

# 포용적 과학기술 ODA의 새로운 패러다임

*A new paradigm for Inclusive Science and Technology ODA*

World Ocean Forum

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# *Development as catching up?*



*Only if there is **one** possible path*



**Leapfrogging**

*Or, we may take the **road less travelled***



*Sixpack?* Everyone's dream!



Who has a better chance?

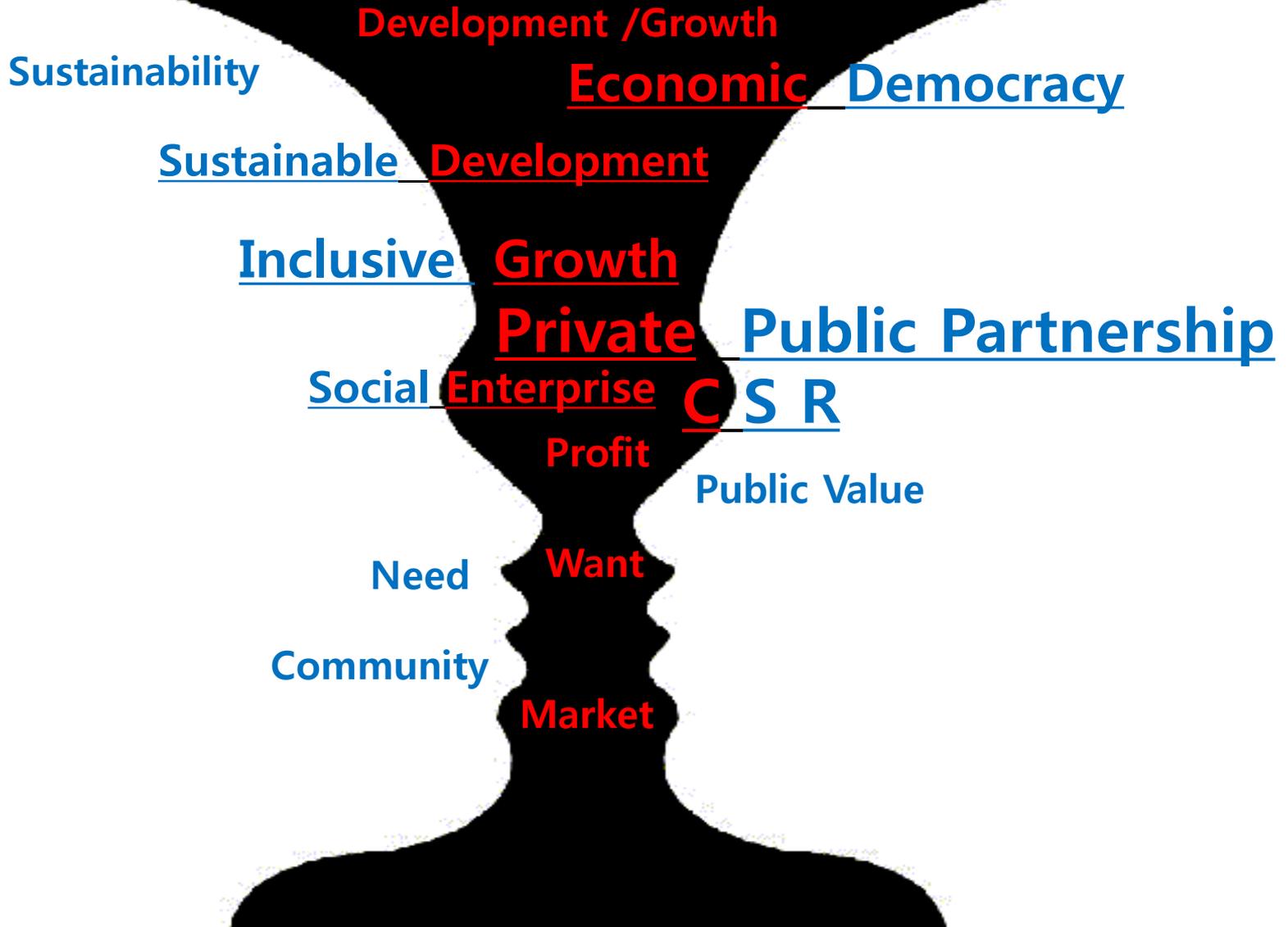


