Governance Conference 2019

Digital Transformation Driven by Cities - A Case from Japan

May 22, 2019
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Mitsubishi UFJ Research and Consulting

ociety 5.0: Japan's Vison for "Super Smart Society"

Conversion between cyber and physical spaces
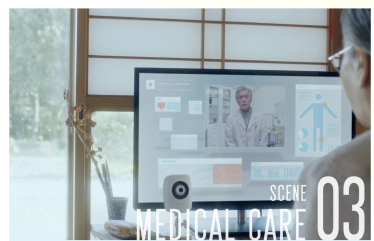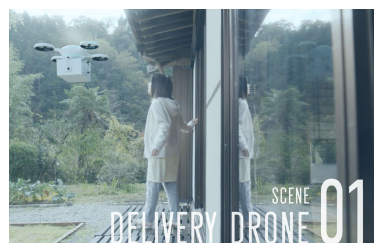
Resolving economic and social problems

Human-centered

Society 5.0: Japan's Vison for "Super Smart Society"

"Be the World's Most Advanced IT Nation."

Resolve economic and social problems with new technologies such as IoT, AI, and robotics, in a human-centric manner…


SCENE 01 DELIVERY DRONE

SCENE 02 AI HOME APPLIANCES

SCENE 03 MEDICAL CARE

Human Centricity

Economic advancement	Resolution of social problems
• The demand for energy is increasing	• Reduction of GHG emissions
• The demand for foodstuffs is increasing	• Increased production and reduced loss of foodstuffs
• Lifespan is becoming longer, and the aging society is advancing	• Mitigation of costs associated with the aging society
• International competition is becoming increasingly severe	• Promotion of sustainable industrialization
• Concentration of wealth and regional inequality are growing	• redistribution of wealth, and correction of regional inequality

Incorporating new technologies such as IoT, robotics, AI, and big data in all industries and social activities, provide goods and services that granularly address manifold latent needs without disparity

