

NEW-GENERATION NETWORKS R&D STRATEGY

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Vice President***



ICT'S POTENTIAL

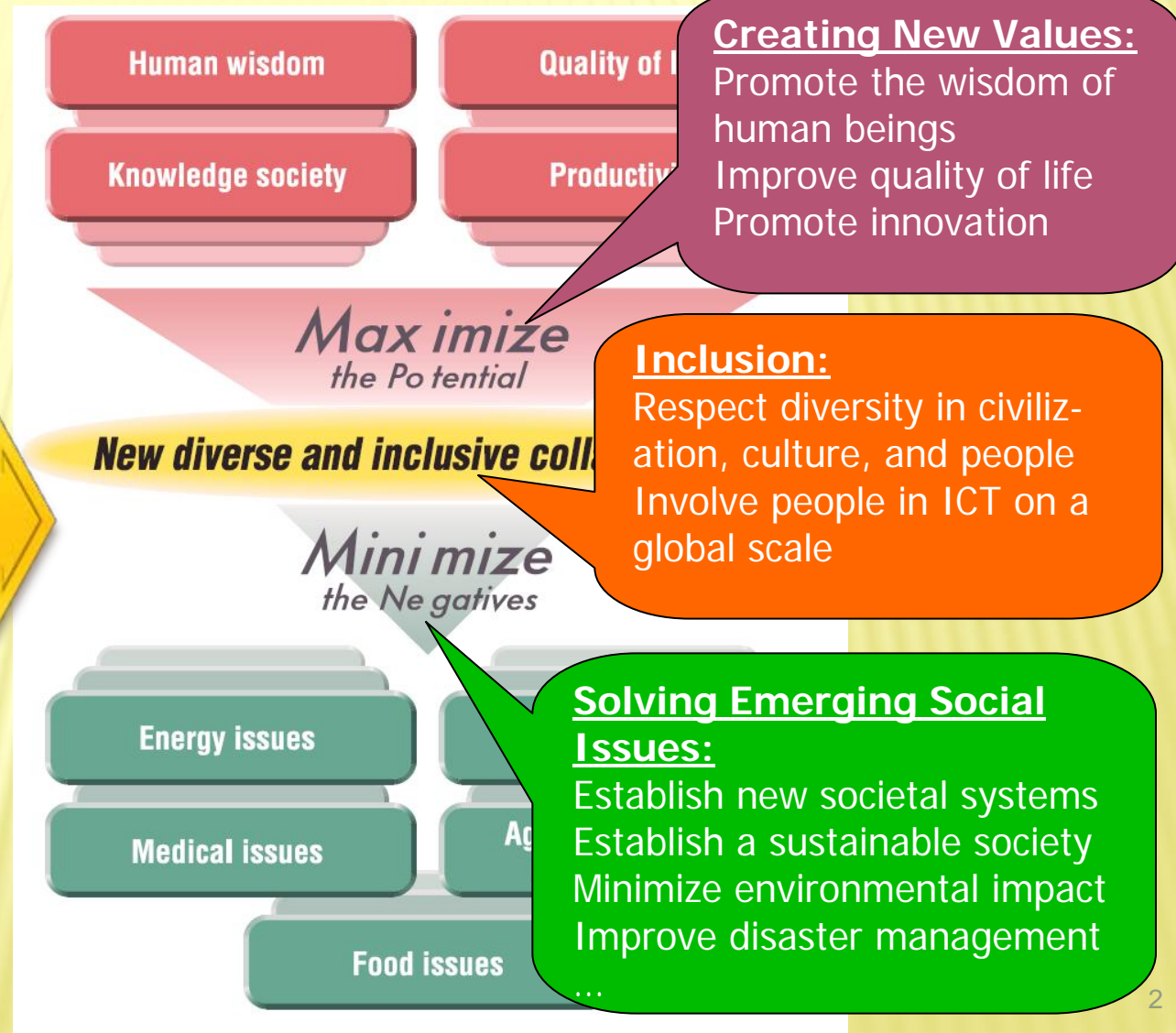
Field	ICT's Potential
Energy saving/Reduction of Environmental Impact	<ul style="list-style-type: none">- Power saving- Prediction, detection and alert of environmental pollution
Disaster management	<ul style="list-style-type: none">- Prediction, detection and alert of disaster- Protection of important data and facilities
Medical care	<ul style="list-style-type: none">- Healthcare- Remote medical care
Food shortage	<ul style="list-style-type: none">- Improvement of food-sufficiency ratio- Provision of secure food
Secure life/society	<ul style="list-style-type: none">- Crime prevention- Accident prevention- Secure networks
Gaps	<ul style="list-style-type: none">- Reduction of Gaps between cities and countries- Sharing of knowledge and information
Aging population	<ul style="list-style-type: none">- Healthcare- Care for aging people
Globalization	<ul style="list-style-type: none">- Support of global mobility- Support of diversity

