

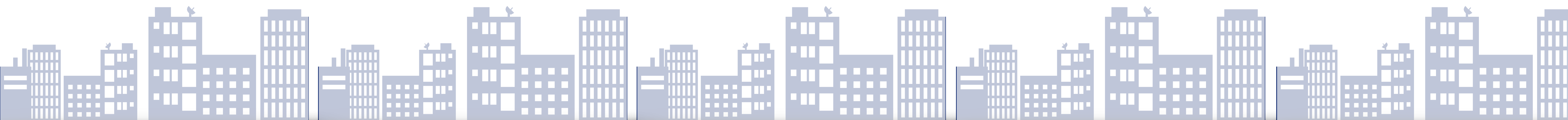
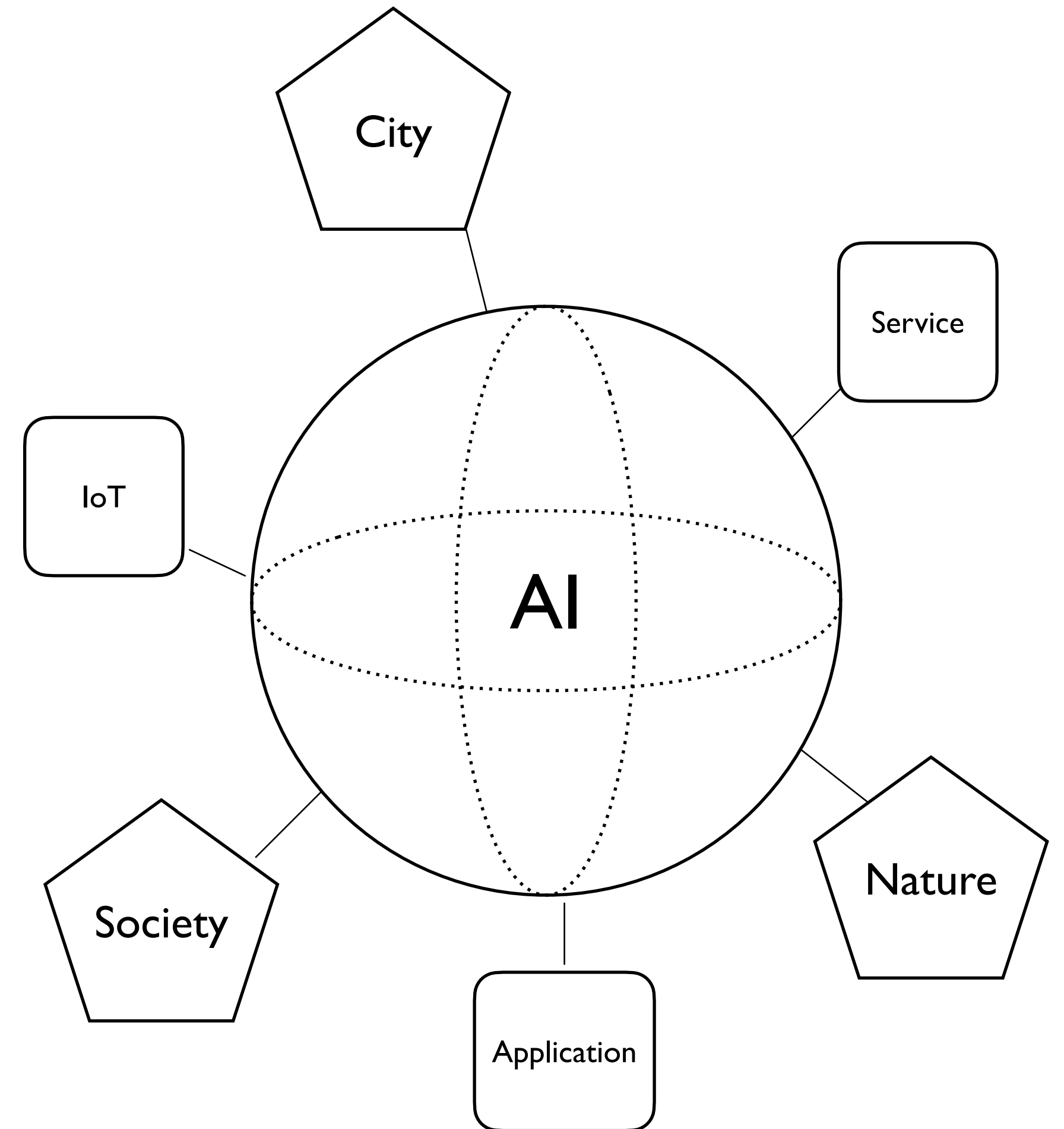
2021.06.30

