



Niramai

Breast cancer - leading cause of cancer deaths in women

1 in 17

Women develop a breast abnormality in their lifetime

600,000

Deaths per year

Survival rates in India and many developing countries is just 50%

Early Detection is key to survival!

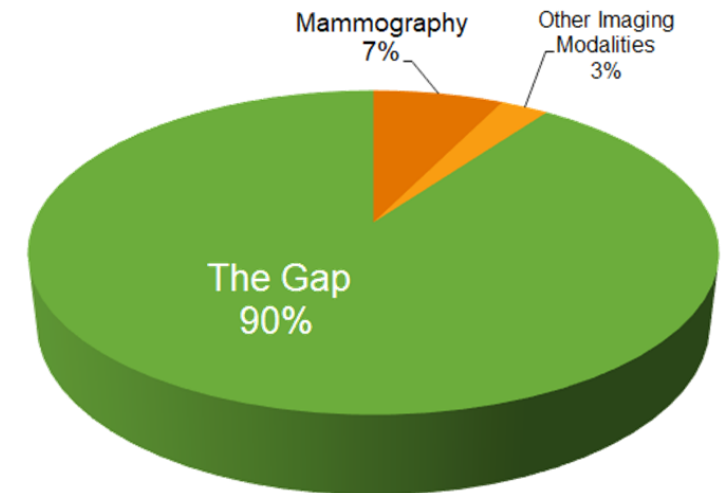
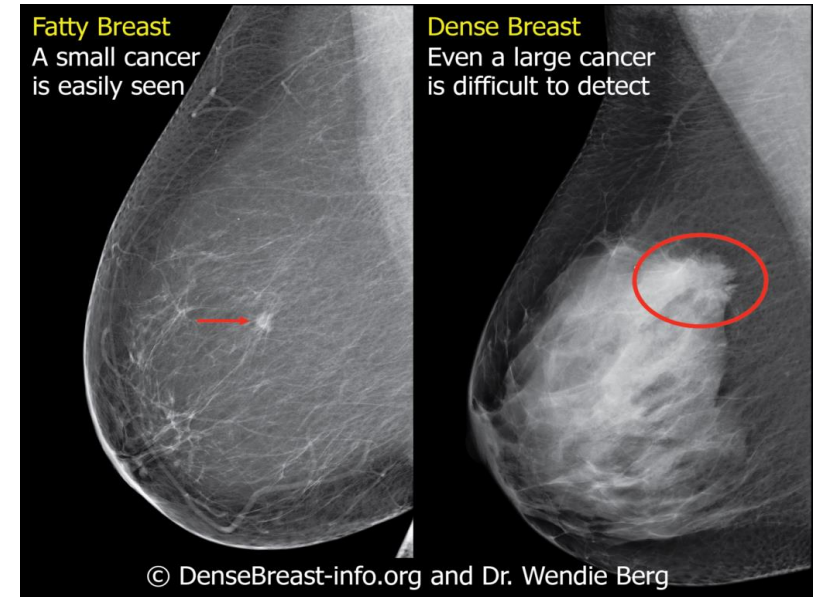


Gaps in current screening methods

- No good test for women < 45 years and women with dense breasts
- Affordability
- Accessibility
- Radiation Exposure
- Pain

2 Billion women need to be screened every year

Less than 200 Million breast imaging tests done per year



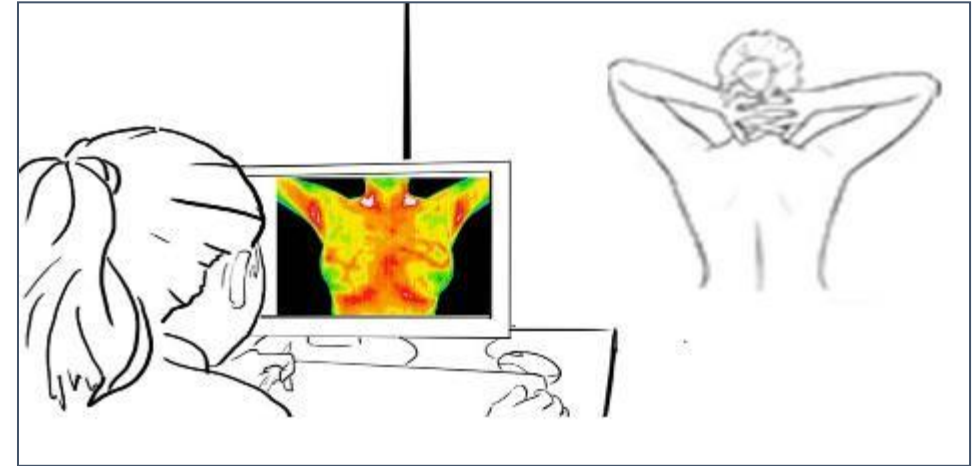
Most people detect cancer by hand examination

NIRAMAI Solution

Privacy-Aware, Early Stage Breast Cancer Detection

- ❖ Can detect cancer long before a lump is felt
- ❖ Non-contact, Non-invasive, Privacy Aware
- ❖ No Radiation
- ❖ Works for women of all ages, and men too!
- ❖ Affordable
- ❖ Portable, light, small screening device

Powered by Machine Learning



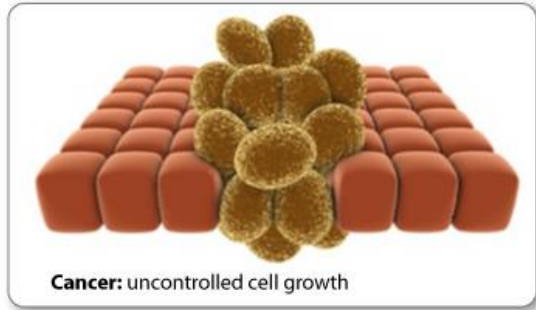
 **Niramai** @niramaianalytix · Jan 6
NIRAMAI solution can be used to detect Breast cancer in men too..

