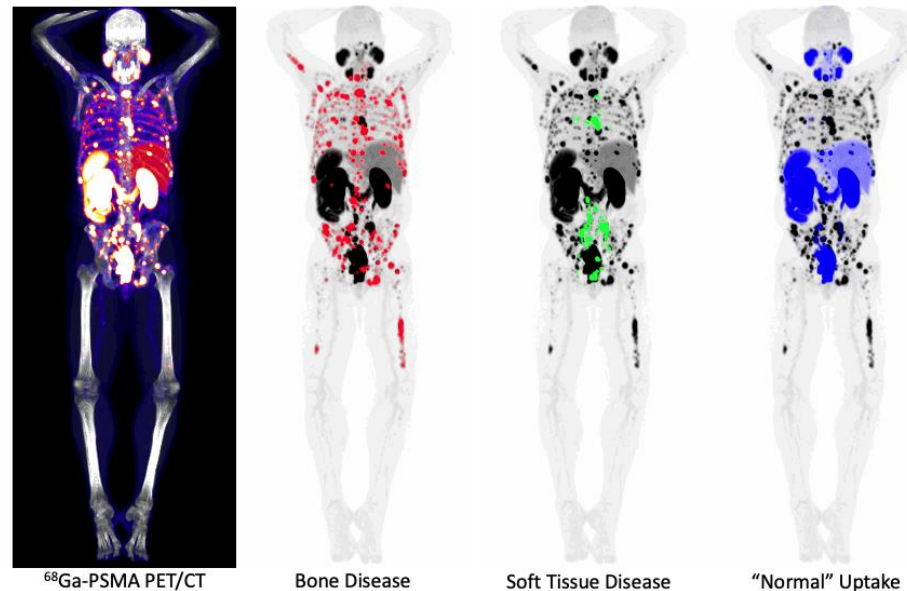
**KMPM's integrated diagnostic capacity detects breast cancer patients that conventional methods overlooked.**

# KMPM's Synergy Strategy Example: Prostate Cancer

- Multiple therapeutic medicine candidates (such as bispecific, radionuclide, PARP)
- PSMA\* – PET/PSMA genetic analysis, plans for health insurance reimbursement



Establish leadership in prostate cancer field with KMPM's integrated diagnostic capabilities