NICT'S VISION FOR NWGN

DIVERSITY AND INCLUSION - NETWORKING THE FUTURE -

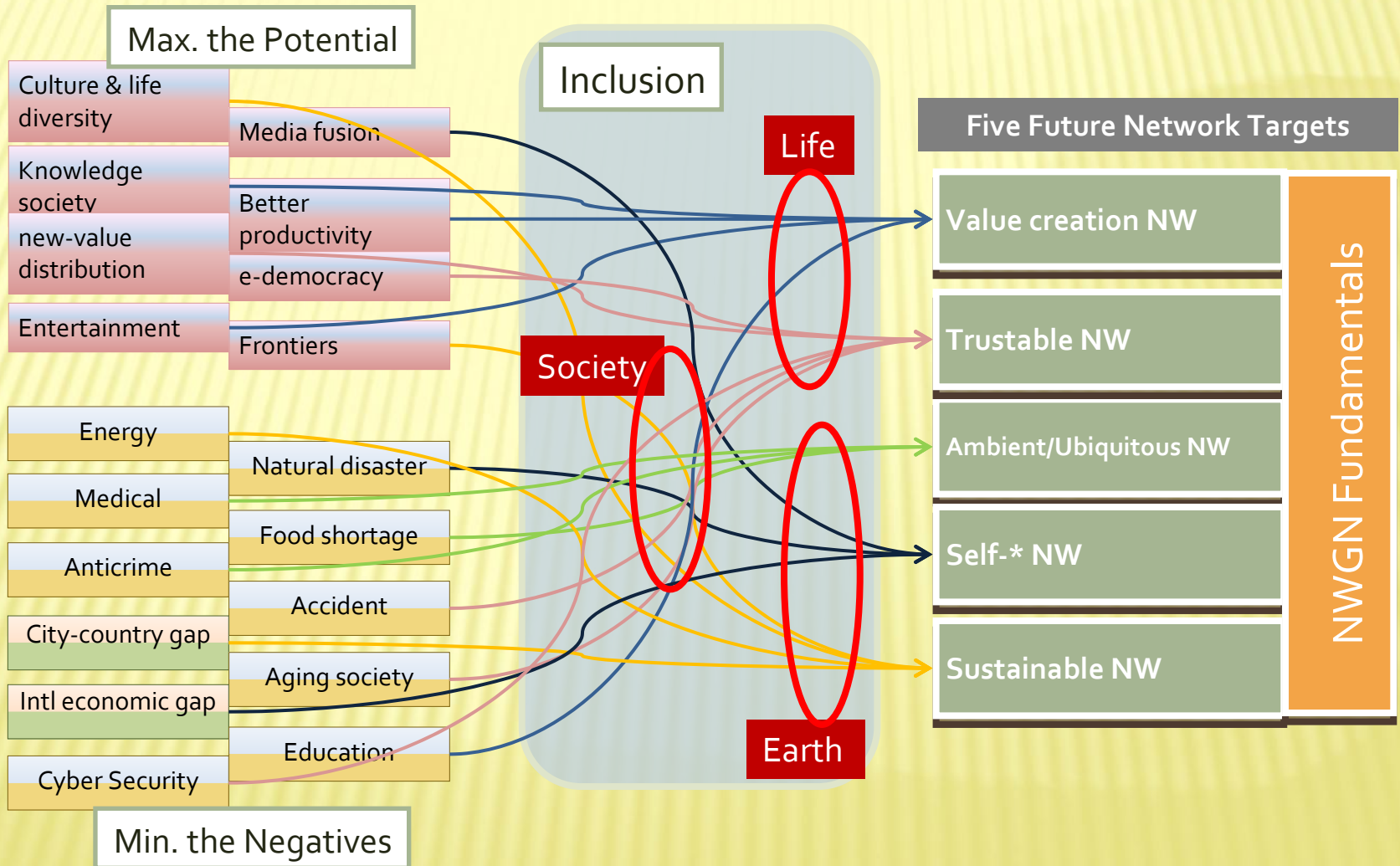
Culture & life diversity
Knowledge society
Media fusion
new-value distribution
Better productivity
e-democracy
Entertainment
Frontiers

Energy
Natural disaster
Medical
Food shortage
Accident
Anticrime
City- country gap
Intl economic gap
Aging society
Education
Cyber Security