Leapfrogging

*If I knew **then** what I know **now**,  
what would I do **differently**?*

Zeitgeist

# An *impossible* dream ?



# *Postmodern Design*



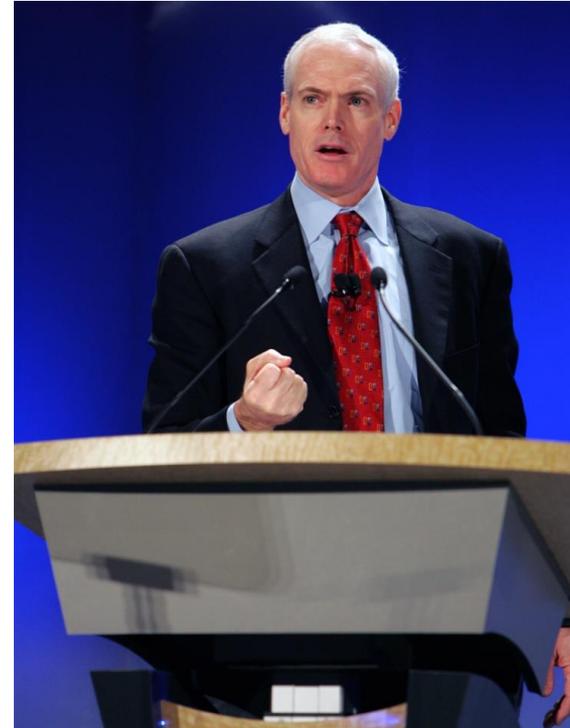
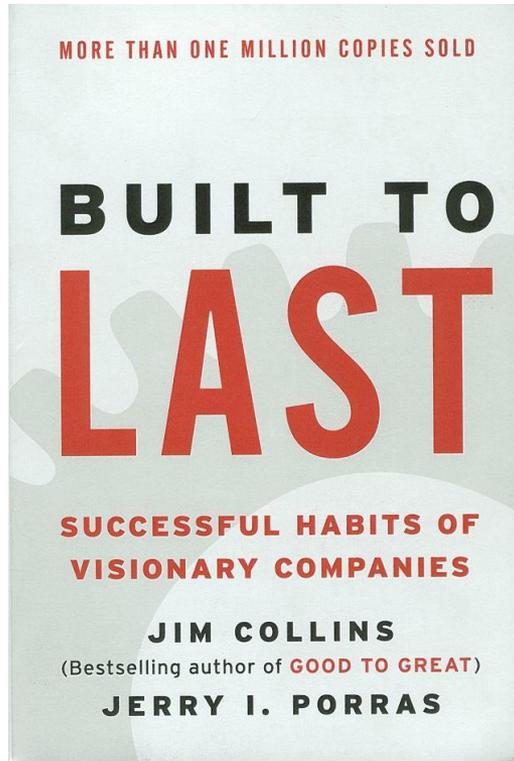
# *Ancient Oriental Wisdom*





Genius of AND

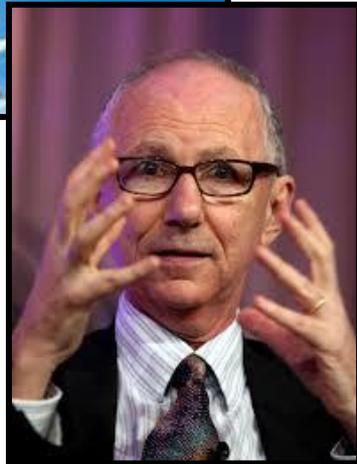
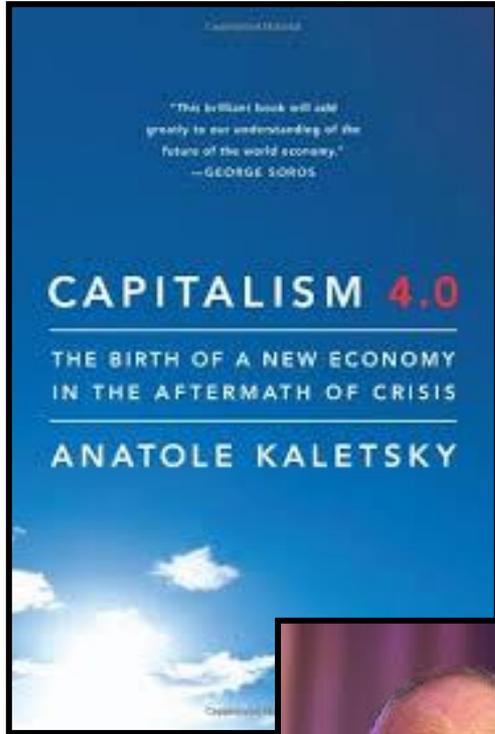
# Tyranny of OR