AI and The Transformation of Society: The Cases of Busan National Pilot Smart City

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Confusions

conscious

Humans are more and more dependent on AI & Data

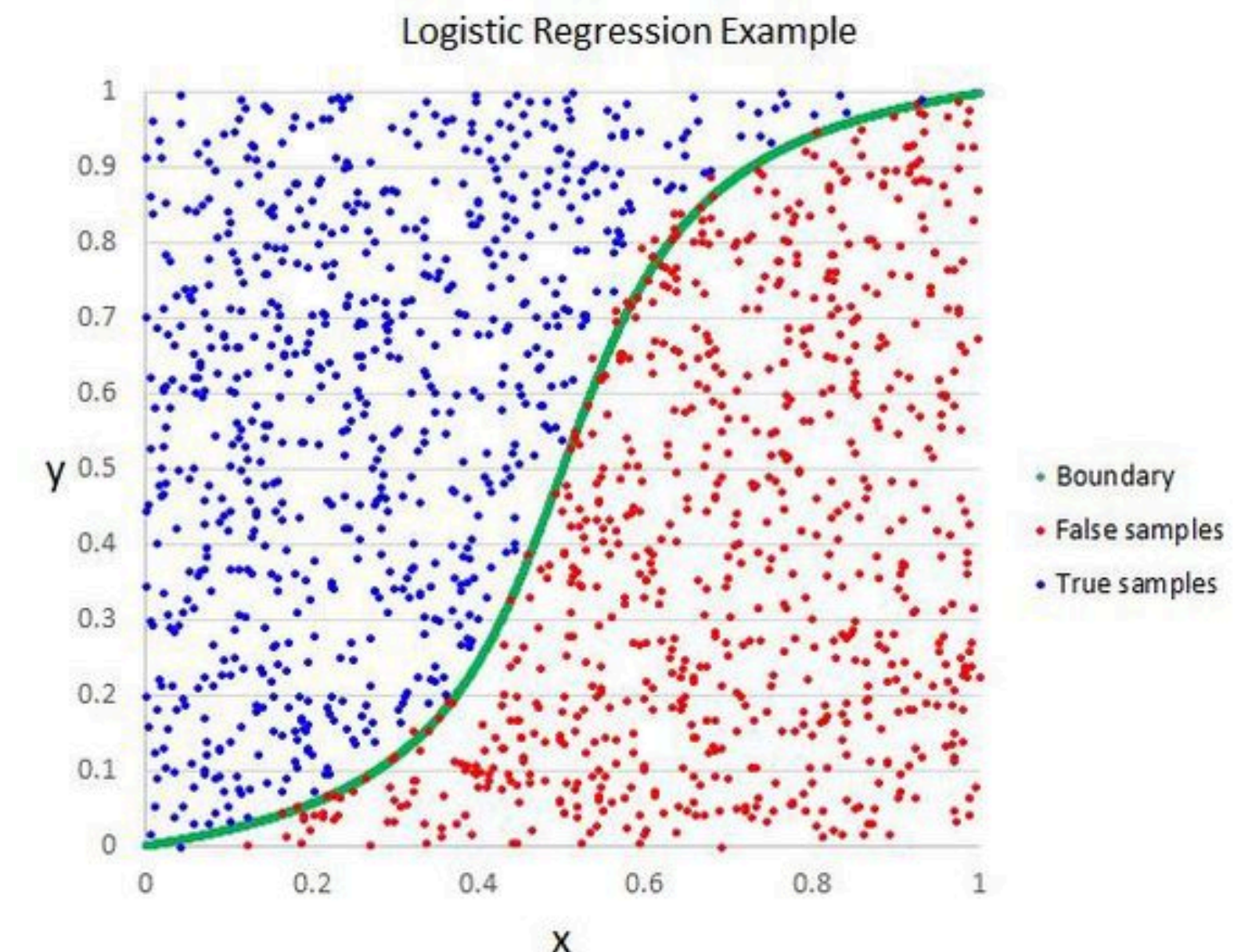
	Individual	Society
Known Knowns We know that we know	Smart Assistant	Automating City & Services
Known Unknowns We know that we don't know	Enable what can't do	Solution to Wicked Problems
Unknown Knowns We don't know that wet know	Personal Preference	City Experience & Satisfaction
Unknown Unknowns We don't know that we don't know	Consulting/Guiding	Crisis Management

