Conquer Cancer through AI

Lunit

Lunit INSIGHT Overview

Accurate and Effective Detection of Cancer

Needs

Many cancer cases are gone unnoticed

Missed Cases

30% [1] [2]

False Negative Rate [3]

Chest X-Ray and Mammography

Unnecessary Tests

95% [2]

False Positive Rate [4]

Mammography

1) NLST trial, NEJM 2012
2) Breast Cancer Screening Consortium data
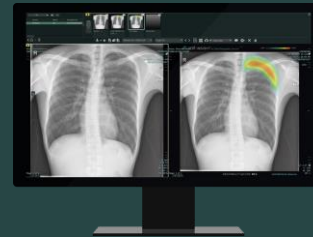3) False Negative Rate : Falsely diagnosed as not cancerous
4) False Positive Rate :Falsely diagnosed as cancerous, but normal
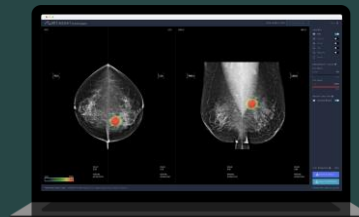
Product

Major Lung Diseases

Lung Cancer, Tuberculosis, Pneumonia, etc.

Lunit INSIGHT CXR®

Breast Cancer Detection

Lunit INSIGHT MMG®

Effect

Increase of Reading Accuracy/Effectiveness

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 journals

Evidence

When Using Lunit INSIGHT

Studies Published in Major Journals

+100

Studies/abstracts

THE LANCET
Digital Health

JAMA Oncology

Radiology

JAMA Network | **Open**

RSNA
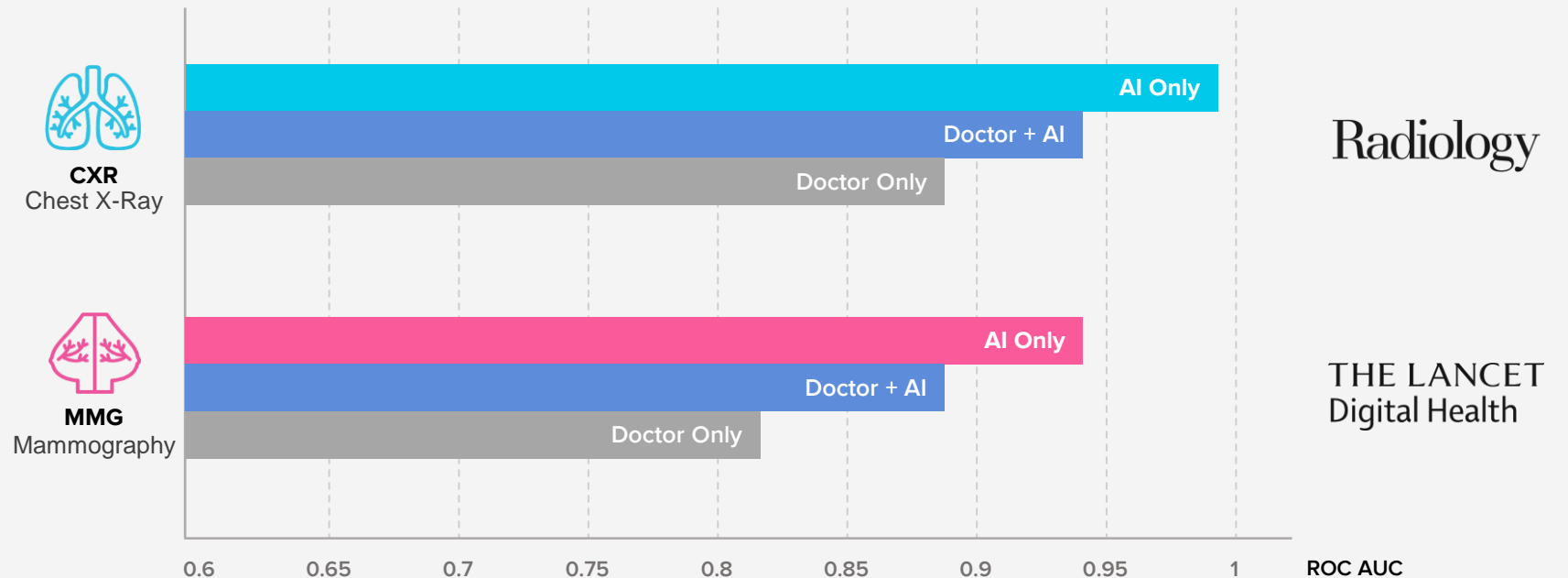
SCIENTIFIC
REPORTS

Clinical Infectious Diseases

European Radiology

Clinically proven to show excellence in medical image analysis

CXR
Chest X-Ray

- AI Only
- Doctor + AI
- Doctor Only

MMG
Mammography

- AI Only
- Doctor + AI
- Doctor Only

Radiology

THE LANCET
Digital Health

0.6   0.65   0.7   0.75   0.8   0.85   0.9   0.95   1   **ROC AUC**

Lunit

Lunit INSIGHT Value

Earlier Diagnosis | Chest X-ray(CXR) & Mammography(MMG)

Needs

When Using Lunit INSIGHT

Significance of Early Diagnosis in Lung Cancer
4.3x Survival Increase

5-Year-Survival Diagnosed Stage 1,2	5-Year-Survival Diagnosed Stage 3, 4
73%	**18**%

Reference: AJCC 8th Edition

Significance of Early Diagnosis in Breast Cancer
1.4x Survival Increase

5-Year-Survival Diagnosed Stage 1,2	5-Year-Survival Diagnosed Stage 3, 4
96%	**65**%