Great company seek BOTH  
Private Interest & Common Good



Genius of AND

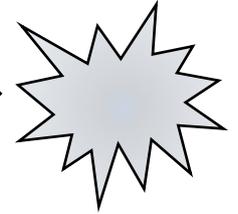


Capitalism 1.0

*laissez-faire*

1930's

Great Depression

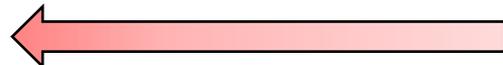
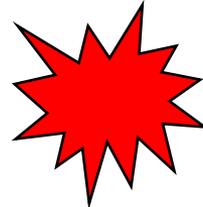


1970's

Energy Crisis  
Recession

Capitalism 2.0

*Keynesian*



Capitalism 3.0

*Neoliberal*

2008 / 2009

Financial Crisis



*market fundamentalism*



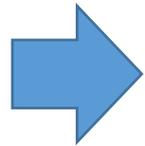
*Capitalism 4.0*



Genius of AND

# *From MDG to SDG*

The 8 Millennium Development Goals



**17 Goals 169 UNSD Indicators**

UNSD: UN Statistics Division



Genius of AND

# *Inclusive* Development

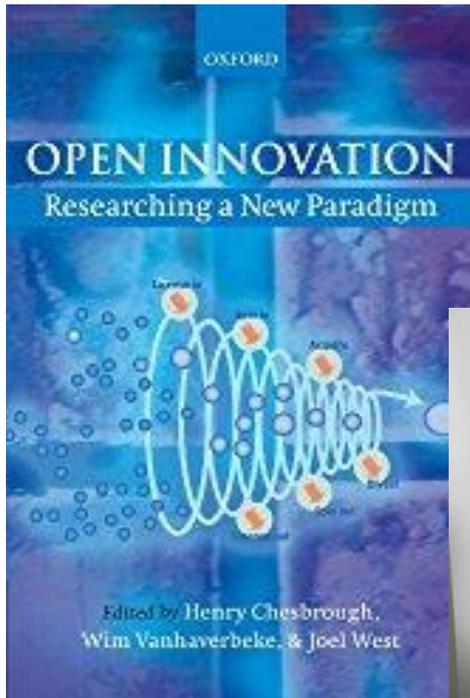
*Donor* & *Recipient*



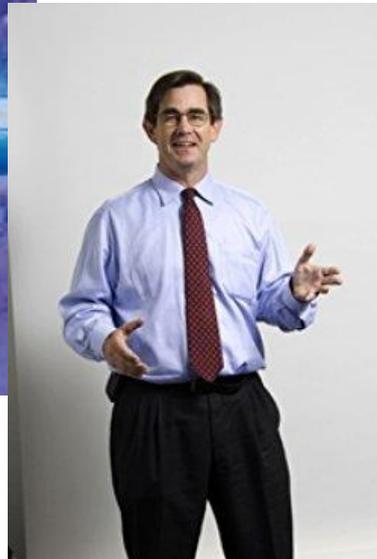
*Technological drive*

# *New Innovation Theory*

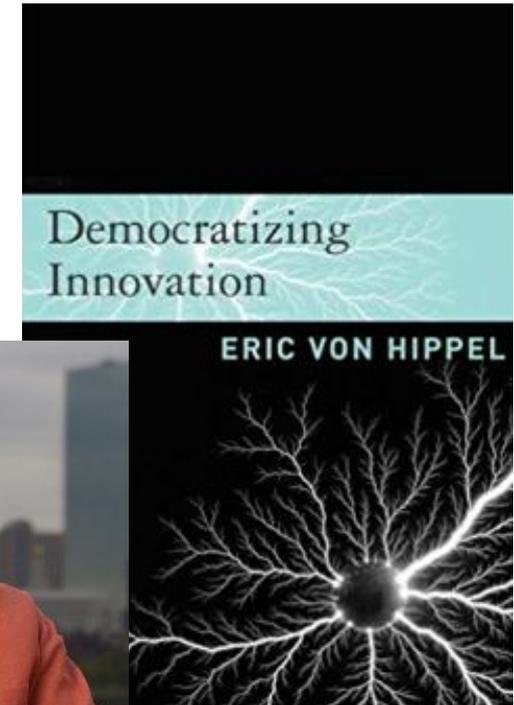