The current AI has not reached a genuine intelligence

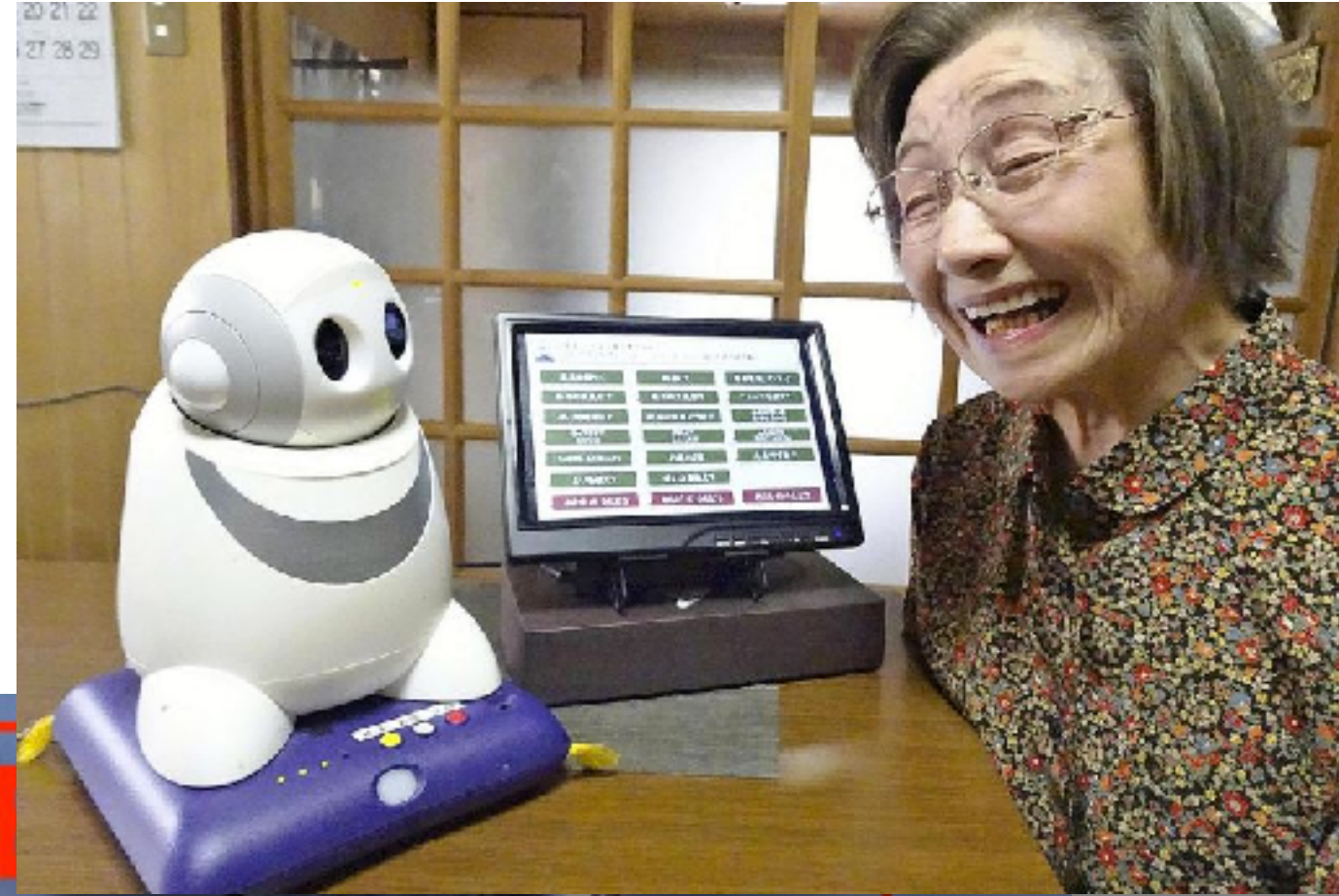
AI
Artificial Intelligence

vs

IA
Intelligence Augmentation



Anthropomorphism in AI causes many confusions



BI



- ① Mental Relationship with People
- ② User Friendly Function & Design
- ③ **Unjustifiably High Expectations**
- ④ **Fears for Competitions against Technologies**

