

More from less for More

Dr R. A. Mashelkar,
National Research Professor,

Paradigm Shift from Profit to People

Getting **M**ore (performance)

From **L**ess (resource)

For **M**ore (people)

MLM

MLM DRIVERS

Emerging Economies

- Rising Incomes & Aspirations
- Rising Inequalities
- Rising Social disharmony

Enterprises

- New Consumers with rising incomes represent the 'Next Billion' market

Gandhian Engineering!
More from Less for More People (MLM)
ATSE Innovation Forum Lecture in Canberra, 2008





Innovation's Holy Grail
More from Less from More

C. K. Prahalad

R. A. Mashelkar

Harvard Business Review— July, August 2010

Ranked as among top 10 must read papers all time on innovation now!



COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

Special Session

More From Less For More

16 Nov 2010

[Watch](#)[Read](#)[Attend](#)[Participate](#)[About](#)

R.A. Mashelkar:

Breakthrough designs for ultra-low-cost products

TEDIndia 2009 · 19:40 · **Filmed** Nov 2009

Subtitles available in 23 languages

 [View interactive transcript](#)



Over 0.65 million views so
far...

MLM Message Spreading around the world!
Gave address on MLM in EU's **Innovation 2014**, Brussels



‘If MLM delivers access equality despite income inequality, then EU needs it here and now, just look at the income inequality among the 28 member states of EU, and then the need to create access equality across EU!’

*Comment by an EU leader during the Q&A
after the RAM lecture
(2014)*

And the MLM message still spreading!

More from Less for More



EINLADUNG

KOLLOQUIUM ZU EHREN VON ALFRED GOSSNER

Donnerstag 29. Oktober | 14.30 Uhr
Fraunhofer-Haus | München



MORE FROM LESS FOR MORE:

STEIGERUNG DER RESSOURCENEFFIZIENZ UND
DER ENTWICKLUNGSORIENTIERTEN FORSCHUNG
ALS VORAUSSETZUNGEN GLOBAL NACHHALTIGER
ENTWICKLUNG

14.30 Uhr

Begrüßung und Moderation

Prof. Dr. Alexander Kurz,
Vorstand Personal der Fraunhofer-Gesellschaft

Impulsvortrag zum Thema des Kolloquiums

Prof. (Univ. Stellenbosch) Dr. Alfred Gossner,
Vorstand Finanzen, Controlling, IT der Fraunhofer-Gesellschaft

Laudatio

von Ilse Aigner, Staatsministerin für
Wirtschaft und Medien, Energie und Technologie
und Prof. Dr. Reimund Neugebauer,
Präsident der Fraunhofer-Gesellschaft

More from less for more: the challenge of inclusive innovation

Prof. Dr. Ramesh Mashelkar, National Research Professor in India,
President Global Research Alliance

Fachvorträge mit Beispielen aus der Fraunhofer-Forschung

ab 17.30 Uhr

Aperitif, anschließend festliches Abendessen

Veranstaltungsort

Fraunhofer-Haus | Hansastraße 27c | 80686 München

Ansprechperson für Rückfragen

Fraunhofer-Gesellschaft, Kommunikation | Dorothee Veronesi
Telefon +49 89 1205 1368 | dorothee.veronesi@zv.fraunhofer.de

Changing Dictionary of Innovation

Same MLM Message– Different Phrases!

- More from less for more (MLM)
- Gandhian innovation
- Affordable excellence
- Frugal innovation
- Reverse innovation
- Inclusive innovation

