Conquer Cancer through AI

Lunit

DISCLAIMER

Company Overview

2023 INVESTOR RELATIONS

Lunit

About Lunit
Since 2013 | 1st Generation Medical AI Company | Listed in KOSDAQ since 2022

Global Investors

Backed by leading global investors

- Raised **$122M** while unlisted

  Foreign investment =$73M 60%

- **25%** of global shareholders after IPO
  ➡ **Top 3%** of KOSDAQ listed 1,600 companies in Korea

GUARDANT FUJIFILM
君联资本 LEGEND CAPITAL HealthQuest CAPITAL
TYBOURNE CASDIN CAPITAL LIFE SCIENCE INVESTMENTS
SoftBank Ventures Asia

Global Partners

Established partnerships with industry giants

Chosen by leading medical device companies

FUJIFILM PHILIPS IBM GE Healthcare
HOLOGIC SECTRA AGFA HealthCare

Chosen by leading bio companies

GUARDANT

Multiple global pharmas
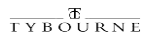
Industry Leader

Best-in-class AI technology and products

- Unprecedented "AA-AA" highest level in technology assessment among healthcare companies

- Best performance proven by direct comparison with global competitors in various studies

- **Highest market cap.** among listed medical AI companies (2023.04)

Market Cap. of medical AI companies in Korea

Lunit	A
	D
	C	B
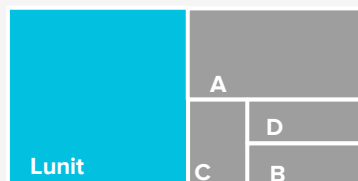
3x higher than 2nd place company

Commercial Success

Successfully scaling out revenue growth

- **High revenue growth with 312% CAGR (2019 - 2022)**

- **Lunit INSIGHT (X-RAY)**
  ➡ **First company globally to exceed $8M in sales**

CAGR 312%

Unit : $ Million	2019	2020	2021	2022
	0.2	1.1	5.1	10.7

Company Overview
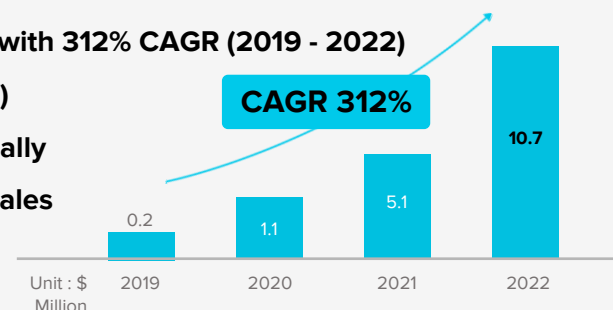
Core Competence #1 Technology

Strong Foundation
Tech-based startup

- Six cofounders from KAIST
- First deep learning startup in Korea
- Top-tier AI researchers

KAIST

AI Researchers	52 18%
Software Developers	70 24%

Cofounders

Anthony Paek
Former CEO &
Executive Chairman

Sunggyun Park
Cancer Screening
Chief Product Officer

Kyunghyun Paeng
Oncology
Chief Product Officer

Donggeun Yoo
Chief AI Officer

Minhong Jang
Cancer Screening
Chief Business Officer

Jeongin Lee
VP of IT &
Infrastructure
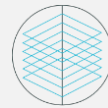
Best-in-Class A.I.
Global leader in AI technology

- Top-tier proprietary AI technology
- 30+ papers presented in top AI conferences
- Large-scale medical data for R&D (N = +4 million cases)

Top Ranked in AI Competitions

2015
**Main Task
(CLS-LOC)**
IMAGENET

1	Microsoft	Microsoft
5	Lunit	Lunit
7	Google	Google

2016
**MICCAI Grand
Challenge**
Tumor Proliferation Assessment

1	Lunit	Lunit
2	IBM	IBM
3	Microsoft	Microsoft

2017
Camelyon
CAMELYON17

1	Lunit	Lunit
2	Harvard Univ.	HARVARD UNIVERSITY
3	Eindhoven Univ. of Tech	TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY

Global Recognition
International spotlight

- The **only Korean company** spotlighted by World Economic Forum, CB Insights

WORLD ECONOMIC FORUM
2020 / 2022
**TECHNOLOGY PIONEER
GLOBAL INNOVATOR**

AI 100 Lunit
2017
**CB Insights
AI 100**

Digital Health 150 Lunit
2019 / 2020 / 2021
**CB Insights
DIGITAL HEALTH 150**

Forbes Newsweek BBC FIERCE Biotech MIT Technology Review

Company Overview

Core Competence

#2 Medical Expertise

CEO Profile
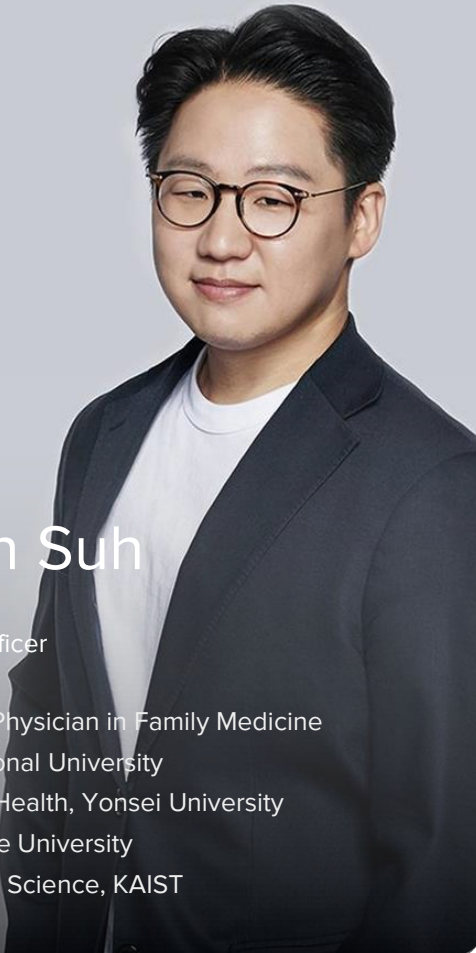
Brandon Suh

MD, MBA, MPH

Chief Executive Officer

- Board-Certified Physician in Family Medicine
- M.D., Seoul National University
- M.P.H. in Public Health, Yonsei University
- M.B.A., Kyunghee University
- B.A. in Biological Science, KAIST

13 Full-time Physicians at Lunit

Chanyoung Ock
Oncology

Kihwan Kim
Radiology

Taebum Lee
Pathology

Yoojoo Lim
Oncology

Sanghyup Lee
Radiology

Wonkyung Jung
Pathology

Changho Ahn
endocrinology

Eunkyung Park
Radiology

Sooick Cho
Dermatology

Seunghwan Shin
Rheumatology

Ambika Seth
Radiology

John Jongseok Ahn
General Physician

Renowned Scholars as Advisors
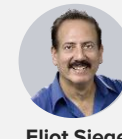
Eliot Siegel
Radiologist
Radiology IT
KOL

Tony Mok
Oncologist
Board member
of AstraZeneca

Linda Moy
Breast Radiologist
KOL / RSNA
Vice-chair

YoungKwang Chae
Oncologist
KOL in
immunotherapy

Yung-jue Bang
Oncologist
KOL in Korea

+200 Publications in Major Peer-reviewed Journals

Journal of Clinical Oncology®   THE LANCET Digital Health   JAMA Oncology   JAMA Network Open   ASCO

EJC   European Radiology   SCIENTIFIC REPORTS   ESMO   AACR

Radiology   RSNA   Clinical Infectious Diseases   sitc   USCAP

+100 Research Partnerships

MASSACHUSETTS GENERAL HOSPITAL   Stanford MEDICINE   Northwestern Medicine   COLUMBIA

Karolinska Institutet   NHS   UCSF   OXFORD   BROWN   UNIVERSITY OF CAMBRIDGE

Company Overview

Core Competence #3 Global Business

Global Talents at Lunit

Ken Nesmith
CEO of Lexent Bio (acquired by Roche/ Foundation Medicine) MIT, Wharton School

Chris McKinney
Business Development lead at GE and TeraRecon

Michael Hreczuck
Business Development lead at Tempus and HTG Molecular

Antoine Khoury
Business Development lead at Hologic and Teleflex

Thijs Kooi
Published AI research papers in top AI journals
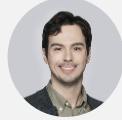
Sergio Pereira
Leading AI researcher in medical imaging

Wei-cheng Wang
Software Development lead at Yahoo and Foxconn

Ambika Seth
Radiologist, Clinical research for AI startups

International Colleagues
(non-Koreans)   **48** 17%

Global Investors Back Lunit

- **$73M** funded by overseas investors (60% of total funding)
- First Korean medical device company invested by major US healthcare VCs (Pre-IPO funding round)
- Multiple strategic investments by industry leaders

GUARDANT   FUJIFILM   TYBOURNE

HealthQuest CAPITAL   formation | 8   君联资本 LEGEND CAPITAL   CASDIN CAPITAL LIFE SCIENCE INVESTMENTS

International Shareholders by Company (2023.04.30)

Lunit   **+25%**

- *Top 3% of 1,600 KOSDAQ listed companies*
- *2nd among Healthcare Technology sectors in Korean stock market*

CELLTRION   **20%**

SAMSUNG BIOLOGICS   **10%**

Listed Medical AI companies   Syntekabio Inc. VUNO JLK INSPECTION [D E E P N O I D]   **< 2%**

Global Sales Channel through Strong Business Partnerships

50%   Global market share of device partners

FUJIFILM   GE Healthcare   PHILIPS   IBM
HOLOGIC   SECTRA   AGFA HealthCare

80%   US Oncologists using Guardant Health products   GUARDANT

Global Big Pharma

Currently discussing research/collaboration agreement with multiple big pharmas

Company Overview

Conquer Cancer through AI | Increase cancer survival through AI-powered cancer diagnosis and treatment

AI research platform

1 Cancer diagnosis support solutions

Lunit INSIGHT®

+50%

50% more patients can be screened earlier

Flagship Lunit INSIGHT CXR / MMG

Chest X-Ray

Mammography

Chest CT

3D Mammo (DBT)