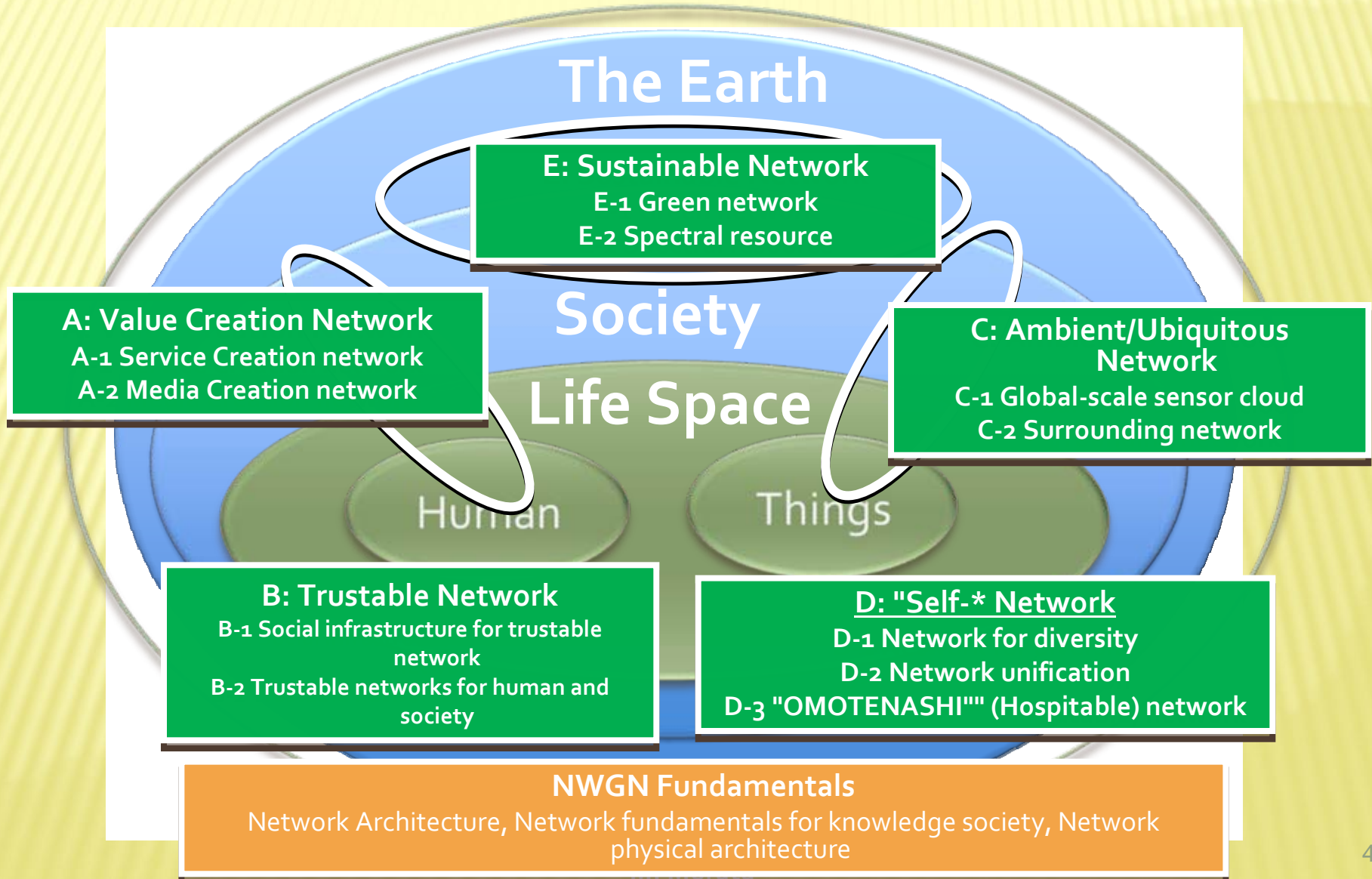


NWGN: FROM VISIONS TO TARGETS

- × Extracting challenging technological issues (network targets) from functional requirements



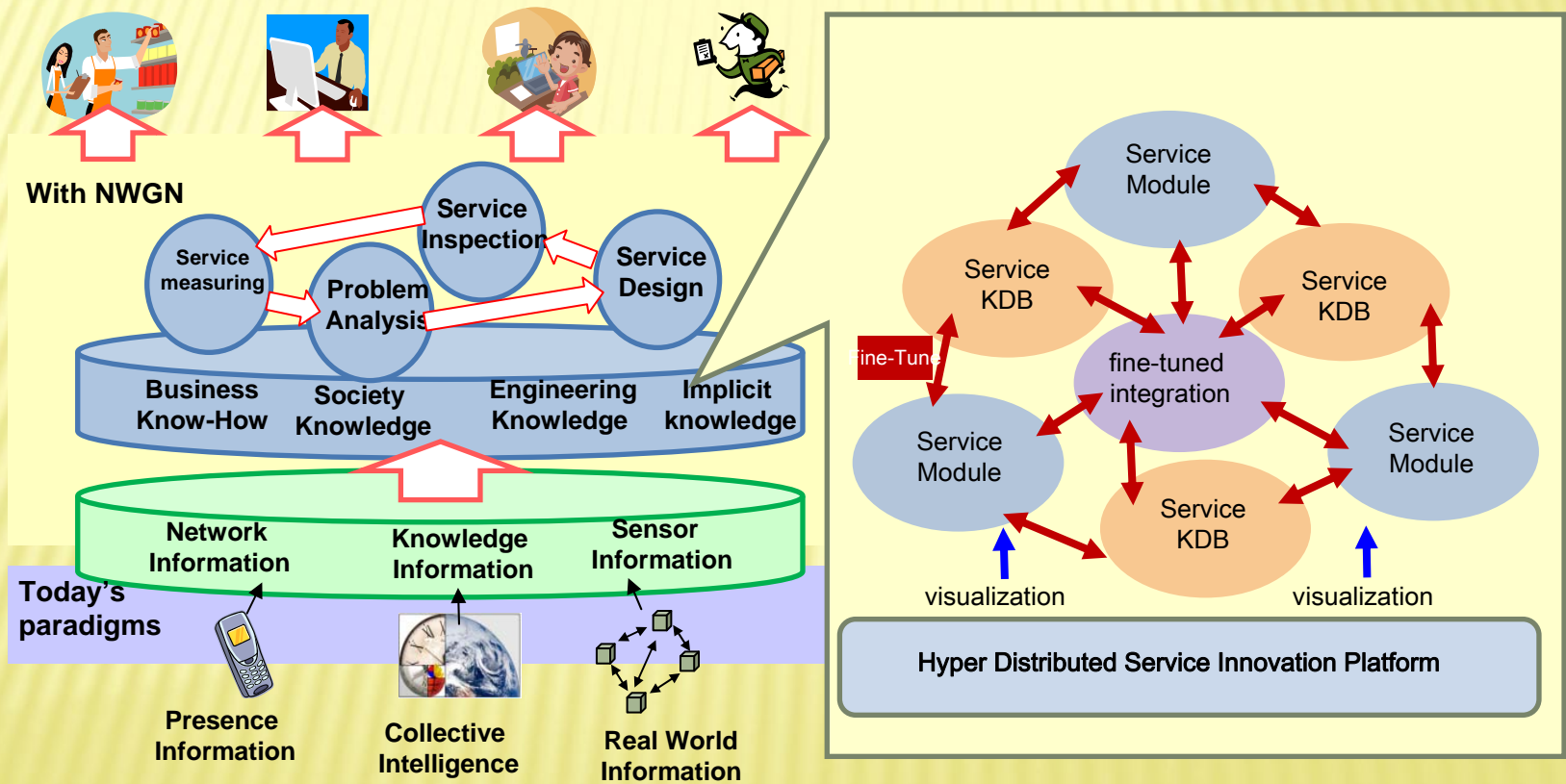
FIVE NETWORK TARGETS + NETWORK FUNDAMENTALS