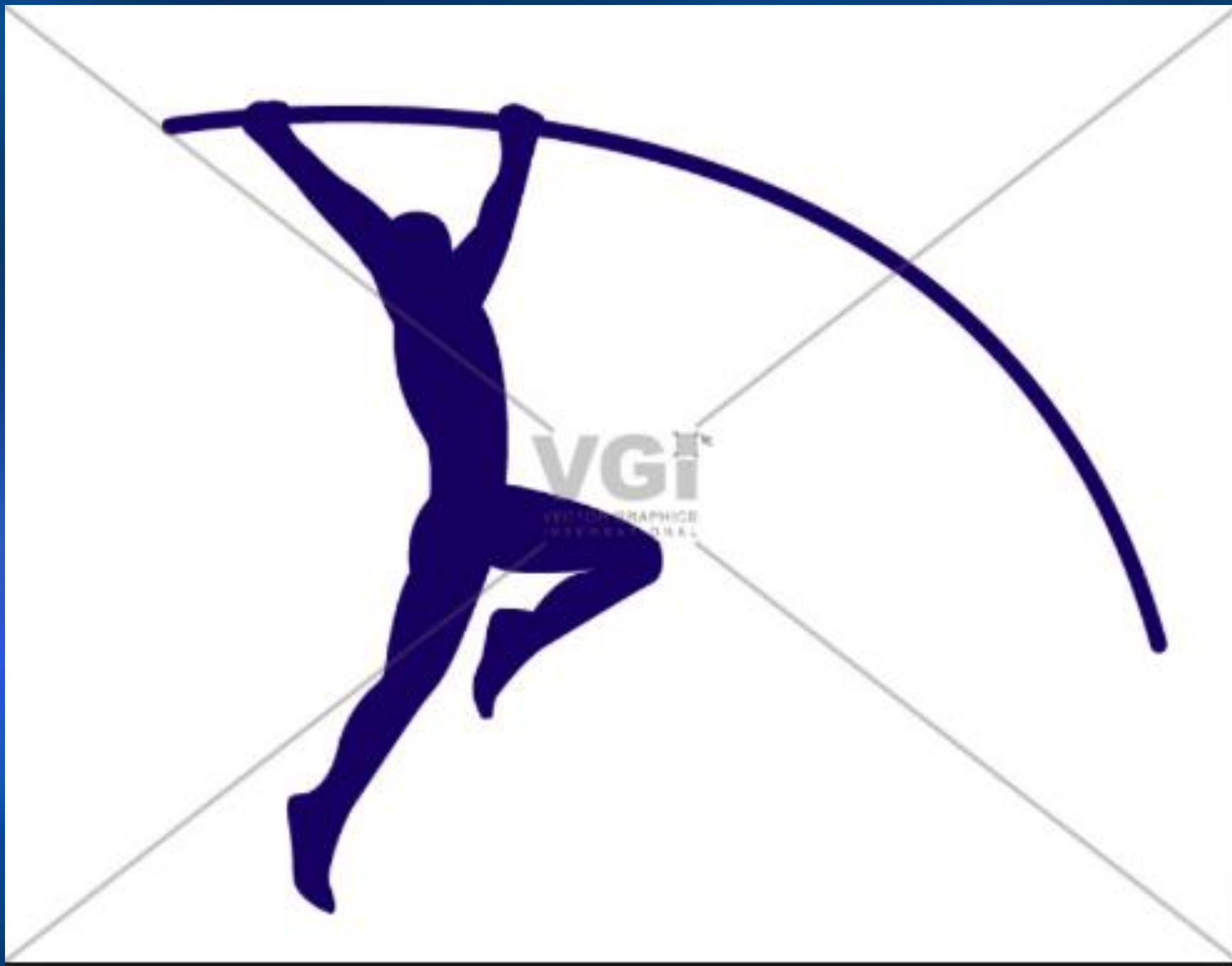
The Need of the Hour

- Growth
- Accelerated Growth
- Accelerated Inclusive Growth
- Accelerated Inclusive Growth through
Disruptive Inclusive Innovation