2 Cancer treatment support solutions

Lunit SCOPE®

+50%

50% more patients can be eligible for immunotherapy

Flagship Lunit SCOPE IO

CT / MRI

Tissue

DNA / RNA

Increase Survival of Cancer Patients

Lunit INSIGHT Overview
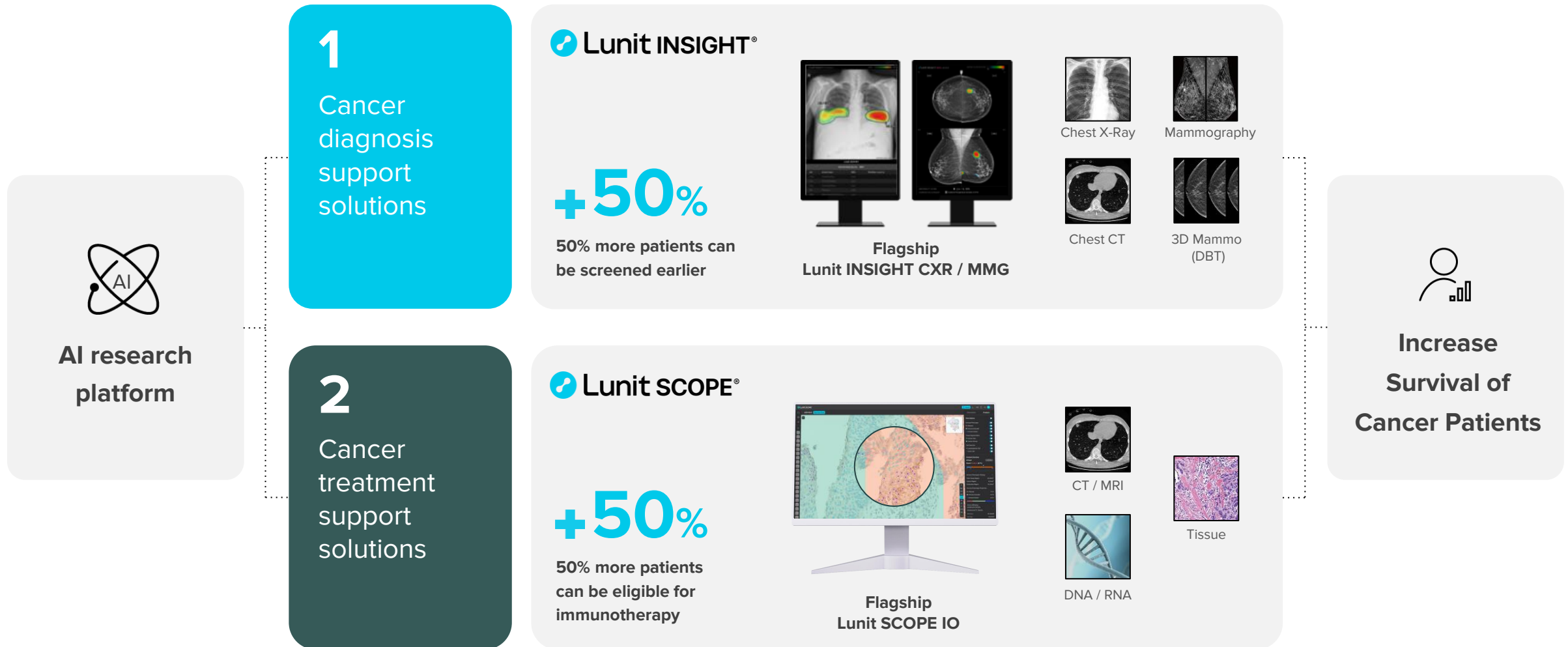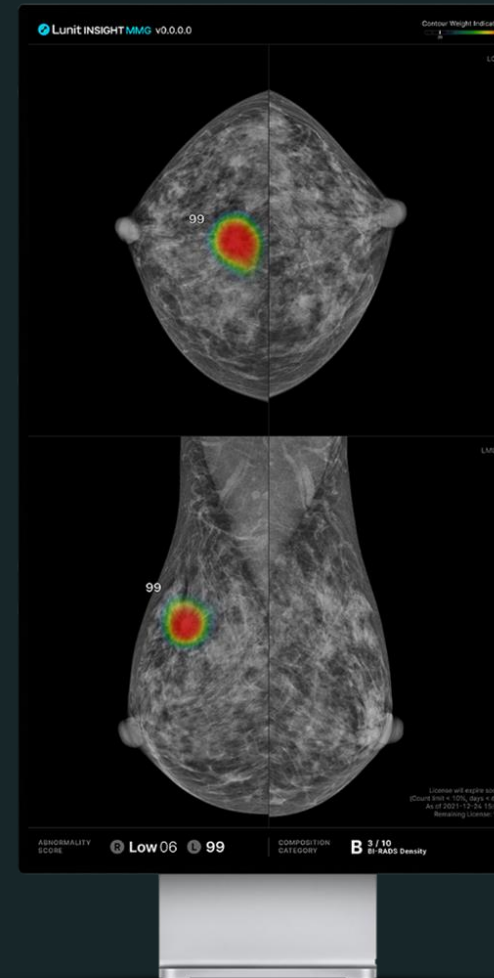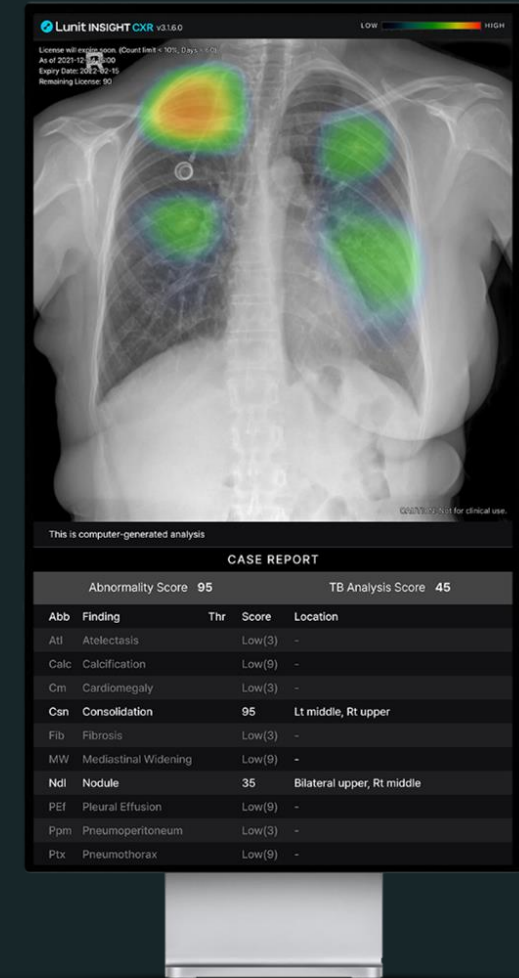
Accurate and Effective Detection of Cancer

Needs

Current limitations in cancer diagnosis/screening

Missed Cases	Unnecessary Tests
30% [1) 2)]	**95%** [2)]
False Negative Rate [3)]	**False Positive Rate** [4)]
Chest X-Ray and Mammography	Mammography

Focusing on major cancers

Lung Cancer	Breast Cancer
1st [5)]	**2nd** [5)]
Global incidence and mortality rate	**Global incidence rate**

1) NLST trial, NEJM 2012
2) Breast Cancer Screening Consortium data
3) False Negative Rate : Falsely diagnosed as not cancerous
4) False Positive Rate : Falsely diagnosed as cancerous, but normal
5) SEER Cancer Statistics Review, 1975-2015

Product

Major Lung Diseases

Lung Cancer, Tuberculosis, Pneumonia, etc.

Lunit INSIGHT CXR®

Breast Cancer Detection

Lunit INSIGHT MMG®
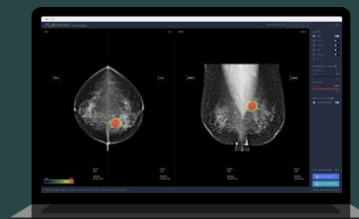
Effect

Increase interpretation accuracy and efficiency

Interpretation Accuracy ⬆ **20%**

Earlier Diagnosis ⬆ **50%**

Unnecessary Recalls
Mammography ⬇ **30%**

Exam Result Turnaround Time **x10** faster

Lunit INSIGHT Value

Higher Reading Accuracy | Better performance than specialists, proven in major studies

Evidence

Performance

Extensively validated through studies

+150

Studies/abstracts

THE LANCET Digital Health | JAMA Oncology

Radiology | JAMA Network Open

RSNA | SCIENTIFIC REPORTS

Clinical Infectious Diseases | European Radiology

BIR The British Institute of Radiology | BMC Pulmonary Medicine

AJR | ACTA RADIOLOGICA

JTD | THE LANCET Regional Health Americas

EUROPEAN RESPIRATORY journal
FLAGSHIP SCIENTIFIC JOURNAL OF ERS

Clinically proven to show excellence in medical image analysis

CXR bars:
- Lunit INSIGHT CXR
- Doctor + Lunit INSIGHT CXR
- Doctor Only

CXR Chest X-Ray

Radiology

MMG bars:
- Lunit INSIGHT MMG
- Doctor + Lunit INSIGHT MMG
- Doctor Only

MMG Mammography

THE LANCET Digital Health

0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1 ROC AUC (Accuracy)

Lunit INSIGHT Value
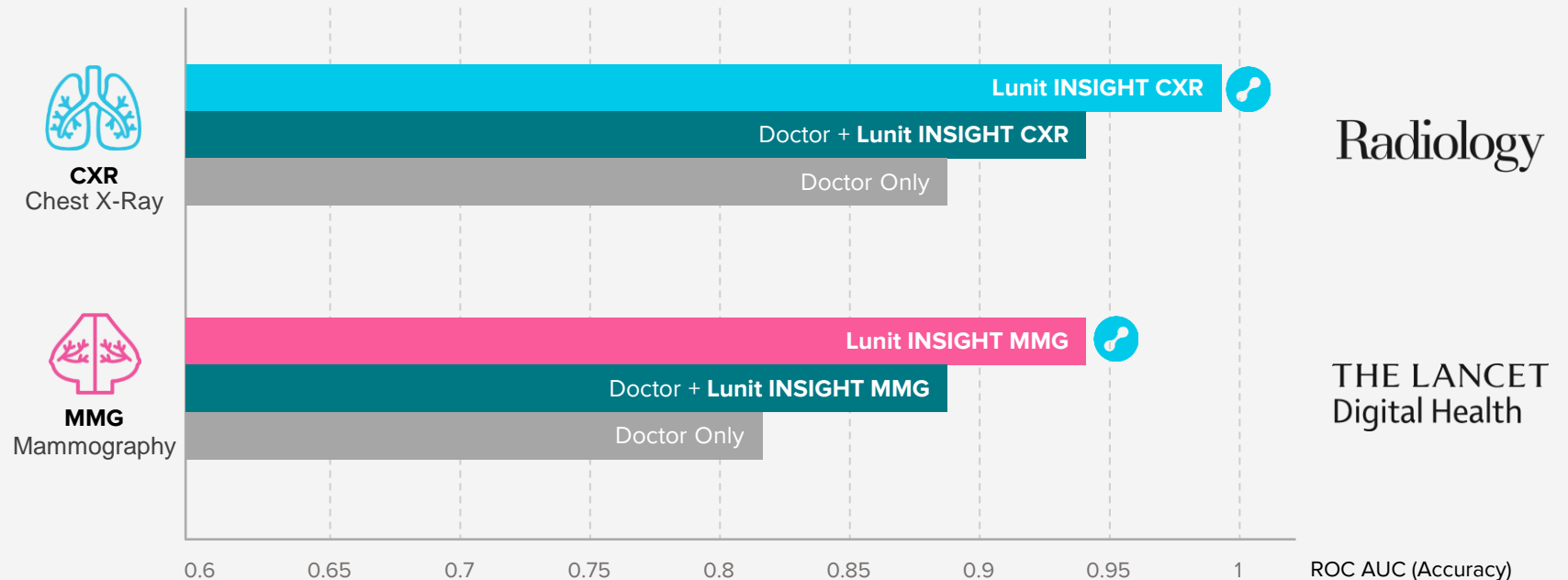
Earlier Diagnosis | Higher reading accuracy leads to earlier diagnosis of cancer

When Using Lunit INSIGHT

50% of lung cancer patients can be diagnosed earlier when analyzed by Lunit INSIGHT CXR

Case) 2013 ----> 2014 ----> 2016

Not Detected | Detected by AI (16.7%) | Not Detected | Detected by AI (43.1%) | Diagnosed | Detected by AI (90.7%)
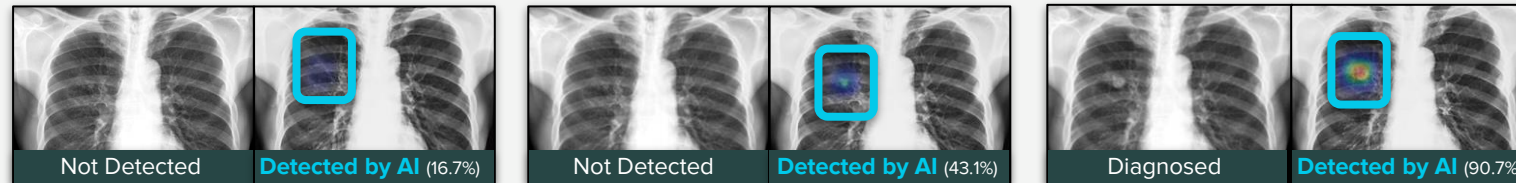
54-year-old male: **AI found a lung cancer that was missed 3 years ago**

40% of breast cancer patients can be diagnosed earlier when analyzed by Lunit INSIGHT MMG

Case) 2008 ----> 2009 ----> 2010

Not Detected | Detected by AI (71.2%) | Not Detected | Detected by AI (91.8%) | Diagnosed | Detected by AI (99.9%)
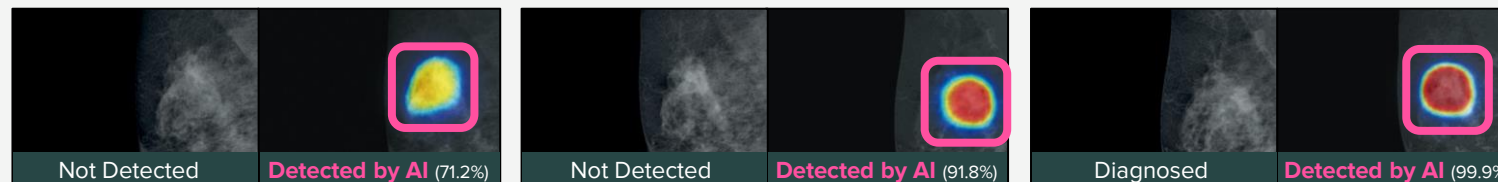
59-year-old female: **AI found a breast cancer that was missed 2 years ago**

Impact of Earlier Diagnosis

Significance of Early Diagnosis in Lung Cancer

4.3x Survival Increase

5-Year-Survival Diagnosed Stage 1,2

73%

5-Year-Survival Diagnosed Stage 3, 4

18%

Reference: AJCC 8th Edition

Significance of Early Diagnosis in Breast Cancer

1.4x Survival Increase

5-Year-Survival Diagnosed Stage 1,2

96%

5-Year-Survival Diagnosed Stage 3, 4

65%

Reference: AJCC 8th Edition

Lunit INSIGHT Value

Real World Evidence | Building solid evidence through prospective studies

Study Method

What is prospective study?