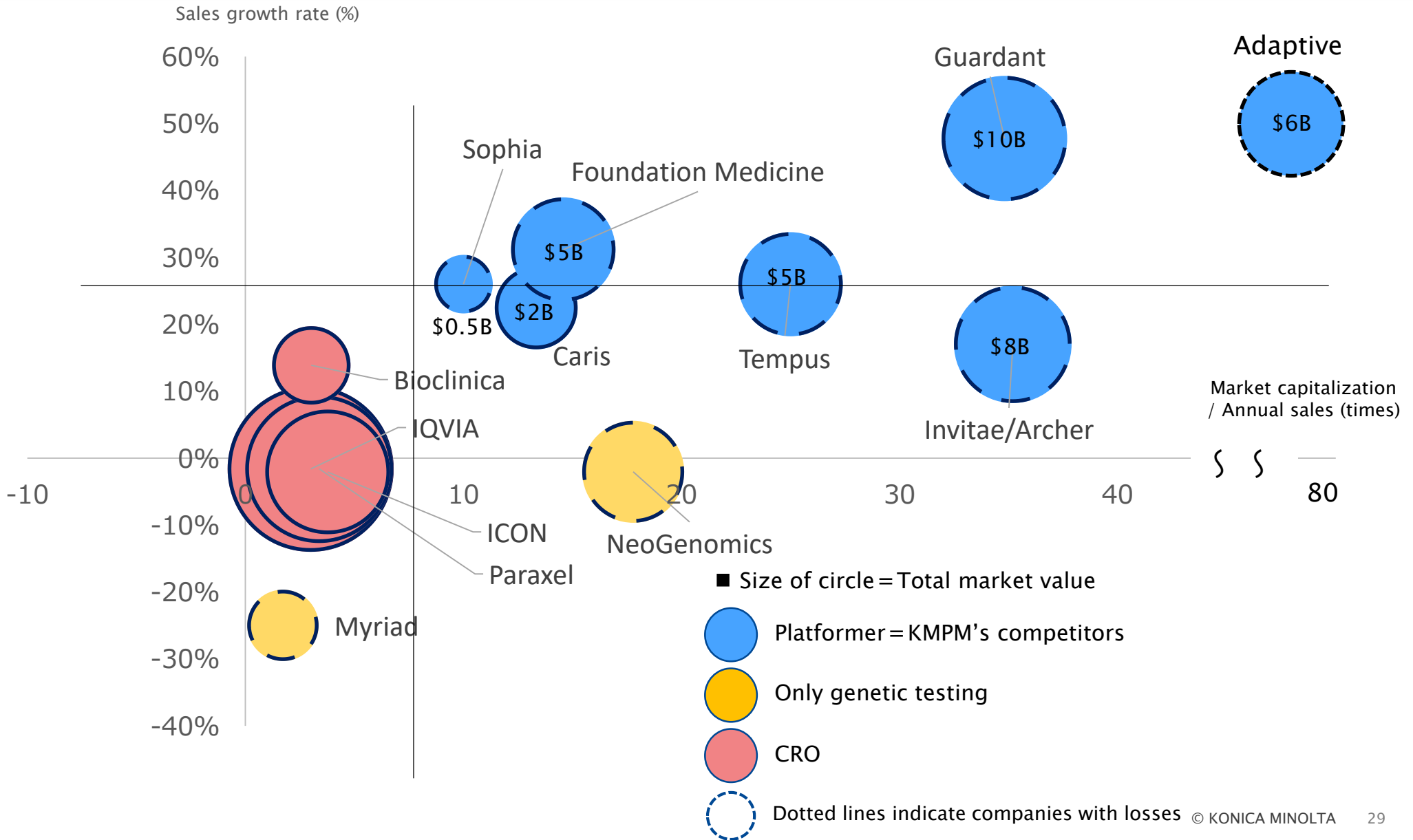


**Red** = PSMA by Quanticell  
**Green** = Membrane (ATPase)

**Blue Arrow** = Membrane PSMA  
**Light Blue Arrow** = Cytoplasmic PSMA

\* PSMA: Prostate-specific membrane antigen

# Value Drivers in the Bio-healthcare Field: Sales Growth Rate



# Appendix

# Precision Medicine