



2016 ConsMa
International CM Day

The Wisdom of **CM** towards the Future of **C-Industry**

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- **The World Today is...**
- **Industry Technology Trends**
- **Status & Prestige of C-Industry**
- **Changes in C-Industry**
- **Wisdom of CM beyond Boundaries**
- **Future Vision of C-Industry**

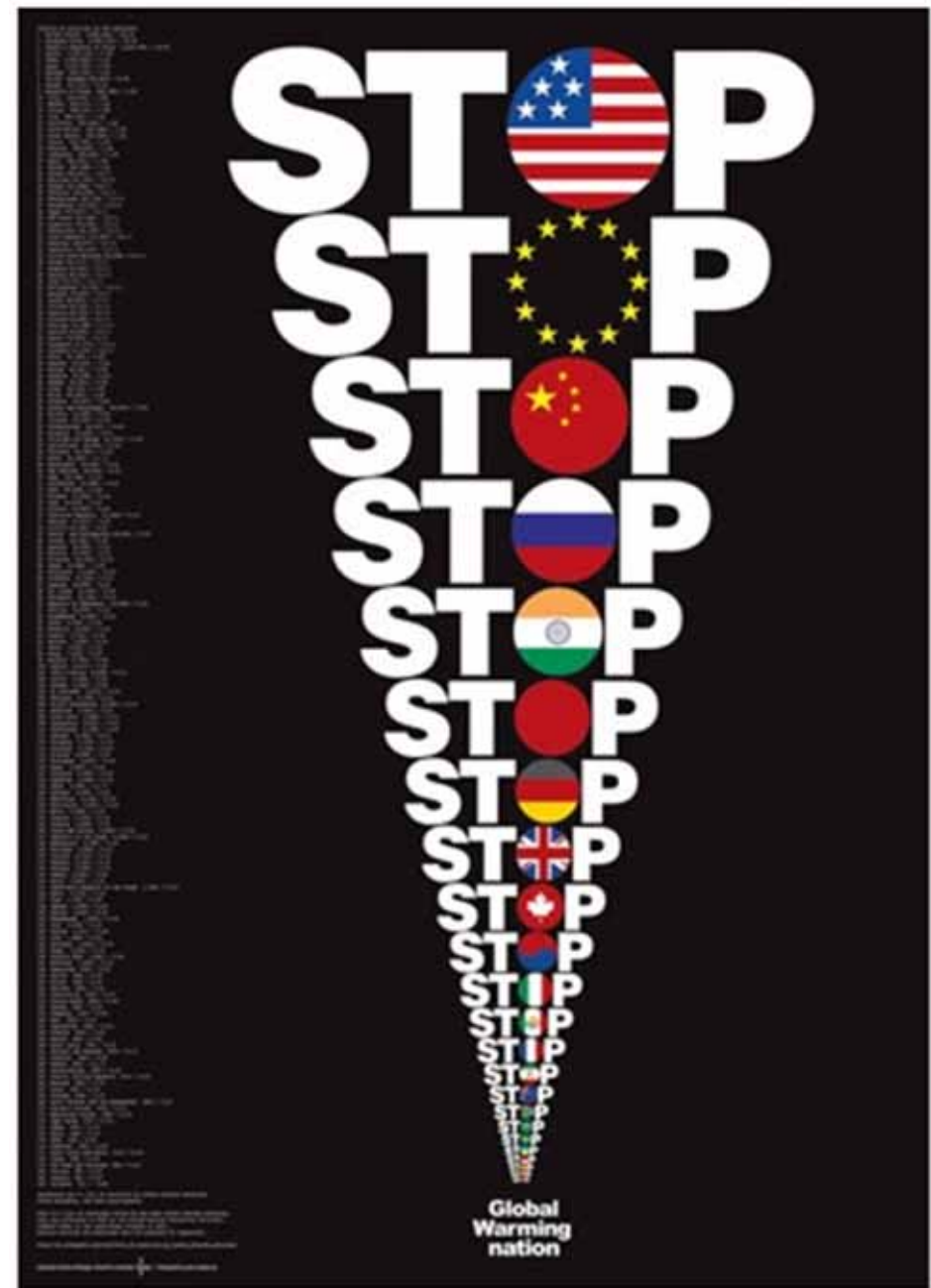
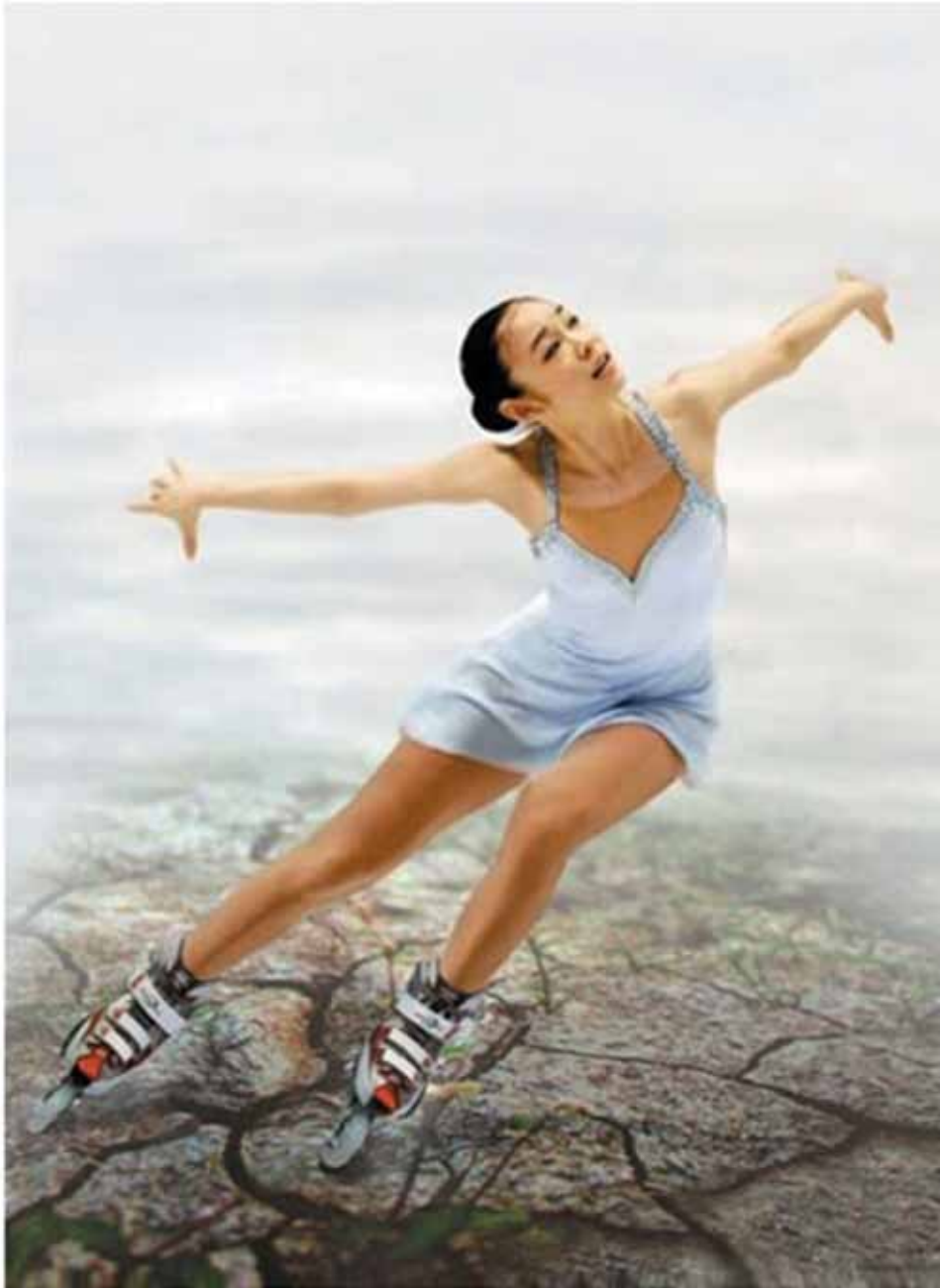
The World Today is...

Energy



The World Today is...

Climate



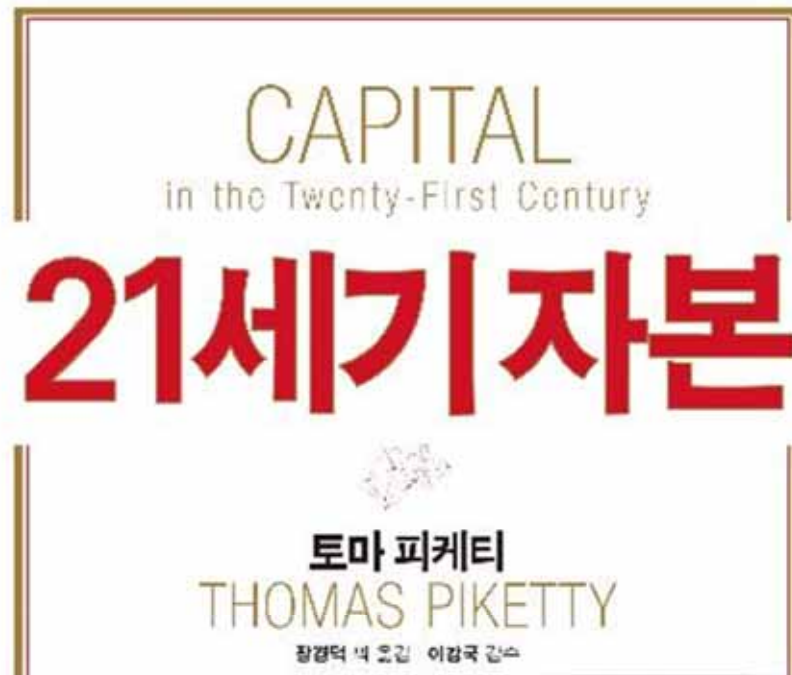
The World Today is...