Study designed

Retrospective ← ● → **Prospective**
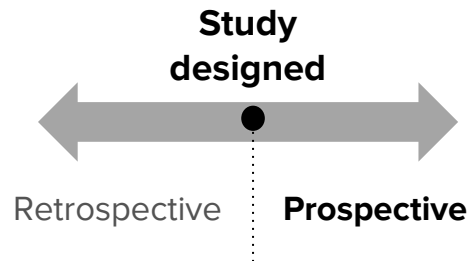
Outcome is measured after the baseline state of the subjects is determined and controlled intervention applied.

Reliability ↑	Data quality ↑
Bias ↓	Recall errors ↓

Higher possibility to receive **reimbursement** if backed by prospective studies

Lunit INSIGHT CXR

Flagship prospective CXR study

10,476 Patients with chest X-Ray
RCT study on 'lung nodule detection rate' at Seoul National University Hospital (Korea)

Outcome	Detection rate of actionable lung nodules	Detection rate of malignant lung nodules
A Group (n=5238) Radiologist + AI	31 (0.59%)	8 (0.15%)
B Group (n=5238) Radiologist only	13 (0.25%)	0 (0.0%)

Radiology

Large-scale Prospective RCT*

*Randomized Controlled Trial
: Research method in which subjects are randomly divided into control and experimental groups for comparison

Lunit INSIGHT MMG

Flagship prospective MMG study

55,579 women screened for breast cancer
Study on 'Double Reading' by Karolinska Institutet (Sweden)

Outcome	Detection rate of cancer per 1,000 women	Recall rate per 1,000 women
1 Radiologist + Lunit INSIGHT MMG	4.3	28
2 Radiologists	4.1	29.3
Lunit INSIGHT MMG	4.1	15.5

Under submission in major journal

Large-scale Prospective Study

Lunit INSIGHT Business Strategy

Distribution through Integration into Imaging Platform

Imaging	**Chest X-ray**	**Mammography**

Device Integration
Combined HW+AI sold

BM : CAPEX Model

Payment per device

+80k Annual number of CXR/MMG device sold

Lunit AI SW + **Partner HW**

Upload

Reading Software (PACS)
Send to hospital IT system

PACS Integration
Combined SW+AI sold

BM : OPEX Model

Payment per image

+1.7B Annual number of CXR/MMG images interpreted

Lunit AI SW + **Partner Reading software (PACS)**

Reading

Interpretation
through Reading Software (PACS)

Lunit INSIGHT Business Strategy

Scaling out through Global Partnerships

Imaging

Chest X-ray

Mammography

Upload

Reading Software (PACS)
Send to hospital IT system

Reading

Interpretation
through Reading Software (PACS)
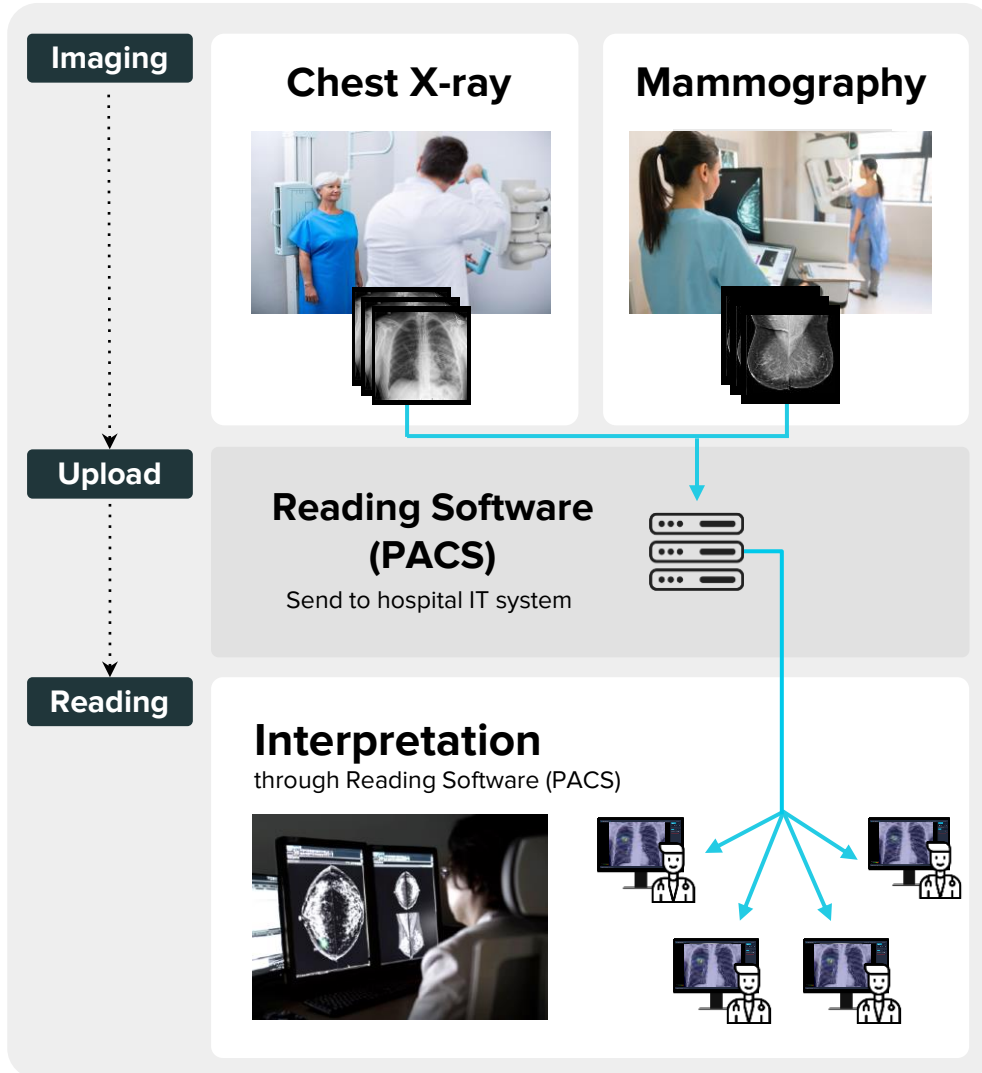
Lunit's Major Distribution Channel
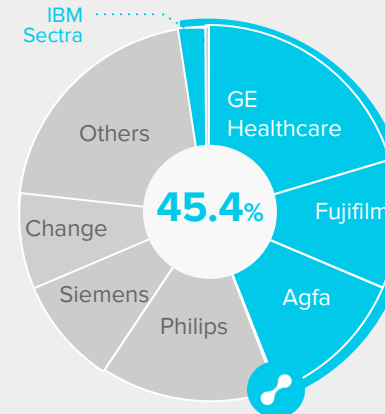
■ Contract Signed ■ Prospective Partners

Global X-Ray Device Market [1]

49.3%

- Agfa
- GE Healthcare
- Fujifilm
- Philips
- Care-stream
- Siemens
- Canon
- Others

Global Mammography Market [2]

54.8%

- GMM IMS Giotto
- Others
- Hologic
- Fujifilm
- Siemens
- GE Healthcare

Global Reading Software (PACS) Market [3]

45.4%

- IBM
- Sectra
- GE Healthcare
- Fujifilm
- Agfa
- Philips
- Siemens
- Change
- Others
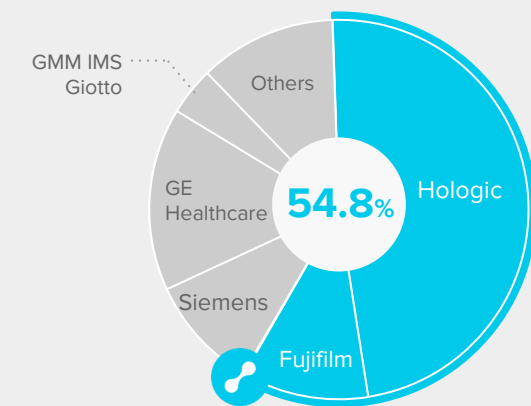
1) Diagnostic Imaging Market 2021 by markets and markets
2) Breast Imaging report – 2021 Edition by Signify Research
3) Healthcare IT Value By Geography, Global, 2015-2025 by Global data

GE Healthcare | FUJIFILM
PHILIPS | HOLOGIC
AGFA HealthCare | IBM | SECTRA

Lunit INSIGHT Superior Performance

Key Success Factor: Proven to Be Best-in-Class

Accuracy

Superior Performance

JAMA Oncology
Salim, et al. JAMA Oncol. 2020 Aug 27.
IF 24.799[1]

Karolinska Institutet

Comparing 3 Commercial Mammography AI

Retrospective analysis of 8 years of mammography screening
Compared AI screening performance with data from 739 breast cancer-diagnosed women and 112,924 healthy women

	Lunit	Company A	Company B
AI	Lunit INSIGHT MMG	Algorithm A	Algorithm B
Sensitivity	**81.9%**	67.0%	67.4%
Accuracy (ROC AUC)	**95.6%**	92.2%	92.0%

1) Impact factor, Top 7 among Oncology Journals

✓ **Proven superior performance** compared to competitors

Research

Robust Research (SCIE Journals[2])

Modality	Company (Country)		# of Journals
Chest X-Ray	**Lunit**	🇰🇷	**39**
	Qure.ai		14
	Oxipit		1
	Zebra		0
	Others (>10)		None
Mammography	**Lunit**		**19**
	ScreenPoint		14
	DeepHealth	🇺🇸	2
	Zebra		1
	Others (>10)		None

2) SCIE(Science Citation Index Expanded): Citation index originally produced by the Institute for Scientific Information and created by Eugene Garfield

✓ **Robust research** with strong clinical evidence in peer-reviewed journals

Partnership

Larger Market Access

Global X-Ray Device Market
Agfa, GE Healthcare, Fujifilm, Philips, Carestream, Others, Canon, Siemens

Global Mammography Market
GMM IMS Giotto, Others, Hologic, GE Healthcare, Siemens, Fujifilm

Global Reading Software (PACS) Market
IBM Sectra, GE Healthcare, Fujifilm, Agfa, Philips, Siemens, Change, Others

■ Lunit(Partnership Signed) ■ Zebra Medical Vision ■ Screenpoint
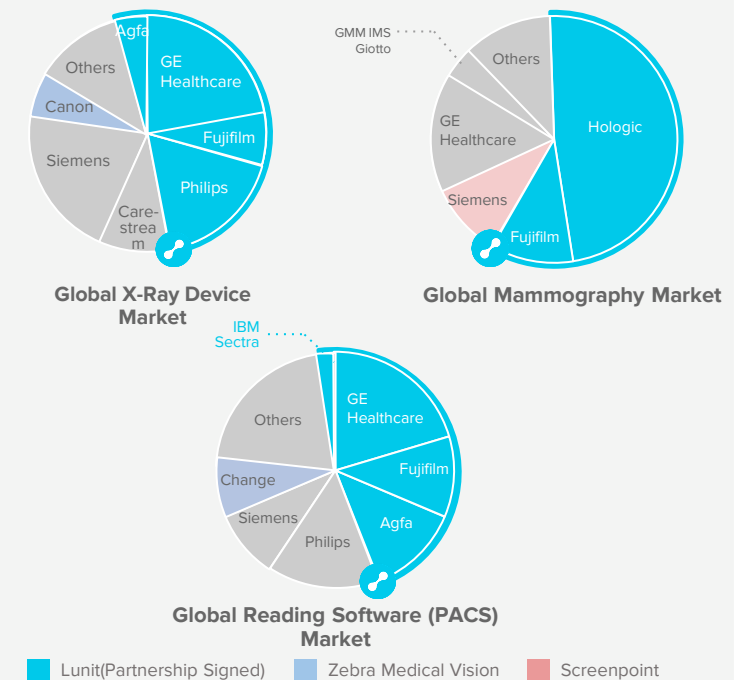
✓ **Access to 50% of market share** through global partnership

Lunit INSIGHT Business

Current Commercialization Status

Usage

Number of paying sites worldwide [1]

+2,000

Global Customers	**84**%
Retention Rate	**+95**%
Lunit Users among Top 10 Hospitals in Korea [2]	**7**
Chest X-Ray exams in Korea[3] Analyzed by Lunit INSIGHT CXR 2021	**10**%
Lunit INSIGHT MMG Users among 45 Large Hospitals in Korea	**42**%

1) Excludes demo and research use; only commercial sales
2) Newsweek. World's Best Hospitals – South Korea. 2020;
3) Source: KOSTAT.go.kr Appx. 40M Chest X-ray exams performed annually in Korea

Partner Testimonials

" First AI company collaboration for our x-ray business "
— General Manager K☀☀

GE Healthcare

"This is actually **out first AI company collaboration for our x-ray business. The offering will be available on all of GE digital, fixed, and mobile, and even fluoroscopy.** Leveraging the long-term established expertise, that GE has on x-ray equipment in combination with Lunit's technology will help to keep up with the customer needs, care deeply about patients and diagnosing physicians or radiologists."