*Democratization  
of  
Technology*



Henry Chesbrough, UC Berkeley



Eric Von Hippel, MIT



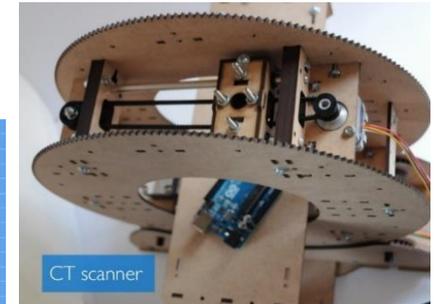
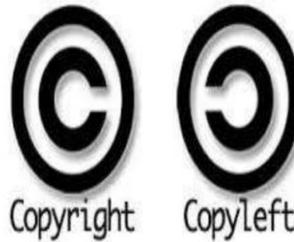
Technological drive

# Open Source S/W & H/W



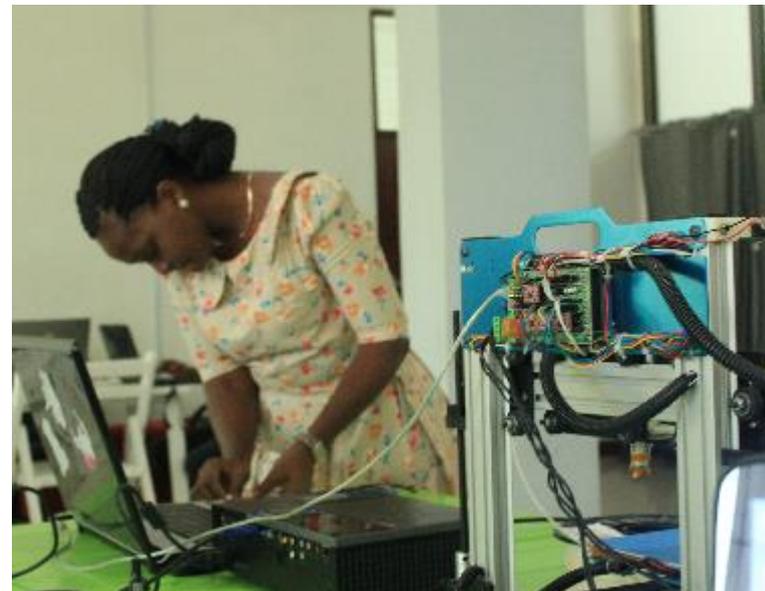
## 2015 the future of OPEN SOURCE

A collection of logos for various open source organizations and companies. At the top, "NORTH BRIDGE" and "BLACKDUCK" are listed with a plus sign between them. Below, a "PLATINUM Collaborators" section includes Eclipse, Red Hat, Acquia, Mirantis, and Wipro. Other logos include Huawei, Ubuntu, Apache Software Foundation, NGINX, Engine Yard, X2CRM, VOLTDB, openinventionnetwork, EDB, Couchbase, Samsung, Abilian, Document Foundation, commerceguys, Jfrog, OpenClinica, Linux Professional Institute, MASSTLC, creativ, OSEHRA, bika, SUSE, and OX.