Economy

- ◆ Economy Recovery Mood
- ◆ Exchange Rate War: S\$ W ¥
 - USA: Tapering
 - Japan: Abe-nomics
 - Europe: Eurozone Crisis
- ◆ Growth in Chinese Economy



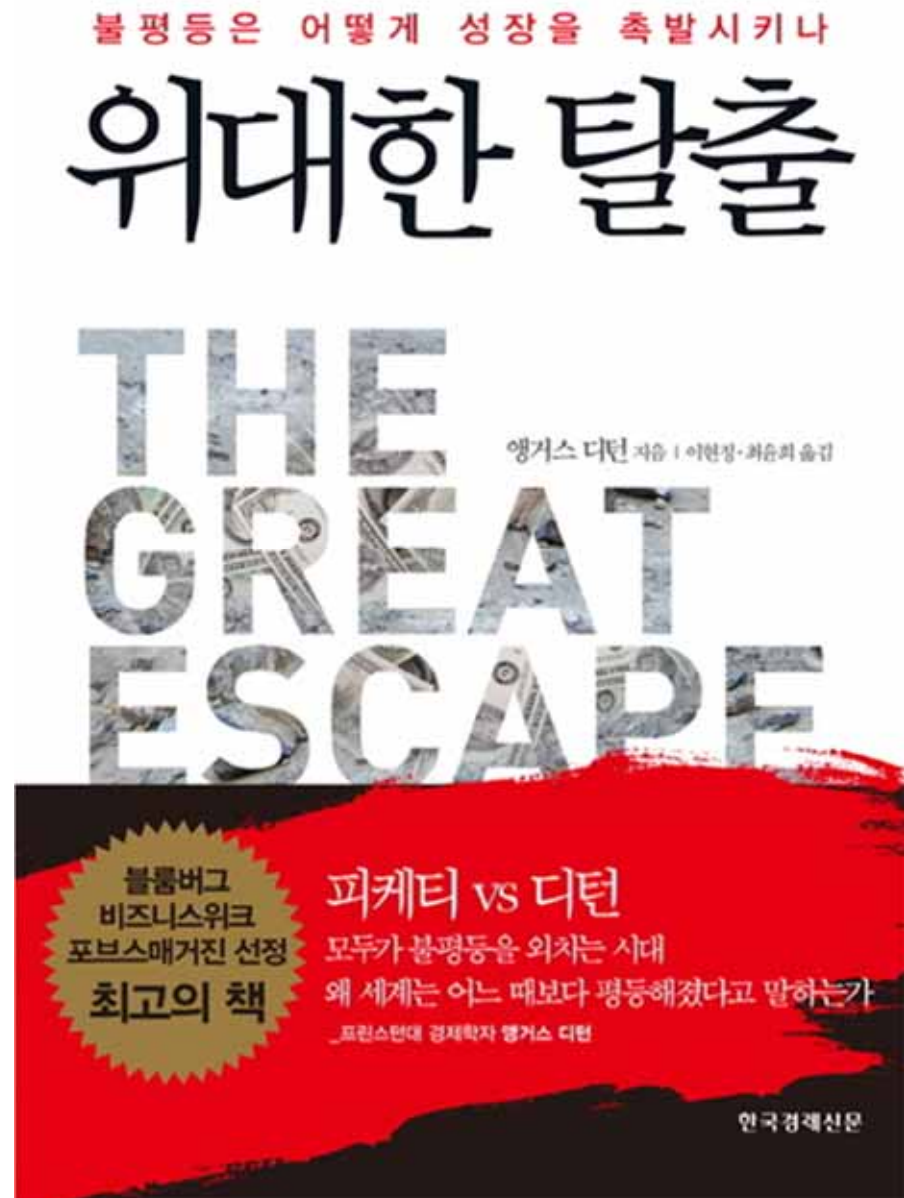
The World Today is... *Inequality Argument*



「21세기 자본」은
올해, 아니 향후 10년 동안
가장 중요한 경제학 저서로
자리매김할 것이라고 말해도
과언이 아니다.

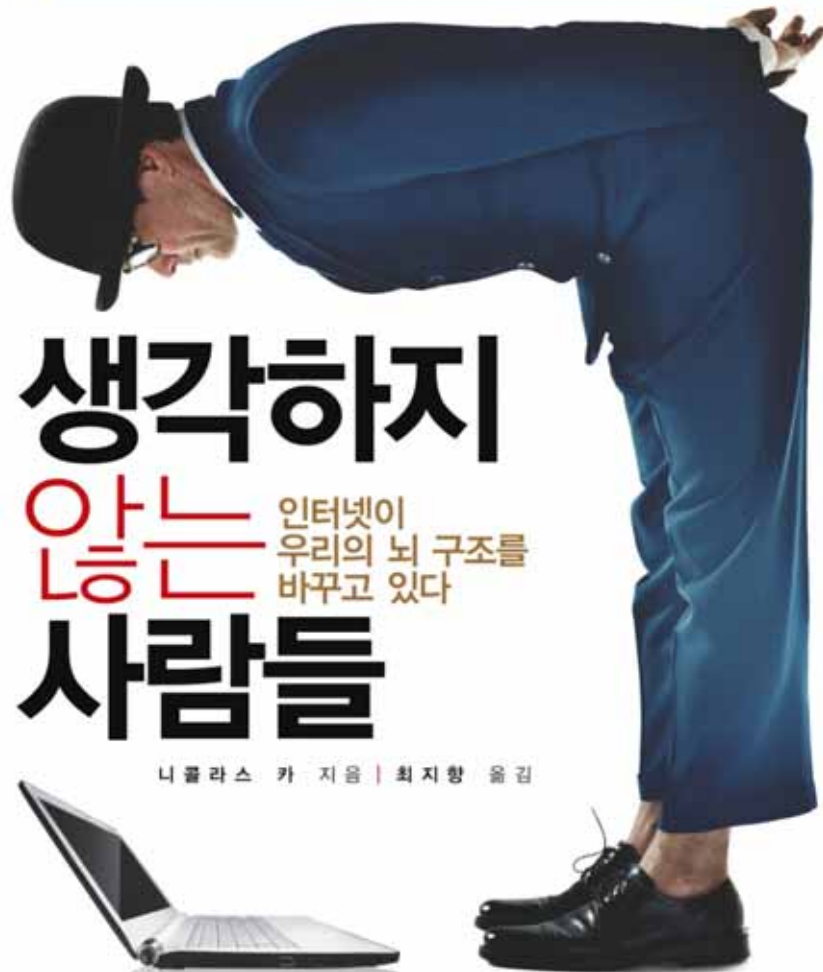
폴 크루그먼 프린스턴대 교수, 2008년 노벨경제학상 수상자

꽃집마리



The World Today is...

Shallows & Glass



세계적인 경영컨설턴트 · IT 비즈니스계 최고 영향력 니콜라스 카의 최신작
'스마트' 시대, 우리는 더 똑똑해지고 있는가?

청림출판



생각을 통제하는 거대한 힘
유리감옥

세계적 디지털 사상가 **니콜라스 카**
《생각하지 않는 사람들》 이후
4년 만의 신작!