Triggering the Pole Vaulting Thought

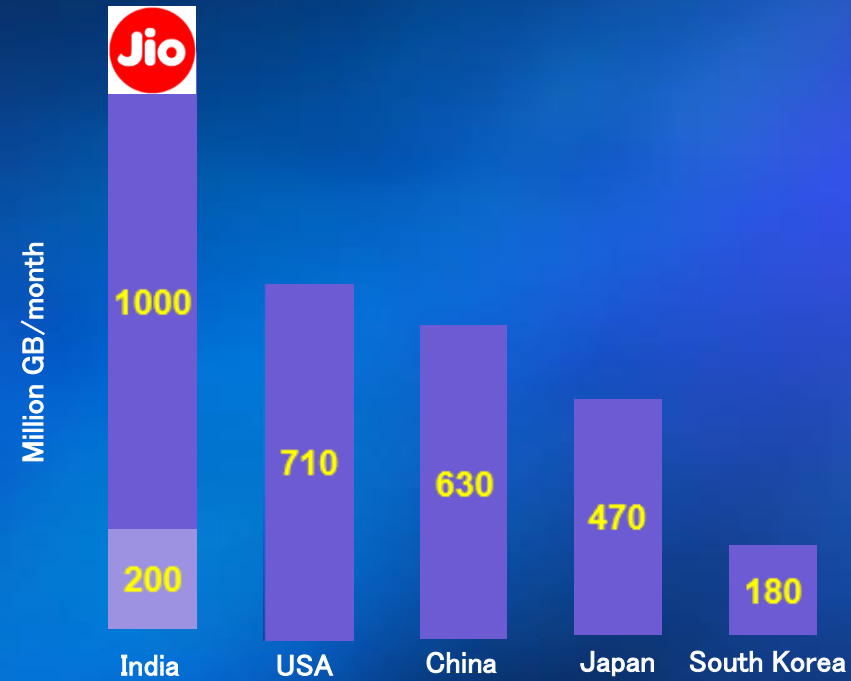






India Pole Vaulted to No 1 Position in Mobile Data Usage in Feb '17

From 155th Position to 1st Position!



Number of years to reach 50 million users

Jio Pole vaulting to number one position!

Telephone	50
-----------	----

Mobile	12
--------	----

YouTube	4
---------	---

Facebook	3
----------	---

Twitter	2
---------	---

Reliance Jio	83 days
---------------------	----------------

	Before Jio	After Jio
4G VoLTE phone	US\$300	US\$23 (Effective \$0)
Data/GB cost	\$5	\$0.01
Voice expenditure	\$1.6	\$0

MLM is not about ...

Stripping products and services to make
them cheap, somehow

MLM is about

Giving High Quality at Affordable Prices!

Disruptive Inclusive Innovation requires Extreme Affordability!

- High Quality Hepatitis B Vaccine – 40X cheaper not 40%...
- High Quality Cataract Eye Surgery – 100X cheaper not 100%...
- High Quality Open Heart Surgery – 20X cheaper not 20% ...
- High Quality Artificial Foot – 300X cheaper not 300%...

No dreams – it has all been done in India!

Formula for ASSURED Success!

AFFORDABLE

SCALABLE

SUSTAINABLE

UNIVERSAL

RAPID

EXCELLENT

DISTINCTIVE

SUSTAINABLE

Economical

Environmental

Societal

Can change with

politics, policy...

Fully ASSURED only with TOTAL innovation

- Technology Innovation
- Business Model innovation
- System Delivery Innovation
- Workflow Innovation
- Process Innovation
- Organisational Innovation
- Policy Innovation...

Total Innovation by Indian Government (JAM) For Fastest & Largest Financial Inclusion in World

Policy+Technology+Workflow+System Delivery



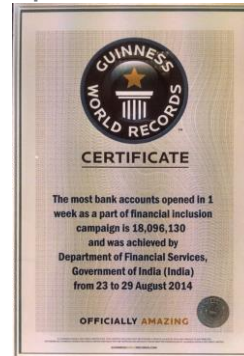
Jan Dhan accounts:
360 million
plus



Aadhar card
holders:
1 billion
plus



Mobile phone
subscribers:
1 billion plus



Guinness Book of
Records Certificate!

The Big Challenge!

ASSURED Is not a Static but Dynamic Matrix!
It changes with time!

Technology	A (Affordability)	S (Scalability)	S (Sustainability)	U (User Friendly)	R (Rapid)	E (Excellence)	D (Distinctive)
Napster	√	√	x	√	√	√	√
BlackBerry	√	√	x	x	√	√	√
Palm Pilot	x	√	x	x	x	√	√
Betamax	√	x	x	x	x	√	√
GM EV-1	√	x	x	x	x	√	√
Netscape	√	√	x	√	√	√	√
Google Glass	x	x	x	x	x	√	√
Motorola ROKR E1	√	x	x	x	x	x	√
Segway	x	x	√	x	x	√	√
Virtual Boy	x	x	x	x	x	√	√

ASSURED Story of Nano (People's Car)

AFFORDABLE (\$2000)

SCALABLE

SUSTAINABLE

UNIVERSAL

RAPID

EXCELLENT(70 plus patents!)