Reference: AJCC 8th Edition
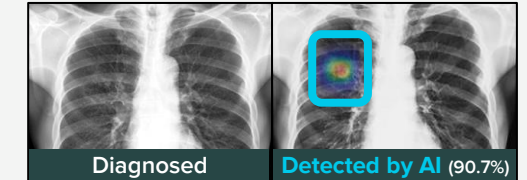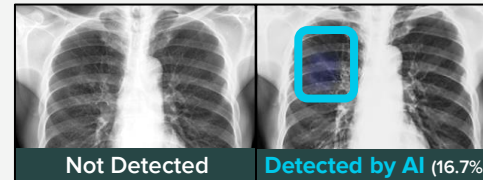
When Diagnosed with Lunit INSIGHT CXR

54-year-old male: **AI found a lung cancer that was missed 3 years ago**

2013 → **2014** → **2016**

| Not Detected | Detected by AI (16.7%) | Not Detected | Detected by AI (43.1%) | Diagnosed | Detected by AI (90.7%) |

50%
of lung cancer patients can be diagnosed earlier
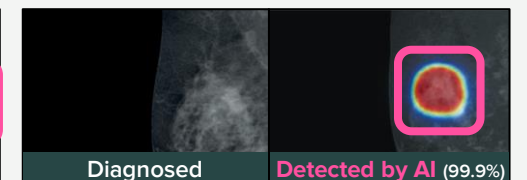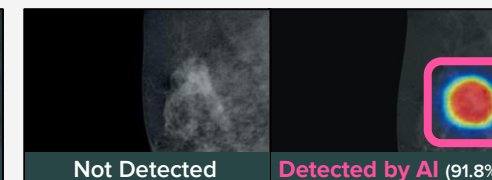
When Diagnosed with Lunit INSIGHT MMG

59-year-old female: **AI found a breast cancer that was missed 2 years ago**

2008 → **2009** → **2010**

| Not Detected | Detected by AI (71.2%) | Not Detected | Detected by AI (91.8%) | Diagnosed | Detected by AI (99.9%) |

40%
of breast cancer patients can be diagnosed earlier

Lunit INSIGHT Business Strategy

Business Through Global Partnerships

Imaging

Chest X-ray

Mammography

Upload

PACS
Send to hospital IT system

Reading

Interpretation
Through PACS

BM:
CAPEX Model
Payment per device

Device Integration
AI integrated

+80k Annual number of
CXR/MMG device sold

BM:
OPEX Subscription
Payment per image interpreted

PACS Installed   AI in viewer

+1.7B Annual number of
CXR/MMG images interpreted

Lunit SW   **Partner HW**

Lunit SW   **Partner PACS**

Lunit INSIGHT Business Strategy

Business Through Global Partnerships

Imaging

Chest X-ray

Mammography

Upload

PACS
Send to hospital IT system

Reading

Interpretation
Through PACS

Device Companies Signed with Lunit

Global X-Ray Market [1]

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

Global Mammography Market [2]

- GMM IMS Giotto
- Others
- GE Healthcare
- Siemens
- Hologic
- Fujifilm
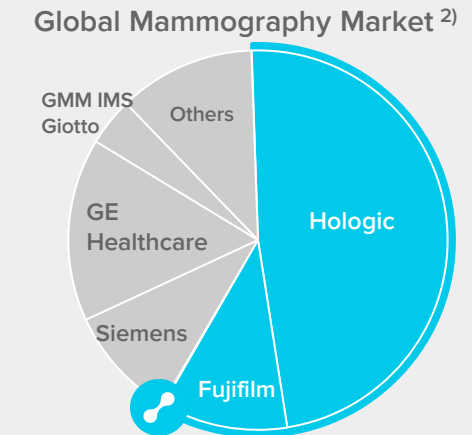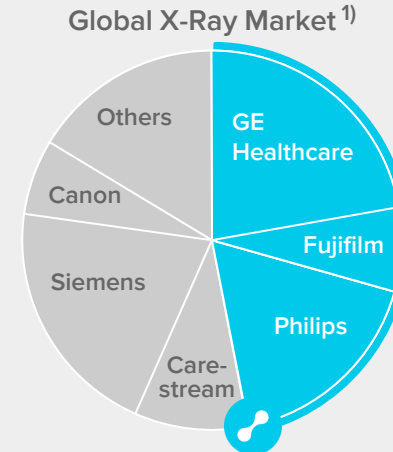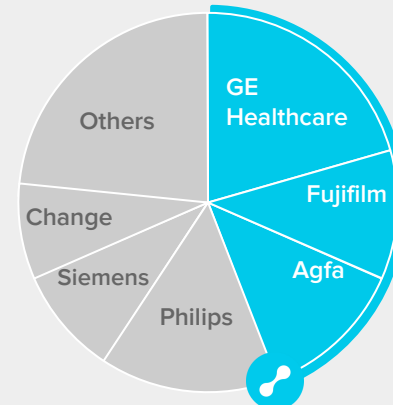
■ Contract Signed   ■ Prospective Partners

1) General Radiography and Fluoroscopy Report 2021 by Signify Research
2) Breast Imaging report – 2021 Edition by Signify Research
3) Healthcare IT Value By Geography, Global, 2015-2025 by Global data

Global PACS Market [3]

- Others
- Change
- Siemens
- Philips
- GE Healthcare
- Fujifilm
- Agfa

GE Healthcare   FUJIFILM

PHILIPS   HOLOGIC®

AGFA HealthCare   IBM   SECTRA

Lunit

Lunit INSIGHT Business & User Testimonials

"Like working with a well-trained specialist"

Number of paying sites worldwide [1]

+1,300

Global Customers	**80**%
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

"

Lunit AI is like a navigation. It is like working with a very smart Radiologist. My reading speed has increased 30%. With the time saved, I interact more with the patients, performing biopsies and tasks that require more professional knowledge. **I can now work more efficiently.**
Korea Yongin Severance Hospital
Eun-Kyung Kim, Deputy Director

"

Lunit's AI helps highlight the cancerous area in mammography. It does not neglect even the smallest nodules, helping the double-checking process. This way of working is **like working with a well-trained breast specialist.**
Singapore FeM Surgery
Dr. Felicia Tan (Breast Specialist)

"

Lunit AI helps in situations when patients are overflowing whereas only few radiologist are available. In such, AI greatly **assists in patient triage and monitoring.**
Brazil Prevent Senior Hospital
Dr. Fabrício Próspero Machado

Lunit INSIGHT Superior Performance

Superior Performance Among Competitors

Accuracy

Superior Performance

JAMA Oncology
Salim, et al. JAMA Oncol. 2020 Aug 27.