<https://www.tandfonline.com/doi/full/10.1080/21507740.2020.1740350?scroll=top&needAccess=true>

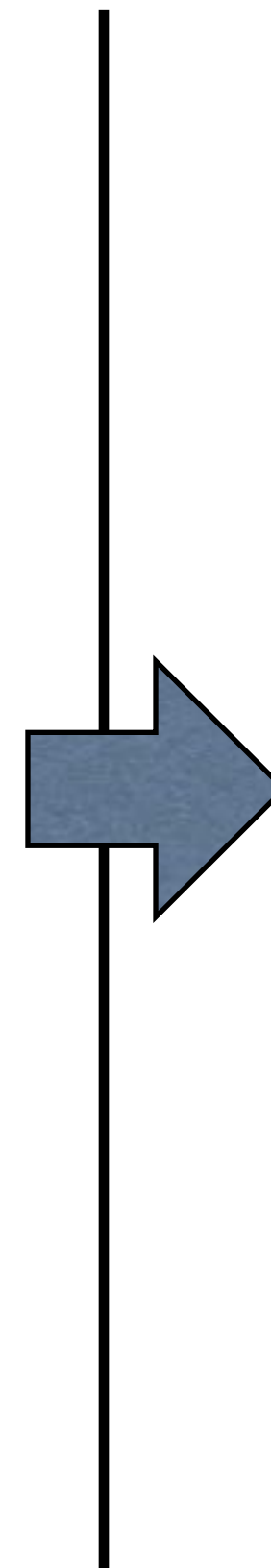
AI has many problems as a decision-maker

Decision by Human

Rational Choice

Political Preference

Personal Factors



Decision by AI

Data-driven

Bias

Black Box

Unexpected Results
(Algorithm Collusion)

Paradigm Shift & Augmented Society

Paradigm Shift & Augmented Society

The Core of the 4th Industrial Revolution is Artificialization

Commodification → Datafication → Artificialization

Industrial Society

Information Society

Intelligent Society

Artificialization

Industrialization

Artificialization

Naturally Created	<div><div>Land</div><div>Labor</div><div>Intelligence</div><div>Body</div><div>...</div></div>	<div><div>Land</div><div>Labor</div><div>Intelligence</div><div>Body</div><div>...</div></div>
Artificially Created	<div><div>Capital</div><div>Technology</div><div>...</div></div>	<div><div><div>Land</div><div>Labor</div><div>Intelligence</div><div>Body</div><div>...</div></div><div><div>Capital</div><div>Technology</div><div>...</div></div></div>