*Technological drive*

# *Bonguino: Tanzanian version of Arduino*



**Sensing and driving actuators**

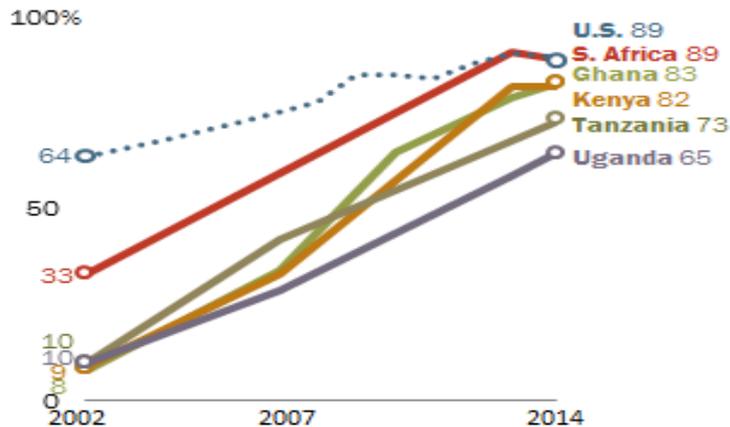
Technological drive

# Empowerment by mobile phone

## Mobile Phone in Africa

### Cell Phone Ownership Surges in Africa

Adults who own a cell phone



Note: U.S. data from Pew Research Center surveys.

Source: Spring 2014 Global Attitudes survey, Q68.

PEW RESEARCH CENTER

## UNESCO Mobile phone project

UNESCO Education Natural Sciences Social and Human Sciences Culture Communication and Information Media Services

About us Themes Worldwide Communities Events Join us Resources

United Nations Educational, Scientific and Cultural Organization

### ICT in Education

UNESCO » Themes » ICT in Education » Mobile Learning » Policy Work

#### Mobile Phone Literacy – Empowering Women and Girls

Identification of factors for effectiveness and scaling up good practices

The Mobile Phone Literacy project was launched on 26 May 2011 on the occasion of the visit to UNESCO of Ms. Hillary Clinton, United States Secretary of State. It is being implemented within the framework of the UNLFD Fund and the Global Partnership for Girls' and Women's Education. This project is made possible through the support from the United States government.

**Why is the Mobile Phone Literacy project needed?**

Women and girls constitute the majority of the 775 million illiterates in the world. One of the main reasons for low literacy rates is that neo-literates often tend to relapse into illiteracy after a basic literacy course. One reason is difficulty using the newly-acquired skills due to the absence of meaningful and relevant reading materials. Another is loss of interest, sometimes coupled with economic constraints and a reluctant social context, particularly in the case of women.

Mobile phones are an attractive and affordable means to maintain literacy skills and to obtain information, and hold great potential for reaching marginalized girls and women and providing them with access to further learning and development.

To ensure that this innovative approach makes a real impact, it is important to start by understanding the factors and conditions which make mobile literacy projects effective and sustainable, with the aim of scaling up to a larger level.