Karolinska Institutet

IF 24.799[1]

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%
False Negativity	18.1%	33.0%	33.0%
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** KR	**27**
	Qure.ai ID	10
	Zebra IL	3
	Others (>10)	None
Mammography	**Lunit** KR	**14**
	ScreenPoint NL	14
	CureMetrix US	3
	Zebra IL	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 Market

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

Global Mammography Market

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

Global PACS Market

Others, GE Healthcare, Change, Fujifilm, Siemens, Agfa, Philips

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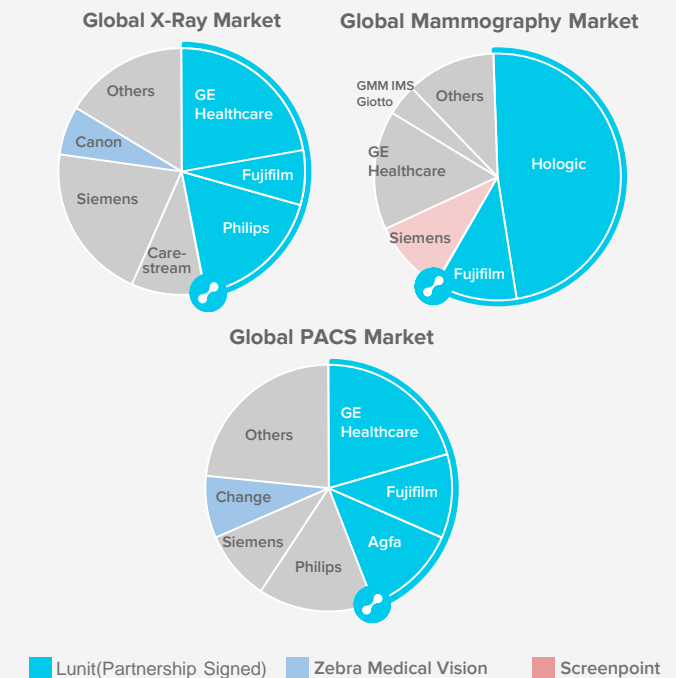
✓ **Access to 50% of market share** through global partnership

Lunit INSIGHT Business Status

Expanding Globally with More Partners

Lunit INSIGHT Revenue Trend

Legend:
- Overseas (Others)
- Overseas (FUJIFILM)
- Korea
- Partnership Signed

Unit: KRW Million

CAGR 269%

7,103

FUJIFILM Deal — 96 / 101

2020 1H — 617

GE Healthcare Deal — 802

PHILIPS AGFA Deal — 1,402 (936 / 466)

2021 2H — 2,779 (1,452 / 1,327)

2022 1H — 2,943 (2,109 / 834)

2022 2H — 7,103 (5,894 / 1,209)

| 2019 1H | 2019 2H | 2020 1H | 2020 2H | 2021 1H | 2021 2H | 2022 1H | 2022 2H |
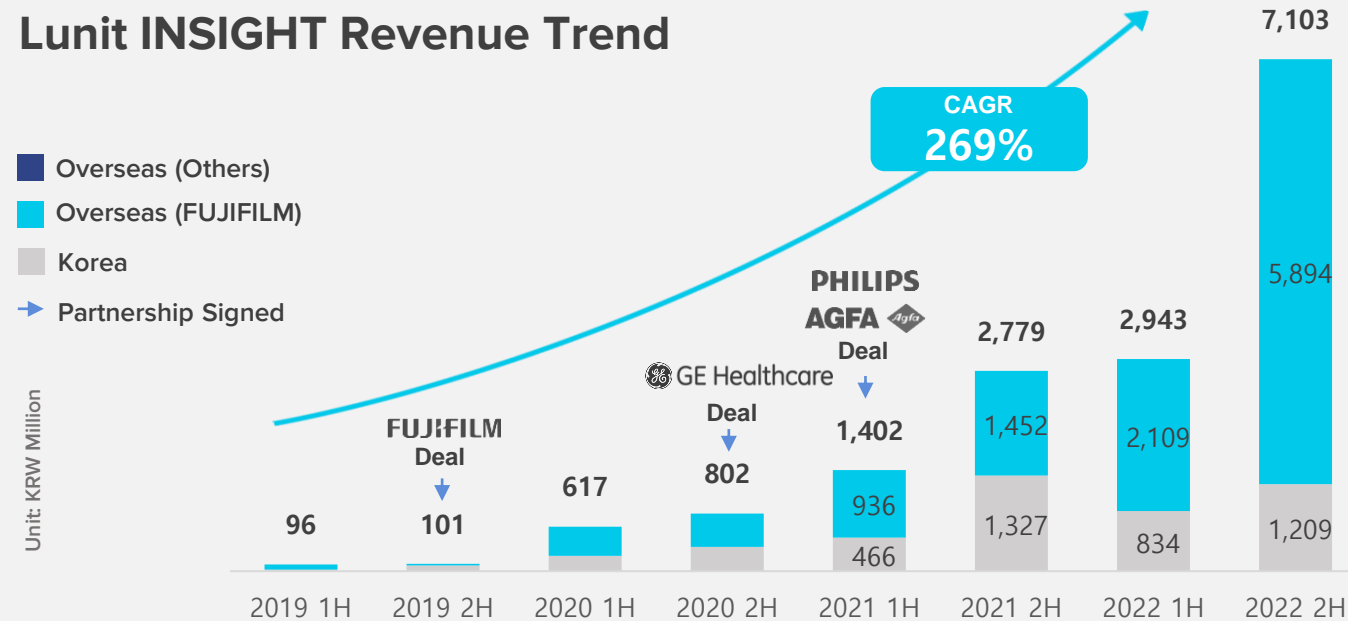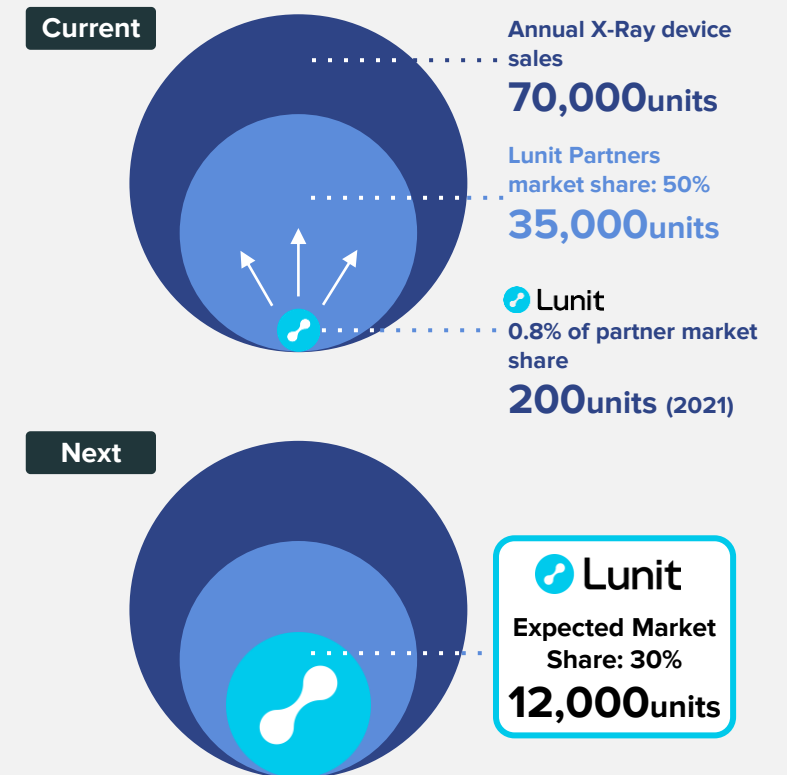
Commercially Approved
Sep 2022