DISTINCTIVE (Opened new category)



Simputer (Poor People' s Computer)



“The most significant innovation in computer technology in 2001 was not Apple’ s gleaming titanium PowerBook G4 or Microsoft’ s Windows XP. It was the **Simputer, a net-linked, radically simple portable computer, intended to bring the computer revolution to the third world....**”

– Bruce Sterling, New York Times magazine

ASSURED Story of Simputer

AFFORDABLE

SCALABLE

SUSTAINABLE

UNIVERSAL

RAPID

EXCELLENT

DISTINCTIVE



What went Missing

Bold and Innovative Policy
for

Public procurement
Guaranteed Off-takes,
& Price Subsidy

for

Inclusive Innovation Products and Services

ASSURED Story of JIO

AFFORDABLE

SCALABLE (280 million)

SUSTAINABLE

UNIVERSAL

RAPID

EXCELLENT

DISTINCTIVE

Income Inequality 1000 : 1 ?



Access Equality 1:1!

ASSURED STORY of Jaipur Foot

AFFORDABLE (\$20)

SCALABLE (1.7 mil so far)

SUSTAINABLE

UNIVERSAL

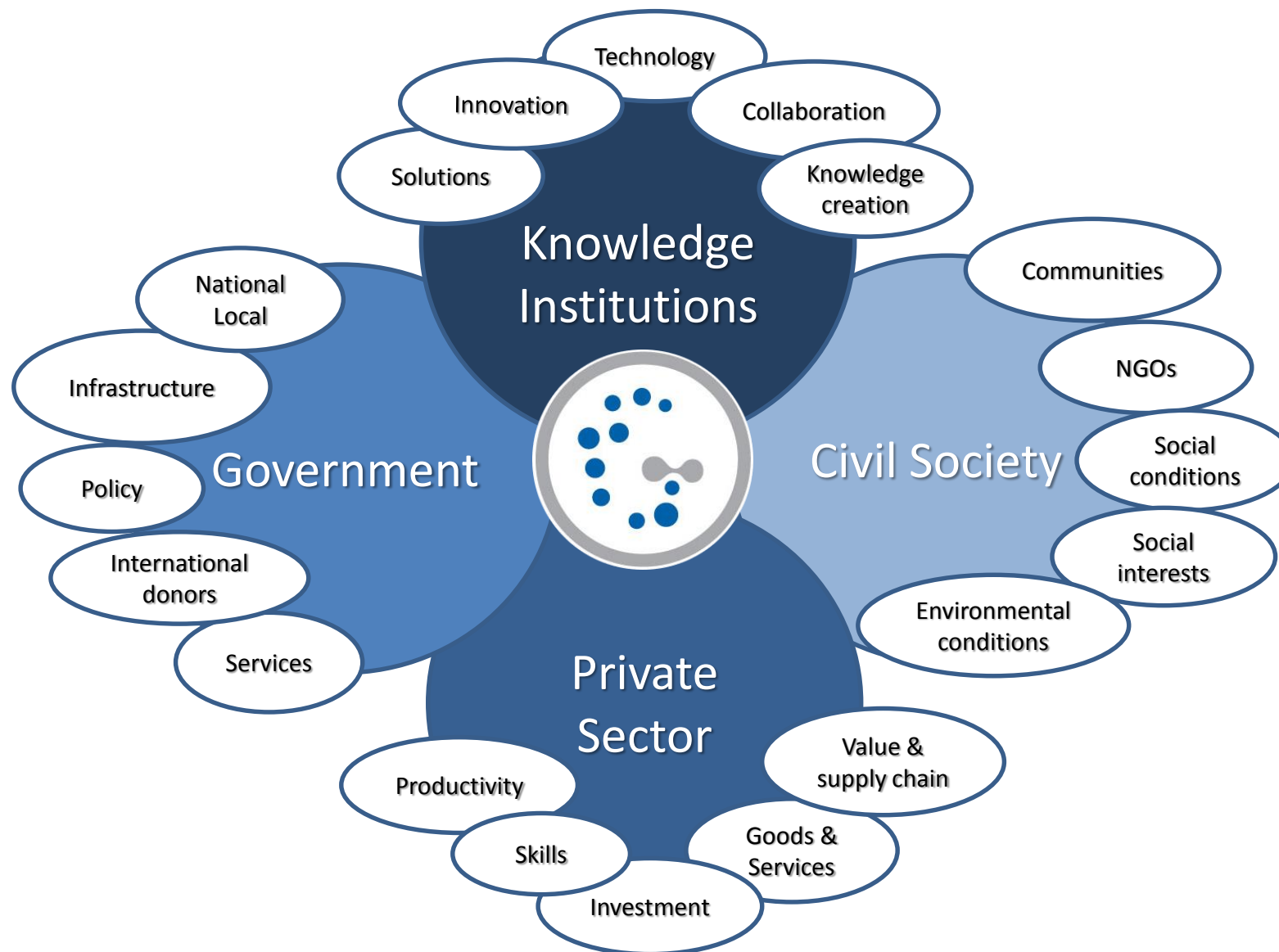
RAPID

EXCELLENT

DISTINCTIVE



Inclusive Innovation – *one cannot innovate alone*





President Obama: What innovation do you do?

My Reply: I do innovation that works for all and not for some privileged few

Doing Innovation that Works for ALL!

Scientists must move to Inclusive Mindset

	Frontier Innovation	Inclusive Innovation
Drivers	Curiosity-driven science and research	Applications-driven and cost conscious science and research
Driven by	Sophisticated research capabilities, popular among policy makers and STI community	Innovative entrepreneurs faced with challenge of scarcity and aspiration