전 세계
동시 출간

한국경제신문



Evolution in Human Society



50년 후 세상은 이렇게 변하는데...지금 우리는

2066



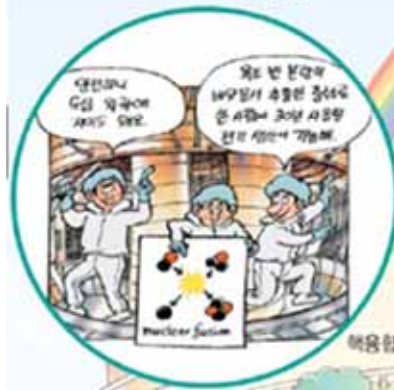
뇌과학



인공지능



우주발사체



핵융합



양자컴퓨터



합성생물학



그림=이원복 덕성여대 총장



유전자위



자율주행차

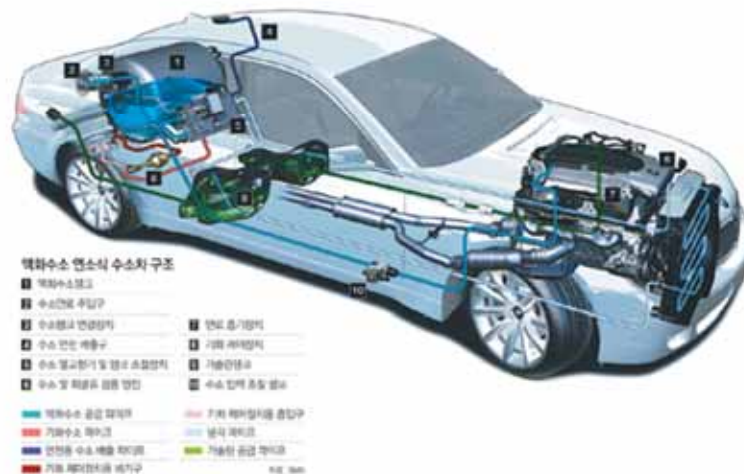


휴머노이드로봇



웨어러블기기

자동차산업동향



◆ Megatrend in Automotive Industry

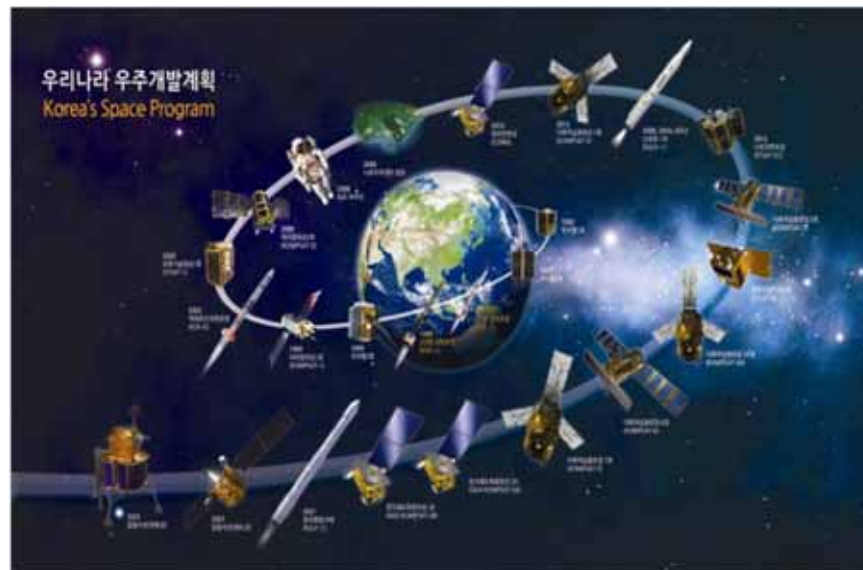
- From world factories to markets of emerging nations
- Strengthening of environmental regulations due to climate change
- Advanced functions due to aging population and metropolitanization

3 Keywords **3P** for the automobile industry
Platform **Powertrain** **Personalization**

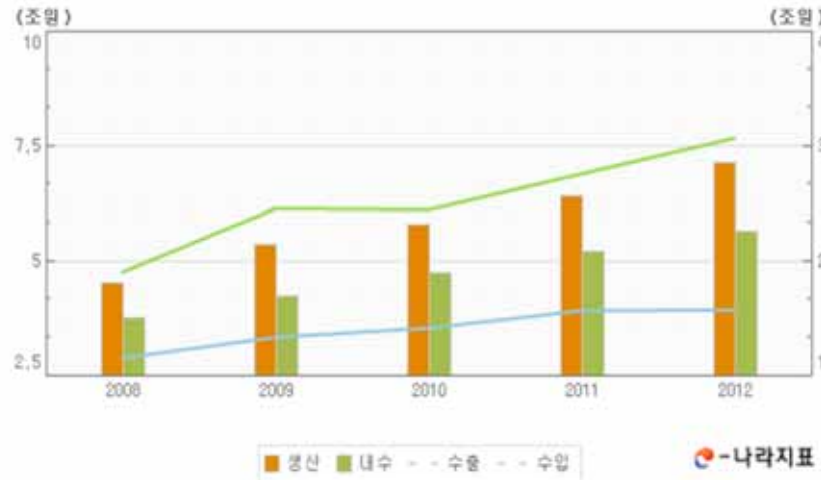


◆ Market Size of Aerospace Industry

- Steady growth of production
- Decline in trade deficit
- Domestic demand need to increase



바이오산업동향



EU의 바이오화학 시장 규모 예측



Recent Trends in Biotechnology Industry

- In pharmaceutical sector, shift to an industry through agriculture
- Steady increase in production capacity & total export value in the past 5 years
- Estimated average annual growth of more than 20%

ICT



C-Industry Status & Prestige

◆ Creating Human Life Space

- Built Environment
- Urban Housings
- Infra Facilities (SOC)

◆ Driving National Economy

- Contribution to GDP
- Job Creation

◆ Societal Container

◆ Advancing Civilization

- World Cultural Heritage



Best Practices

Golden Gate / Eiffel Tower



Best Practices

2002 World Cup Stadium



Best Practices *Incheon International Airport*



Decline of C-Industry



Changes in C-Industry

◆ Reducing Construction Market

- Domestic Market: Completion of Infra(SOC) & Decline of Real Estate
- International Market: Financial Crisis, Oil Price Movements
- Decreasing Construction Demand vs. Increasing Construction Firms

◆ Level of Client Requirements

- Improvement of People Life Quality → Need in High Class Facilities
- Customer Satisfaction & NGO Activities

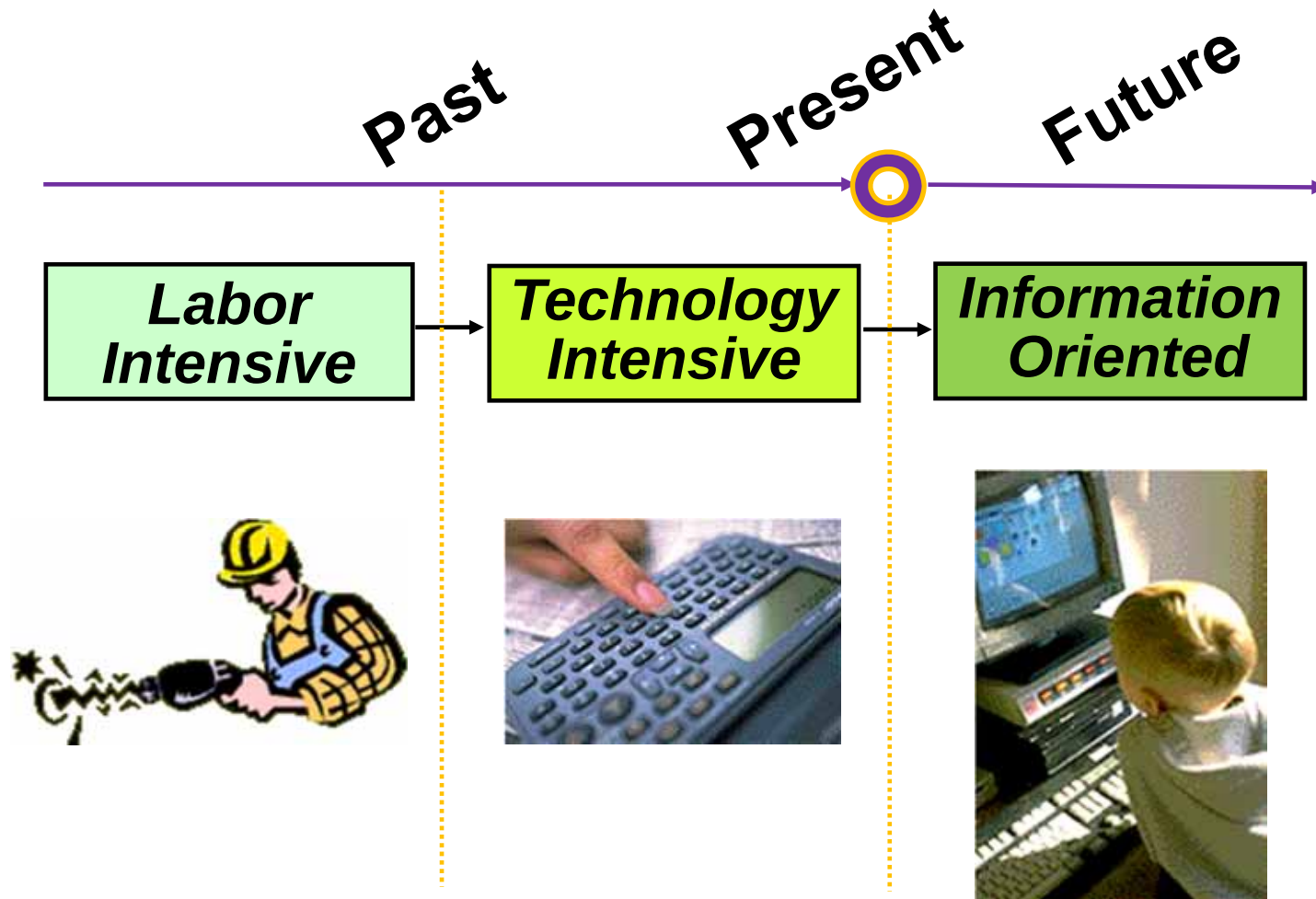
◆ Large Scale & Complex Projects

- International Airport / Rapid Transit System / Super High-rise Buildings
- Innovative City / Corporate City / Eco City / U-City
- Global EPC / Urban Regeneration / New Town / PPP Project