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*Technological drive*

# *M-PESA* in Kenya



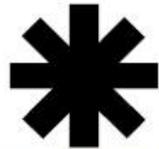
**44% GDP of Kenya in 2015**

*Technological drive*

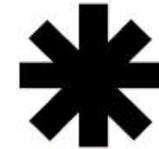
# *The 6<sup>th</sup> Industry*



1<sup>st</sup>  
Primary



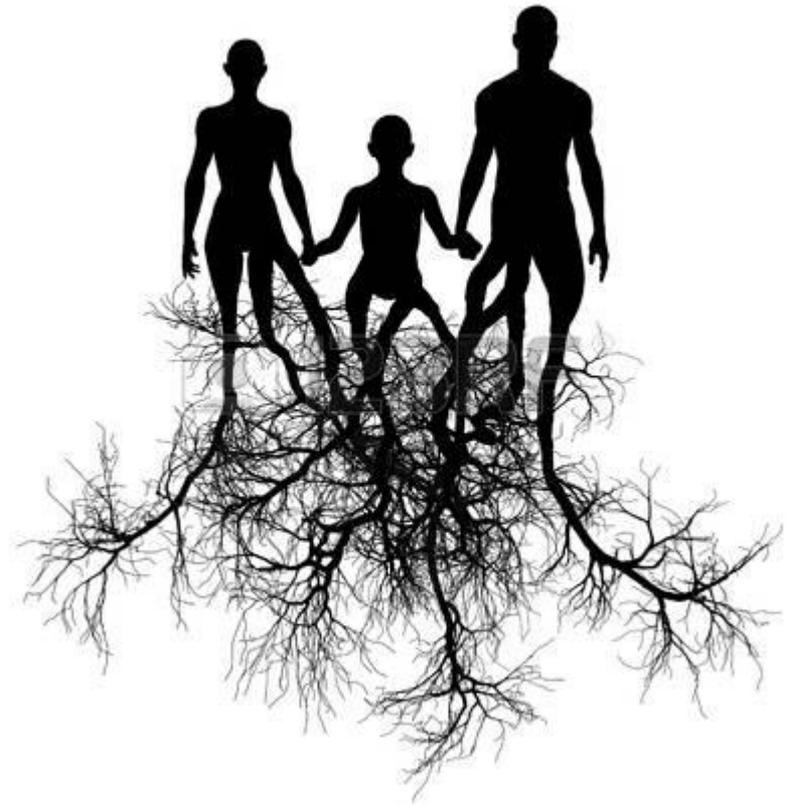
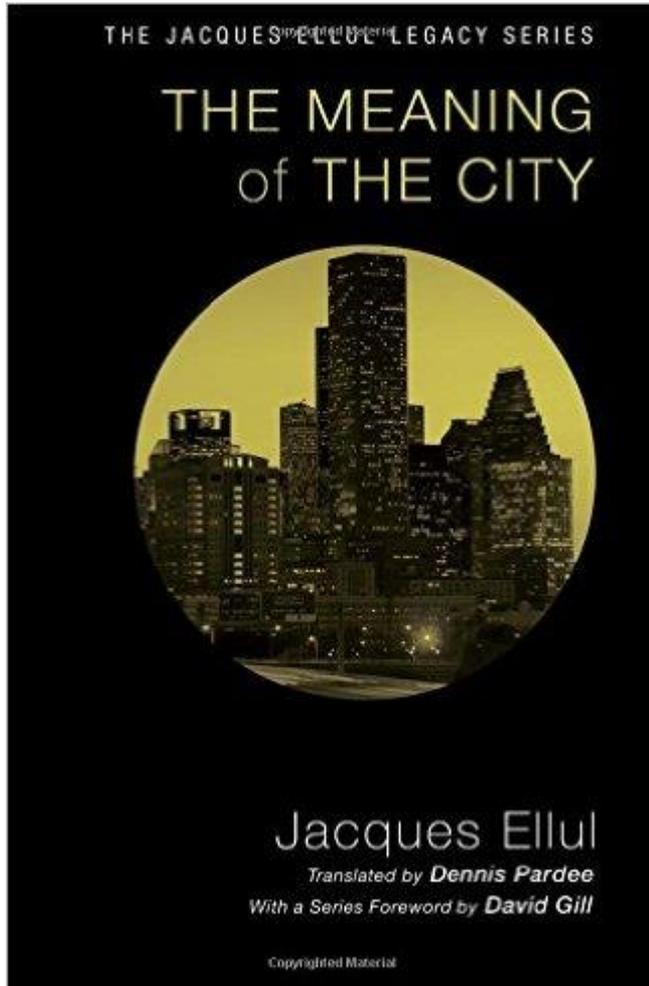
2<sup>nd</sup>  
Secondary

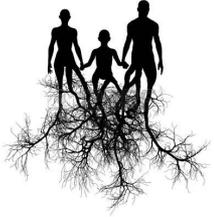


3<sup>rd</sup>  
Tertiary



# Human! a Being with a root





# MIT Personal Farming

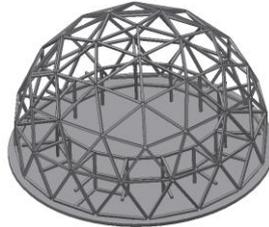
*For 1 billion more farmers*



*Caleb Harper*

[https://www.youtube.com/watch?v=AMbZyVIHF\\_k](https://www.youtube.com/watch?v=AMbZyVIHF_k)