CXR 44 countries

MMG 41 countries

Much Room to Grow

Current

Annual X-Ray device sales
70,000 units

Lunit Partners market share: 50%
35,000 units

Lunit
0.8% of partner market share
200 units (2021)

Next

Lunit
Expected Market Share: 30%
12,000 units
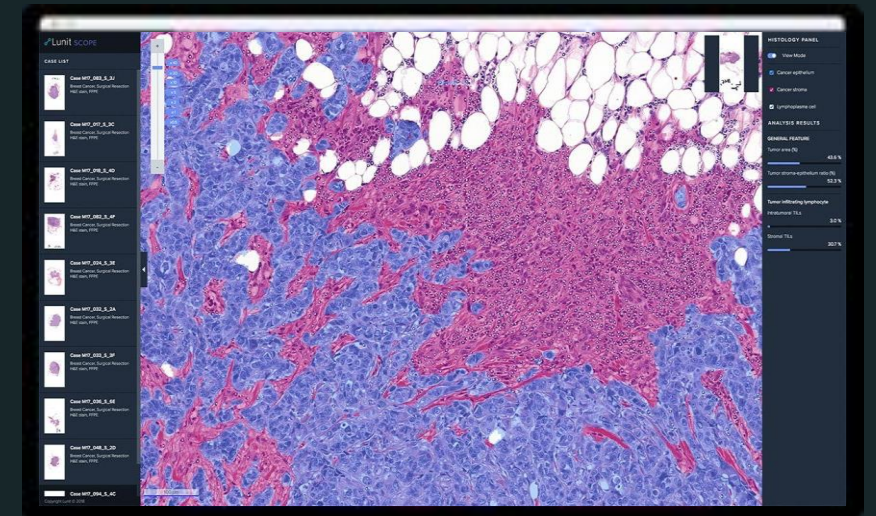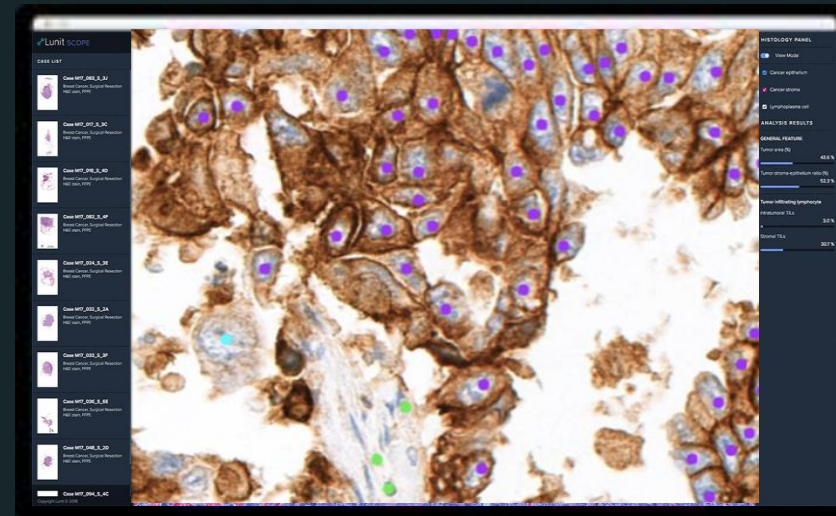
Lunit SCOPE, Game-changer in Drug Development

Needs

High expenditure in cancer treatment but drug response rate is low

$200B

Annual cost spent in cancer treatment globally*

25%

Average treatment response rate

Research

When using Lunit SCOPE, more patients can be treated with immunotherapy

+50%

more responsive patients are found with Lunit

no.1 journal in Oncology

Journal of Clinical Oncology®

Investment

Guardant Health Global no.1 liquid biopsy company
First-ever strategic investment