A: VALUE CREATION NETWORK

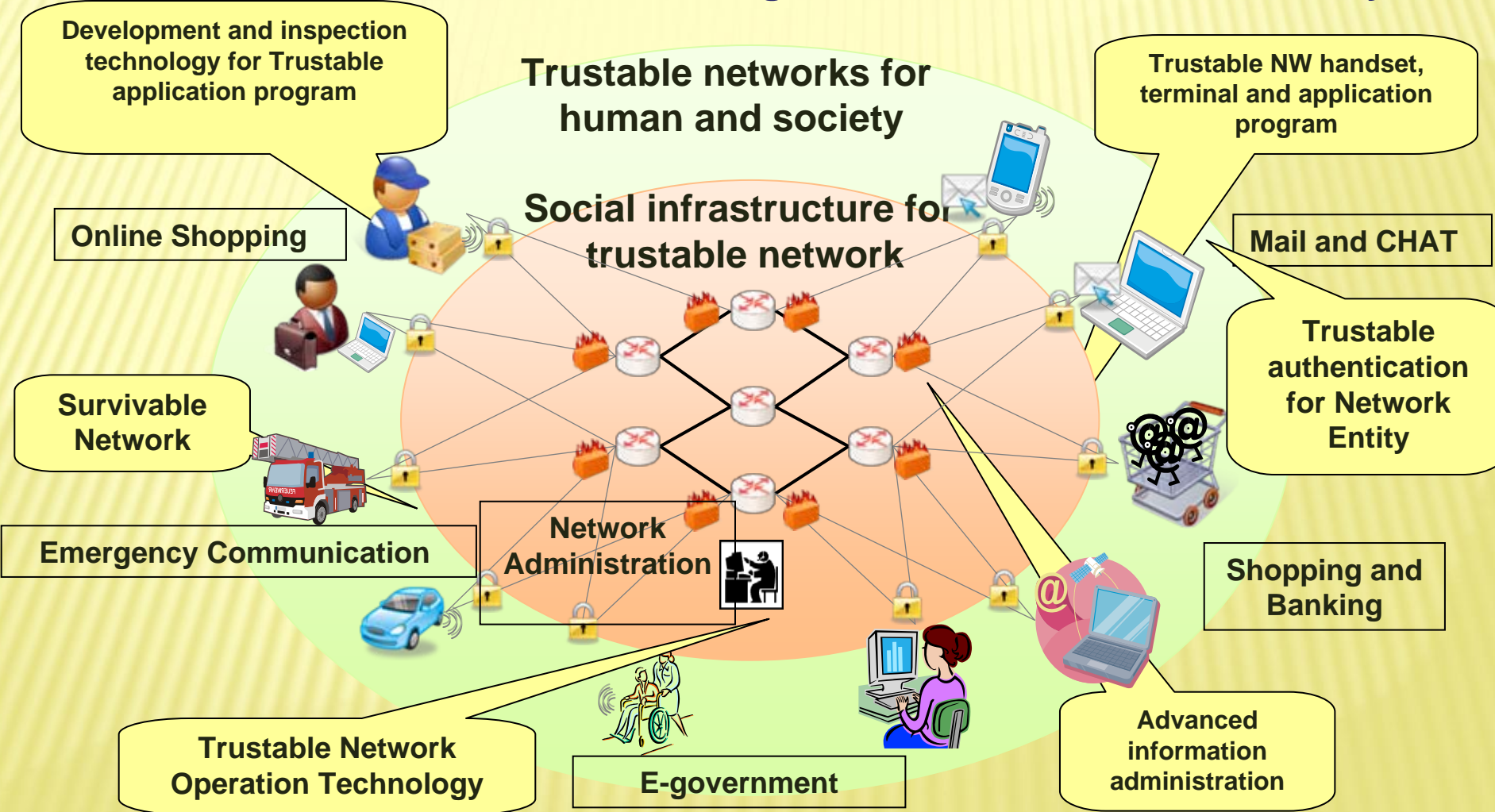
Everything as a Service

- Service creation network
- Media creation network



B: TRUSTABLE NETWORK

Toward establishment of trust among networks, human and society



C: AMBIENT/UBIQUITOUS NETWORK

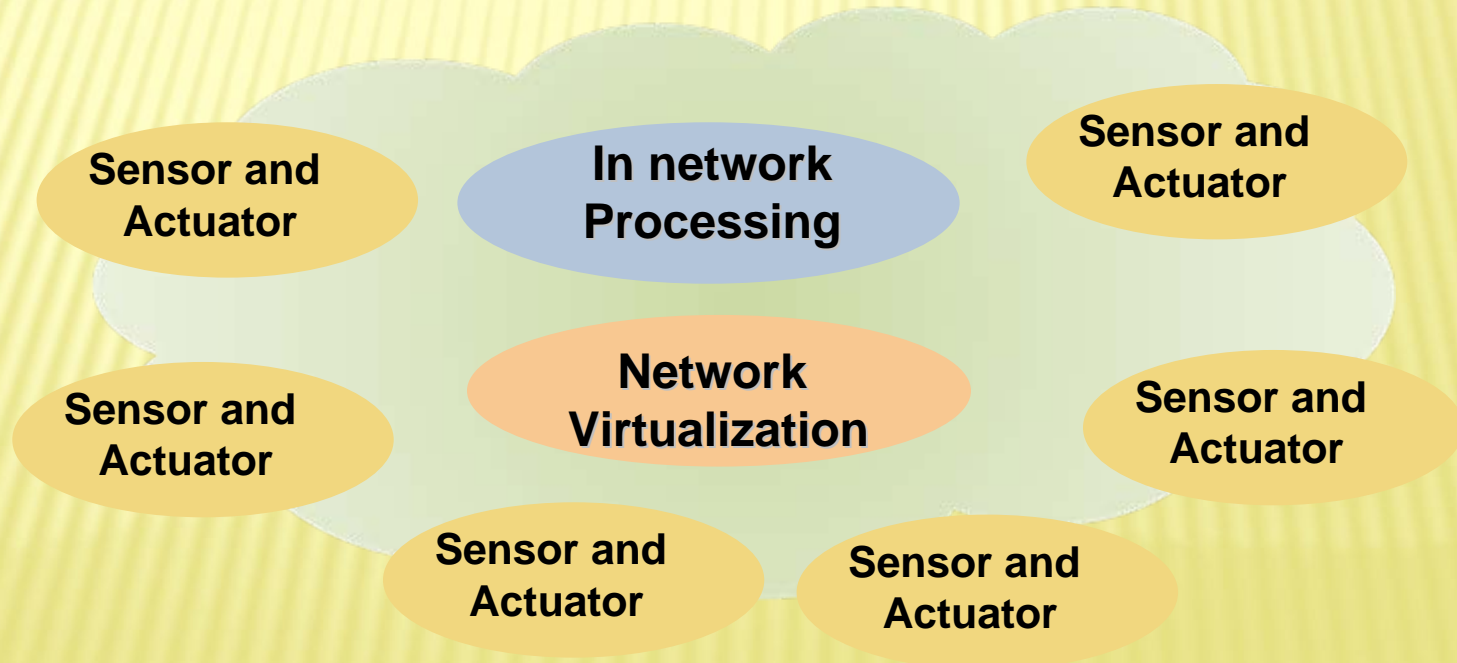
■ Connecting REAL and VIRTUAL world

Global Sensor/Actuator Cloud

Real time
environment sensing

Real time large scale
information distribution

Hi-fidelity
interaction



D: "SELF-*" NETWORK