AI transforms the relation between human and technology

Control

vs

Augment



AI creates **Augmented Society** enhancing citizens' capabilities

Cognitive Augmentation



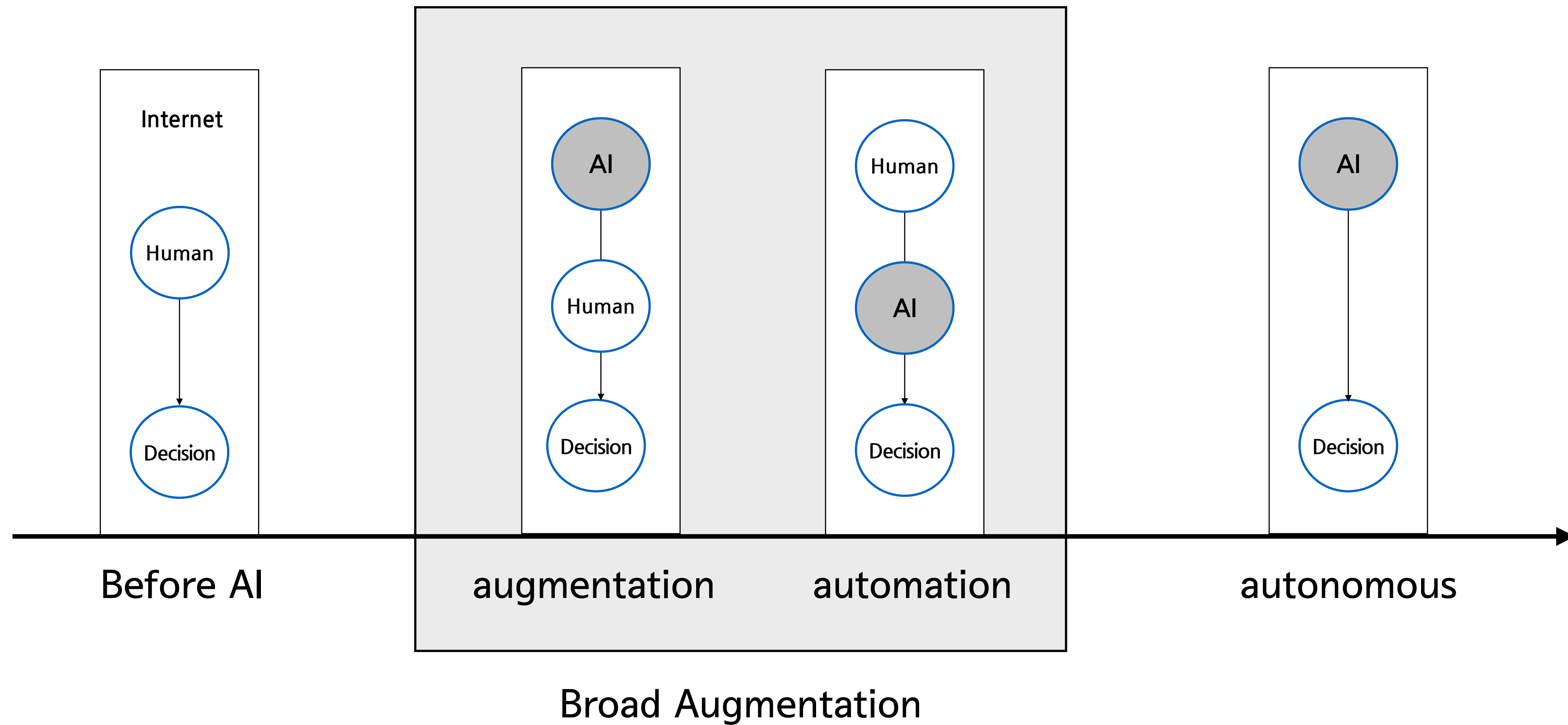