Business: Primary KPI in Core Business (AG, IC)

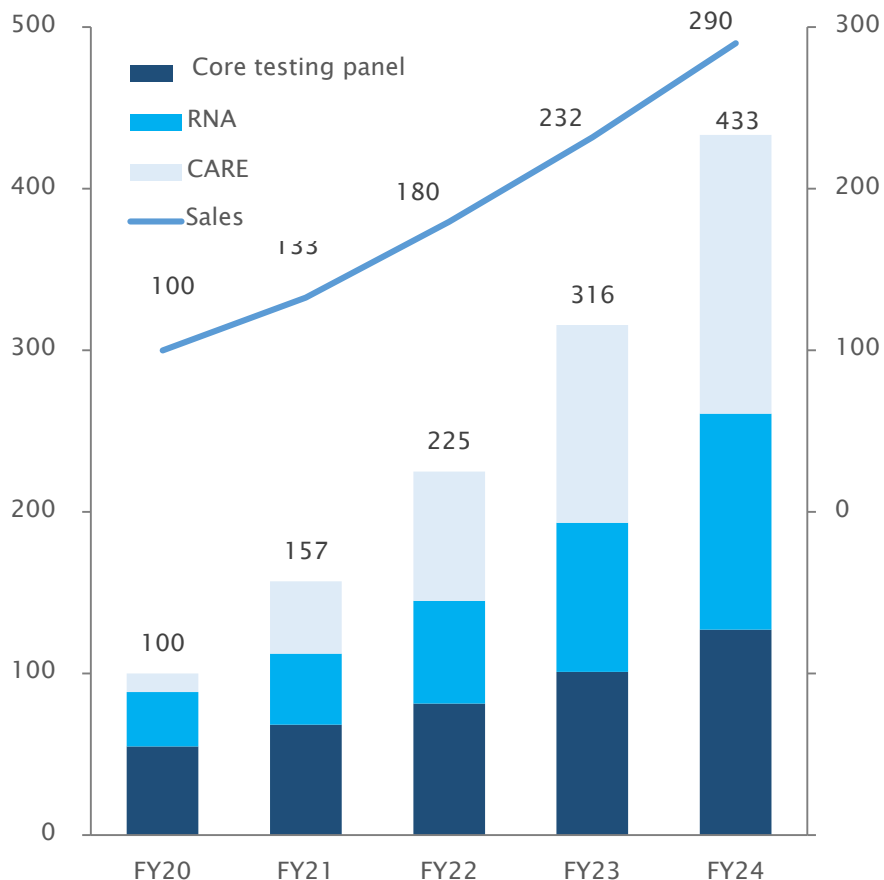


AG

IC

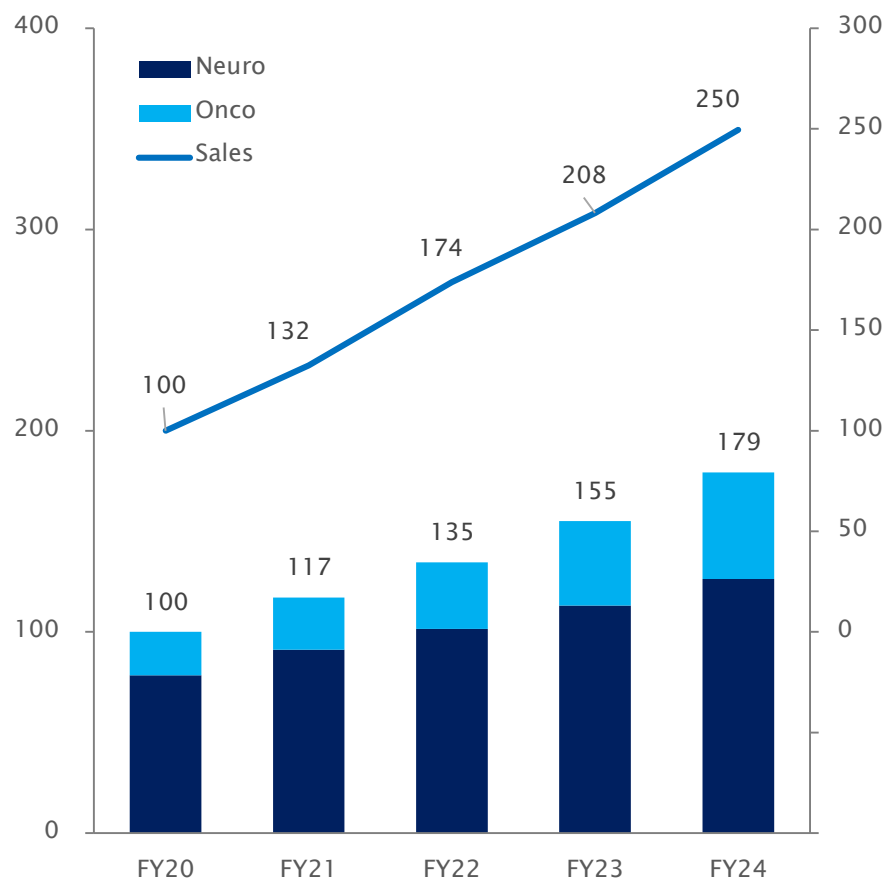
\*Index with FY20 set at 100

AG's sales and number of samples received



CAGR: 31%

IC's sales and backlog forecasts



CAGR: 26%





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