User dedicated / "OMOTENASHI" (hospitality-rich) network

1: Network for Diversity with network virtualization technology

Ultra Realistic Communications

Distance Surgical Operation

Ultra broad bandwidth NW
Auto-configuration

Data-base Backup

Ultra-low latency NW
Auto-configuration

Back-up NW
Auto-Configuration

Virtual NW (Logical NW)

3: User oriented Network administration

2: Network unification for Integrated Operation

Packet NW

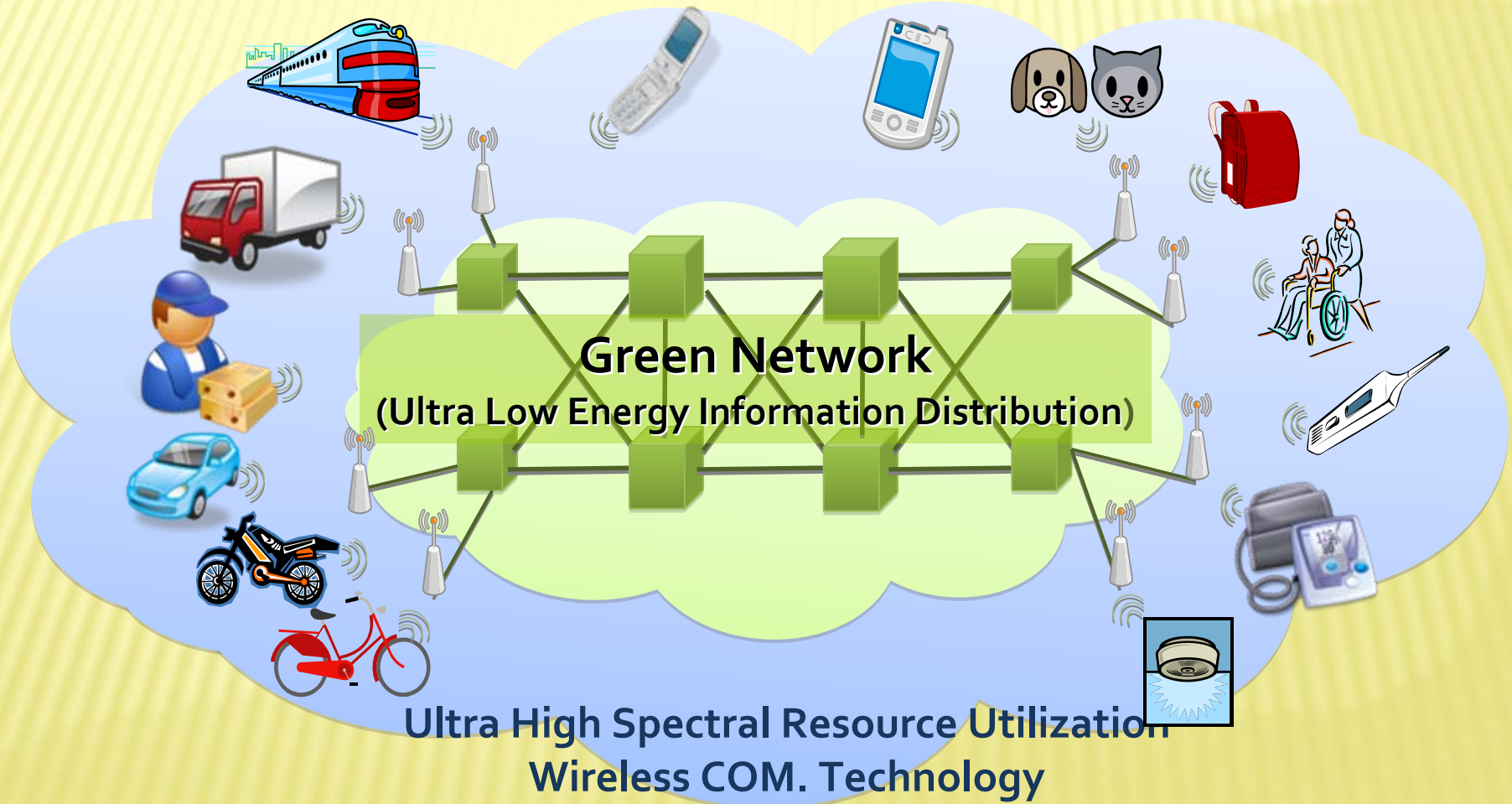
Satellite /terrestrial
Wireless Integration