◆ Government Policies and Programs

- Adopting Global Standard
- Delivery Systems: Best Value Oriented
- Green Growth: New & Renewable Energy

Towards Knowledge Industry



Survival Oriented Innovations

- ◆ **Strengthening the Competitiveness of Construction Companies**
 - **Market Strategy**
 - **Diversification of Regions & Business**
 - **Technology Strategy**
 - **KM/R&D/CPD**
- ◆ **Ecosystem Innovation in C- Industry**
- ◆ **Globalization of C-Policies & Regulations**
- ◆ **Enhancement of C-Image & Culture**
- ◆ **Fostering Global Human Resources**
- ◆ **Management Innovation in C- Companies**
- ◆ **Venture into Overseas C-Markets**



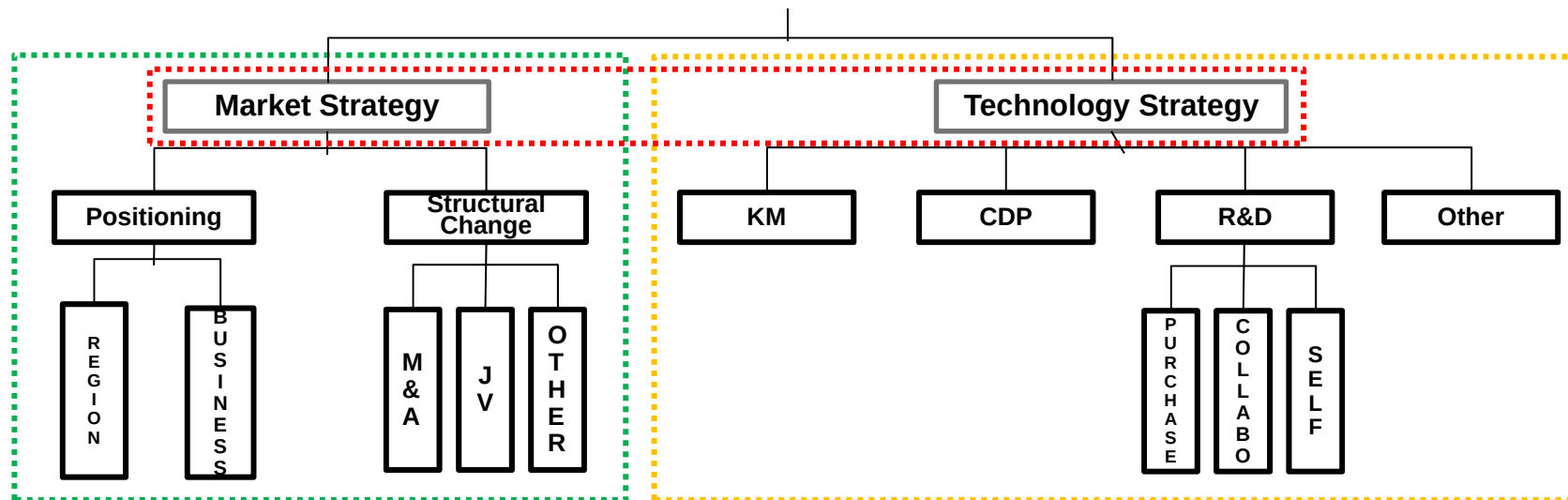
35명의 전문가에게 **건설의
길을 묻다**

김정호, 건설산업발전포럼 공동기획



- ◆ **Market Strategy**
 - Strategy for ongoing restructuring and changes in business structures to ensure market competitive advantage
 - Positioning (region/business) secured through a structural change
- ◆ **Technology Strategy**
 - Strengthening strategies for core competencies for enhancing technological competitiveness of companies
 - Secure competitiveness through development and establishment of core elements of competitiveness through KM, CDP and R&D

Strategy for Corporate Competitiveness



Technological Competitiveness *Core Elements*

◆ Relationship between Business and Technological Competitiveness

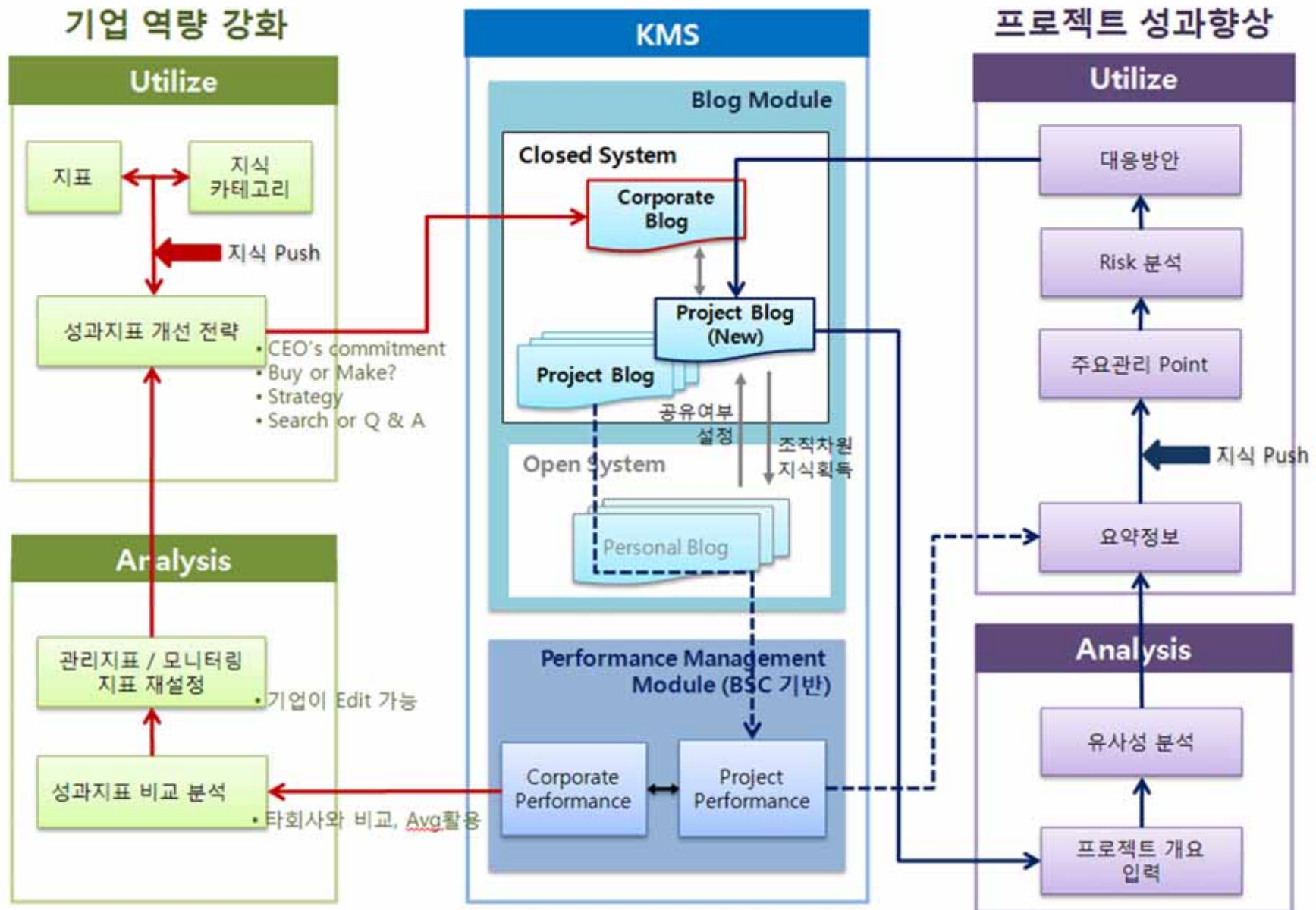
- Companies can secure technology competitiveness when there is a harmony between core technologies, creative and innovative culture and specialized members
- Possible through KM, CDP and R&D, the core elements of technological competitiveness

◆ Impact of Core Elements



Technology Competitiveness Core Elements

- **Knowledge Management (KM)**
 - Well-built KM system uses communication as a tool and creates technology development/utilization/learning synergies and at the same time, creates innovative/creative culture and groups of technological specialists
- **Career Development Program (CDP)**
 - CDP fosters professionals and through setting up of systematic training system, improves efficiency in technology use and provides blueprint for career path
 - Makes possible stable organization structure and fostering of technological specialists
- **Research & Development (R&D)**
 - Securing core technologies through R&D is not only retention and utilization of technologies but also increases standards
 - Through R&D activities, organizations can establish a culture that values technology within their organizations



- ◆ CDP operations - establish compensation system through competency assessment
- ◆ Acquisition of project management expertise
- ◆ Be fully aware of global standards in the construction industry
- ◆ Foster experts in contract, negotiation and finance

요구역량

기술

교육 프로그램



Alternate level/job Analysis for:
Level 8 Casualty and Surety

What if I had the level/job of: **Level 8 Casualty and Surety**

All Skills Categorized by Competency

Blue indicates your achieved proficiency rating. Red indicates the required proficiency rating for the level/job selected. You may click a skill name to view more information and locate learning that teaches that skill.