GUARDANT

Pharma

Collaboration with big pharmas

Interests shown by major big pharmas

Global Big Pharma

Currently discussing research agreement/collaboration with leading global pharmas

*Source: Oncology Drugs Market size by Globe Newswire

Lunit SCOPE Development

Personalized Approach is Key to Anti-Cancer Treatment

Existing

One treatment for all patients

Response Rate

< 10%
< 10%
< 10%
< 10%
< 10%

For Patients

Patient Survival Period
Less than 3 months

For Pharmas

Failed Clinical Trial

Avg. cost for treatment development
+$800M

Requirement

Response Rate **>30%**

With Biomarker

*Biomarker is a guide for treatment decision-making, by triaging patients based on certain biological features

Personalized treatment through biomarker-based triage

Response Rate

30%
50%
60%
40%
30%

Patient Survival Period
More than 18 months

Success

Avg. revenue accrual for anti-cancer drugs*
+$11B

Source: Tay-Teo et al, JAMA Netw Open, 2019

Lunit SCOPE Development

Why Pharmas Need Biomarkers

Use of biomarkers is key to successful clinical trials

Reason 1
Higher Chance of Approval

8.4% — 25.9%
Phase 1 to Approval

3x Higher Success Rate

Reason 2
Lower Cost for Clinical Trials

$1,200M — $300M
No CDx — CDx
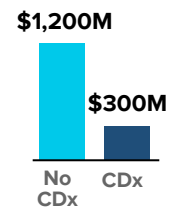
1/4 Lower Cost

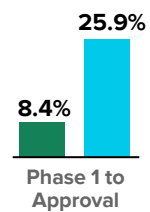Source: ARK investment Management LLC

Frequency of biomarker CDx test before treatment

10% (2003) — 2008 — 2013 — 60% (2018)
CAGR 15%
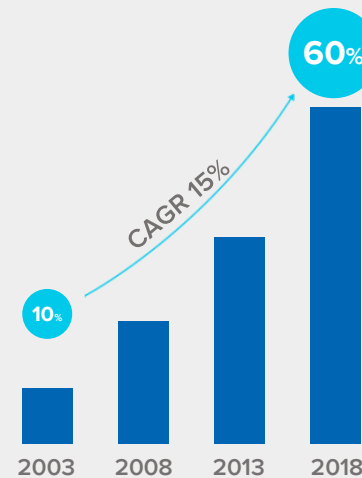
Source: Vadas et al, J Precision Medicine

Global anti-cancer treatment solid tumor revenue ranking

Unit: B$

No	Drug	Pharma	Revenue 2020	FDA Approved Biomarker (CDx)
1	Keytruda	Merck	14.38	PD-L1, MSI, TMB
2	Opdivo	BMS	7.92	PD-L1
3	Ibrance	Pfizer	5.39	ER/PR
4	Avastin	Roche	5.32	-
5	Tagrisso	Astra-Zeneca	4.33	EGFR
6	Herceptin	Roche	4.23	HER2

Lunit SCOPE Development

The Next Cancer Treatment is Immunotherapy

Targeted Therapy

Targeted Therapy Market

81.6 (2020) → ~2% CAGR (2031(E))

Unit: KRW Trillion
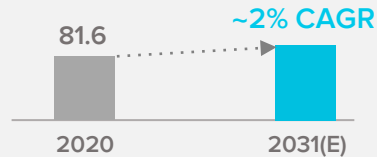
Source: Targeted Therapeutics Market by Transparency Market Research

Focus on genomic mutation
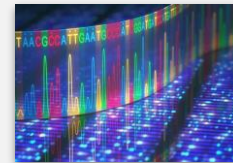
Directly targets certain DNA mutations

Biomarker CDx

- EGFR
- KRAS
- ALK
- ROS1
- MET
- NTRK
- BRAF
- BRCA
- ER/PR
- KI67
- HER2
- ⋮

Total +20

Saturated

Immunotherapy

Immunotherapy Market

2.4 (2015) 72 (2021) CAGR 48% 85 (2022(E)) **145** (2026(E))

Unit: KRW Trillion
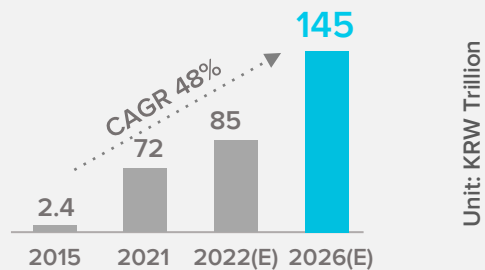
Source: Publicly disclosed information, The Business Research Company

Focus on tissue cells
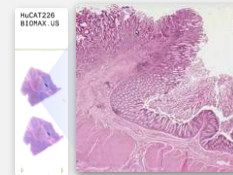
Activates immune cells to kill cancer cells
Not related to DNA mutations

Biomarker CDx

- PD-L1 (2015~)
- MSI (2017~)
- TMB (2020~)

Total 3

New Market

NEXT

AI-based tissue biomarker
by 🔑 Lunit

Lunit SCOPE Research

Accurately Identifies Patients Responsive to Immunotherapy

Different survival rate according to AI-powered tissue slide analysis
Response to Immunotherapy

Survival Rate
mPFS Median Progression Free Survival

Immune Phenotype	mPFS (months)	HR (95% CI)
Inflamed	10.1	Ref
Excluded	3.0	2.87 (1.37-6.03)
Desert	1.4	4.52 (1.83-11.2)

Responsive Patient

Non-responsive Patient

Analyzes the immune cell patterns
in patient's tissue slide images;
Classifies them into 3 groups

Journal of Clinical Oncology®

published at ascopubs.org/journal/jco on March 10, 2022

Artificial Intelligence–Powered Spatial
Analysis of Tumor-Infiltrating Lymphocytes as
Complementary Biomarker for Immune
Checkpoint Inhibition in Non–Small-Cell
Lung Cancer

