by

4th Industrial Revolution

by SOFT POWER

Jong-lok Yoon
President, National IT Industry Promotion Agency
Antonyms for Remember?
“Create Something New rather than Copy Others!”
From Imagination to Innovation
How much does it cost to convert 1 ton of Sea Water into Drinking Water?

1. over $100
2. over $10
3. over $1
4. less than $1
Heating Method

Reverse Osmosis Method

Seawater desalination process

Salt

Reverse osmosis membrane

Drinking water

Sea water
GENius™ Advantages

- A unique Water from Air device operating at a world record breaking energy consumption efficiency of 300
- Can be easily scaled up or down to any size required. Each 1/2 meter can produce about 2 Liters/Hour at 26.7° C and 60% RH
- Small size. Can replace any heat exchangers currently installed
- Low-cost structural materials

GENius™ is the most efficient worldwide Water-From-Air device from the point of view of efficiency size-cost ratio.
The Economy Until Today

Diligence · Self-development · Cooperation

Competitiveness of Labor Force

GDP per capita

'53 '
'77 '
'95 '
'07 '
'14 '

67 $

28,338 $
Collapse of 1 Trillion-Dollar Trade Volume
The Advent of 4th Industrial Revolution

Year 1784 18c: Mechanical revolution through steam engine
Year 1870 19c~early 20c: Mass production through electric power
Year 1969 Late 20c: Automation through Computer
Year 2015~ Early 21c~: Intellectualization of factories/manufactures through soft power
Hard Power vs Soft Power

**Hard Power**

1st, 2nd, 3rd Revolutions...

- Input: Resources
- Output: Manufactures

**Soft Power**

4th Revolution...

- Input: Imagination
- Output: Innovative service
What is Soft Power?

- Software-oriented Thinking
- Enriched Imagination
- Creativity
- Continuous Innovation
- Learning from Failure
- Flexible and Logical Thinking
## Two Earths

<table>
<thead>
<tr>
<th>Visible Earth</th>
<th>Unlimited Digital Earth</th>
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<tbody>
<tr>
<td>Limited land (100 thousands km²) + Limited resources</td>
<td>Hightech soil + Knowledge resources</td>
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</table>
Creative Companies

Google
  Google Suggest

NAVER
  Knowledge-based Open Search

Intel
  Dual Core
Advanced Science and Technology in Agriculture

40% of water increases output by 50%

400mm of rainfall

Agricultural Powerhouse
Start-up Nation

9% of the government’s budget to national defense transferred to 6% of GDP
Confusion between Two Terms

open a business ≠ startup

- Open a business: Shop1, Shop2, Shop3
- Startup: NEW Idea, NEW BRAND
95% of Agriculture is Science!

The size of national territory ≈ Gyeongsang Provinces

Agricultural exports are 25 times that of South Korea, the world's 2nd largest exporter
The Rules of the Game are Changing!

"40% of Companies will be dead in 10 years, the only ones who attempt to go digital will survive"

John. Chambers, Retiring Cisco CEO (Jun 2015)

The collapse of large enterprises

Microsoft to buy Nokia’s phone business in 2013.

The great leap of enterprises with service innovation

The No.1 world market capitalization, “Apple” (700 billions dollars, 2015)

iPhone
Car, be serviced

It will be changed from possession to usage in a future!
New statement of GE, Manufacturing Company

We will become a **top 10 SW company** within 2020!

“Services represent about 75% of our industrial earnings”

“We believe that every industrial company will become a software company...”

Jeff Immelt, CEO of General Electric
Competitor of ZARA, 3D Printer

The future of fashion company will sell design!

“Because consumers can quickly produce the desired design using the desired material”

Amancio Ortega
Founder of Zara
Soft Power, at the Forefront of Change

With the development of ICT and SW,

Creating **ideas-based new services and new markets**
What Defines a Car’s Speed?

- Engine Power
- Weight
- Tire Pressure
- Road Condition
- Traffic System
Factors to Accelerate “Creative Economy”?

- Creative Education
- Open Innovation
- Risk-taking Finance
- Easing Regulations
- Entrepreneurship
Future Strategy for the 4th Industrial Revolution

Developing Human Resources for Soft Power
- Soft Power Nationwide campaign
  - Forming a social consensus that emphasize on the value of invisible things
- Teacher training for the quality SW education
  - Training project for 10 thousands youth as soft power mentors

Enhancing Global Entrepreneurship Ecosystem
- Attracting startup companies and outstanding individuals through system reform for immigration and visa
  - K-Startup Grand Challenge
  - Free Startup Agreement
- Leading national social innovation by open innovation

Innovating Financial System
- Restructuring investment centered rather than loans
- Creating institutional support system for failure-tolerant culture

Establishing Ecosystem for 4th Industrial Revolution
- Establish a comprehensive plan for intelligence information society
  - Preemptive response to changing employment conditions
  - Promoting ICT fusion industry (ICT + healthcare, etc.)
  - Fostering new services through easing regulations
  * ex. Israel OCS (Office of Chief Scientist)
Israel, Spirit of Creativity

CHUTZPHA

- Learning from failure
- Tenacity
- Mission orientation
- Risk taking
- Mashing up
- Questioning Authority
- Informality
## 7 keywords of Chutzpah Spirit

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Informality</td>
<td>Speaking freely on equal terms</td>
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<tr>
<td>Questioning Authority</td>
<td>Permission to question or challenge assumption</td>
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<tr>
<td>Mashing up</td>
<td>Cross-disciplinary Creativity</td>
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<tr>
<td>Risk taking</td>
<td>Classifying Risks realistically</td>
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<tr>
<td>Mission orientation</td>
<td>Staying focusing on Mission</td>
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<tr>
<td>Tenacity</td>
<td>Determination to Achievement</td>
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<tr>
<td>Learning from failure</td>
<td>Another Opportunity</td>
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Thank you for your attention