" Felt very high customer satisfaction "
— Global Marketing Manager M☀☀

FUJIFILM

"In Japan especially, many of the elder people cannot move from home to the clinic to take x-ray. Our x-ray with Lunit AI can visit to take x-ray immediately at home, so it is a significant difference. After we used Lunit AI in the market, I didn't have any complaints. From Fujifilm's standpoint, whatever AI lunit made has a very high quality, so **we would want to implement it in our x-ray system or PACS system.** Customers have already started to use AI and expect more support."

" Lunit has both strong clinical record and national scalability "
— Global Software Product Manager P☀☀

AGFA HealthCare

"**Lunit has a strong clinical validation track record and is registered in Europe and also more than 19 countries, making it an excellent partner for developing solutions that bring our customers intelligent and definitive answers to their daily needs.** We believe that the integration of Lunit's AI in Agfa's advanced medical imaging workstation will help facilitate more effective clinical workflows in various hospital situations."
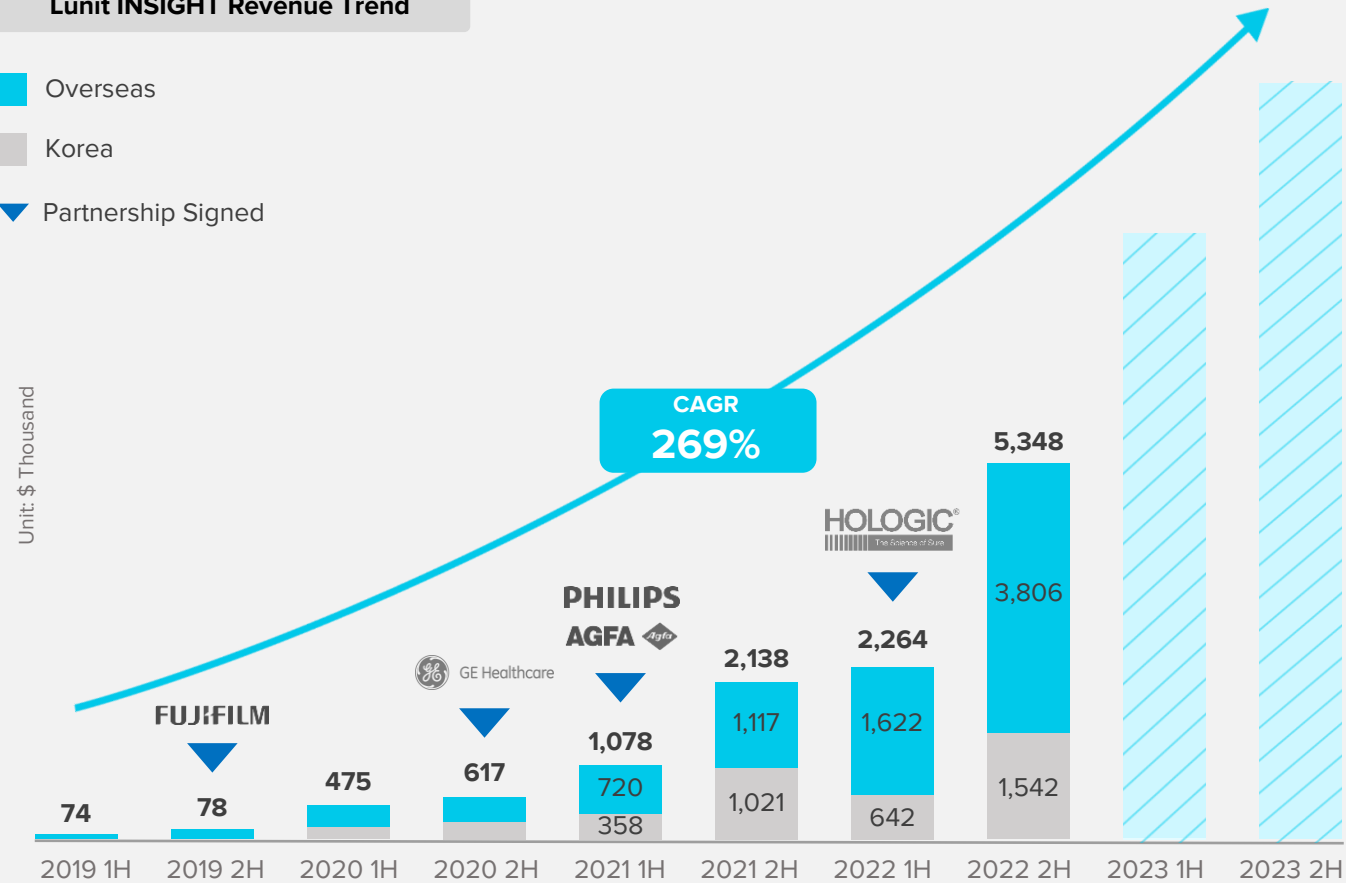
Lunit INSIGHT Business

Exponential Revenue Growth Expected to Continue

Scaling out business and sales as partners and markets are activated sequentially

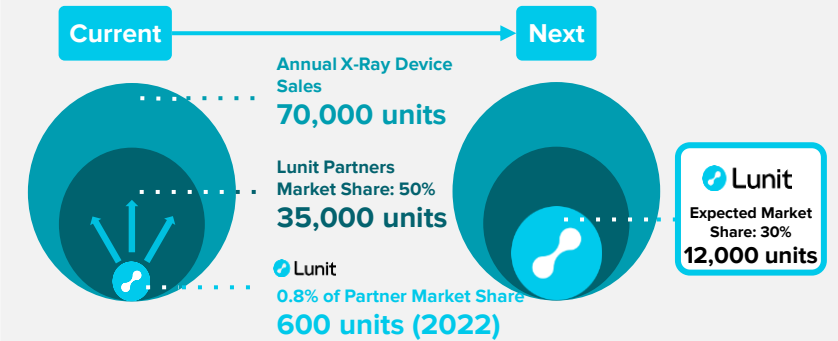## Lunit INSIGHT Revenue Trend

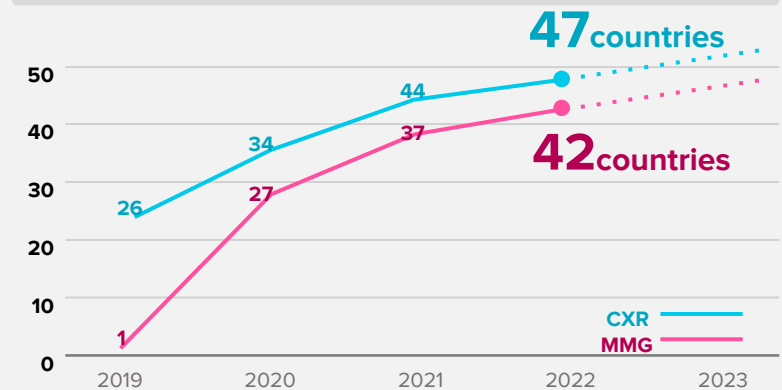- ■ Overseas
- ■ Korea
- ▼ Partnership Signed

Unit: $ Thousand

CAGR 269%

	2019 1H	2019 2H	2020 1H	2020 2H	2021 1H	2021 2H	2022 1H	2022 2H	2023 1H	2023 2H
Total	74	78	475	617	1,078	2,138	2,264	5,348		
Overseas					720	1,117	1,622	3,806		
Korea					358	1,021	642	1,542		

FUJIFILM
GE Healthcare
PHILIPS
AGFA *Agfa*
HOLOGIC®

Much Room to Grow through Partnership Channel

Current → **Next**

Annual X-Ray Device Sales
70,000 units

Lunit Partners Market Share: 50%
35,000 units

Lunit
0.8% of Partner Market Share
600 units (2022)

Lunit
Expected Market Share: 30%
12,000 units

Much Room to Grow through Market Expansions

47 countries

42 countries

	2019	2020	2021	2022	2023
CXR	26	34	44		
MMG	1	27	37		

- CXR
- MMG

Lunit INSIGHT Business

Next Step Becoming global standard of care by B2G expansion and successful reimbursement

B to G   National Cancer Screening Programs   **Reimbursement**

First Case

### Selected into Australia's National Breast Cancer Screening Program

BSNSW (BreastScreen New South Wales): A free national breast cancer screening program in NSW (MMG every 2 years to women over 40). The first case globally in which an AI-based solution is being applied in a national cancer screening program.

Expansion

+10 countries in discussion, B2G business expansion expected in near-future
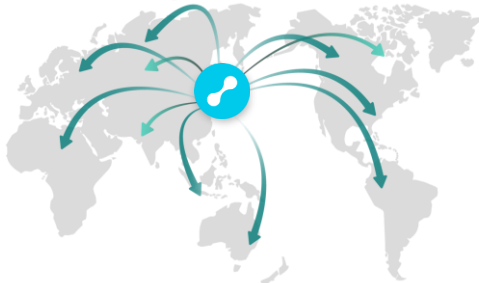
Europe

AI can reduce burden caused by Double Reading in Europe

Outcome	Detection rate of cancer per 1,000 women	Recall rate per 1,000 women
1 Radiologist + Lunit INSIGHT MMG	4.3	28
2 Radiologists	4.1	29.3
Lunit INSIGHT MMG	4.1	15.5

AI + one reader outperforms Double Reading
Detection Rate of Cancer △ / Recall Rate ▽

Clinical evidence to replace one reader of double reading system (unique in Europe)

Possibility of reimbursement in Europe △ △

EU, 암 정복 위해 우선 '조기 진단'에 힘 쓴다
"2025년까지 대상 인구 90% 유방암·자궁경부암·결장 직장암 검진 받을 수 있도록 한다"

최윤수 기자 | jjysc0229@yakup.com 기자가 쓴 기사 더보기   입력 2022.08.29 06:00   수정 2022.08.29 06:01

Korea

Government Regulation ▽ / Support △

매일경제 2023.04.04. 네이버뉴스
혁신의료기기 시장에 선진입 후 평가받는다...'혁신급여'도 도입
우선 시장에 진입하게 해달란 업계 목소리가 있었다. 복지부 관계자는 "이번 선진입, 후평가 안 은 의료법·국민건강보험법 등 법률 개정과 사회적 논의가 필요한 사항으로, 단기적으로 혁신...

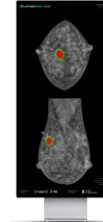연합뉴스 2023.04.04. 네이버뉴스
혁신 의료기기 규제완화...민간·정부 R&D 10조원까지 확대
등 혁신 기술 의료기기가 신속히 시장에 진입할 수 있도록 전용 평가 및 유예 제도를 확대하는 등 의 방식으로 규제가 완화된다. 아울러 국내 의료기기에 향후 5년간 민간과 정부가 연구개발(R...