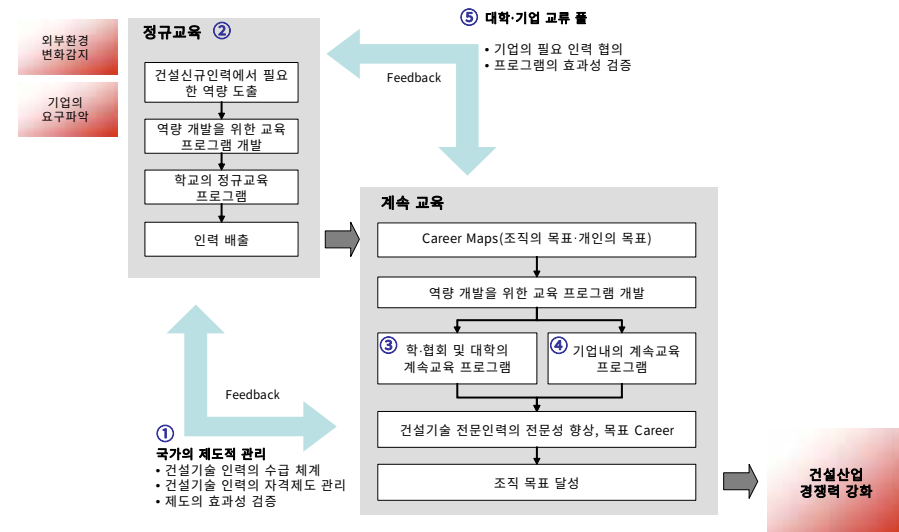
Competency: Business Development (Level 8 Casualty and Surety)

Skill	Required	Achieved	Gap
Business Leadership	5	5	5
Customer Service	5	5	5
Networking	5	5	5
Political Awareness - External	5	5	5
Political Awareness - Internal	5	5	5
Presentation Abilities	5	5	5
Relationship Management	5	5	5

필요한 역량

필요한 역량지수

필요한 역량지수
대비 획득 점수



Technology Strategy

R&D

◆ Core Strategy for R&D

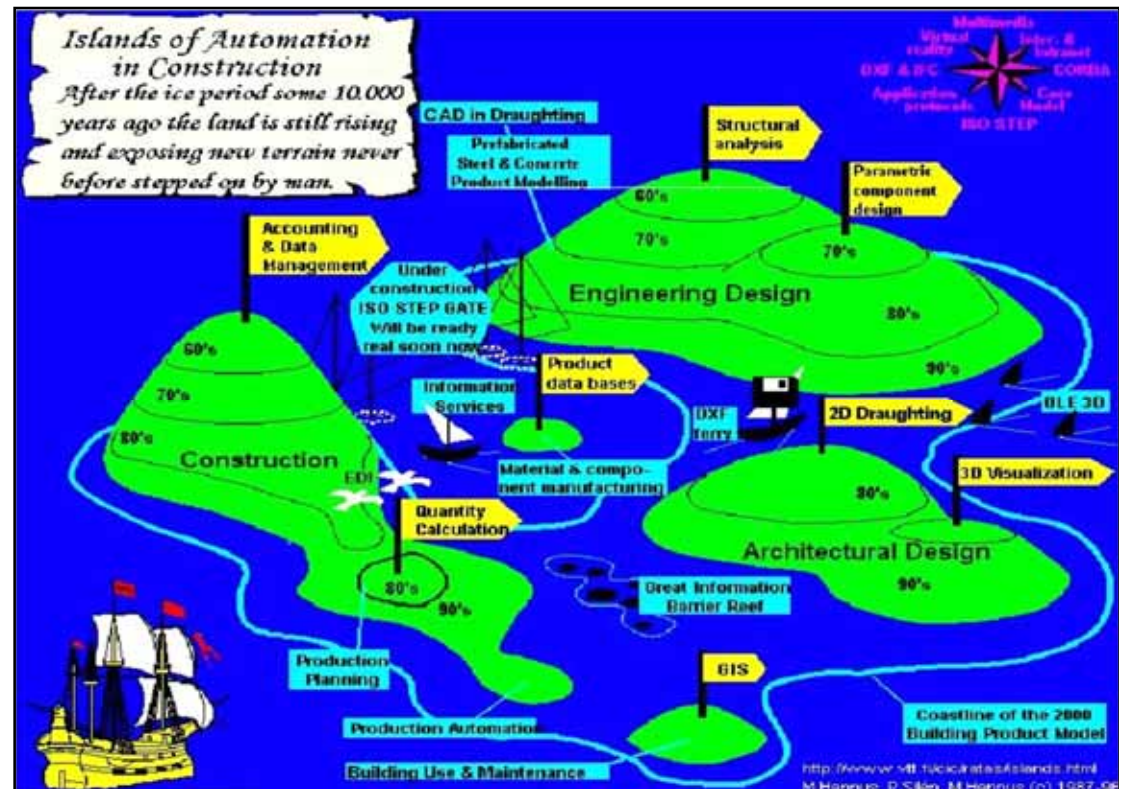
- Communication & Networking
- Open Innovation
- New Technology Adoption

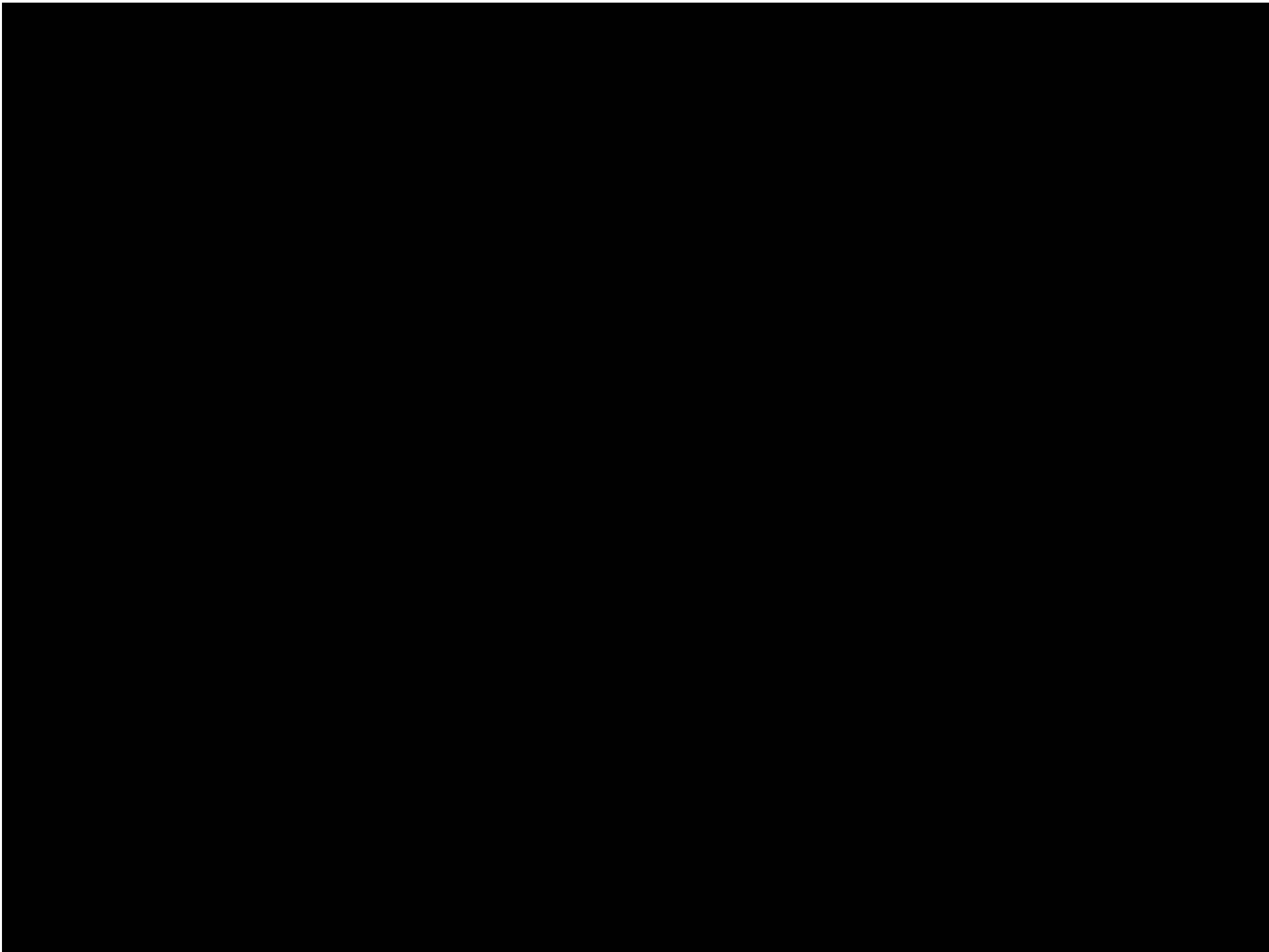
◆ R&D Replacement – Technology Acquisition

- Outsourcing / Licensing / M&A
- Joint Venture / Partnership / Alliance
- Subsidiary

◆ Find New Business Areas through R&D

- Expansion of Value Chain– EPCSM / PLM
- Project / Program / Portfolio
- FEED / Global Business





To Be Sustainable C-Industry...