to **balance** economic advancement with the resolution of social problems

04 SCENE SMART WORK

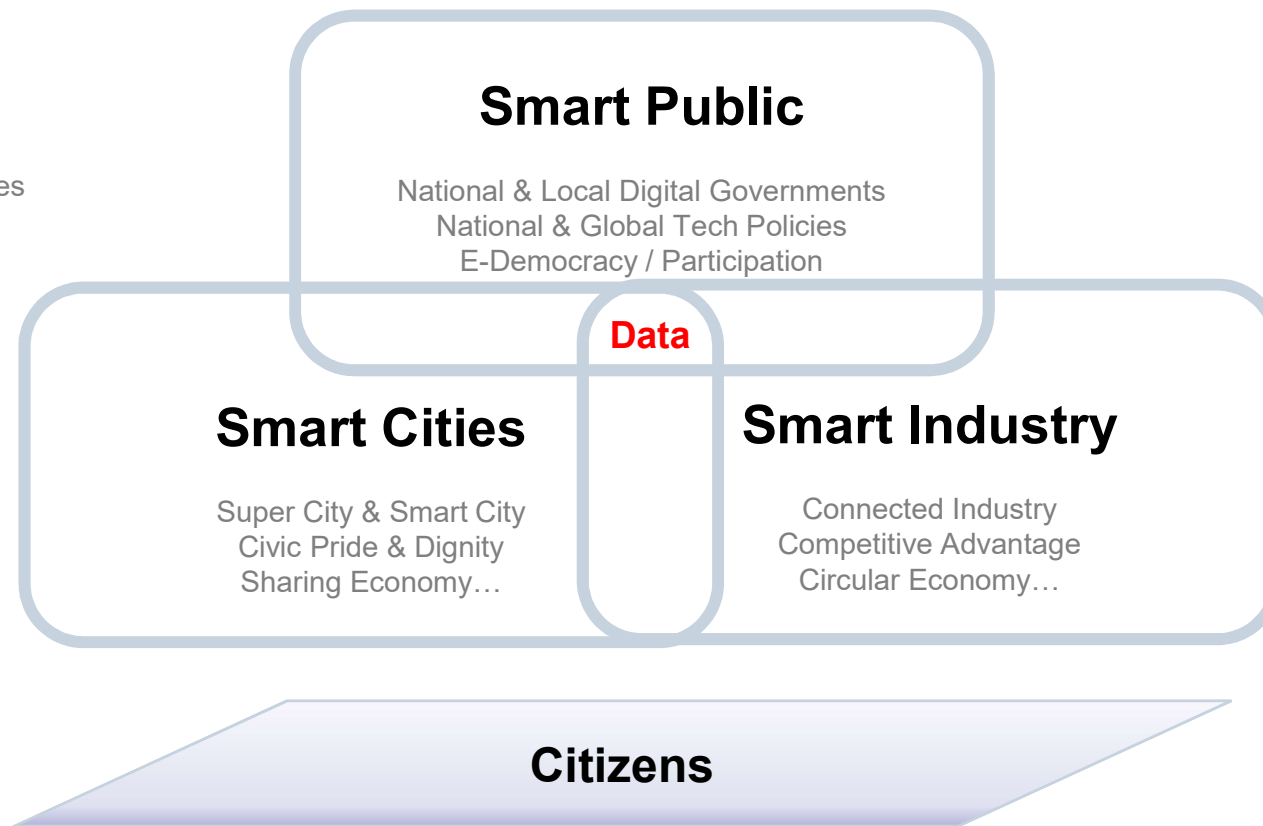CLOUD 05 SCENE

06 SCENE AUTOMATIC DRIVING
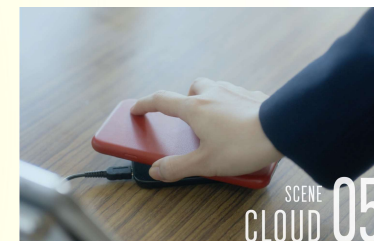
Reality … Architectural and Process Design Issues

Citizen-centric digital transformation requires building an ecosystem among public, private, and citizen sectors. Optimizing the balance between top down and bottom up approaches remains as key challenge.

Top Down Approach:

- Public Philosophy
- Social Contracts
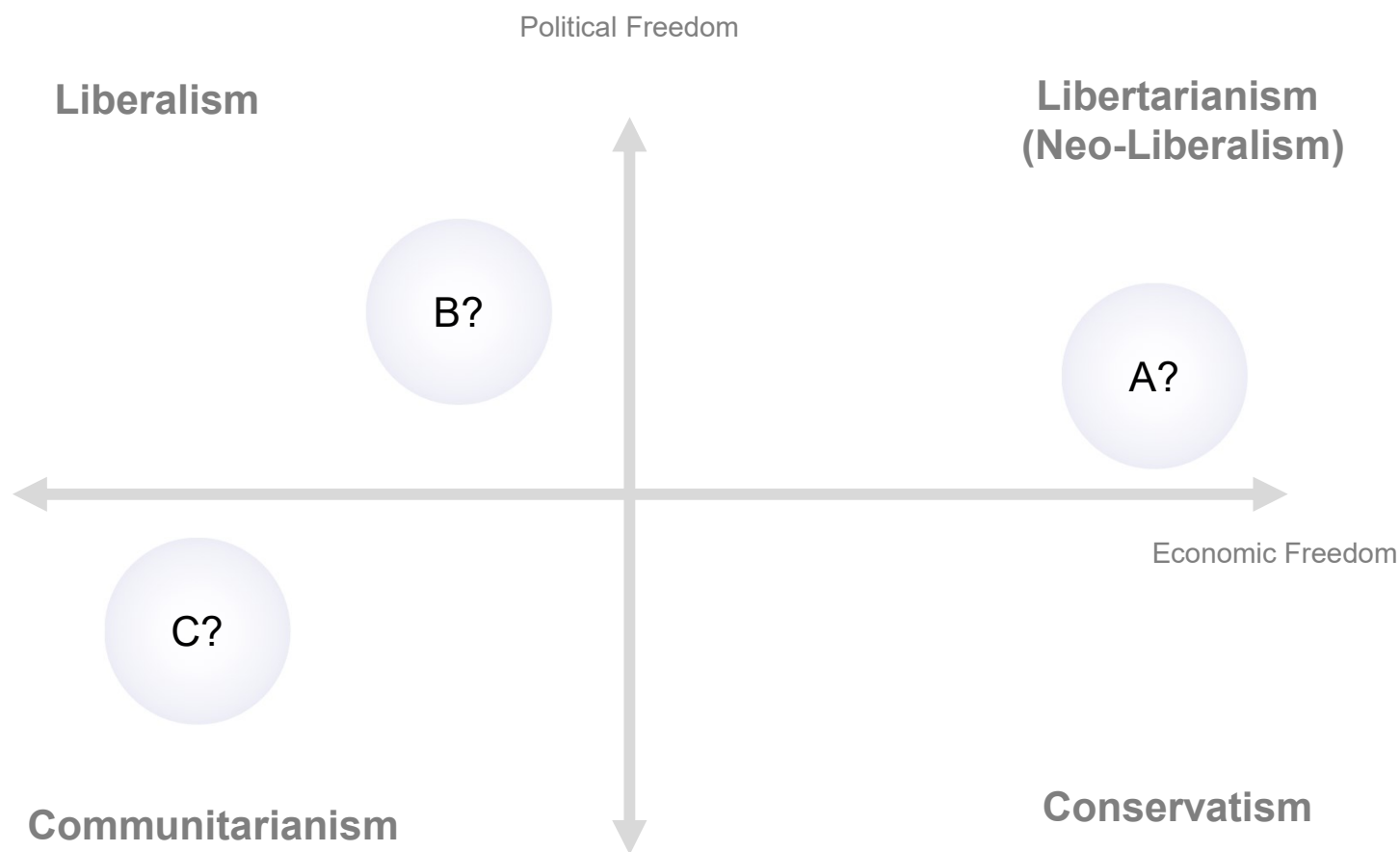- Data & System Architectures
- System Thinking…