Lunit INSIGHT CXR
2020.09
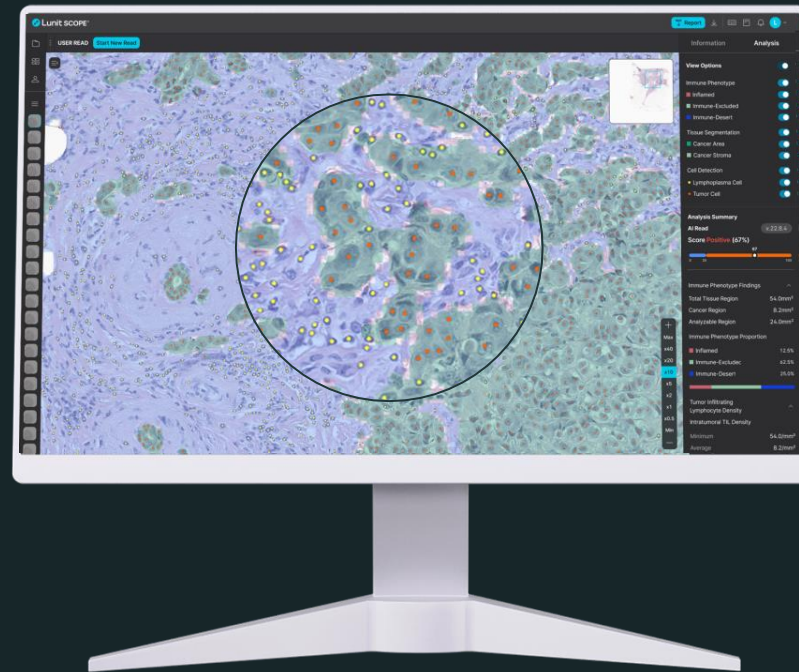Selected as an Innovative Medical Device

Lunit INSIGHT MMG
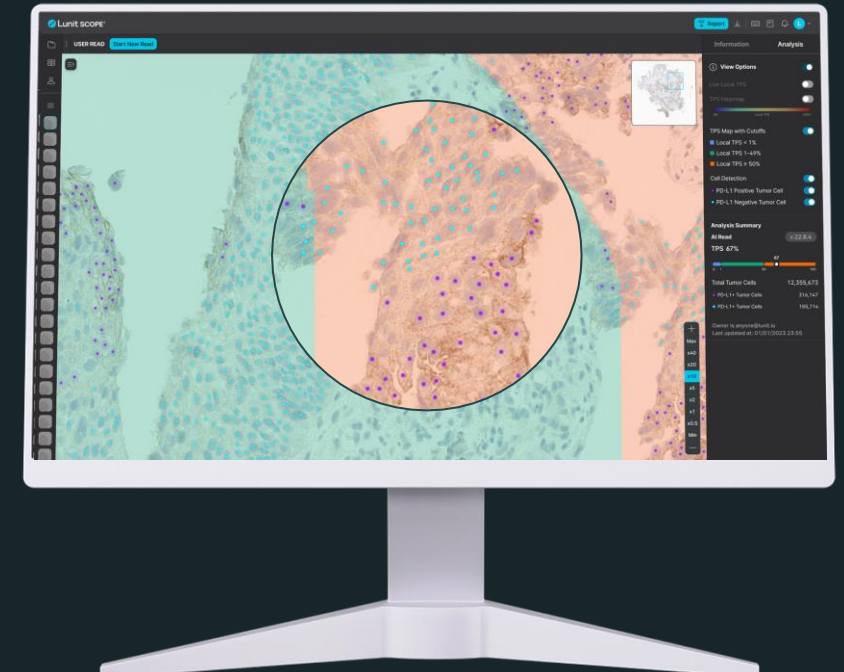2021.09
Selected as an Innovative Medical Device

Possibility of reimbursement in Korea △ △

Lunit SCOPE®

2023 INVESTOR RELATIONS

Lunit SCOPE IO

Lunit SCOPE uIHC

Lunit

Lunit SCOPE Development

Personalized Approach Is Key to Cancer Treatment

High Complexity in Cancer

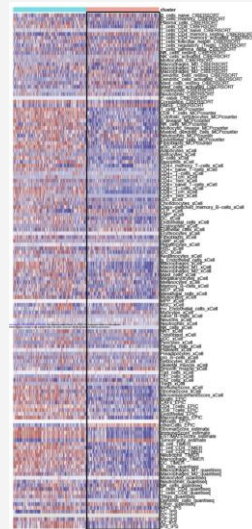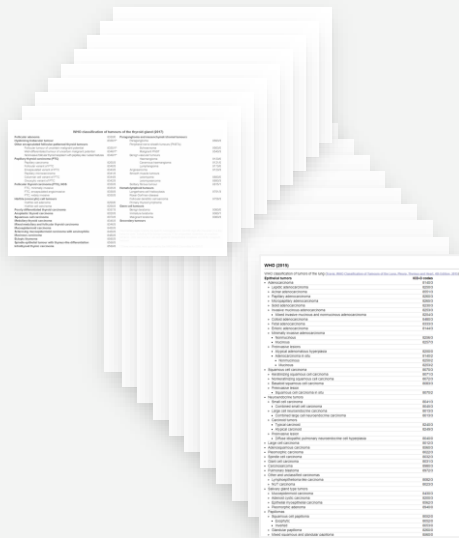Even cancers in the same organ have different biological characteristics and prognoses.

Morphological Type
1,000+

Mutation Type
1,000+

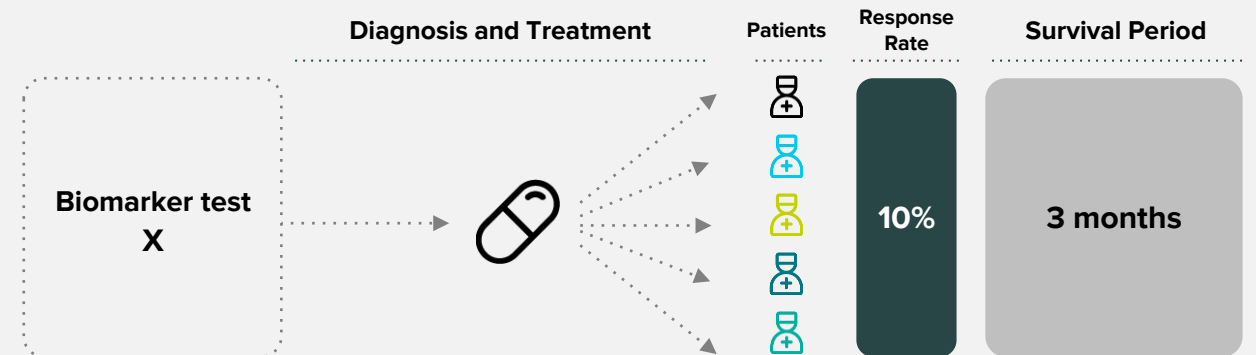**Tumor Heterogeneity**
10+

WHO's Morphological Classification
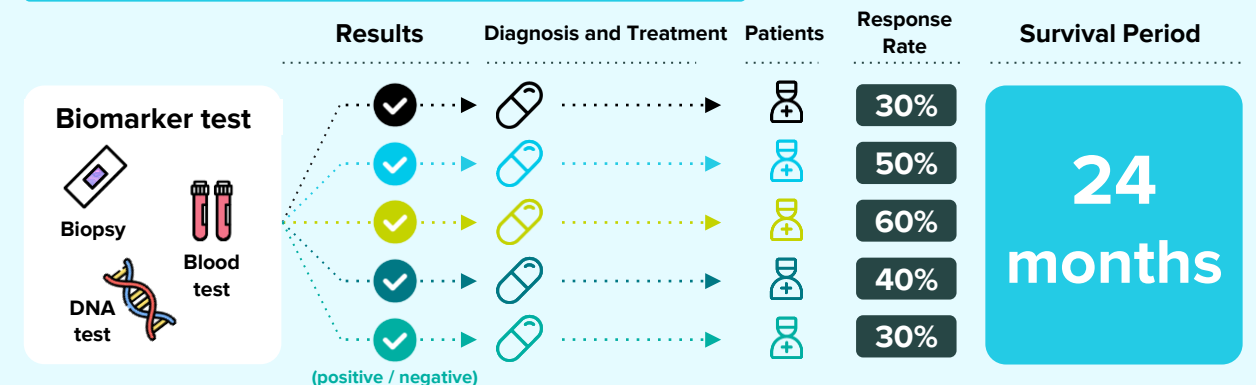
Gene Mutations Causing Cancer

KEY: Personalized Treatment by Biomarkers

Traditional: One general treatment for all cancer patients

	Diagnosis and Treatment	Patients	Response Rate	Survival Period
Biomarker test X			**10%**	**3 months**

Now & Future: Biomarker-based personalized treatment

	Results	Diagnosis and Treatment	Patients	Response Rate	Survival Period
Biomarker test				30%	
Biopsy				50%	**24 months**
Blood test				60%	
DNA test				40%	
				30%	

(positive / negative)

Lunit SCOPE Development

Lunit SCOPE: Novel Biomarker to Immunotherapy

1st generation (1940 -)

Chemotherapy
Biomarker test X

Detects and attacks fast-growing cells recognized as cancer cells

2nd generation (2000 -)
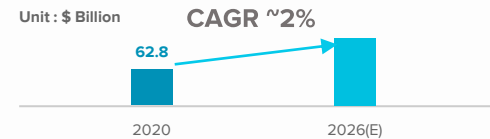
Targeted Therapy
Biomarker test O = Genetic test

Directly targets certain DNA mutations

Biomarker CDx

EGFR	KRAS	BRAF	BRCA	MET	
ALK	ROS1	ER/PR	KI67	HER2	•••

Total +20

Targeted Therapy Market

Unit : $ Billion   CAGR ~2%

62.8

2020   2026(E)

Source: : Targeted Therapeutics Market by Transparency Market Research

Saturated Market

3rd generation (2015 -)

Immunotherapy
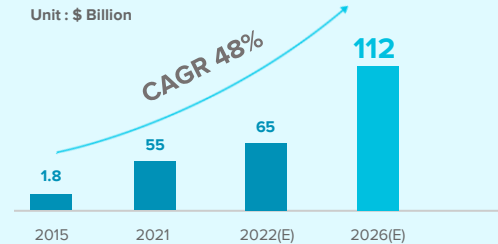Biomarker test O = Analyzing tissue cells

Activates immune cells to kill cancer cells
Not related to DNA mutations

Biomarker CDx

PD-L1 (2015~)   MSI (2017~)   TMB (2020~)   **Total 3**

Immunotherapy

Unit : $ Billion

CAGR 48%

112

1.8   55   65

2015   2021   2022(E)   2026(E)

Source: Disclosures from pharmas, The Business Research Company

Emerging Market

Optimized target for Lunit with
large-scale AI image processing technology

Lunit SCOPE Description

Next Generation AI-powered Biomarker

Flagship : Lunit SCOPE IO
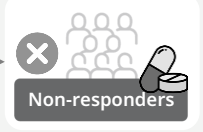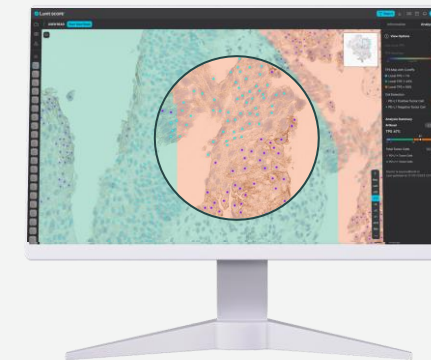
Lunit SCOPE IO

Category : Biomarker based on tumor microenvironment analysis
AI Biomarker classifying patients who can be treated with immunotherapy