JCO Impact factor : 44.5   **#1 in Oncology Journals** H index

Publications/Abstracts

+60

Lunit SCOPE Research

Accurately Identifies Patients Responsive to Immunotherapy

Lung Cancer Response to Immunotherapy Prediction Accuracy (AUROC)

Lunit SCOPE IO
76%

PD-L1
55%

AUROC (95%CI)
0.761 (0.635 - 0.887)
0.556 (0.404 - 0.708)

Sensitivity (y-axis): 0.0, 0.2, 0.4, 0.6, 0.8, 1.0
Specificity (x-axis): 1.0, 0.8, 0.6, 0.4, 0.2, 0.0
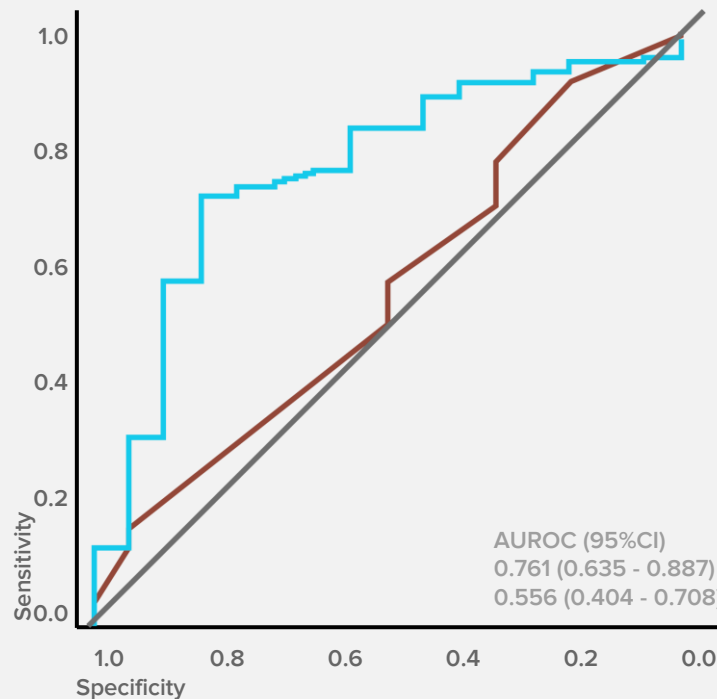
Journal of Clinical Oncology®

Increasing Treatment Efficacy through Predicting Treatment Response

PD-L1
42%

Only 42% of patients are qualified for immunotherapy

PD-L1 + Lunit SCOPE IO
62%

62% of patients are qualified for immunotherapy

+50% more patients are found to be responsive

ASCO

Lunit SCOPE Business Model
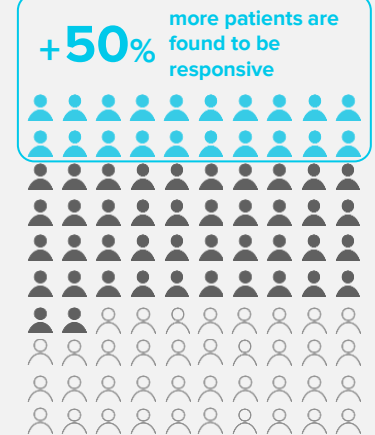
Business Model | Companion Diagnostics (CDx) through AI-based Biomarker