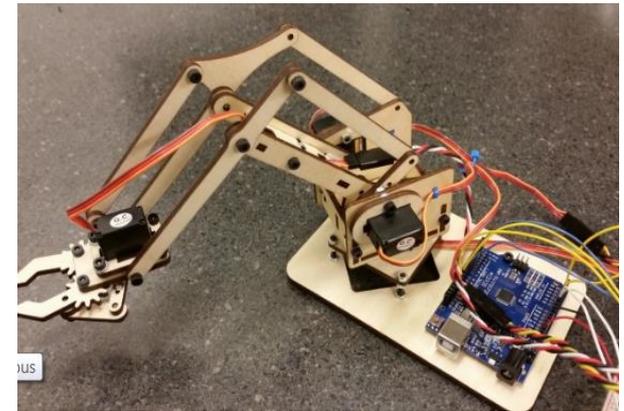
# Smart farming at POSTECH



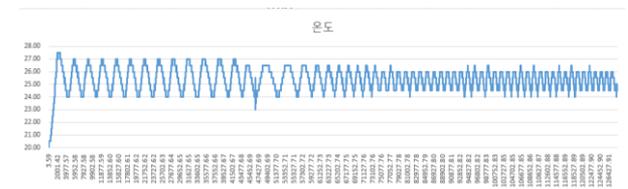
*Open source*

**Dome**

**Farming Robot**



## Camera and image processing



**Temperature Control for Food Processing**

# Suggested ideas to be considered

Platform driven

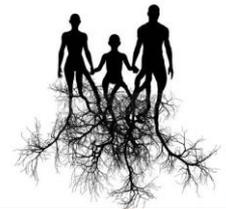
*Tradition* of Social Innovation

Elderly Ratio



*1 billion more farmers*

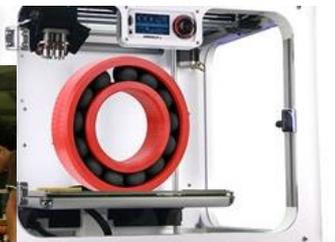
Youth Unemployment



# Platform driven

Tradition of *Social Innovation* 1-1

From “*Saemaul*” to Open source platform : *Living Labs*



1-2

Korean economy has *never* been *Laissez Faire*.

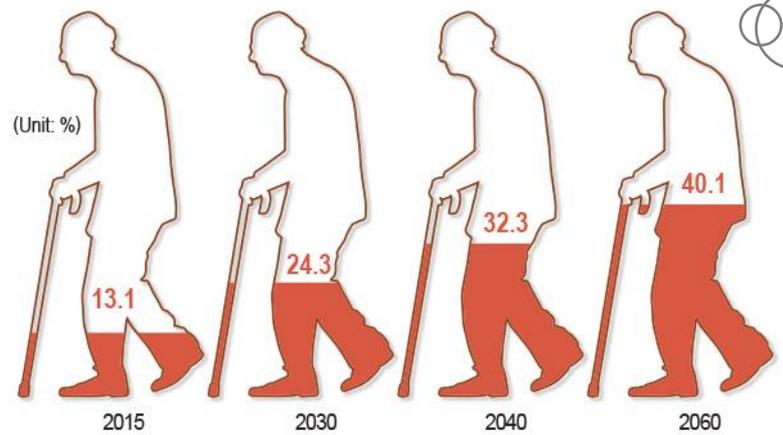
*Collaborative commons: Platform Economy*