Smart Public

National & Local Digital Governments
National & Global Tech Policies
E-Democracy / Participation

Data

Smart Cities

Super City & Smart City
Civic Pride & Dignity
Sharing Economy…

Smart Industry

Connected Industry
Competitive Advantage
Circular Economy…

Citizens

Bottom Up Approach:

- Individual Needs & Wants
- Specific Digital Solutions
- Startups & VCs
- Design Thinking…

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"Data Free Flow with Trust" (DFFT) - Where does "our" model fit?

Political Freedom

Liberalism

**Libertarianism
(Neo-Liberalism)**

B?

A?

Economic Freedom

C?

Communitarianism

Conservatism

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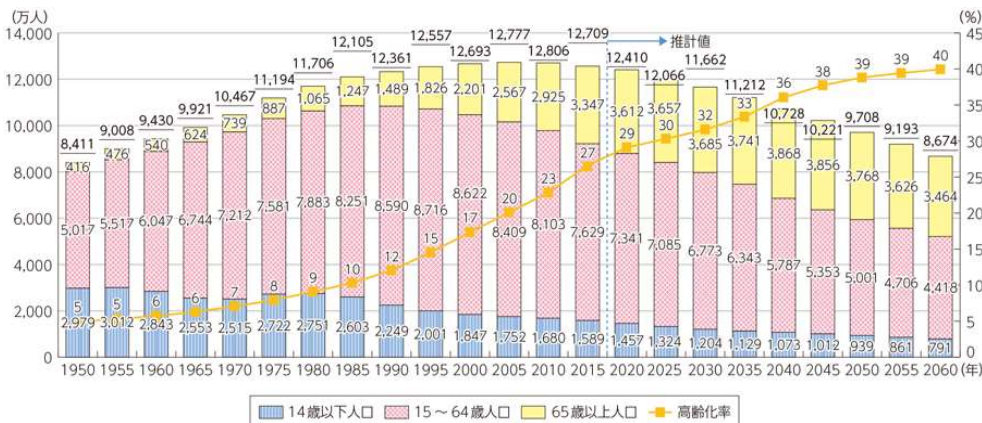# Key Challenges in Japan

DRIVERS:

- Decreasing and Aging Population

- Excessive Concentration in Tokyo / Needs for Rural Revitalization

Digital Transformation of Japan
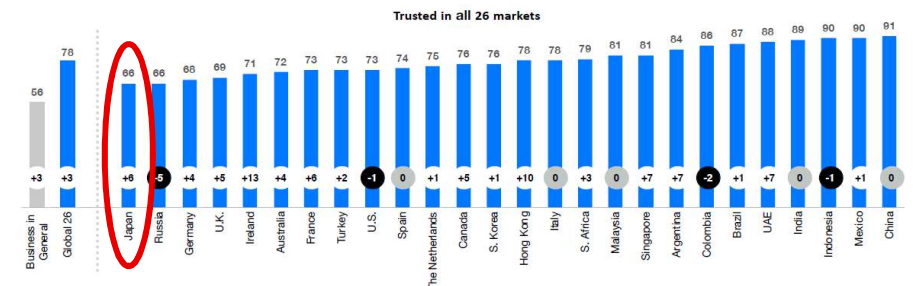
OBSTACLES:

- Weak Trust on Technology

- Lack of Digital Transformation Capacity

- Complex Regulations
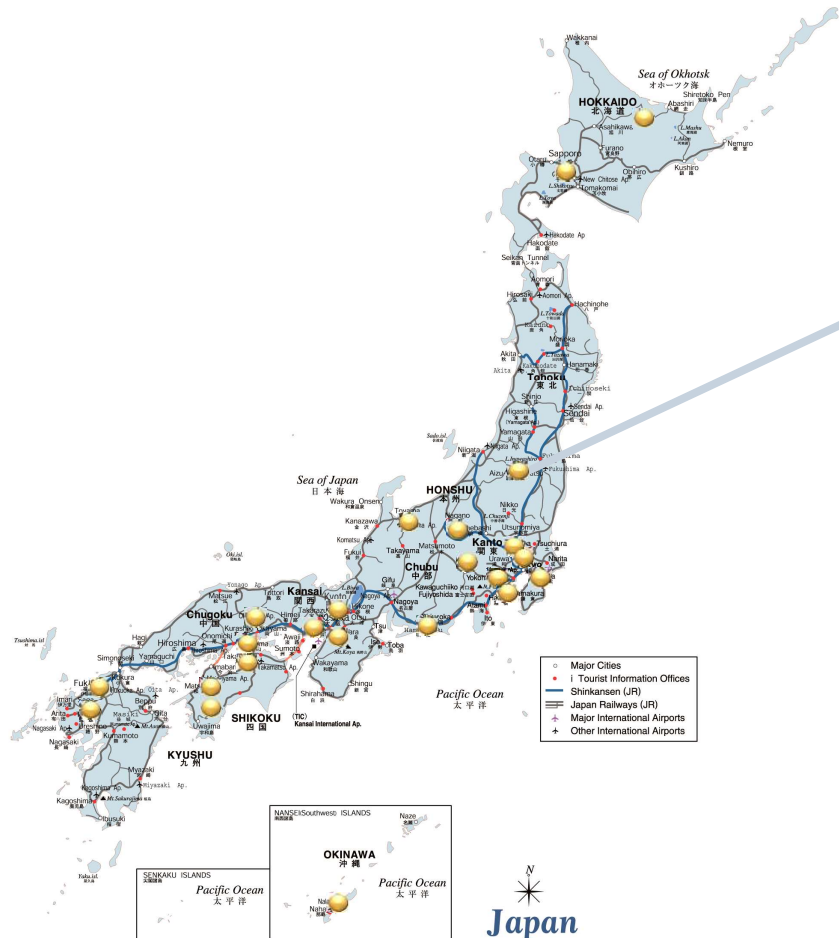

JAPAN'S DEMOGRAPHIC SHIFT TOWARDS AGING SOCIETY

TRUST IN TECHNOLOGY
LESS RESILIENT IN DEVELOPED MARKETS

Percent trust in the technology sector, and change from 2018 to 2019

http://www.soumu.go.jp/johotsusintokei/whitepaper/ja/h29/html/nc135230.html;
https://www.edelman.com/sites/g/files/aatuss191/files/2019-04/2019_Edelman_Trust_Barometer_Technology_Report_0.pdf

Aizuwakamatsu City

- Prefecture: Fukushima
- Population: App. 122.6K
- Area: App.383㎢
- Industry: Electronic devices, precision machines, non-ferrous metal, sake, lacquerware, rice farming
- University: Aizu University

https://www.city.aizuwakamatsu.fukushima.jp/docs/2013101500018/files/smartcity_panphlet.pdf
http://www.orangesmile.com/common/img_country_maps/japan-map-0.jpg

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Outline of Aizuwakamatsu Smart City Story

母子健康情報サービスの画面（イメージ）

Smart Wellness

Smart Healthcare

Smart Education,
Smart Public Transportation,
….

"City OS" Implementation
….