Path NW

Complex Physical Network

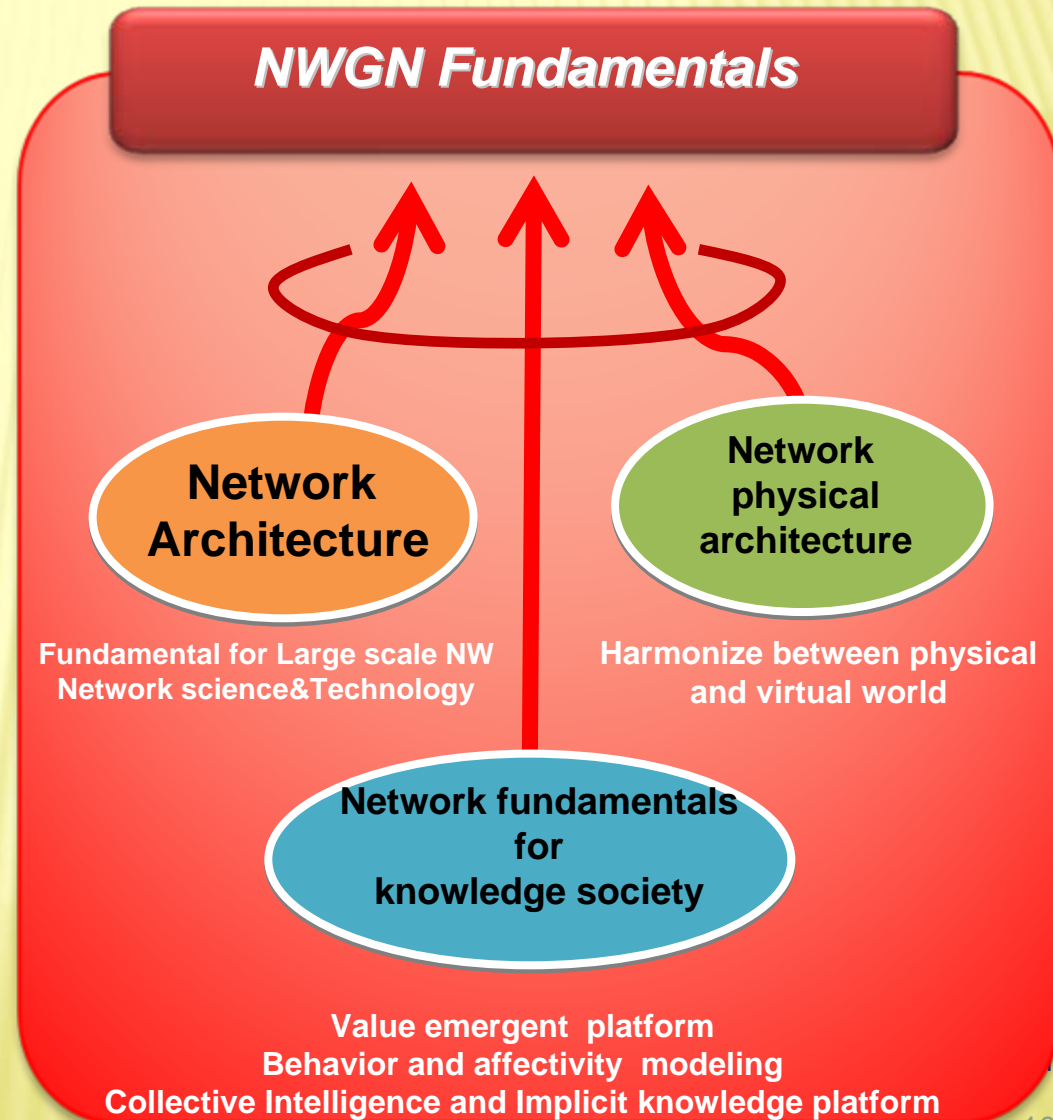
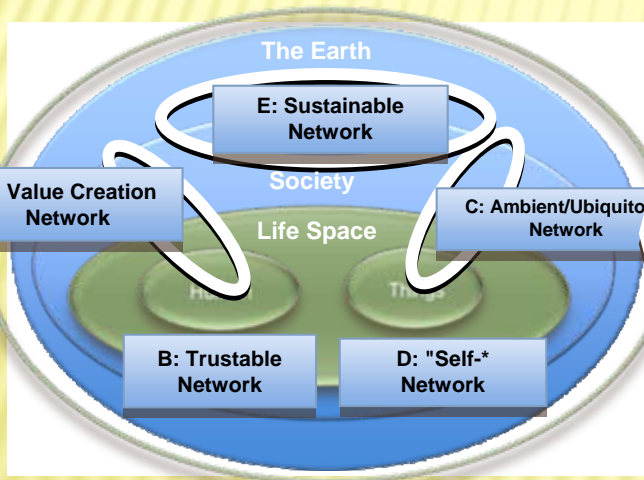
E: SUSTAINABLE NETWORK