2-1

# Elderly “baby boomers”

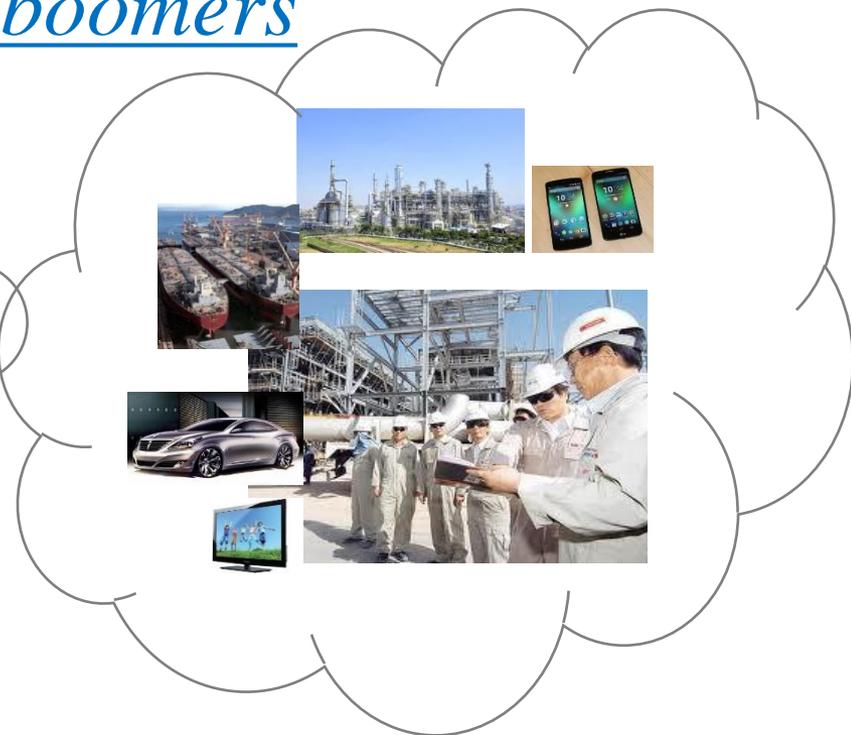


Ratio of elderly over 65



Graphic by Cho Sang-won

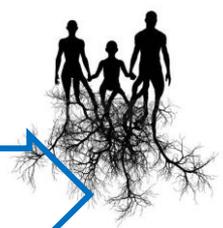
Source: Statistics Korea



## Key players in Korean economic development Scientists, Engineers & Policy makers

2-2

1 billion more farmers



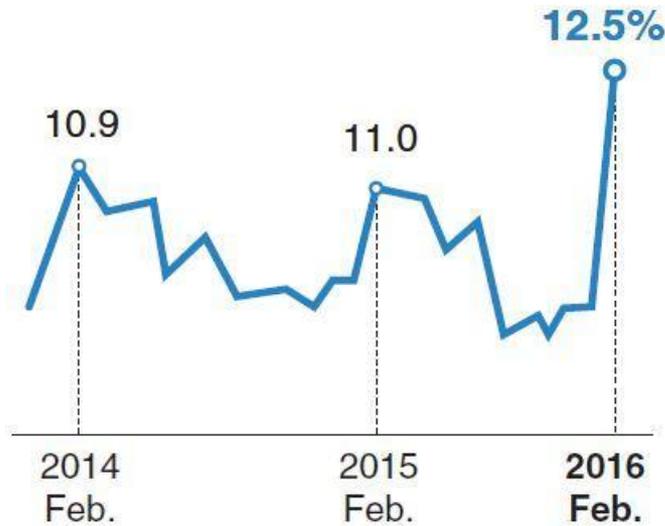


# Unemployed Youth: “Tech geek” Kids

3-1

## Youth unemployment rate

(15~29 years old)



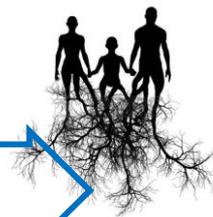
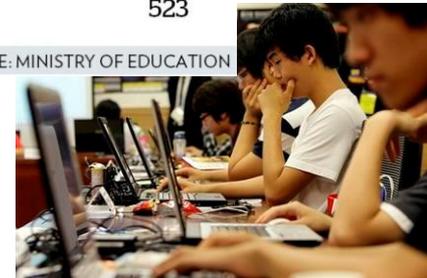
Source: Statistics Korea



## SCORES IN PISA 2012 Computer-Based Assessment of Problem Solving

	<b>Singapore</b>	<b>562</b>
	South Korea	561
	Japan	552
	Macau	540
	Hong Kong	540
	Shanghai	536
	Taiwan	534
	Canada	526
	Australia	523
	Finland	523

SOURCE: MINISTRY OF EDUCATION



3-2

1 billion more farmers

In closing,

Experience is  
the name everyone gives to his mistakes.

*Oscar Wilde*



*Sixpack?*

Who has a better chance?



*Road less travelled*



For every *advantage* a new technology offers,  
there is always a corresponding *disadvantage*

*Neil Postman "Faustian bargain"*