Market	Well established route from idea to product to market	Newer routes to not yet established markets
Margins	High R&D investments recouped by long-lasting premiums (high margins)	High volume low margin products
Goals	Improving productivity and economic growth	Improving lives of people (access, productivity, and purchasing power), livelihood and social harmony.

Business must move to inclusive mindset...

Exclusive

- Technologically sophisticated performance rich products with many features
- Remove features to reduce costs
- Premium Price–High Margins
- Technology Push, Product – Out Approach
- Current Markets– Old Money
- Use developed world products to transform emerging markets

Inclusive

- Frugal, functional but high quality products
- Reinvent the product from ground up
- Affordable Price– High Volumes
- Customer Centric, Market Based Approach
- New Markets– New Money
- Build new global growth platforms based on emerging markets

5 Keys for Successful Scaling of Inclusive Innovation

1. Ensure ASSURED matrix while designing, funding, monitoring for sure success
2. Build 'entire ecosystem' to support scale, not just a 'stand alone' venture
3. Focus on 'end to end' innovation
4. Remove 'internal barriers' to inclusive business

5 Keys (Contd)

5. Remove 'external barriers' to inclusive business

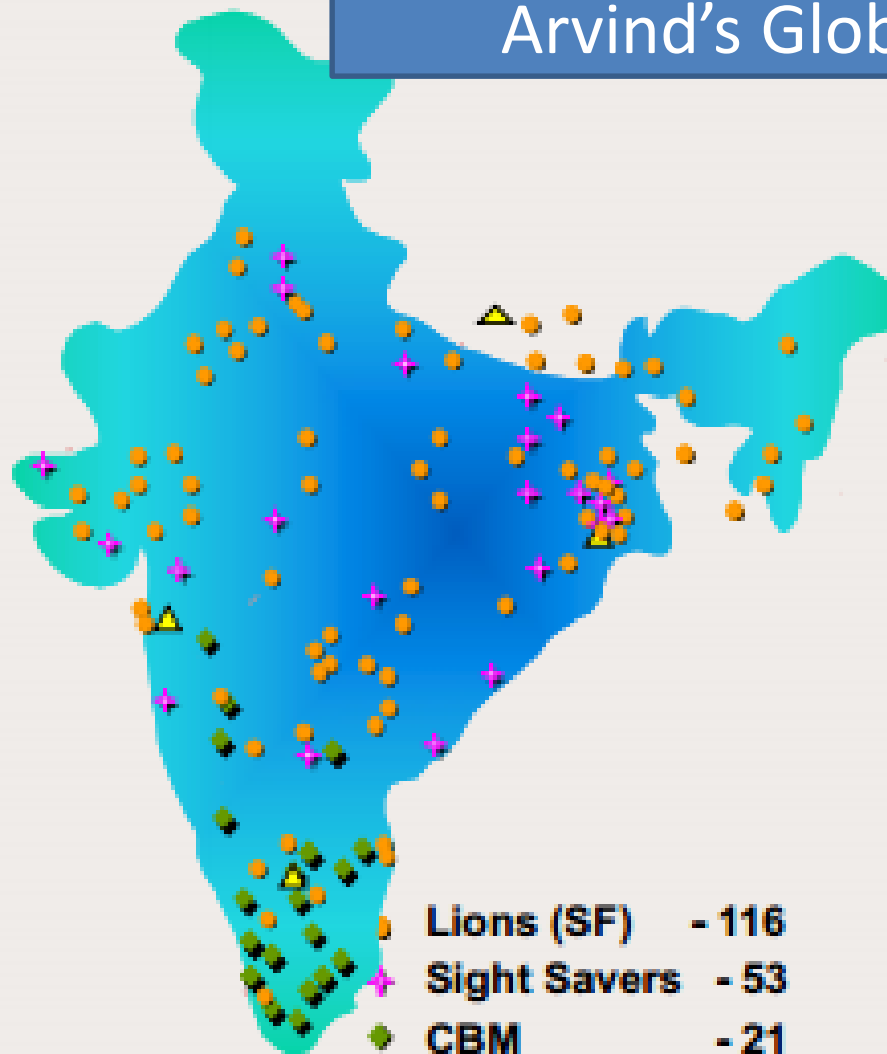
- Financial
- Infrastructural
- Regulatory
- Marketing, distribution & sales
- Collective action with Govt, local NGOs...