- Earth friendly with user satisfaction

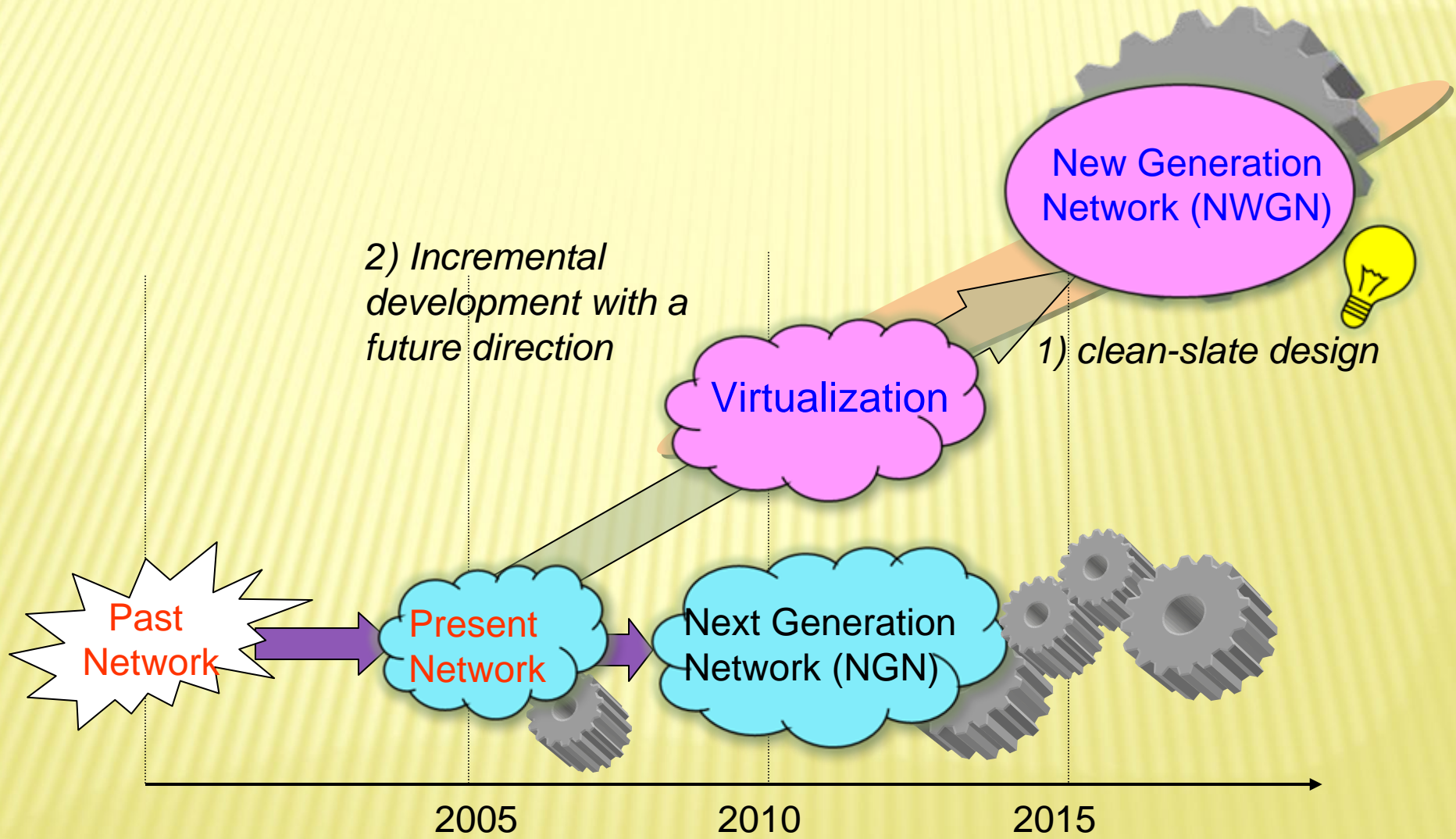


NWGN FUNDAMENTALS

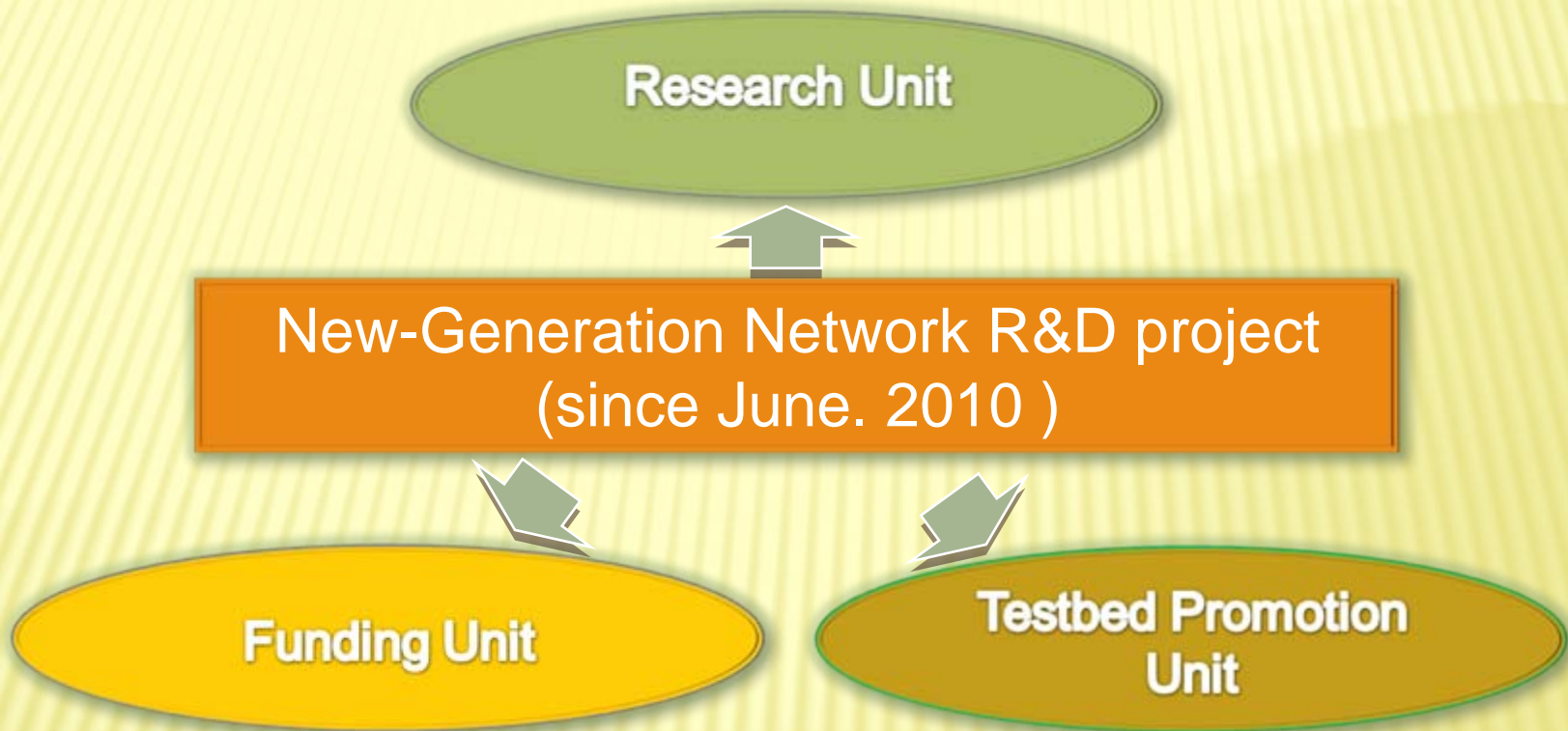
- NWGN long term R&D (-2050)
- Future Emerging Tech.



HOW TO REACH “NEW GENERATION NETWORK”



NICT'S NEW-GENERATION NETWORK R&D PROJECT



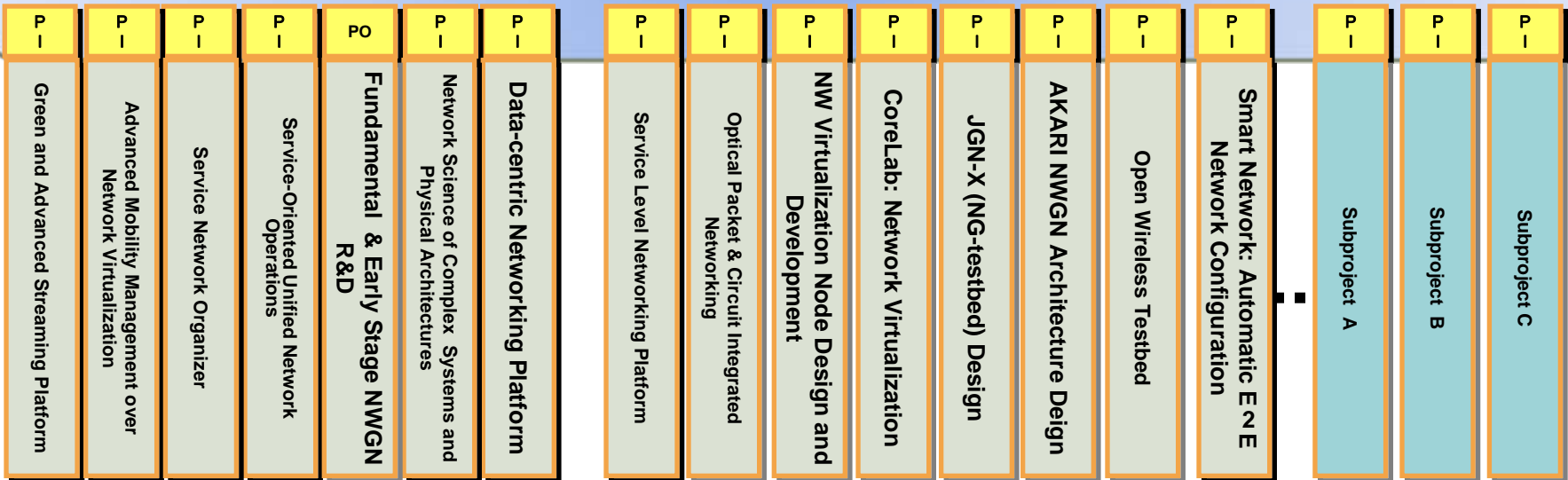
Missions

- R&D NWGN technologies to realization
- Plans mid-term and long-term new-generation network R&D strategies
- Internationally promotes R&D strategy and roadmap
- Promotes effective and consistent NICT's R&D
- Human-resource development of ICT researchers and engineers

NWGN R&D PROJECT STRUCTURE

**Project Director
Mr. Tominaga
(Vice President of NICT)**

**Research Director
Prof. Murata
(Osaka U. /NICT)**



Collaborative subprojects

NICT In-house subprojects