 **Breast cancer in men - Breast Cancer Care**
Men can get breast cancer, although rare (340 men are diagnosed a year in the UK against 60000 women). Learn about breast cancer in men at Breast Cancer Care. breastcancercare.org.uk

Thermalytix[®] by NIRAMAI

10 US patents granted
21 International patents

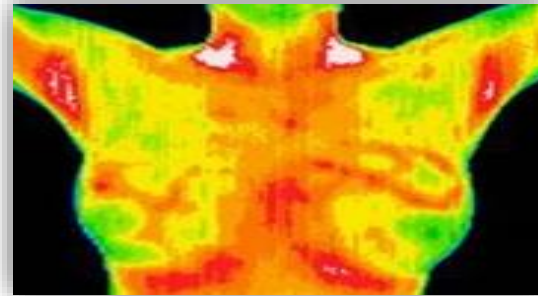
A Novel Fusion of Machine Intelligence + Thermography



- ✓ Highly Sensitive
- ✓ Early Detection



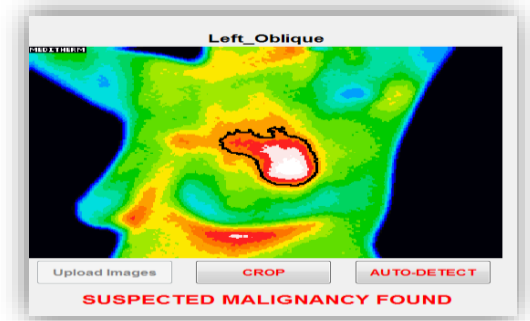
Thermal
Sensor



- ✓ Portable
- ✓ Safe
- ✓ Non-invasive



Machine
Intelligence



NIRAMAI Software

- ✓ Automated
- ✓ Real time
- ✓ Affordable
- ✓ Accurate

Instead of looking for lumps, we look for cancer.

60+ Hospitals and Diagnostic Centres





2000+ Outreach Camps

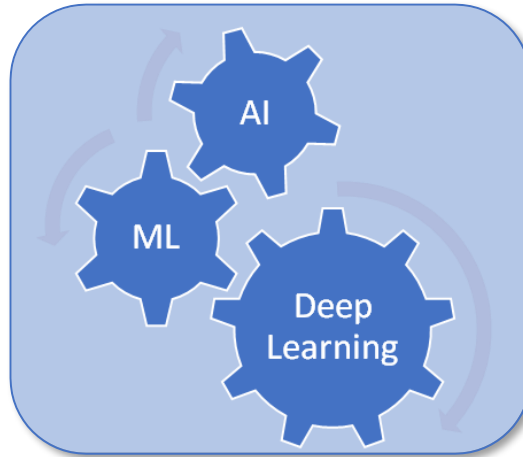
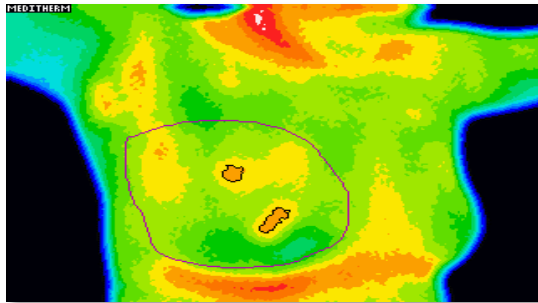
+ Home Screening





Watch this video on [here](#)

Computer Aided Diagnostics using AI/ML



Thermo-Mammography Report

GENERAL DETAILS

Patient ID: 141137 Gender: Female Age: 57
Scan Date: 22/08/2017 Centre: HCG

CLINICAL DETAILS

Menopause: Yes. Age at Menopause: 54 years.
Lactating: No. Number of children breast-fed: 2
Patient Complaints: biopsy was done 15 days before h shankara
Cancer History: No patient cancer history. In patient's family, Aunts had breast cancer. aunts daughter(breast cancer)
Surgeries: None.
Hormone Therapy: None.

THERMAL ANALYSIS


Thermobbiological Score: **0.54**
Body Temperature: 36.78 °C to 27.67 °C
Hotspot Symmetry: 0 %

THERMAL PARAMETERS	RIGHT BREAST	LEFT BREAST
Number of Hotspots	0	1
Extent	N/A	Hot spots seen in 0.0616% of region of interest.
Hotspot Shape	N/A	0.9 irregular, 2198µ distorted
Temperature	N/A	2.25°C increase wrt surrounding region

Automatic Generation of Analysis Report

Reviewed and Certified by Expert Radiologist

With Quantitative Scores



Thermo-Mammography Report

GENERAL DETAILS

Patient ID: Gender: Female Age: 57

Scan Date: 08/09/2018 Centre:

CLINICAL DETAILS

Menopause: Yes. Age at Menopause: 46 years.