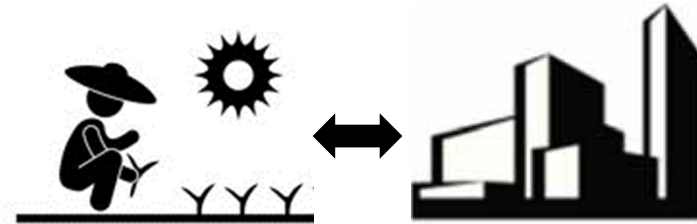
Go Beyond Boundaries!!

Types of Boundaries...

◆ Physical Boundaries

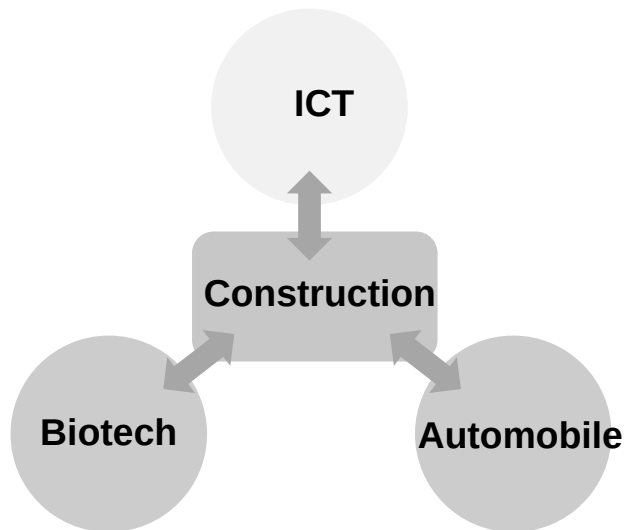


Geographical Boundaries

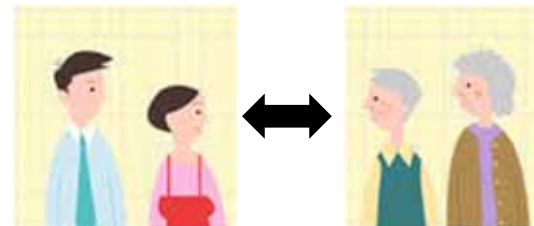


Regional Boundaries

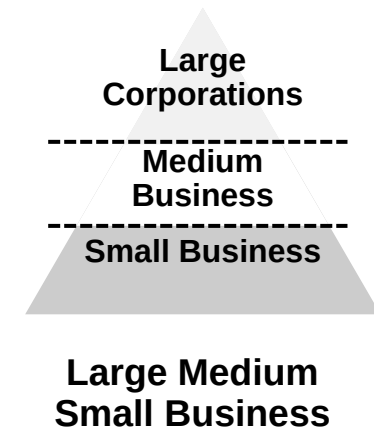
◆ Boundaries btw Industries



◆ Intergenerational Boundaries



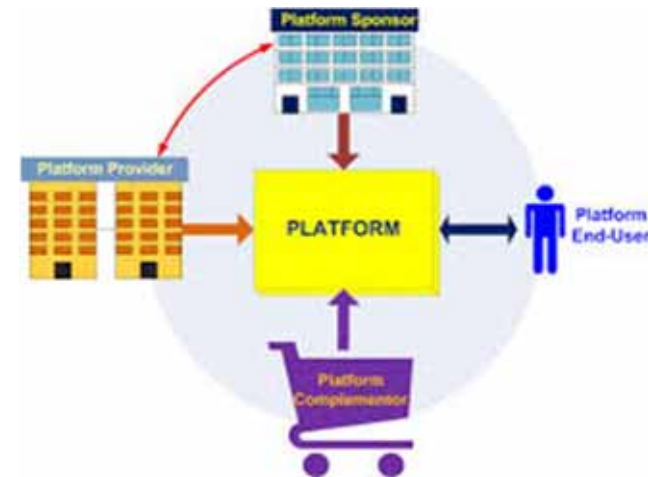
The next generation - the older generation



W 1. Platform Leadership

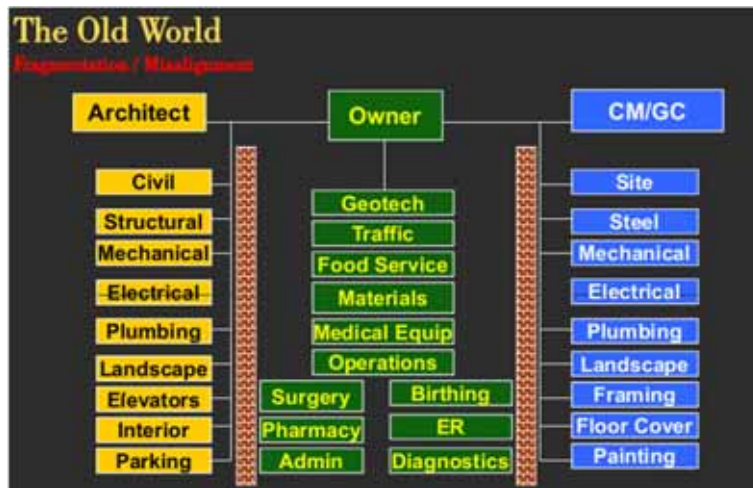
◆ Elements of Platform Leadership

- Secure technology for products
- Define clear business areas
- Collaboration capabilities
- Organizational structure for collaboration



◆ Market in the 21st Century: Rapid Changes and High Risks

- All businesses and individuals and customers in the future with platform technology



. Source: <http://www.dpr.com>

W 2. Transformation Spirit

◆ Conversion / Reform / Transformation

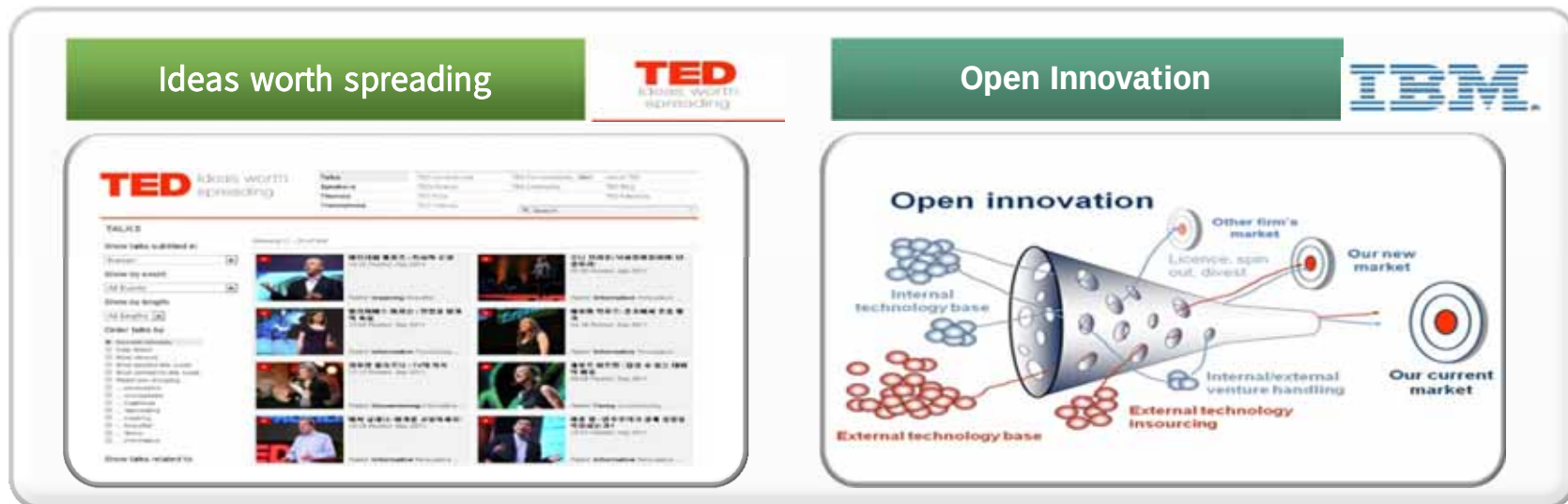
- **An Exponential Value Creation through Innovation**
- **An Organization's Ability to Deliver a Step-change Value**
- **Towards New Drivers of Success**



[Data source] <http://www.changefactory.com.au/our-thinking/organisational-transformation/>

W 3. Knowledge Based Ecosystem

- ◆ Sustainable self-made world where actions in creation, accumulation, sharing, usage and lapses take place without external interferences like that of the natural ecosystem



- ◆ A system which co-exists and develops through competition and cooperation where several companies center around a few leading companies