Arvind Eye Care

Scaling Success through a Whole Ecosystem

- Low cost (\$5) lens manufacturing joint venture with private sector
- Civil society groups that organize patient screening events in rural villages
- 2.5 million eye tests and 300,000 cataract surgeries per year

Arvind's Global Reach



● Lions (SF) - 116
+ Sight Savers - 53
◆ CBM - 21
▲ WHO, ORBIS, IEF, RTS
● Seva, others - 55
Total Hospitals: 245
Participants: 1215

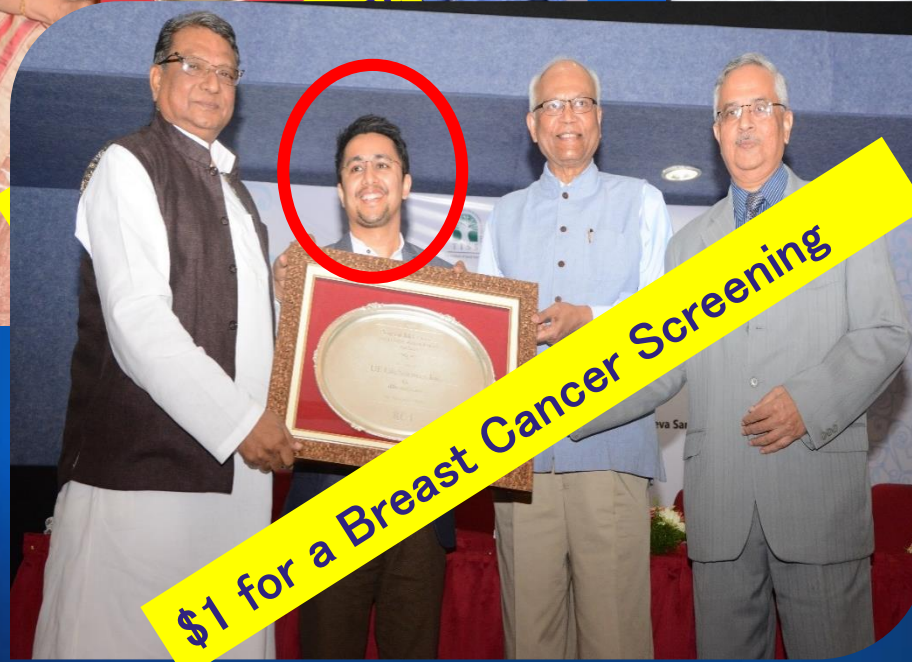
Other Countries

Bangladesh	Zambia
Bulgaria	Zimbabwe
Bolivia	Guatemala
Botswana	El Salvador
Cambodia	Tanzania
China	Tibet
Egypt	Nigeria
Indonesia	Sri Lanka
Kenya	Cameroon
Malawi	Ethiopia
Maldives	Rwanda
Nepal	Congo