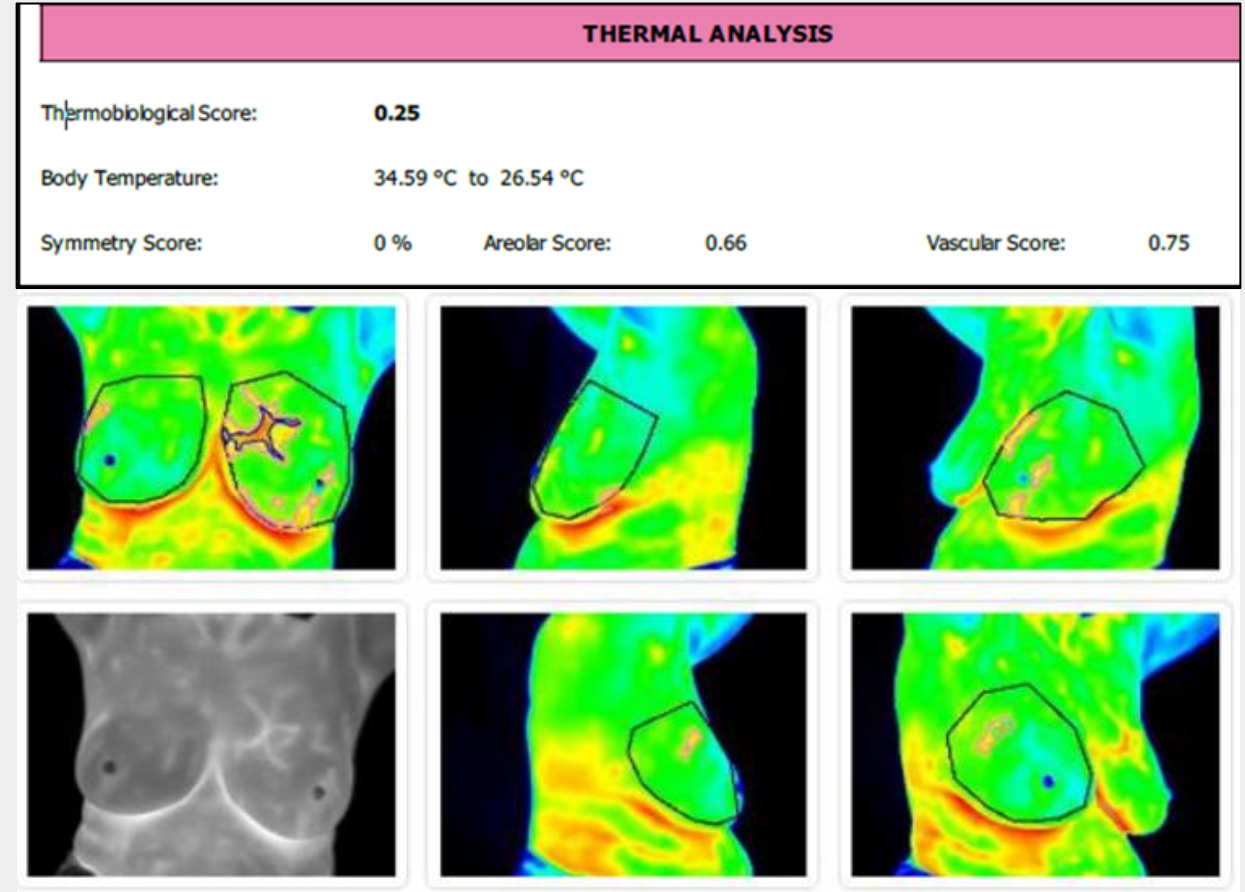
Lactating: No. Pregnant: No. Number of children breast-fed: 2

Patient Complaints: None.

Cancer History: No patient cancer history. No family cancer history.

Surgeries: None.

Hormone Therapy: None.



With annotated images

Realtime Automated Reporting

Thermobiological Score: 0.61

 Follow up with U/S recommended in left breast

Body Temperature: 35.07 °C to 23.73 °C

Symmetry Score: 0 %

Areolar Score: 0

Vascular Score: 0.64

Ensemble Score: 0.6

Available in two flavours

- Triaging for Community Screening in Rural Segment
- Personalized Risk Assessment /TRS Scoring for Urban segment



Clinical Validation of Thermalytix Test

ASCO
Breakthrough

36,000+ patients tested so far...

7 International Clinical Trial Publications

27% better Accuracy than Mammography

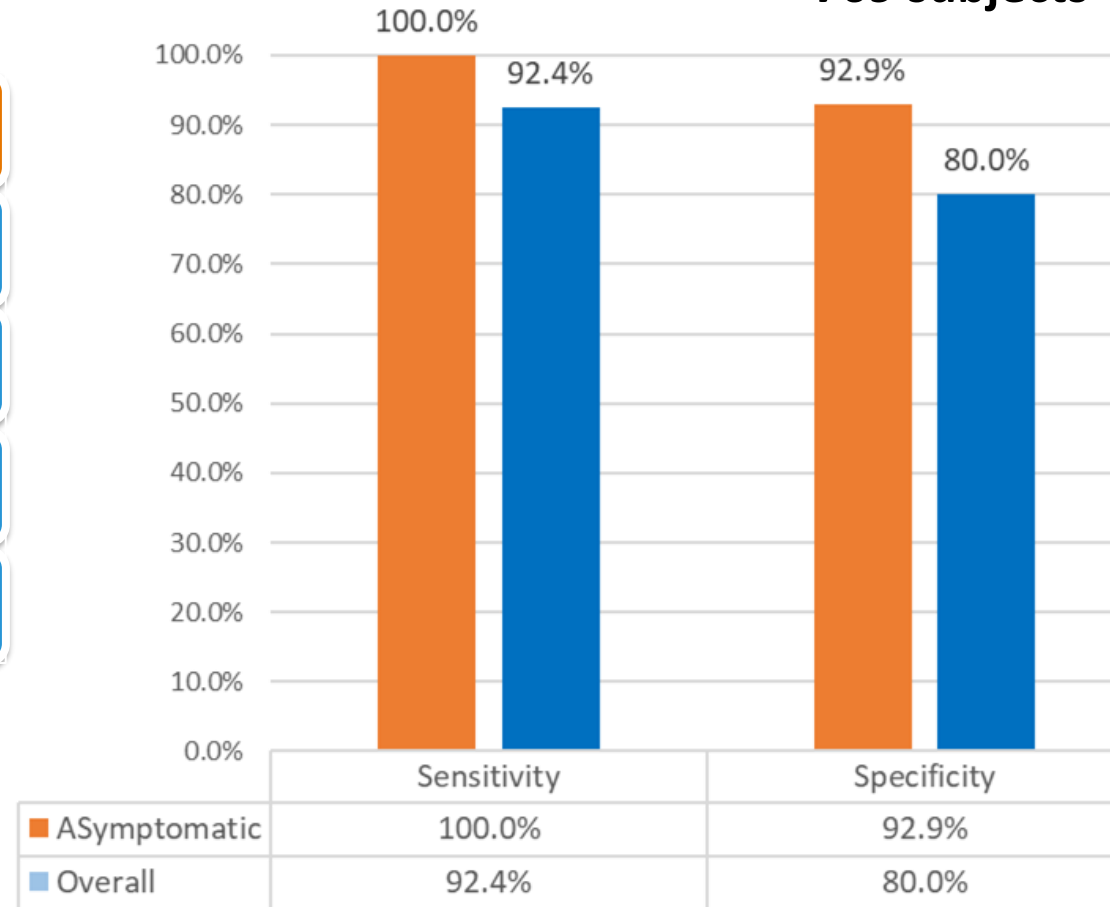
70% better predictive value than manual Thermography