<https://pxhere.com/ko/photo/1553941>

Physical Augmentation



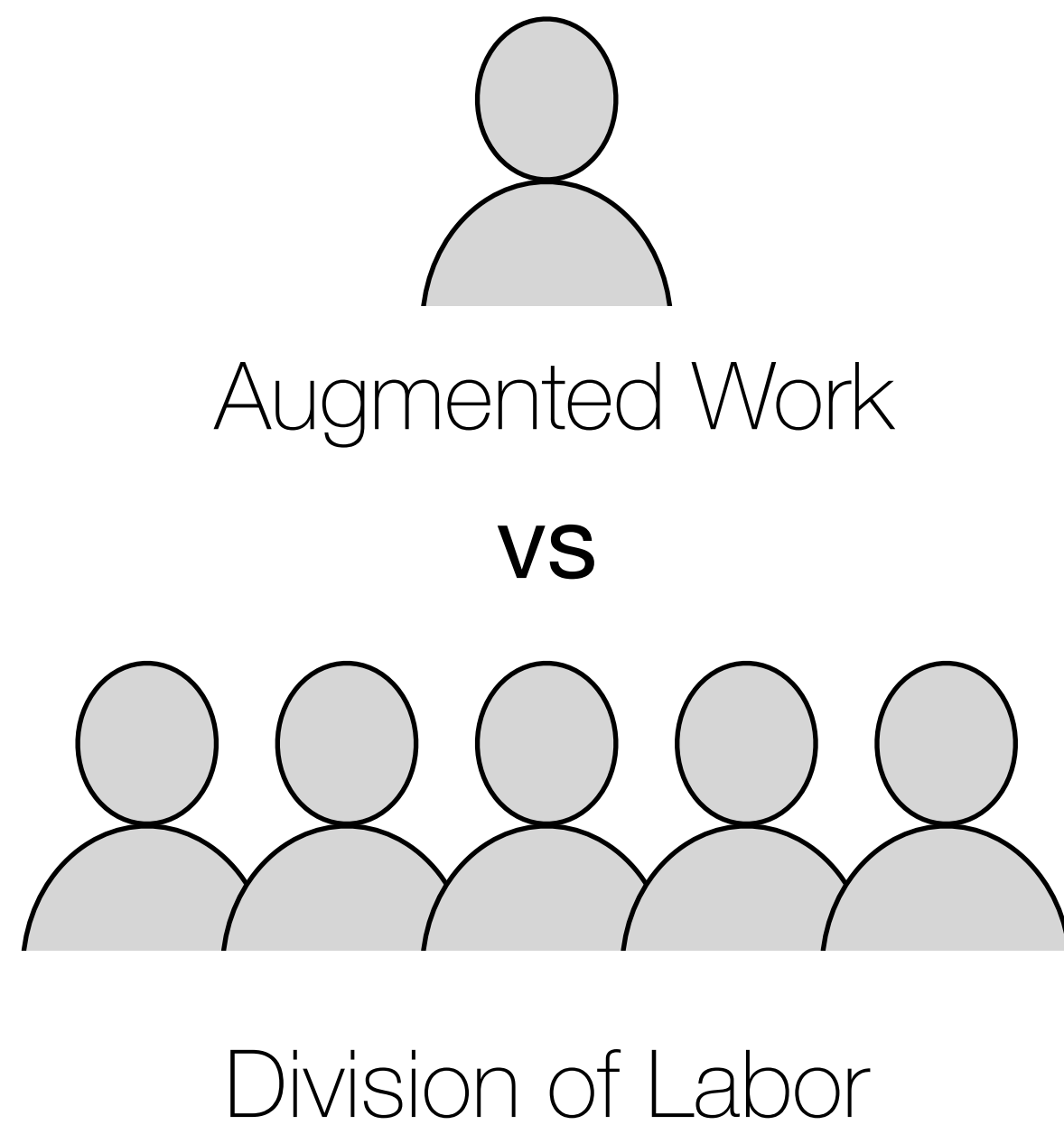
<https://i.insider.com/53e913246da8115b48273a39?width=1100&format=jpeg&auto=webp>