Digital Comm. Platform

Smart City AiCT Faculty
Opened on April 22, 2019

Citizen-Centric Ecosystem
TalTech – Aizu Univ. Partnership
Benchmarking to Medicon Valley

8 Measures of Revitalization
Smart City Plan

Smart Agriculture

Smart Tourism

Smart Energy

Great East Japan Earthquake
(March 11, 2011)
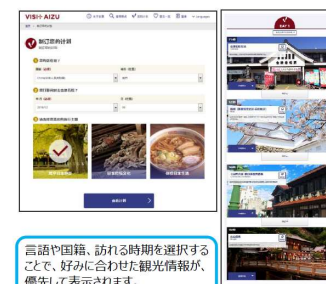
言語や国籍、訪れる時期を選択する
ことで、好みに合わせた観光情報が、
優先して表示されます。

タブレットで水分、養分の量を管理できます。

https://www.city.aizuwakamatsu.fukushima.jp/docs/2013101500018/files/smartcity_panphlet.pdf;
http://www.soumu.go.jp/main_content/000452041.pdf

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The 8 Measures of Revitalization: Define Aizuwakamatsu as "Mini-Japan"

Japan's Issues

- **Low Birth Rate and Aging**
- **Increasing Burden of Social Security**
- **Aging Social Infrastructure**
- **Energy Problems**
- **Low Productivity**

Proactive Resolution of Issues

① **Decentralize Functions Centralized in Tokyo to Regions**

② **Telework as a Solution to Low Birth Rate & Aging Society**

③ **Use PHR to Enhance Preventive Medicine & Longevity**

④ **Shift to Evidence-Based Policy Making (Open & Big Data Analytics)**

⑤ **Attract High Value-Added Businesses & Support Startups**

⑥ **Strategic Enhancement of Tourism & Agriculture**

⑦ **Shift to Renewable Energy & Energy Saving**

⑧ **Foster Highly Skilled Talent through Gov't-Business-Academia Collaboration; Foster Finance-Labor-Media Collaboration**

Source: "SMART CITY5.0", Accenture

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eframe Industry Policy: Transfer and Grow New Industries in Regions

kill Level &
come Level

High

Low

Strategy
- Strategy
- Business Planning
- Etc.

Solution
- Development
- Sales
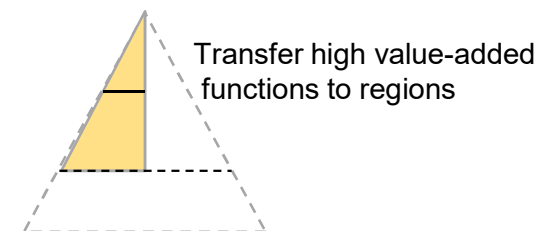- Etc.

Operation
- Factory
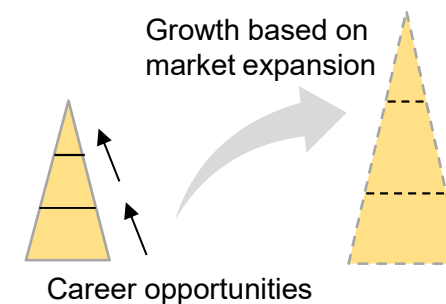- Call Center
- Etc.