Identified all cancer patients without lumps

Effective in 32% more patients than Mammography



769 subjects

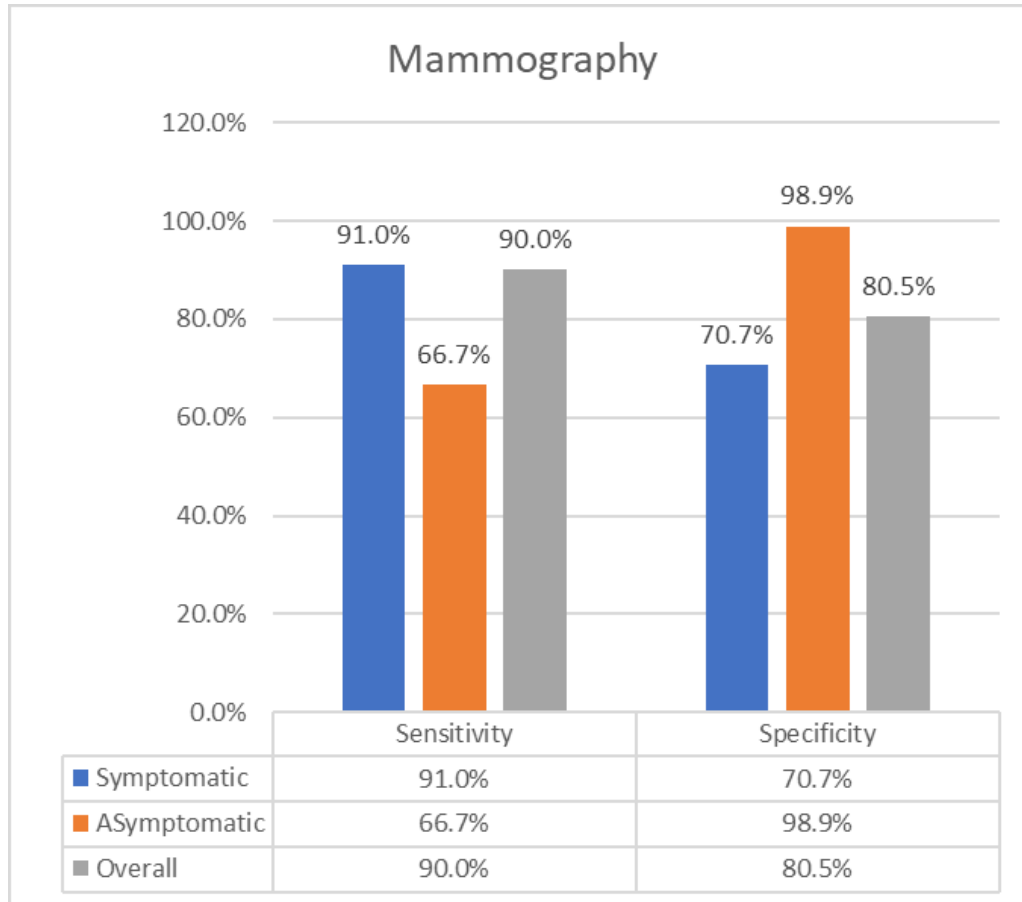


Results Published in ASCO Breakthrough Summit, Oct 2019

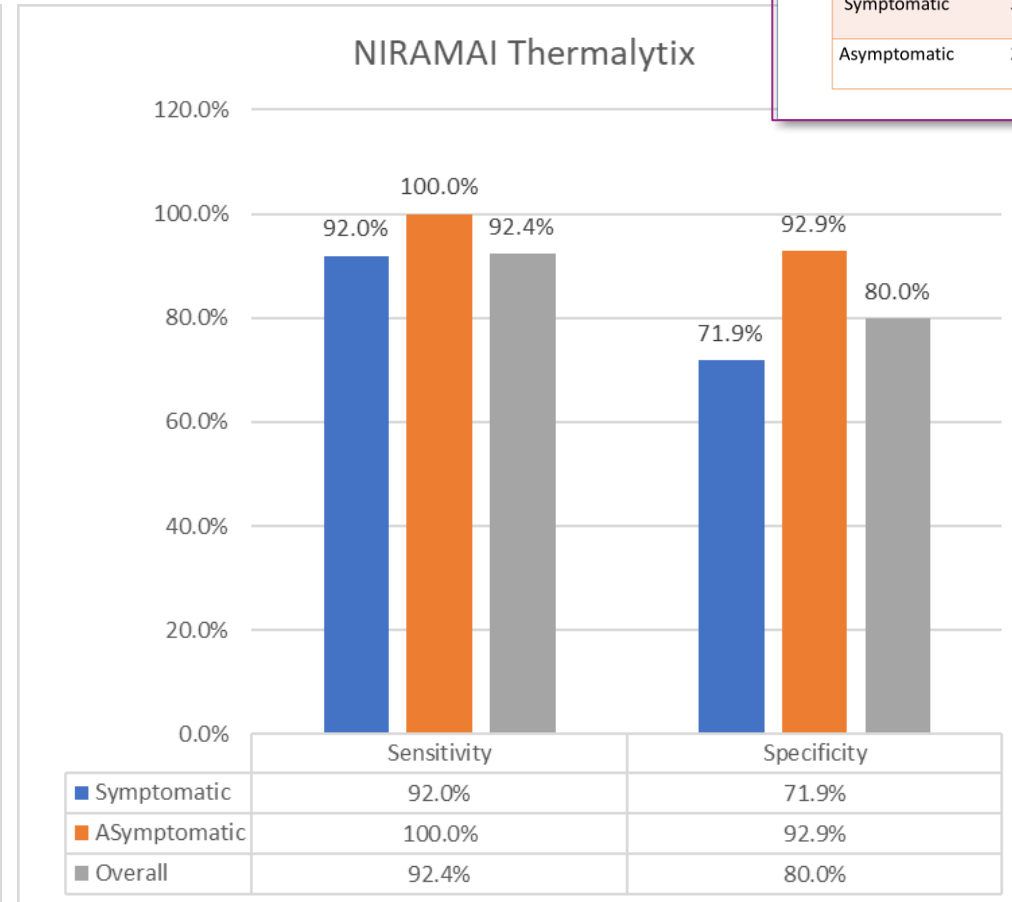


Presented at
ASCO Breakthrough Summit for Oncology Innovators, Oct 2019, Bangkok

Dataset Description		
<ul style="list-style-type: none"> Out of 769 subjects, 185 subjects were concluded to have a breast malignancy by the radiologists at the respective sites. 100 out of these 185 were histopathologically confirmed malignancies. 		
	Normal	Malignant
Symptomatic	360	174
Asymptomatic	224	11



404/769 participants



All 769 participants



Enter words / phrases / DOI / ISBN / authors / keywords / etc.