Augmentation vs Automation

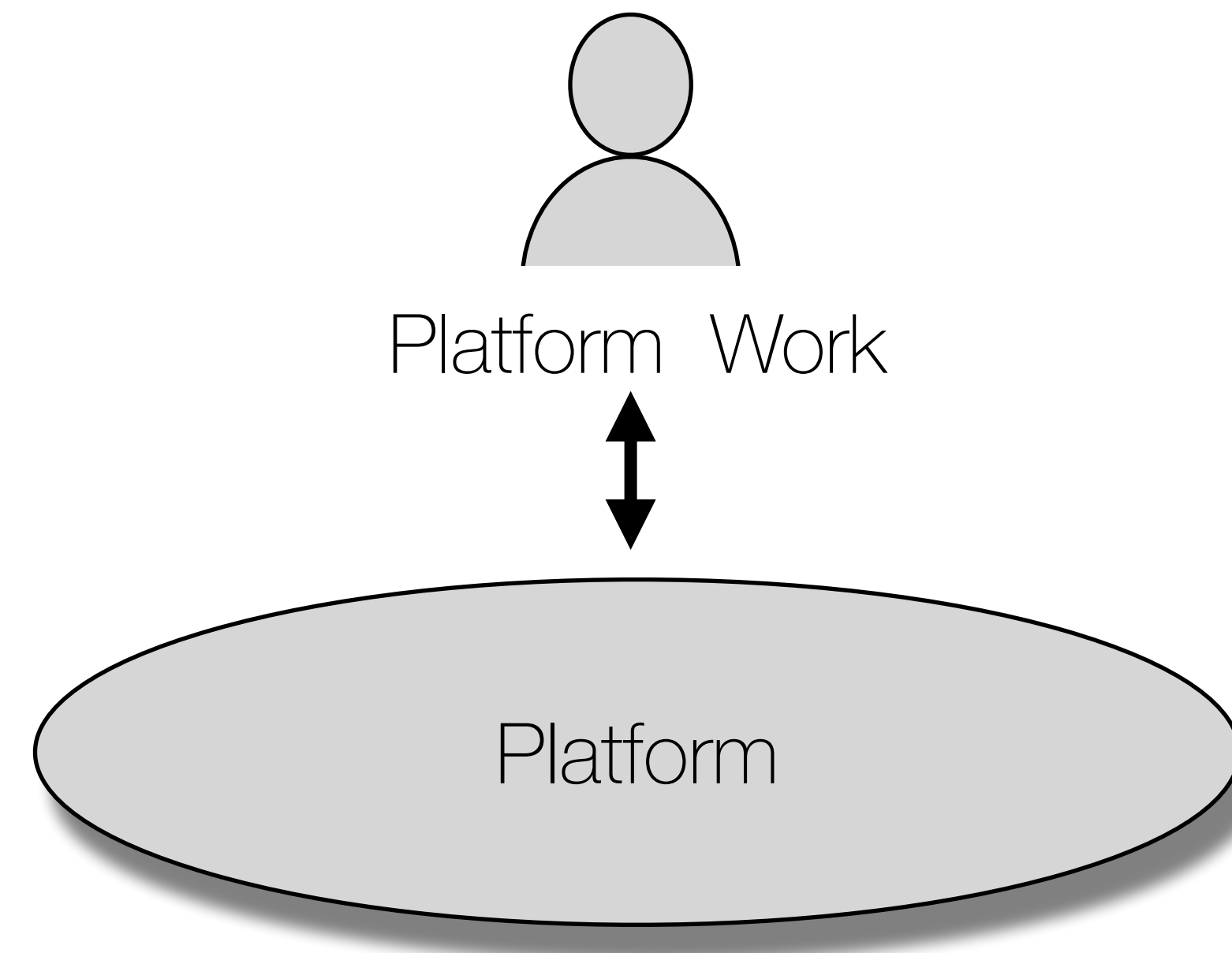


Transformation by Augmentation

Independence of Individual



Dependence on Platform



Platform is the most critical factor in the AI society

Types for Platforms

	System-specific	System-agnostic
Open	Android OS One M2M (IoT platform, EU)	Internet Platform Interoperability
Closed	iOS, Amazon Smart City Data Hub (Korea)	Telecommunication Geospatial Data