K-Based Ecosystem Example

K-Hub

Self-control mechanism of knowledge

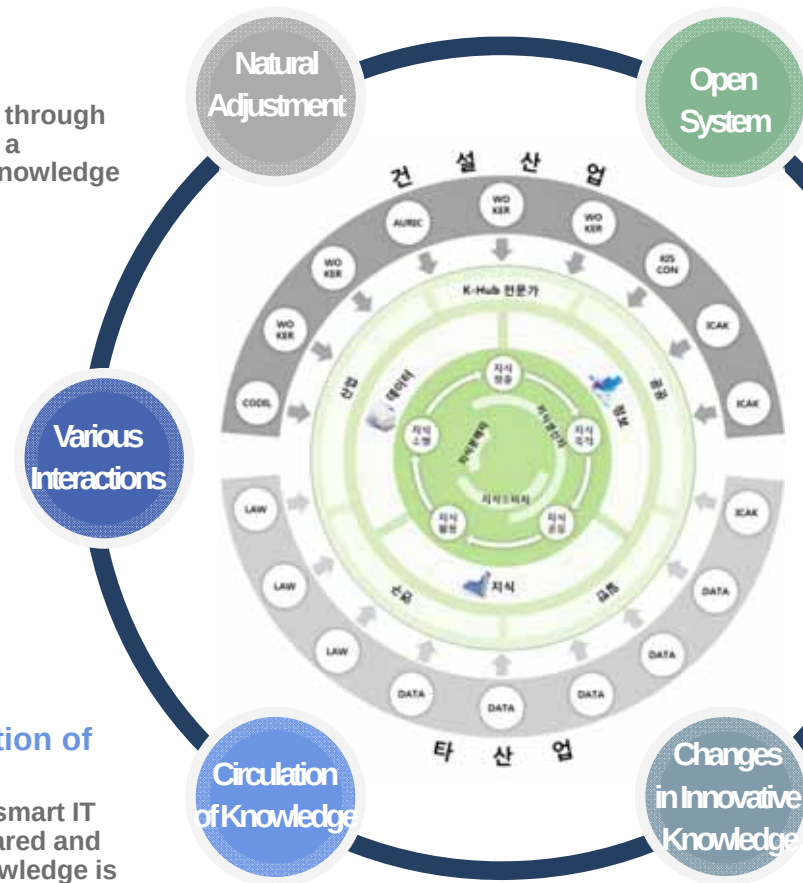
In the K-Hub, knowledge evolves through co-evolution with each other and a mechanism is set up where the knowledge that best befits the environment

Interaction of a variety of methods

Knowledge exchange in K-Hub should apply a variety of methods and knowledge is exchanged in a variety of interactions

Platform set up for distribution of knowledge

Valuable knowledge is stored in smart IT environment and is open and shared and with easy access and usage, knowledge is distributed in the K-Hub



Ongoing energy inflow from outside the ecosystem

For healthy maintenance of the ecosystem, constant energy needs to flow in from outside K-Hub and energy sources need to be diversified

Co-existence of knowledge from various fields

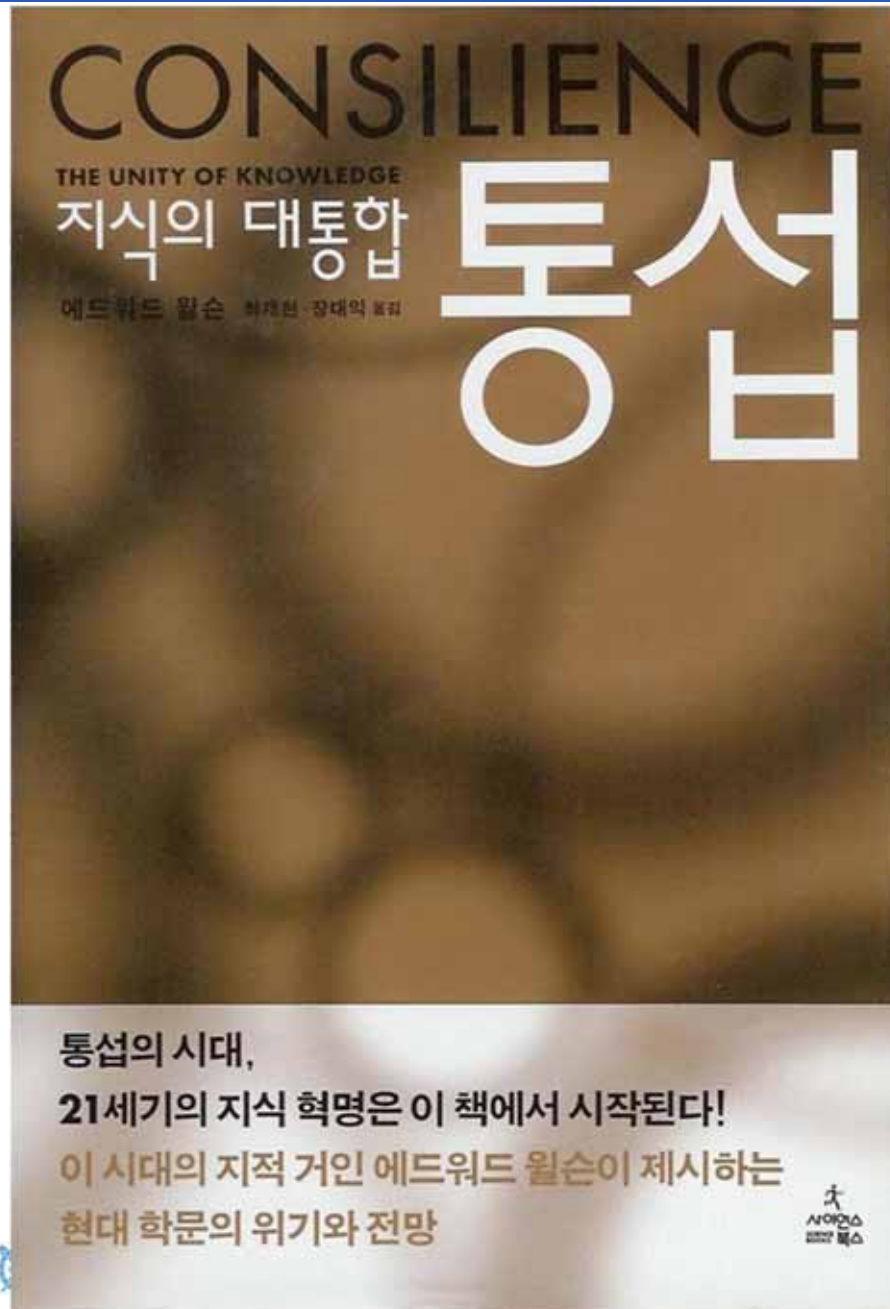
Knowledge from various fields need to co-exist in the K-Hub for creation and exchange of new knowledge

Endless occurrences of chaos

For active state of the K-Hub to be maintained and to continue to evolve, it must be continually be provided with opportunities for emergence of new knowledge

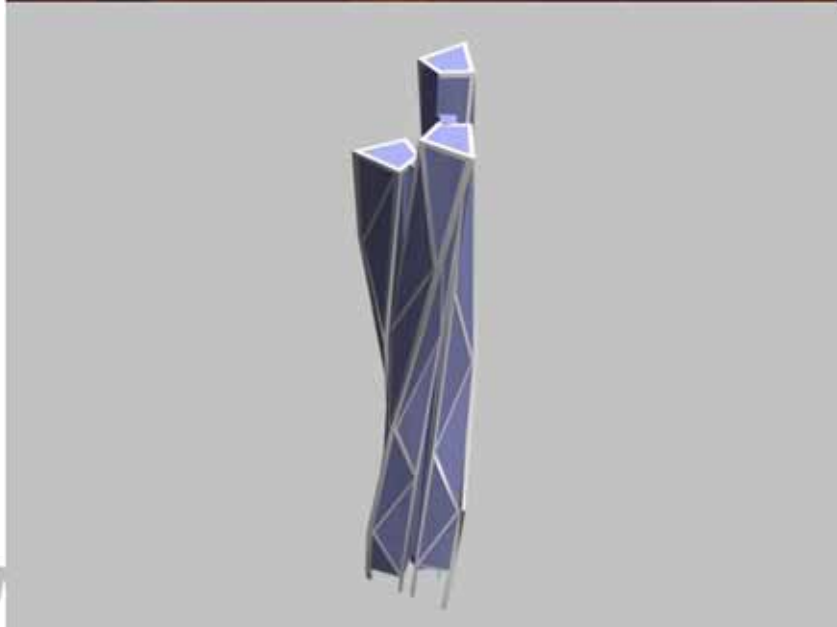
K-Hub: Research Group for Establishing C-Knowledge & Information

W 5. Insight through Consilience



Structure from Nature

Consilience



W 4. Synergistic Collaboration



Involve all team members in design meetings, including contractors.



Institute building information modeling.



Facilitate collaboration.



Set up contract mechanisms that enable open collaboration.



Minimize paper-based processes, and collaborate digitally.