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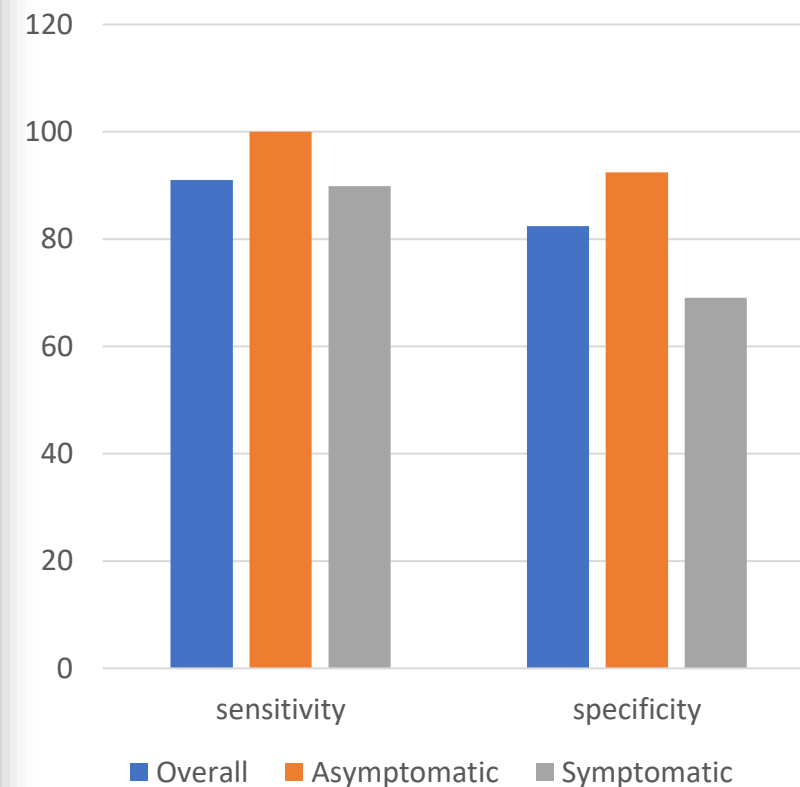
ORIGINAL REPORTS | Breast Cancer

Observational Study to Evaluate the Clinical Efficacy of Thermalytix for Detecting Breast Cancer in Symptomatic and Asymptomatic Women



[Siva Teja Kakileti](#) , BTech¹ ; [Himanshu J. Madhu](#), MS¹; [Lakshmi Krishnan](#) , MDS¹; [Geetha Manjunath](#), ME, PhD¹; [Sudhakar Sampangi](#), MBS, MD²; and [H.V. Ramprakash](#), MBBS, MD, DMRD³

Thermalytix – ASCO 2020



Regulatory Clearances and Quality certifications



India



All Countries in Europe
Many in Asian & African



International Quality
Standard



MDSAP: QMS for Canada,
US, Japan, Australia, Brazil

Clearances from Government Bodies

Central Drugs Standard Control Organization
Directorate General of Health Services
Ministry of Health & Family Welfare

Food & Drugs Administration Bhawan,
 Kotla Road, New Delhi-110002


File No. 29/Misc/03/2018-DC (281) **Date: 05 JUL 2018**

To
 M/s. Niramai Health Analytix Pvt. Ltd
 A7 – 506, Elita Promenade, J P Nagar,
 7th Phase, Bangalore - 78

SUB: Clarification regarding regulation of ThermoMalytix under the provisions of Drugs & Cosmetic Act and Rules thereunder- regarding.



Sir,
 Please refer to your application No. Nil dated 28.05.2018 received by this office vide diary No. 21237 dated 07.06.2018 regarding the subject cited above.

The matter has been examined under the light of documents submitted by you. In this connection it is stated that the product **ThermoMalytix**, a non-invasive device intended to be used for diagnostics of breast cancer is not notified under section 3 b (iv) of Drugs and Cosmetic Act and Rules thereunder.

Yours faithfully

 (Dr. V. G. Somani)
 Joint Drugs Controller (I)

Clearance from DCGI/CDSO organization

Commissioner, Health Services and
Mission Director, National Health Mission
 Public Health Department, Govt. of Maharashtra

Tel. :- 022 - 22717500 Fax :- 022 - 22642955 Email :- mdrhm.mumbai@gmail.com	'Arogya Bhavan', 3rd floor, St. George Hospital Compound, P D'mello Road, Fort, Mumbai 1
------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------

64803-811
 SHS/AMD Cell / /2019
 Dt: 17.10.2019
 18

To,
 Civil Surgeon
 District Hospital (Thane , Pune)


SUB - Pilot project of Breast Cancer Screening through Thermo-Mammography & Artificial Intelligence

Ref - 1) Approved note dated 04.04.2019 & 07.09.2019
 2) Service agreement dated 11/09/2019


M/s Niramai Health Analytics Ltd is a health-technology company that has developed a novel solution for breast cancer screening that combines thermal imaging/ thermography and artificial intelligence. Screening will be done through One Thermal sensor at the hospital for 5 days in week by the Niramai team of 2 technician & 1 project manager .

Therefore for the implementation of this aforesaid Pilot project , you are hereby informed to extend the cooperation to M/s Niramai Health Analytics ltd as follows -

- 1) Provide room for conducting screenings inside hospital (preferably with cooling facility)
- 2) Mobilization of women for screening of 1750 women
- 3) Provide space for outreach location for conducting camps by Niramai
- 4) Sharing results of Clinical Breast Exam and any other follow-up tests (such as mammography, Ultrasound, pathology) with Niramai.
- 5) Identification of 2 hospital staff for continuation of screening services after completion of pilot project .