Analysis Result

Cancer Stroma

Lymphocyte

Cancer Area

Tumor Cell

Responders

Non-responders
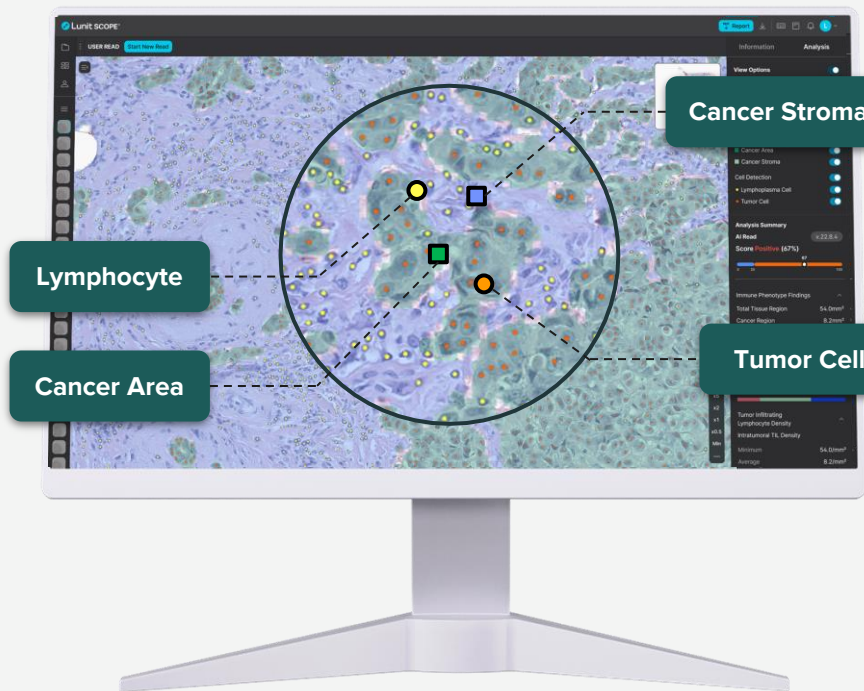
Analyzing the immune cell patterns in patient's tissue slide images through **AI ; Classifying them into Positive or Negative**

Others : Lunit SCOPE Next

Lunit SCOPE Universal IHC

Category : Biomarker to quantify protein expression and predict response
AI Biomarker classifying patients who can be treated with ADC

Responders

Non-responders

Lunit SCOPE PD-L1
Lunit SCOPE HER2
Lunit SCOPE ERPR
⋮
Lunit SCOPE XXX   (Later)

Accurately Identifies Patients Responsive to Immunotherapy

High Prediction of Response to Immunotherapy

SCOPE Classification	Immune Phenotype	mPFS (months)	HR (95% CI)
Positive	Inflamed	4.1	Ref
Negative	Excluded	2.2	1.52
	Desert	2.4	1.58

PFS	No.	ORR (%)	mPFS (95% CI)	HR (95% CI)	p
Inflamed	288	26.8	4.1 (2.8 to 6.2)	NA	NA
Immune-excluded	192	11.5	2.2 (2.0 to 2.8)	1.52 (1.23 to 1.88)	9.6×10^{-5}
Immune-desert	98	11.2	2.4 (1.7 to 4.2)	1.58 (1.23 to 2.03)	4.1×10^{-4}
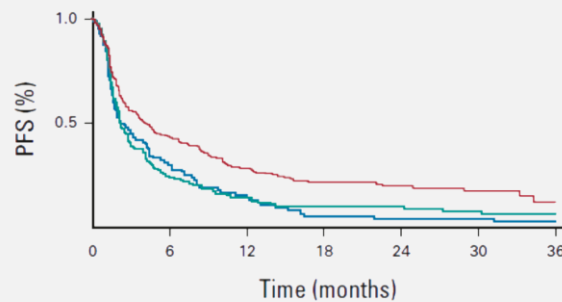
Journal of Clinical Oncology®

Accuracy Comparison Versus PD-L1 (already used biomarker)

PD-L1	Lunit SCOPE IO®
55%	**76%**

AUROC (95%CI)
0.761 (0.635 - 0.887)
0.556 (0.404 - 0.708)
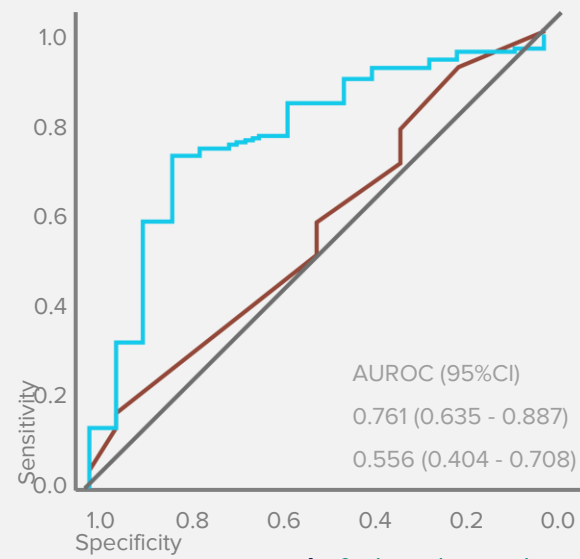
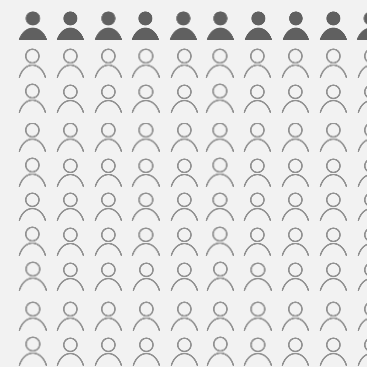**Journal** of Clinical Oncology®

Patient Selection Comparison Versus TMB/MSI (already used biomarker)

TMB/MSI-High	Lunit SCOPE IO®
10%	**42%**

Analysis on PD-L1(-) patients who would not be eligible for immunotherapy

10% of patients are identified to respond to immunotherapy
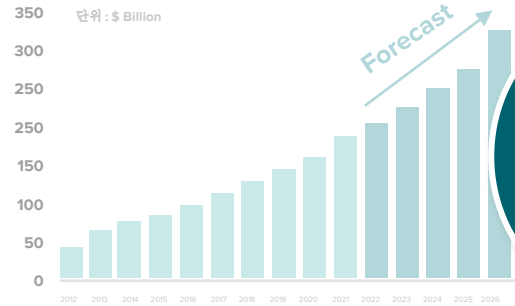
42% of patients are identified to respond to immunotherapy
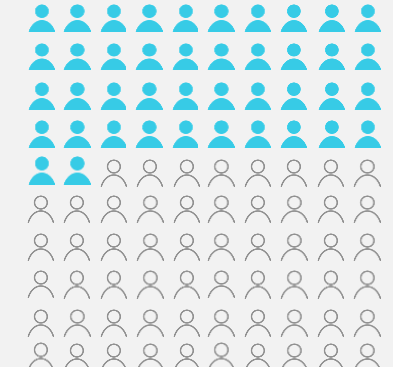
ASCO

Lunit SCOPE Market

Use of Biomarkers Is Standard in Cancer Medical Treatment

단위 : $ Billion

Forecast

Market Size
+$300B
CAGR 12%

Pharmaceutical Companies
Cancer Drugs

Cancer Diagnostics Companies
Biomarkers

Market Size
+$27B
CAGR 11.9%

단위 : $ Billion

Forecast

+11.9%

Source: IQVIA. 2021-2026 Global size and CAGR forecast of Anticancer drugs
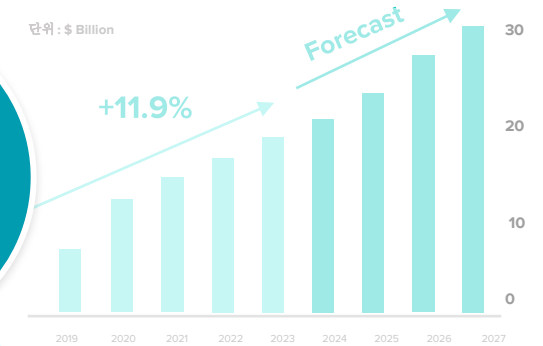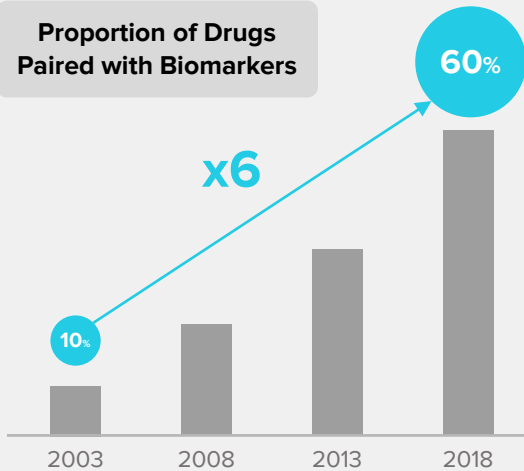
출처: Allied Market Research, Cancer Biomarkers Market. 2020.

Trend in Biomarker (CDx) Use

Proportion of Drugs Paired with Biomarkers

60%

x6

10%

| 2003 | 2008 | 2013 | 2018 |

Source Vadas et al, J Precision Medicine

Global Cancer Drugs (solid-tumor)

Revenue Ranking

Unit: B$

No	Drug	Pharma	Revenue 2022	FDA Approved Biomarker (CDx)
1	Keytruda	Merck	20.94	PD-L1, MSI, TMB
2	Opdivo	BMS	8.25	PD-L1
3	Tagrisso	Astra-Zeneca	5.44	EGFR
4	Ibrance	Pfizer	5.12	ER/PR
5	Perjeta	Roche	4.30	HER2
6	Tecentriq	Roche	3.91	PD-L1
7	Imfinzi	Astra-Zeneca	2.78	PD-L1
8	Lynparza	Astra-Zeneca	2.64	BRCA
9	Herceptin	Roche	2.25	HER2
10	Avastin	Roche	2.23	-

Successful CDx Cases

FDA APPROVED

|	Case 1	Case 2	Case 3
Biomarker	EGFR	HER2	TMB
CDx Product	cobas EGFR Mutation Test v2 — Roche	CDx — FOUNDATION MEDICINE	CDx — FOUNDATION MEDICINE
Pairied Drugs	IRESSA — AstraZeneca	Roche	MERCK

Lunit SCOPE Market

Why Pharma Actively Use Biomarkers (CDx)

Use of biomarkers is key to successful clinical trials

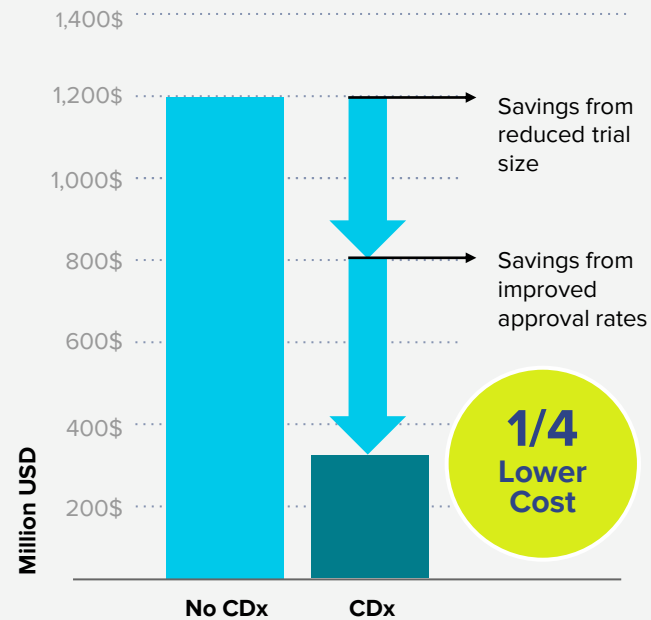**Biomarker leads to
3x higher success rate**

**Higher ⬆
Chance of
Approval**

**3x
Success
Rate**

25.9%

8.4%

Phase 1 to Approval
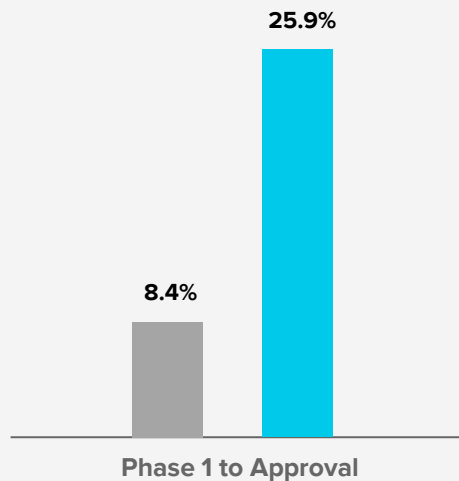
Source: ARK investment Management LLC