Biopharma

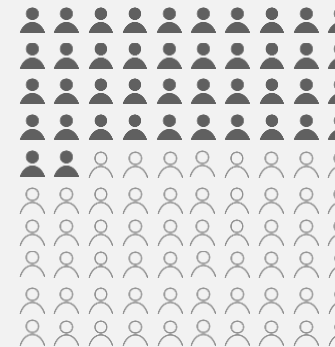Immunotherapy

Lunit SCOPE IO
AI Biomarker

Lunit

Clinical Trial

Led by pharma

Clinical trials with retrospective clinical data fulfills FDA approval criteria

FDA Approval

CDx proof of efficacy

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

100%

Insurance Reimbursement

$$$

$

$

Hospital ⋯⋯ Drug ⋯⋯ Test ⋯⋯ Patient

Lunit
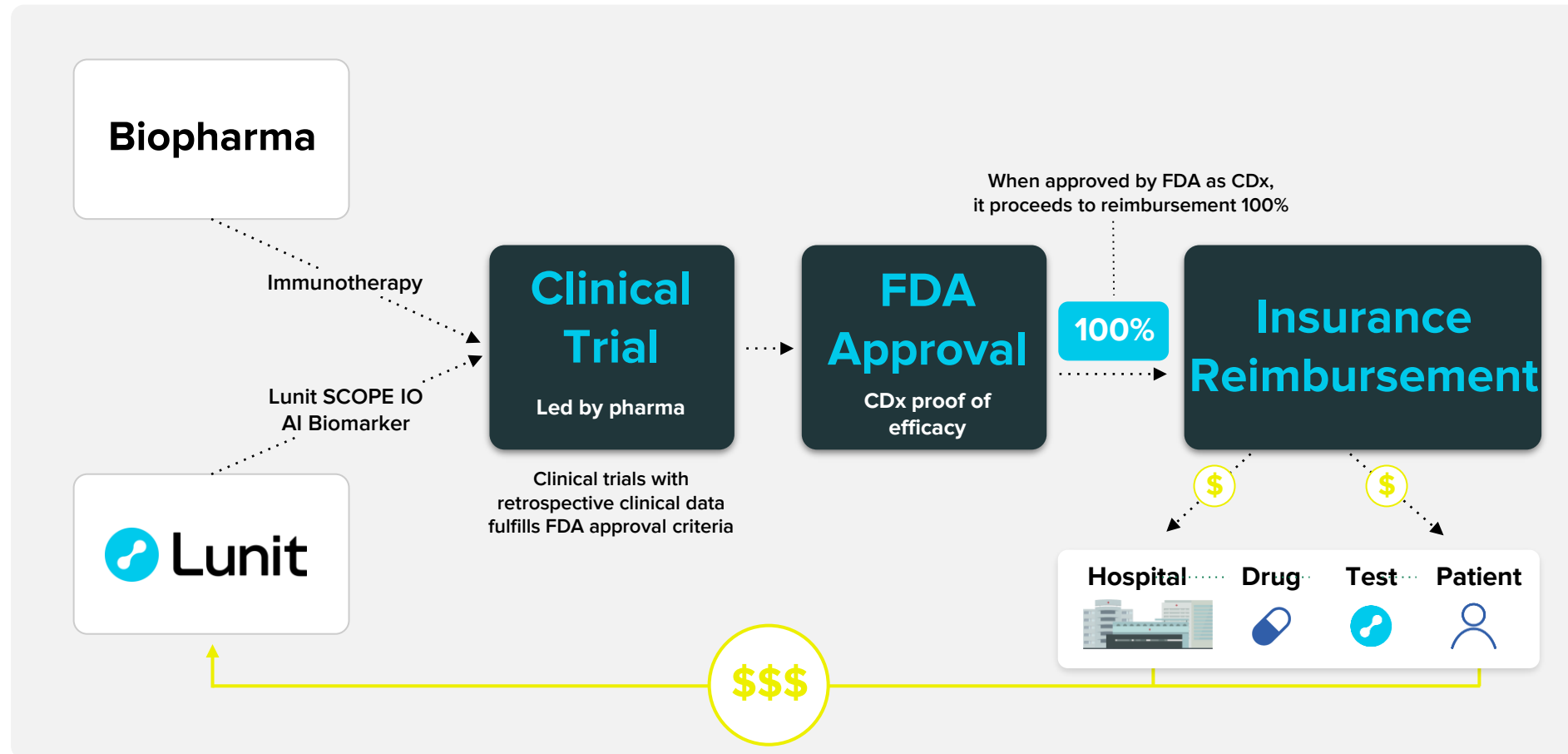
Lunit SCOPE & Pharma

Initial Achievements from Collaboration with Pharmas

Monotherapy : 3x more responsive when using Lunit SCOPE

Lunit	Biopharmaceutical
Lunit SCOPE IO	anti-PD-1 agent

PHASE 1 Clinical Trial
'All-comer' anti-PD-1 inhibitor

Group	N	ORR
All analyzed set	32	21.9%
Lunit SCOPE+ Inflamed immune phenotype (IIP)	8 (25%)	**62.5%**
Lunit SCOPE- Non-inflamed	24 (75%)	8.3%

Lunit SCOPE — **AUC 0.8314**
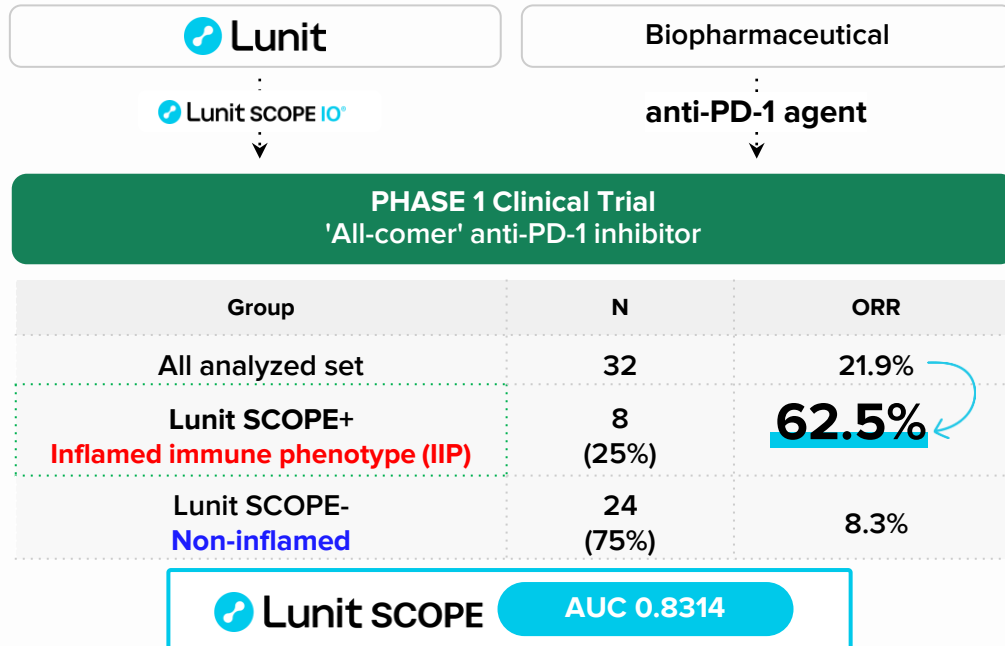
Combotherapy : 2x more responsive when using Lunit SCOPE