 Additional Mission Director
 National Urban Health Mission, Mumbai

Approval from Maharashtra Govt



ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
 ಮುಖ್ಯ ಆರೋಗ್ಯಾಧಿಕಾರಿ (ಸಾರ್ವಜನಿಕ ಆರೋಗ್ಯ) ರವರ ಕಛೇರಿ, ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ,
 ಎಸ್.ಆರ್.ಘಾಟ್, ಬೆಂಗಳೂರು-560 002.

ಸಂಖ್ಯೆ : ಮು.ಆ.ಆ.(ಸಾ.ಆ)/ಬಿಆರ್/ 177 /2019-20 ದಿನಾಂಕ : 02-05-2019

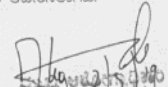
ಕಛೇರಿ ಆದೇಶ

ವಿಷಯ : ಪಾಲಿಕೆಯ ಆಸ್ಪತ್ರೆಗಳಲ್ಲಿ ಕ್ಯಾನ್ಸರ್ ತಪಾಸಣೆಗೆ ಅವಕಾಶ ಕಲ್ಪಿಸುವ ಬಗ್ಗೆ.
ಉಲ್ಲೇಖ : 1. NIRAMAI Health Analytix Pvt. Ltd. ಸಂಸ್ಥೆಯ ಪತ್ರ ದಿ : 02-05-2019.
 2. ಪೂಜ್ಯ ಮಹಾಶೌರರ ಸೂಚನೆಯಂತೆ.

ಮೇಲ್ಕಂಡ ವಿಷಯ ಮತ್ತು ಉಲ್ಲೇಖಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾಲಿಕೆಯ ಆಸ್ಪತ್ರೆಗಳಲ್ಲಿ ಕ್ಯಾನ್ಸರ್ ತಪಾಸಣೆಗೆ ಅವಕಾಶ ಕಲ್ಪಿಸಲು NIRAMAI Health Analytix Pvt. Ltd. ಸಂಸ್ಥೆಯು ದಿನಾಂಕ : 02-05-2019 ರಂದು ಪೂಜ್ಯ ಮಹಾಶೌರರಿಗೆ ಪತ್ರವನ್ನು ನೀಡಲು, ಈ ಬಗ್ಗೆ ಪರಿಶೀಲಿಸಿ ಸಾರ್ವಜನಿಕ ಆರೋಗ್ಯ ಹಿತದೃಷ್ಟಿಯಿಂದ ಪಾಲಿಕೆಯ ಆಸ್ಪತ್ರೆಗಳಲ್ಲಿ ಸದರಿರವರಿಗೆ ಅನುಮತಿ ನೀಡಲು ಅಗತ್ಯ ಕ್ರಮವಹಿಸುವಂತೆ ಪೂಜ್ಯ ಮಹಾಶೌರರು ಸೂಚಿಸಿರುತ್ತಾರೆ.

ಸದರಿ ಸಂಸ್ಥೆಯು ಸ್ವತಃ ಕ್ಯಾನ್ಸರ್‌ನ್ನು ಪ್ರಾರಂಭಿಕ ಹಂತದಲ್ಲಿ ಗುರುತಿಸಲು ಸಾರ್ವಜನಿಕರನ್ನು ನೋಡುವುದು, ಯಾರೂ ನೋಡದೆ ಹಾಗೂ ಮುಟ್ಟದೆ (No Pain No See No Touch) ThermoMalytix ಯಂತ್ರದ ಮೂಲಕ ದೈಹಿಕ ತಪಾಸಣೆಗೊಳಪಡಿಸುವುದಾಗಿ ತಿಳಿಸಿರುತ್ತಾರೆ. ಇದರಿಂದಾಗಿ ಸಾರ್ವಜನಿಕರು/ರೋಗಿಗಳು ಯಾವುದೇ ಮುಖಾಂತರವಿಲ್ಲದೇ ತಪಾಸಣೆಗೆ ಒಳಪಡಬಹುದಾಗಿದೆ ಹಾಗೂ ಪ್ರಾರಂಭಿಕ ಹಂತದಲ್ಲಿ ಕ್ಯಾನ್ಸರ್‌ನ್ನು ಗುರುತಿಸಿದ್ದಲ್ಲಿ ಚಿಕಿತ್ಸೆಯು ಸುಲಭವಾಗಿರುತ್ತದೆ.


ಆದ್ದರಿಂದ ಪೂಜ್ಯ ಮಹಾಶೌರರ ಸೂಚನೆಯಂತೆ, ಪಾಲಿಕೆಯ ಎಲ್ಲಾ ಆಸ್ಪತ್ರೆಗಳಲ್ಲಿ ಮುಖ್ಯವಾಗಿ ರಿಪರಲ್ ಆಸ್ಪತ್ರೆ ಮತ್ತು ಬೆಂಗಳೂರು ಆಸ್ಪತ್ರೆಗಳಲ್ಲಿ ಹಾಗೂ ಆರೋಗ್ಯ ಶಿಬಿರಗಳಲ್ಲಿ ಇವರ ಸೇವೆಯನ್ನು ಬಳಸಿಕೊಳ್ಳಲು ಹಾಗೂ ಇವರುಗಳ ತಪಾಸಣೆ ಅನುಕೂಲವಾಗುವಂತೆ ಒಂದು ಪ್ರತ್ಯೇಕ ಕೋಠಿಯನ್ನು ನಿರ್ಮಿಸುವಂತೆ ಈ ಮೂಲಕ ಆದೇಶಿಸಲಾಗಿದೆ.