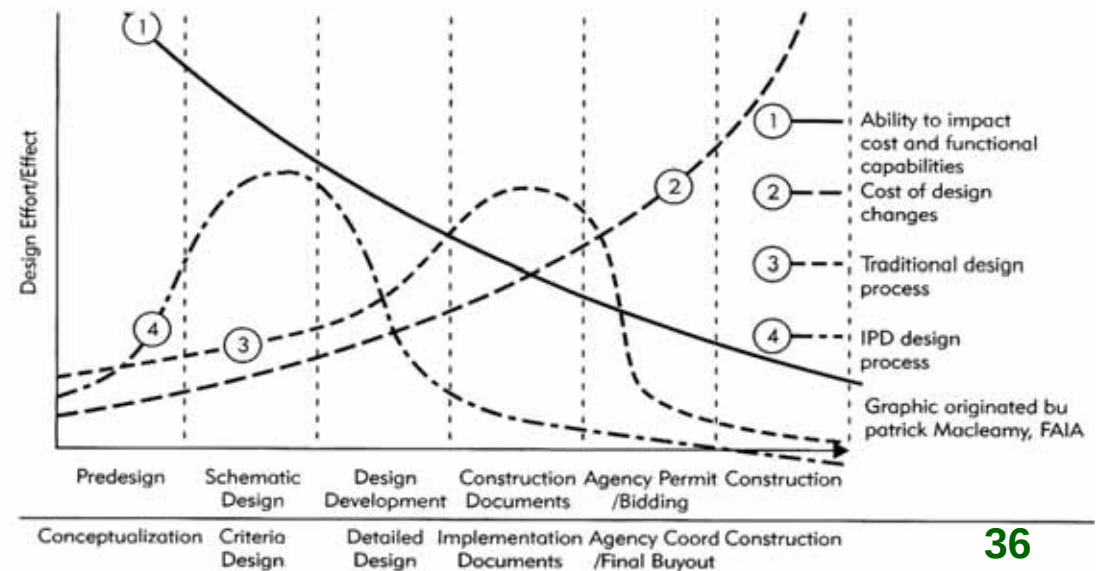
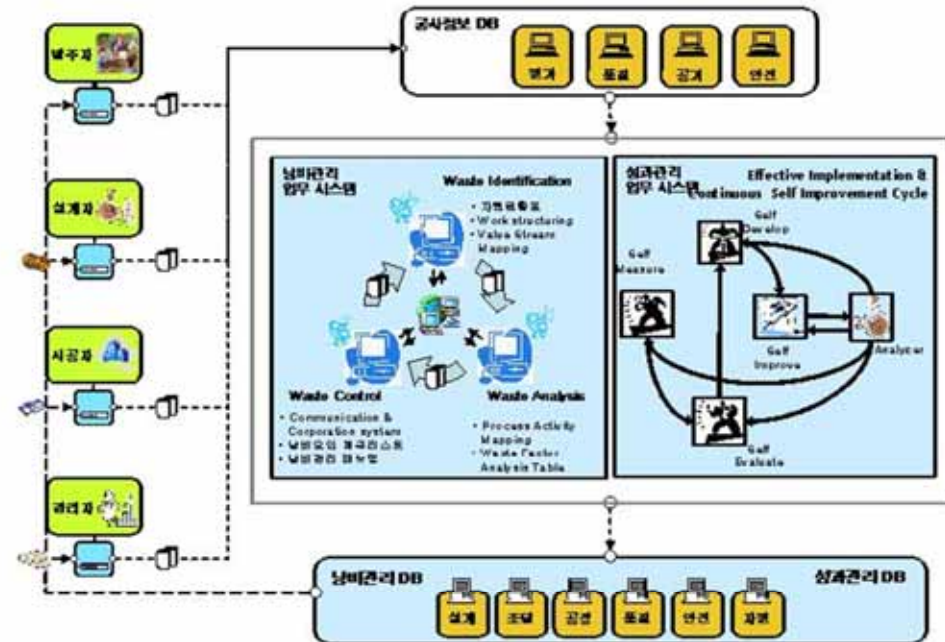
Check for and manage interferences between trades, digitally.



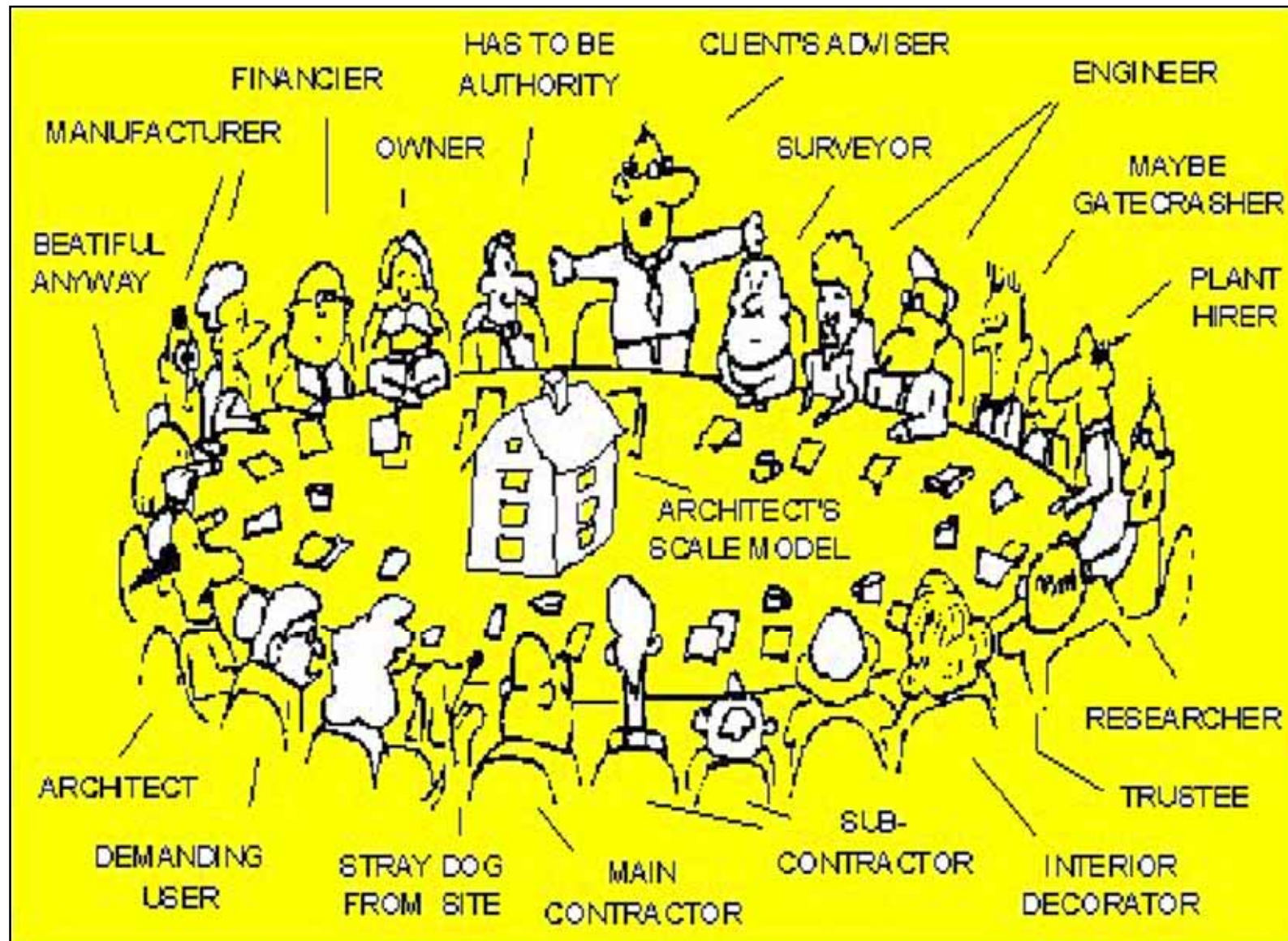
Create a culture of trust and sharing.



Communicate design ideas using 3D visualization to keep everyone aligned.



Collaboration among C-Stakeholders



Future Vision of C-Industry

◆ New Paradigm in C-Industry

- 3P: Progressive / Professional / Productive
- 3C: Creative / Competitive / Credible
- Cultural Industry / Knowledge Industry

◆ Sustainable Environment of C-Industry

- Green Construction: Blue Ocean
- New Prospective C-Technology
- Integrity & Regeneration

◆ Global C-Competence

- Finding Overseas Market
- Nurturing Global Engineer
- Win-Win Strategy: Partnering

CM Orchestra...



Artistic Creativity



CM Orchestra...



Scientific Creativity



CM Orchestra...

Innovative Integration

Harmony & Coordination

Leadership & Followership



Go Beyond Boundaries Wisely... *Quantum Leap*

- ◆ Recovery of status as the pivotal industry that leads the national economy
- ◆ Conversion into the culture and knowledge industry that pursues the happiness of citizens
- ◆ Contribution to great advance in civilization and preservation (Integrity) of global environment

Self-Confidence
Challenging Attitude