**Biomarker leads to
¼ lower cost for clinical trials**

Cost of each anticancer drug

Savings from reduced trial size

Savings from improved approval rates

**1/4
Lower
Cost**

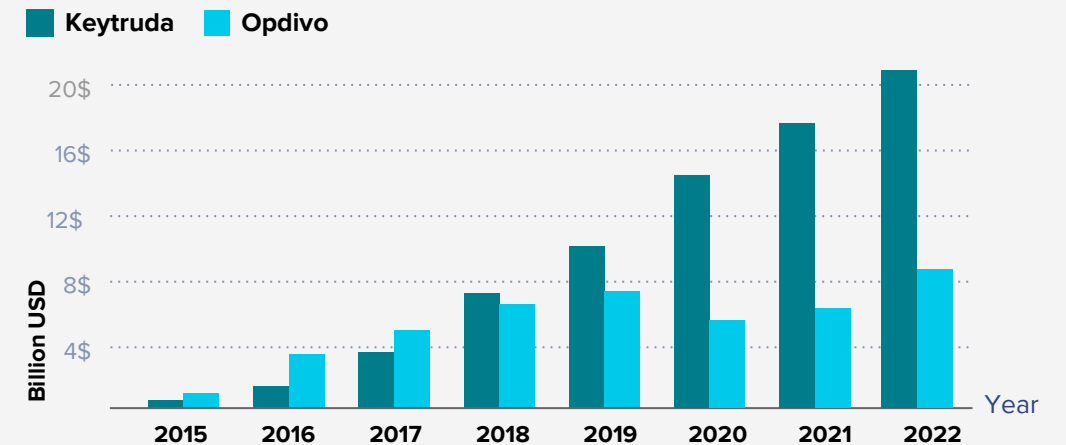| Million USD |
|---|
| 1,400$ |
| 1,200$ |
| 1,000$ |
| 800$ |
| 600$ |
| 400$ |
| 200$ |

No CDx   CDx

Source: ARK investment Management LLC

Biomarker leads to more frequent use of paired drugs and sales performance

**How MSD's Keytruda rapidly surpassed BMS's Opdivo
and became the No.1 cancer drug globally**

■ Keytruda   ■ Opdivo

Billion USD

	20$	16$	12$	8$	4$

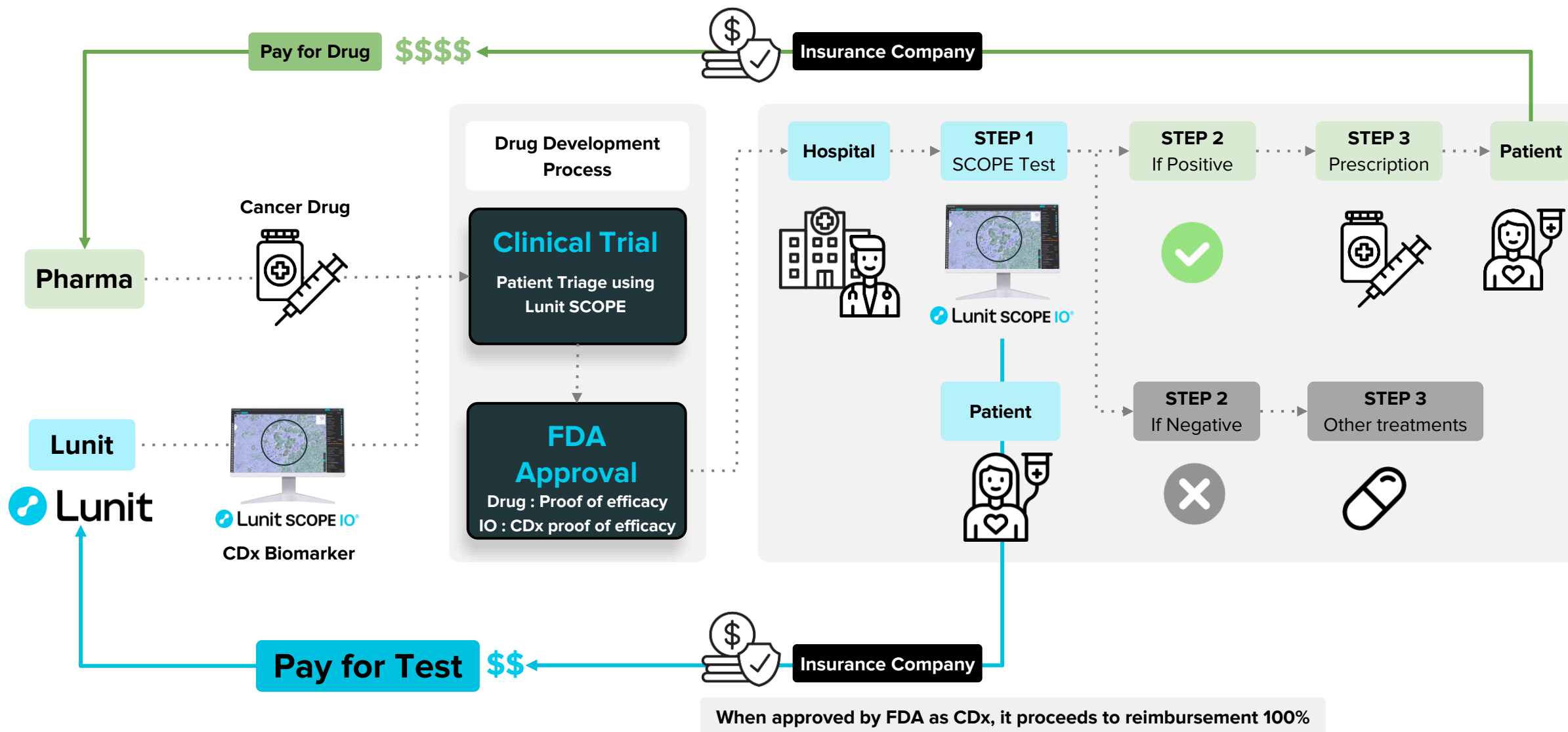2015   2016   2017   2018   2019   2020   2021   2022   Year

75% of physicians prefer Keytruda because it helps identify how
well a patient is likely to respond (Survey by ASCO)

⬇

The reason why drugs with biomarker/CDx are
best-selling despite narrower indication

Lunit SCOPE Business Model

Business Model Paired with pharma's drug, generating high sales by active testing before treatment

Pay for Drug $$$$

Insurance Company

Pharma

Cancer Drug

Lunit

CDx Biomarker

Lunit SCOPE IO

Drug Development Process

Clinical Trial

Patient Triage using Lunit SCOPE

FDA Approval

Drug : Proof of efficacy
IO : CDx proof of efficacy

Hospital

STEP 1
SCOPE Test

Lunit SCOPE IO

Patient

STEP 2
If Positive

STEP 3
Prescription

Patient

STEP 2
If Negative

STEP 3
Other treatments

Pay for Test $$

Insurance Company

When approved by FDA as CDx, it proceeds to reimbursement 100%

Lunit SCOPE & Pharma

Proven to Be Effective in Pharma Clinical Trials

+20 **Global Big Pharma**   **Currently discussing research agreement/ collaboration with leading global pharmas**

Monotherapy : 3x more responsive when using Lunit SCOPE IO

Phase 1 : "multiple cancer", anti-PD-(L)1 Inhibitor

Pharma — Anti-PD-(L)1 —
Lunit — Lunit SCOPE IO —

Group	N	ORR
All analyzed set	32	21.9%
Lunit SCOPE(+)	8 (25%)	**62.5%**
Lunit SCOPE(-)	24 (75%)	8.3%

Combotherapy : 2x more responsive when using Lunit SCOPE IO

Phase 1/2 : Colorectal cancer (MSS), TGF-beta Inhibitor + anti-PD-(L)1 Inhibitor

Pharma — TGF-beta inhibitor —
Pharma — Anti-PD-(L)1 —
Lunit — Lunit SCOPE IO —

Group	N	ORR
All analyzed set	31	12.9%
Lunit SCOPE(+)	16 (51.6%)	**25.0%**
Lunit SCOPE(-)	15 (48.4%)	0%

Monotherapy : 2.6x more responsive when using Lunit SCOPE IO

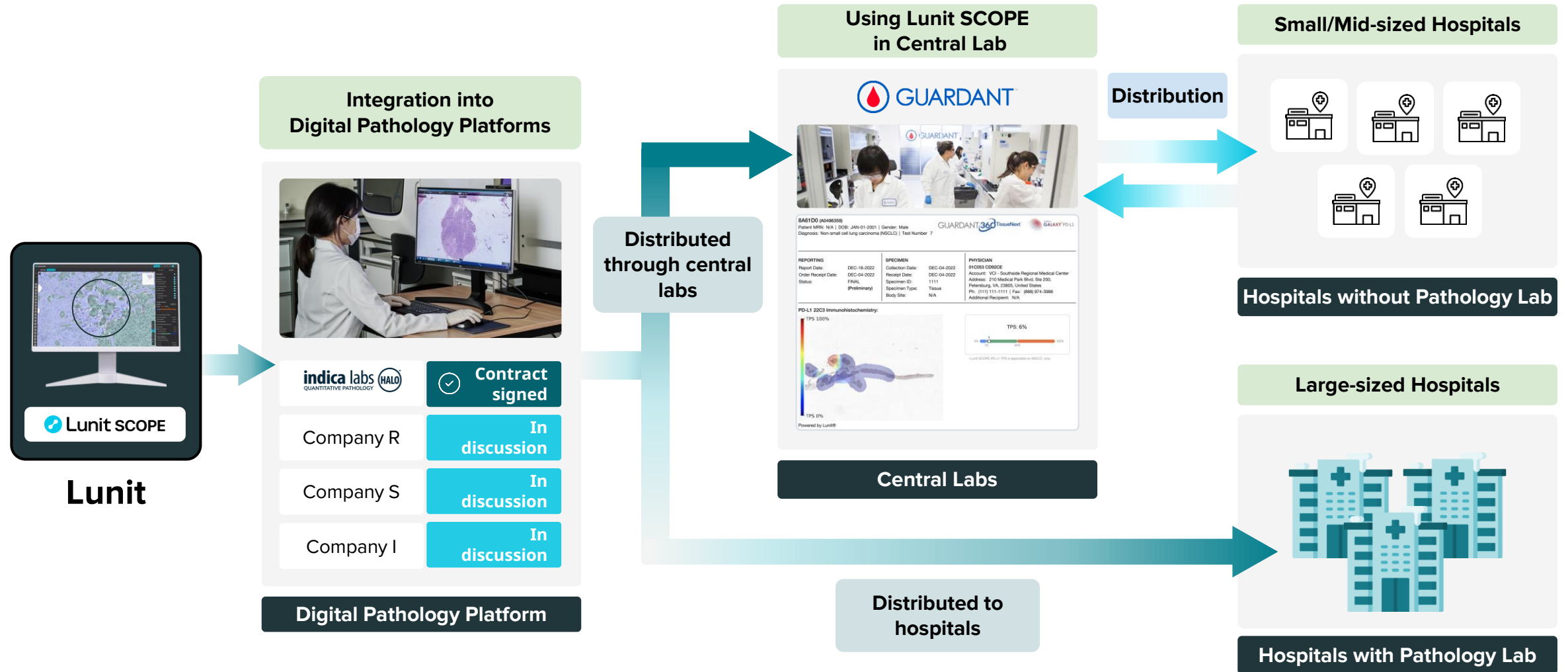### Phase 2 : Rectal cancer, Chemoradiotherapy + anti-PD-(L)1 Inhibitor

Pharma — Anti-PD-(L)1 —
Lunit — Lunit SCOPE IO —

Group	N	pCR
All analyzed set	38	28.9%
Lunit SCOPE(+)	8 (21%)	**75.0%**
Lunit SCOPE(-)	30 (79%)	16.7%

Combotherapy : 1.6x higher PFS when using Lunit SCOPE IO

Phase 2 : Nasopharyngeal cancer, Chemotherapy + anti-PD-(L)1 Inhibitor

Pharma — Anti-PD-(L)1 —
— Chemotherapy —
Lunit — Lunit SCOPE IO —

Group	N	PFS rate (%)
All analyzed set	24	32.2%
Lunit SCOPE(+)	12 (50%)	**52.1%**
Lunit SCOPE(-)	12 (50%)	0%