 ಮುಖ್ಯ ಆರೋಗ್ಯಾಧಿಕಾರಿ (ಸಾ.ಆ.)
 ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
 ಉಪ-ಮಹಾನಗರ ಪಾಲಿಕೆ

Approval from Bangalore DHO



Endorsements from Medical Institutions



Karnataka Cancer Society (Regd)
Karnataka Societies Act Regd No.: S105 / 68-69
1308, 11th B Cross, Vyalikaval, Malleswaram, Bengaluru - 560003
Ph: 080-23448534 ; Email: kcs2008@rediffmail.com ; Website: karnatakacancersociety.org

Golden Jubilee Year

Chief Patron
H.E. The Governor of Karnataka

Patrons
Hon. Chief Minister of Karnataka
Hon. Minister for Health & Family Welfare
Hon. Minister for Social Welfare
Worshipful Mayor of Bengaluru

President
Dr.C.K.A.N.Shastry

Imm. Past President
Dr.Vijayalakshmi Deshmamane

Vice Presidents
Mr. H.V.Suresh
Ms. Madhura Ashok Kumar
Dr. M.R.Kulkarni

Hon. Secretary
Mr. K C Neelakanta

Joint Secretaries
Mr. R Nagarathna
Mr. S Shankara Setty
Mr. P Unnikrishnan Nair

Hon. Treasurer
Mr. M N Gundu Rao

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Ms. Nafis Fathima
Dr. C.A.Kishore
Mr. B.Venkatesh
Dr. A.A.Gupta
Dr. V.Dinamani
Mr. G.N.Vijayalakshmi
Mr. D.Gundappa
Dr. Anjanappa
Mr. H.R.Rama Prasad
Mr. S.Pratap Kumar Pande

Co-opted Members
Dr. Lalitha R M
Mr. Narasimha Murthy M
Dr. M R Anil Kumar
Dr. Bharat K S
Ms. Bhavani

Cancer is curable if detected early

P. S. : DONATIONS MADE TO THE SOCIETY ARE EXEMPTED UNDER S. 80G OF INCOME TAX ACT 1981

KCS/40/01/2018-19 Date: 25 Sept 2018

LETTER OF SUPPORT

NIRAMAI Thermalytix™ solution for Breast Cancer Screening

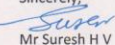
It is my pleasure to extend this letter of support for use of NIRAMAI Thermalytix™ Solution to aid in early detection of breast cancer in Indian context.

Karnataka Cancer Society is a non-profit organisation conducting cancer awareness and screening camps for the economically weaker sections in Karnataka for over forty years. Karnataka Cancer Society believes in serving the society by providing medical services to those in need, particularly cancer patients.


Breast cancer screening is one of our key focus areas. Breast cancer incidences are on the rise. Most of the rural or urban poor women get the Medical check up at late stage, leading to poor health outcomes especially among underprivileged population. Early detection of breast cancer is critical for improved survival rates, lower cost of treatment as well as better quality of life of survivor.

Karnataka Cancer Society has been using NIRAMAI solution for Breast cancer screening in all camps and outreach programs since August 2017. We are very happy with NIRAMAI Solution. As NIRAMAI solution is non-radiation based and portable, it can be used safely on women of all age groups. Before getting introduced to Niramai, we were only performing Hand examination. Early screening capability of NIRAMAI is very effective in detecting small tumours not found by Clinical Breast Examination. We have also seen very positive response from women to undergo the NIRAMAI screening test, as the test is non contact and painless.


We highly recommend and fully support usage of Thermalytix solution in India for implementation of public health programs. I wish NIRAMAI the very best in their mission to bring early detection of breast cancer to all women.

Sincerely,

Mr Suresh H V
Vice President

Karnataka Cancer Society



Karnataka Cancer Society



Bruhat Bangaluru Mahanagara Palike


DEPARTMENT OF CANCER

DR. BABU JAGJIVAN RAM NAGAR REFERRAL HOSPITAL SANGAM CIRCLE NAGAR-26


We wish to appreciate the contribution made by NIRAMAI in the field of breast cancer screening. This innovation can bring breast cancer screening to the doorsteps of women, even to the remote places.

Being a portable non-invasive screening technology, NIRAMAI is well suited to use in many of our remote referral hospitals. Privacy offered and the painless procedure make women more comfortable and also helps in promoting breast cancer screening unlike many other invasive techniques.

I have great pleasure in recommending NIRAMAI to all the oncologists and diagnostics.


Dr. Nataraj R 3/11/2020
Cancer Nodal Officer
Department of Cancer
Dr. Babu Jagjivan Ram Nagar
Referral Hospital

Appreciation from BBMP



Bapuji Educational Association (Regd.)
J.J.M. MEDICAL COLLEGE Davangere - 577 004.
Karnataka - India
DEPT. OF COMMUNITY MEDICINE

Fax: 91-8192-231388
DEPARTMENT :
☎08192: 253850 to 253859
Extn. 132
College: Off: 270522


ref. No. JJMMC / CM /
Date: 18-11-2019

Letter of Support

JJMM Medical College (JJMMC) has partnered with NIRAMAI Health Analytix (NIRAMAI) since September 2019 to develop an effective model for community based screening for breast health. Under this partnership, NIRAMAI has provided the hardware software and training for deploying this solution in Davangere through a community centre. JJMMC does the awareness building, program management and crucially, the follow-up ultra-sound testing as well as treatment for identified women. Under this partnership, we have screened 166 subjects since September and identified two women with breast abnormalities. One of them has completed surgery.

NIRAMAI solution is portable, privacy-aware and as such, well suited to screening settings even in remote locations. Since it is non-contact, it is also comfortable for women who otherwise might not get screened due to pain and privacy concerns.

Our experience with NIRAMAI so far is positive and we feel this could be one of the tool well suited for use in public health settings as a breast health screening solution.


PROFESSOR AND HEAD
Department of Community Medicine
J.J.M. Medical College
DAVANGERE - 577 004.

Appreciation from JJMMC



Testimonials from corporates and end users

“Thank you so much for conducting this camp in our offices. I heard great feedback from most of the employees. Everybody was very appreciative of the team and the technology used by Niramai. Great Going!” –
West Unified Corporation



“It is an amazing experience from the last test I did and works on body heat. While the last one was a painful experience. It should be encouraged in every place for all women to take care of their health” – **Ingrid**
“It was very convenient and comfortable. Very good experience.” – **Bhavya**



“Great technology – completely non invasive and very comfortable”

“Very nicely organised and fast process”

“Thank you for providing this service in our office facility & the staff was helpful and instructions very clear.” - **Netapp**



“A very good initiative for creating awareness and early detection of disease. The experience is very overwhelming and satisfactory.” – **Prerna**
“Keep up the good work and help women lead a cancer free life :)” – **Deepti Saini**



What do Experts Say?