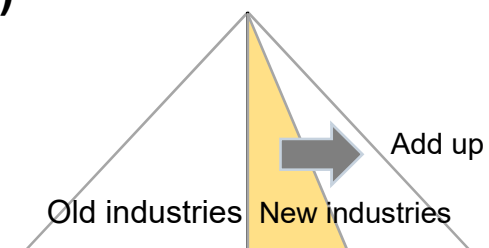**Location**

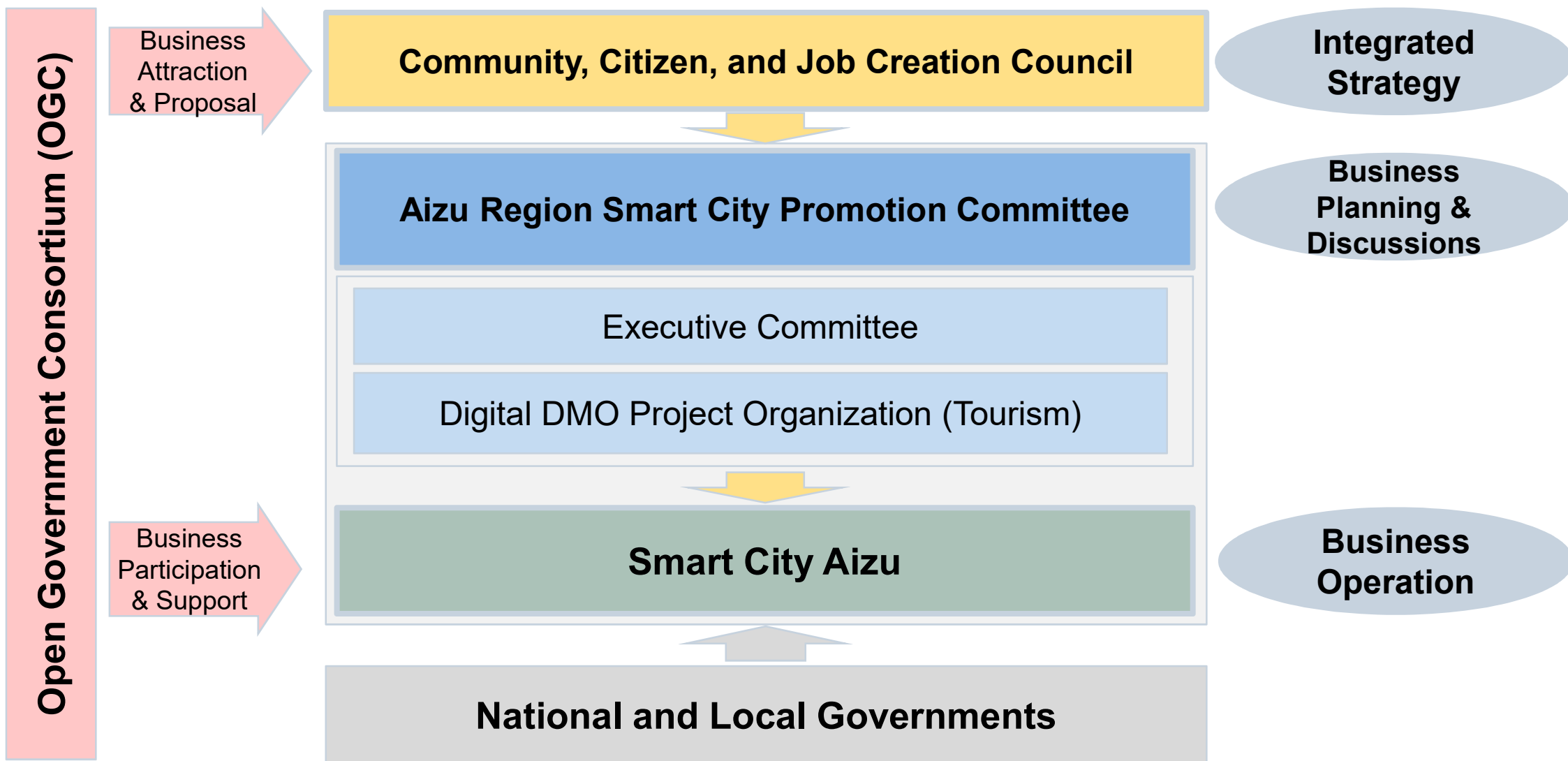Tokyo Metropolitan

Major Cities

Rural & Abroad

Step (1)

Transfer high value-added functions to regions

Step (2)

Growth based on market expansion

Career opportunities

Step (3)

Add up

Old industries | New industries

Source: "SMART CITY5.0", Accenture

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Citizen-Centric Ecosystem Design

Open Government Consortium (OGC)

Business Attraction & Proposal →

Community, Citizen, and Job Creation Council

Business Participation & Support →

Aizu Region Smart City Promotion Committee

Executive Committee

Digital DMO Project Organization (Tourism)

Smart City Aizu

National and Local Governments

Integrated Strategy

Business Planning & Discussions

Business Operation

Mitsubishi UFJ Research and Consulting

Source: "SMART CITY5.0", Accenture

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ey Takeaways

- **Define City as "Mini-Japan" – Focus on Issues, Start Small, Grow Bigger**

- **Reframe Industry Policy for Regional Revitalization**

- **Citizen-Centric Ecosystem - Gov't + Business + University + Citizens**

- **Beyond Silo - Smart City Model with "City OS"**