Explore Non-traditional Financing including Government

- **DFID's Business Innovation Facility**
- **USAID's Development Innovation Venture**
- **Social Impact Funds (Acumen Fund, Grey Ghost Ventures)**
- **Guarantee Facilities (Root Capital)**
- **Indian Inclusive Innovation Fund (\$ 1 b final)**
- **2% of Profit After Tax mandated to be spent by corporates in India for Corporate Social Responsibility (CSR)**

CSR Helping in Scale up for Anjani Mashelkar Inclusive Innovation Awardees

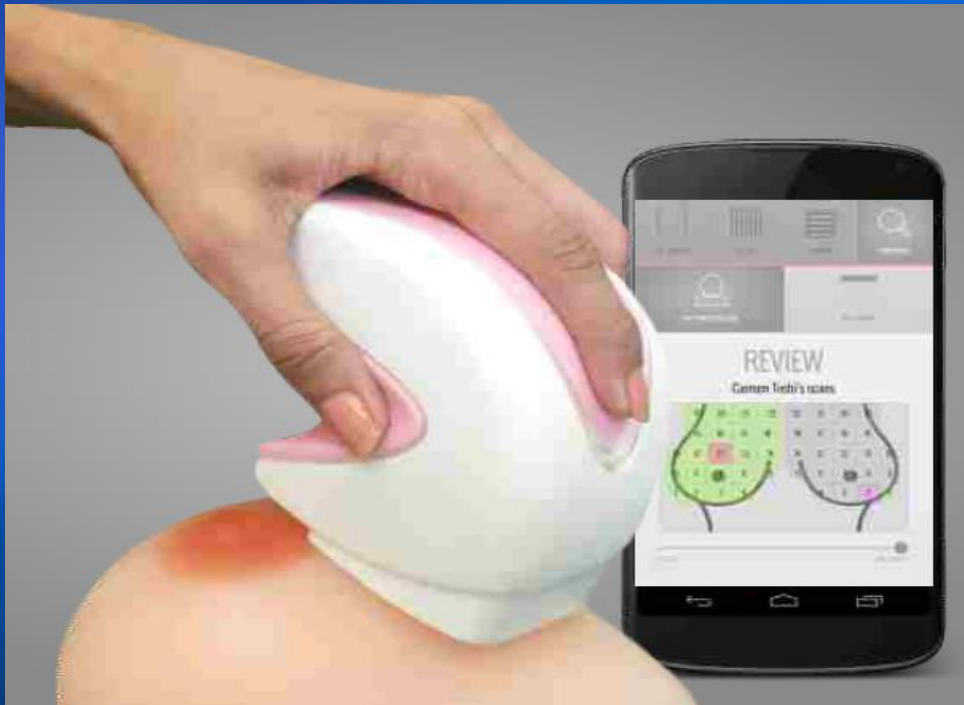


\$1 for a Breast Cancer Screening

Rs10 for a Hemoglobin Test

CSR Helped Build \$1 Breast Cancer Screening (Young Mihir Shah)

iBreastExam Low cost tactile sensor that measures tissue stiffness difference in real-time, non-invasively and without pain



- Ultra Portable
- Accurate
- Minimal Training
- Wireless
- Cloud Connected
- Instant Results

CSR Funds + Pvt Sector Partner ASSURED Success!



UE LifeSciences and GE Healthcare announced a pivotal global partnership to make early detection of breast cancer accessible and affordable in **25+ countries and for over 500 million women.**

Building Inclusive Innovation Ecosystem

- An integrated national inclusive innovation policy and required institutional systems.
- A facile regulatory system and supportive public procurement policy.
- A dedicated fund to support inclusive innovation including private risk capital for pro-BoP solutions.
- Incentives to leverage strengths and comparative advantages of all stakeholders, especially the private sector.
- Mandates for public research system to channel the very best technical and scientific expertise towards inclusive innovation.
- Collaboration with national, regional and global STI organizations to leverage global talent, technology and resources.
- Grand Challenge and recognition for game changing inclusive innovations to target specific goals– encouraging risk taking, experimentation and recognizing failures.

RAGHUNATH MASHELKAR
RAVI PANDIT



LEAP FROGGING to *POLE VAULTING*

Creating the Magic of Radical
yet Sustainable Transformation

'This captivating book, through its impressive assured
innovation framework, shows the way forward . . .
A must read' Ratan Tata

Breaking away will only lead to breakthrough ASSURED
inclusive innovation, setting the path for dismantling inequalities!



Thank You