Lunit SCOPE Business

Lunit SCOPE Commercialization Strategy

Lunit SCOPE

Lunit

Integration into Digital Pathology Platforms

indica labs QUANTITATIVE PATHOLOGY (HALO)	✓ Contract signed
Company R	In discussion
Company S	In discussion
Company I	In discussion

Digital Pathology Platform

Distributed through central labs

Using Lunit SCOPE in Central Lab

Central Labs

Distributed to hospitals

Distribution

Small/Mid-sized Hospitals

Hospitals without Pathology Lab

Large-sized Hospitals

Hospitals with Pathology Lab

Lunit SCOPE Business

Commercialization Roadmap

2025 -

Lunit SCOPE IO Market

2022 -

2017 -

2021 -

FDA Approval

$$$

$27B market for cancer biomarkers

Target Market

Early Revenue (RUO Sales) **$**

Clinical collaborations with big pharma to generate research revenue

E.g.) Guardant Health

Exponential increase in revenue
Approved as CDx product; authorized for reimbursement

4.8M
Immunotherapy Patients

X

$1,500

Product Development

Biopharma Collaboration

2019 Revenue
$214M
100% RUO sales

↓

2020
FDA Approval

Increase in US Labs that order PD-L1 tests

Lab
80
70
60
50
40
30
20
10
0

CDx Approved

2015   Year

ǁ

$7.5B

Paired as biomarker
for new drug development
clinical trials
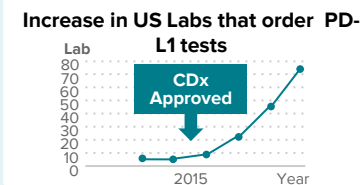
CDx Approval Example PD-L1

Pairing Lunit SCOPE with Cancer Drugs	Lunit SCOPE Research Use	Lunit SCOPE Commercial Use

Drug	Indication	Decision to use SCOPE or not		Apply SCOPE in Clinical Trials		Regulatory Approval as CDx		CDx Sales for Patient Use

Pharma X

A	X (Lung Cancer)	☑
	Y (Breast Cancer)	
B	Z (Colorectal Cancer)	☑
	Y (Bladder Cancer)	
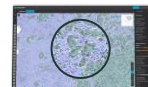
Screening patients with SCOPE for patient enrollment in clinical trials
OR
Analyzing existing clinical trial data with SCOPE

FDA Approval
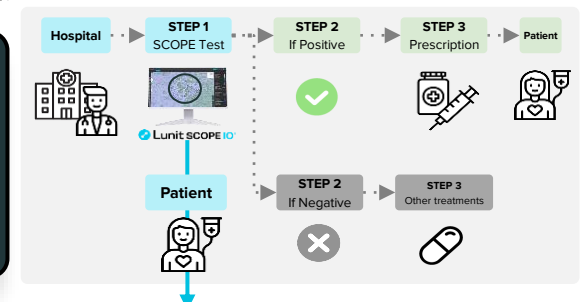**Drug : proof of efficacy**
IO : CDx proof of efficacy

Hospital

STEP 1
SCOPE Test

STEP 2
If Positive

STEP 3
Prescription

Patient

Patient

STEP 2
If Negative

STEP 3
Other treatments

Research Revenue : Paying Lunit per analysis

Commercial Revenue : Paying Lunit per test

Lunit SCOPE Business

Leading with Advanced Tech, Research, and Collaboration

		Leader Group		
Company	**Lunit** 🇰🇷	**PathAI** 🇺🇸	**OWKIN** 🇫🇷	VISIOPHARM, Pathcore, IBEX, nucleai, indica labs, aiforia, deep lens, PAIGE, mindpeak, PROSCIA
		VS Direct performance comparison in the process of investment evaluation by Guardant Health **Lunit showed superior performance**		
AI AI tech evaluation	**Annual Participation in Top-tier AI Conference** CVPR, ECCV, MICCAI, etc.		**-**	Weak AI
Science Medical Journals*	**150+/10+**	**60+/5+**	**20+/10+**	Weak Science
Biopharma	**Agreement DIscussion with Global Big Pharmas**	**Roche, BMS**	**Sanofi**	No Biopharma

*All abstracts and journals / SCI IF 10+ journals

Lunit SCOPE Next Steps

AI-powered "Comprehensive Histophenomic Profiling"

| 1940 -	2000 -	2015 -	2025 -
1st Generation Chemotherapy	**2nd Generation** Targeted Therapy	**3rd Generation** Immunotherapy	**4th Generation** Antibody-drug Conjugate (ADC)

CGP (Comprehensive Genomic Profiling)

FOUNDATION MEDICINE · TEMPUS · NEO GENOMICS · EXACT SCIENCES · CARIS LIFE SCIENCES

- Comprehensive NGS-based biomarker panel mainly focusing on targeted therapy
- Accurate but slow (2~3 weeks)

Test Result	Matched Drug
EGFR mutation	Tagrisso, Iressa, ..
HER2 (ERBB2) amplification or overexpression	Enhertu, Perjeta, Herceptin, ...
BRCA1/2 mutation	Lynparza, Nerlynx, Rubraca, Talzenna, ...
ALK fusion	Alecensa, Zykadia, Alunbrig, Xalkori, ...
KRAS mutation	Lumakras, Krazati, ...
ROS1 fusion	Rozlytrek, Xalkori, ...
MET exon-skipping	Tabrecta, Tepmetko, ...
NTRK fusion	Vitrakvi, Rozlytrek, ...
FGFR2 fusion	Lytgobi, Truseltiq, ...
RET fusion	Retevmo,...
⋮	⋮

CHP (Comprehensive Histophenomic Profiling)
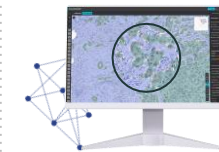
Lunit SCOPE®

- Comprehensive tissue-based biomarker panel ➡ Lunit's new approach
- Comprehensive and fast (<3 days)

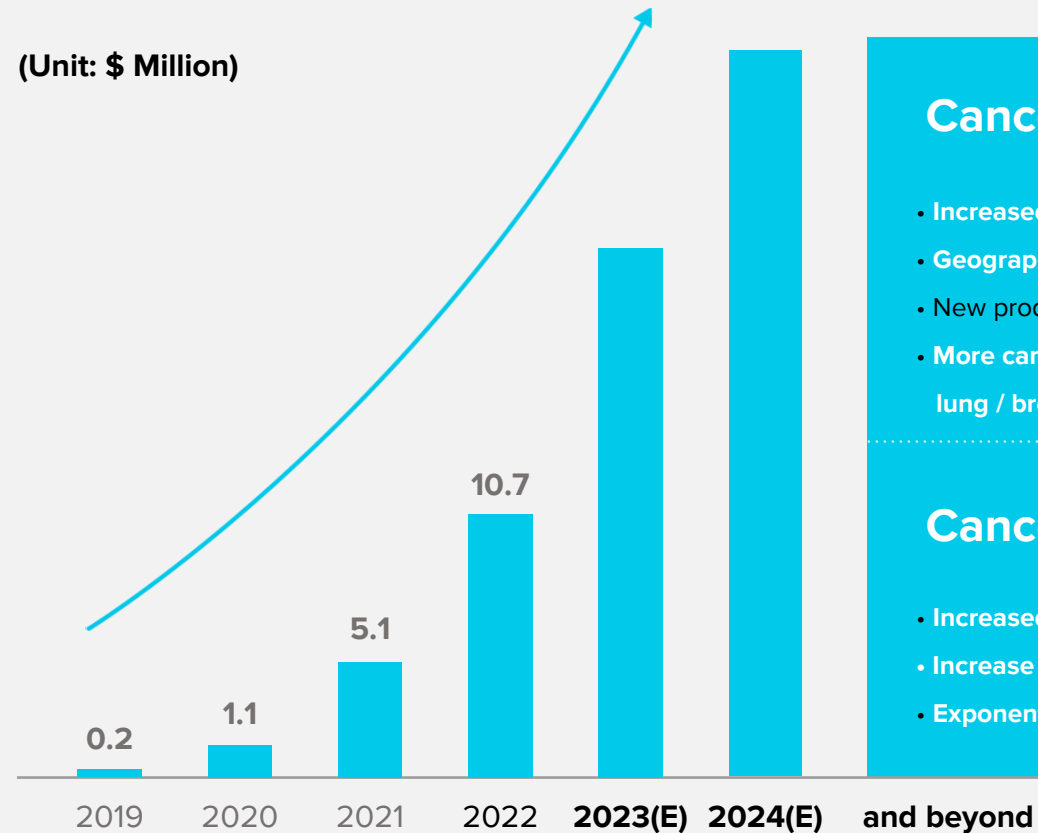| Test Result	Matched Drug (example)
Lunit SCOPE IO (Inflamed)	anti-PD-(L)1 +/- anti-CTLA4
Lunit SCOPE PD-L1 (Inflamed)	anti-PD-(L)1 +/- anti-CTLA4
Lunit SCOPE IO (Immune-Excluded, Fibroblast)	anti-PD-(L)1 + anti-TGFB anti-PD-(L)1 + IL7-agonist Chemotherapy + IL7-agonist
Lunit SCOPE IO (Macrophage)	anti-PD-(L)1 + Macrophage-modulators
Lunit SCOPE IO (Blood Vessel)	anti-PD-(L)1 + anti-VEGF
Lunit SCOPE HER2	anti-HER2 ADCs
Lunit SCOPE uIHC - TROP2	anti-TROP2 ADC
Lunit SCOPE uIHC - ROR1	anti-ROR1 ADCs
Lunit SCOPE uIHC - PSMA	PSMA-targeted PET
Lunit SCOPE uIHC	Novel Target ADCs
⋮	⋮

Lunit SCOPE will become a widely used biomarker panel for immunotherapy and ADCs

Our Future

2023 INVESTOR RELATIONS

Lunit

Future Plans

Short-Term Business Expansion

Lunit Revenue Growth

(Unit: $ Million)

0.2   1.1   5.1   **10.7**

2019   2020   2021   2022   **2023(E)   2024(E)   and beyond**

Cancer Screening

Lunit INSIGHT

- **Increased revenue** through partnerships
- **Geographical expansion** through regulatory approvals
- New products: **Lunit INSIGHT DBT, etc**
- **More cancer types** screened

  lung / breast ➡ prostate / pancreas / liver, etc.

Cancer Treatment

Lunit SCOPE

- **Increased collaboration** with pharmas
- **Increase** in Research Use Only revenue
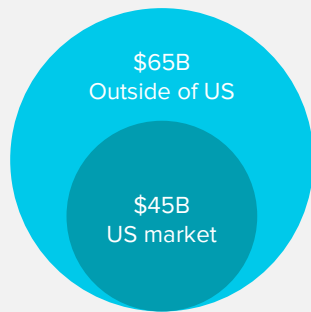- **Exponential revenue** after CDx approval

Future Plans

Long-Term Business Expansion

Cancer Screening

Cancer Screening/Dx Market is a "$110B opportunity"

$65B
Outside of US

$45B
US market

"Liquid biopsy is the future of cancer screening"

Bert Vogelstein
Johns Hopkins Oncology

Pioneer in cancer genetics
"Breakthrough Award" (2013)

But liquid biopsy has clear limitations

LBx accuracy
30%~80%
sensitivity

Lunit will overcome the limitations through a collaboration of Imaging AI with liquid biopsy

Imaging test + AI

GUARDANT

LBx   DNA

New screening method

Currently in discussion with Guardant Health:
a test method consisted of imaging+AI and liquid biopsy

Cancer Treatment

AI biomarker-based Drug Development Company

Drug Discovery

New drug candidate
Discovered

Small Pharma

Clinical Trials

AI biomarker ✚ drug candidate

Lunit

Drug Sales

Remaining clinical trials

New drug sales

Big Pharma

License **IN**

License **OUT**

Set biomarker standard

Vision

Conquer Cancer through AI-Based Personalized Medicine

AI is bound to become the future of medicine

"Lunit will become a global standard in the entire cancer care journey"

Personalized Screening/Diagnosis		Personalized Treatment	
Screening	**Precision Diagnostics**	**Treatment**	**Precision Monitoring**
Personalized screening through Lunit INSIGHT	Lunit INSIGHT®	Lunit SCOPE®	Lunit-based Monitoring

THANK YOU

Lunit