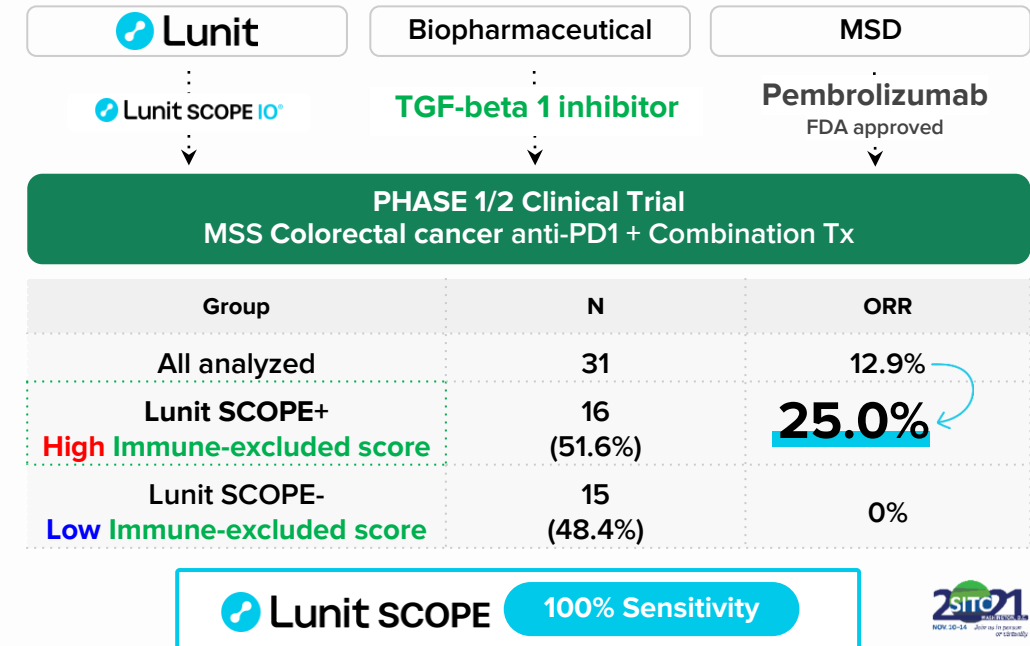| Lunit	Biopharmaceutical	MSD
Lunit SCOPE IO	TGF-beta 1 inhibitor	Pembrolizumab FDA approved

PHASE 1/2 Clinical Trial
MSS Colorectal cancer anti-PD1 + Combination Tx

Group	N	ORR
All analyzed	31	12.9%
Lunit SCOPE+ High Immune-excluded score	16 (51.6%)	**25.0%**
Lunit SCOPE- Low Immune-excluded score	15 (48.4%)	0%

Lunit SCOPE — **100% Sensitivity**   SITO21

In discussion with 10+ drug development companies for collaboration agreement
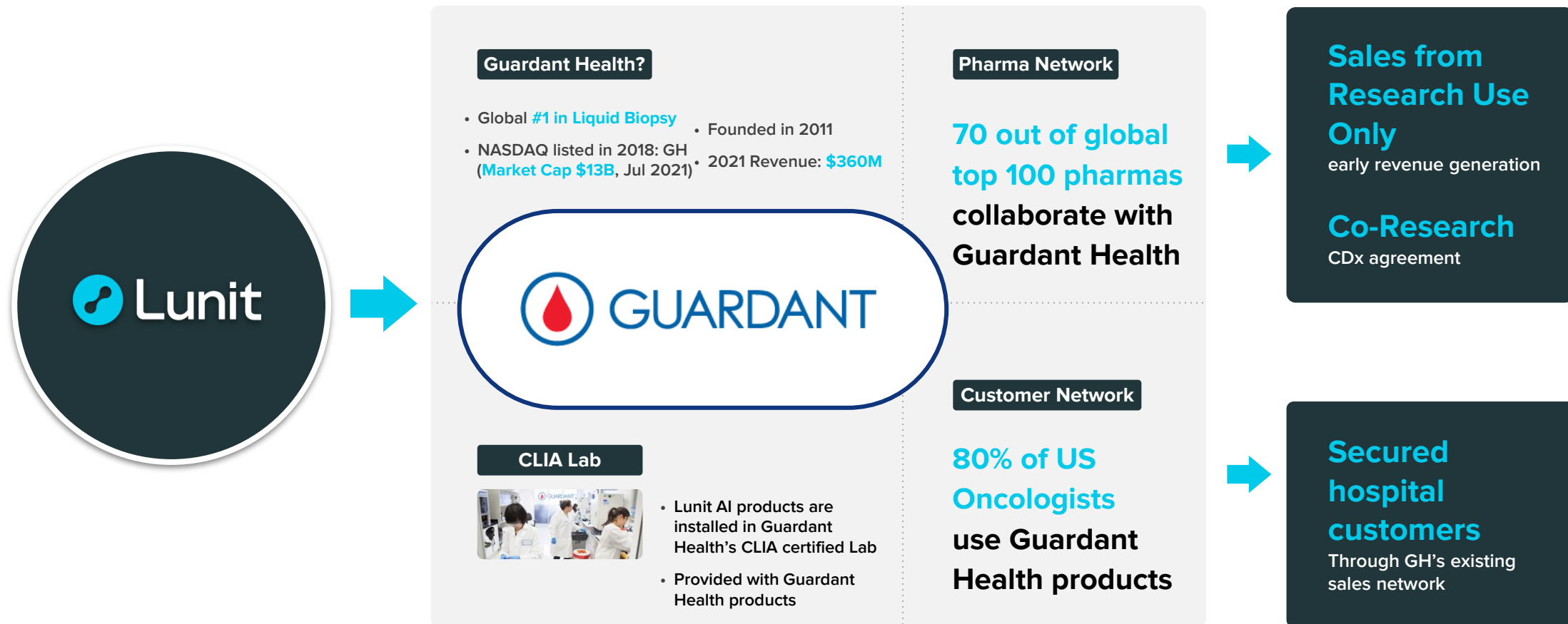
Authorized to use AI in clinical trials; in discussions for agreement

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

Lunit SCOPE Commercialization

Pharma Collaboration and Sales Channel through Partnership

Guardant Health?

- Global **#1 in Liquid Biopsy**
- NASDAQ listed in 2018: GH (**Market Cap $13B**, Jul 2021)
- Founded in 2011
- 2021 Revenue: **$360M**

CLIA Lab

- Lunit AI products are installed in Guardant Health's CLIA certified Lab
- Provided with Guardant Health products

Pharma Network

70 out of global top 100 pharmas collaborate with Guardant Health

Customer Network

80% of US Oncologists use Guardant Health products

Sales from Research Use Only
early revenue generation

Co-Research
CDx agreement

Secured hospital customers
Through GH's existing sales network

THANK YOU

Lunit