Watch this [video](#) of Dr Kiran Mazumdar Shaw, Chairperson of Biocon Limited. TIME magazine's 100 most influential people in the world and a global thought leader in Biotechnology.

Our Advisors



Dr. Kiran Mazumdar Shaw
Chairman, Biocon



Anna Kinberg Batra
Prominent Swedish Leader

Our Partners



Dr. Ram Prakash
Senior Thermologist



Dr Carol Chandler
Thermologist



Dr Sudhakar
Head Radiology, HCG



Parul Chansoria
CEO Elexes Regulatory



Dr. Venkat, Consultant
Radiologist, NHS UK



Raveendran Gandhi
ex-Philips, ex-GE Sales



Awards and Media Mentions

BILL & MELINDA
GATES foundation

Research Grant



Top Cancer Startup



Graham Bell Award
in Data Science

Amazon AI Conclave

Winner of AI Award
Healthcare



NVIDIA
INCEPTION
PROGRAM



AI healthcare startup Niramai raises \$6M Series A funding led by Dream Incubator

Philips HealthWorks bets on 4 Indian startups for its accelerator programme

Amazon AI Awards 2017: Recognising the future of AI

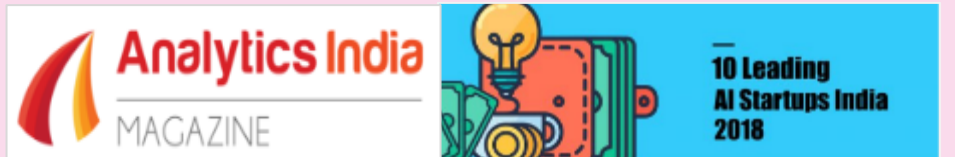


BNP Best Preventive
Insurance Idea



HackOsaka
2019

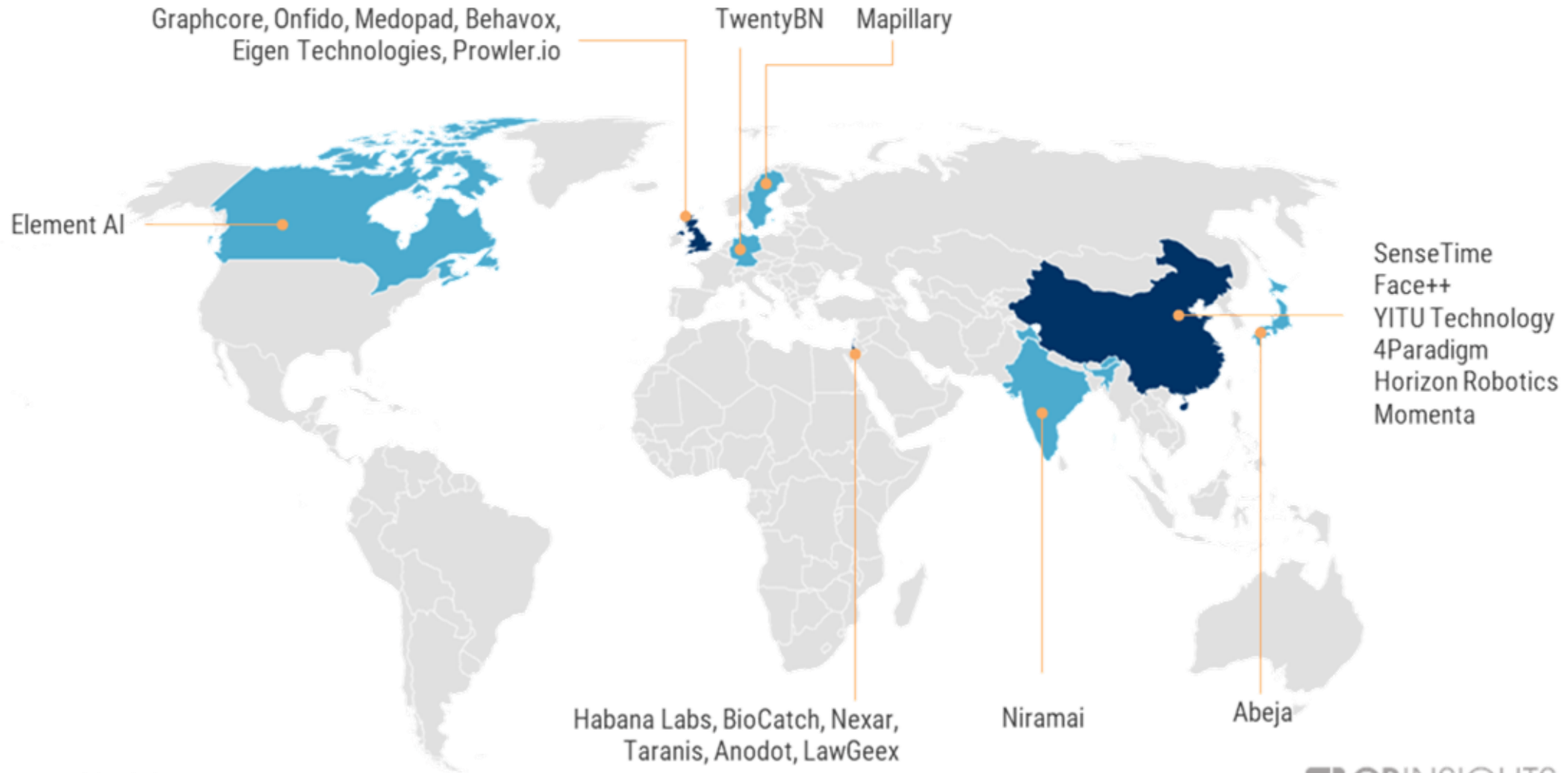
Gold Prize Winner



'Our breast cancer solution addresses cultural issues'



The Only Indian Startup in the Top 100 Startups in the World



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