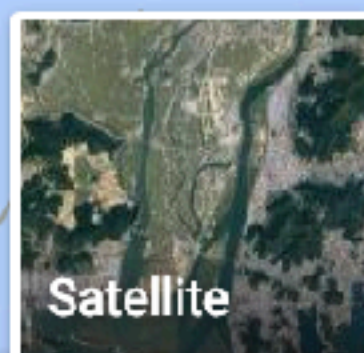
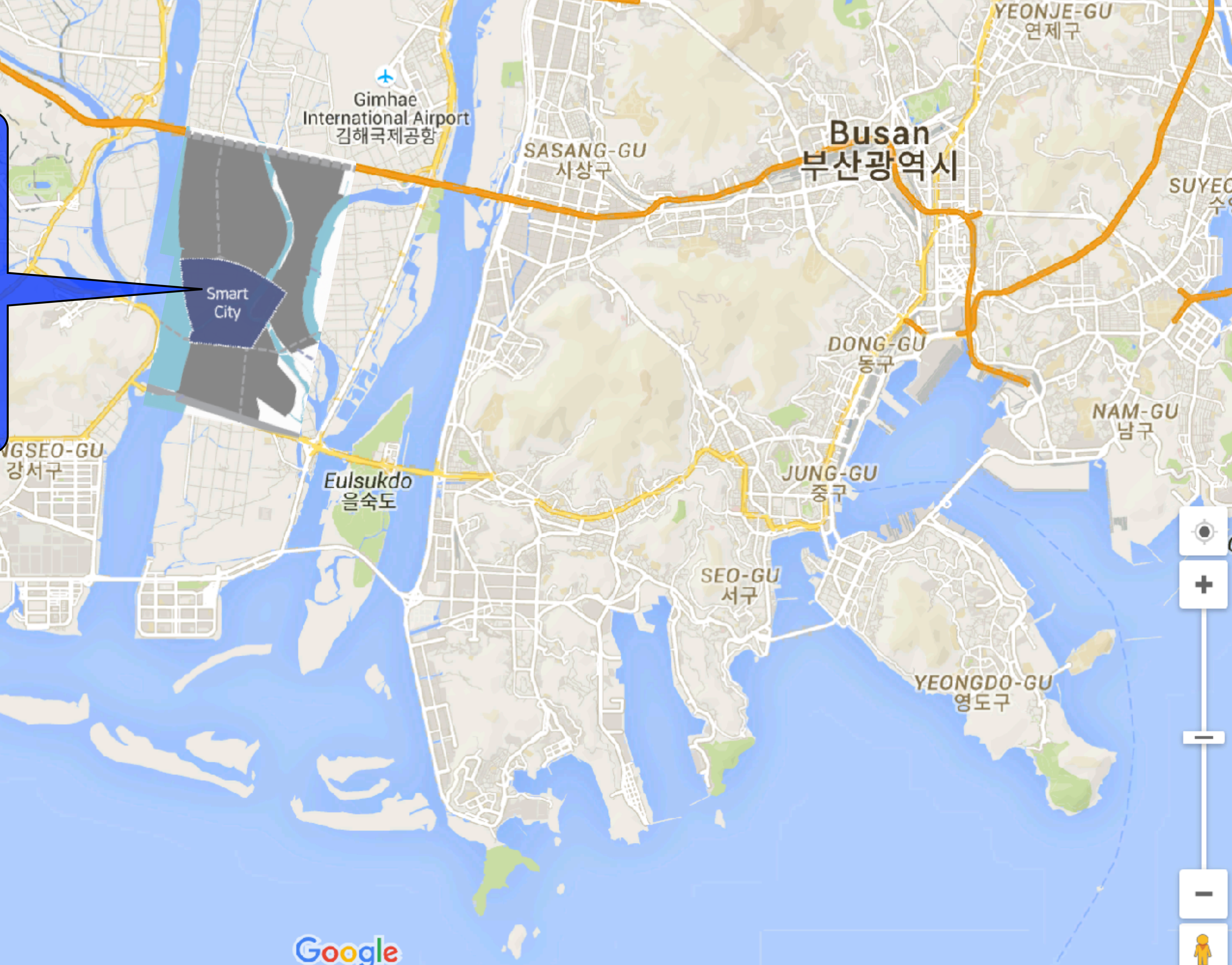
New Social Development in the era of AI (by Smart Cities)

- | | | |
|---|---|---|
| ① HW-driven development | ⇒ | SW & Data-driven development |
| ② Vertical development (Silos by domains) | ⇒ | Horizontal development (interconnected) |
| ③ Closed & Controlled system | ⇒ | Open & Flexible innovation ecosystem |
| ④ Economy of scale ➡ urbanization | ⇒ | Scale-free ➡ (counter-urbanization) |

Busan National Pilot Smart City

Busan EDC National Pilot Smart City

- Area : 2.8Km²
- Period : 2018~ (2021~)
- Population : 8,500
- Houses : 3,380



Busan Pilot City aims to be the world first Augmented City

Augmenting citizen with robotics, AR/VR, and other 4IR technologies

Robot → Physical Augmentation

AR/VR → Cognitive Augmentation



Guardian Selects Technology

Where is the boundary between your phone and your mind?

As our online existences become less distinct from 'real life', experts raise concern about the growing power of big tech

Extended Self
Interdependent Self



Strategy1: Platform of Platforms (Platform-Interoperability)

Platform is a new common good



<https://www.flickr.com/photos/perspective/37905648152>



<https://www.pexels.com/photo/police-blue-sky-security-surveillance-96612/>



https://live.staticflickr.com/3159/2625260355_aa290f37d2_b.jpg

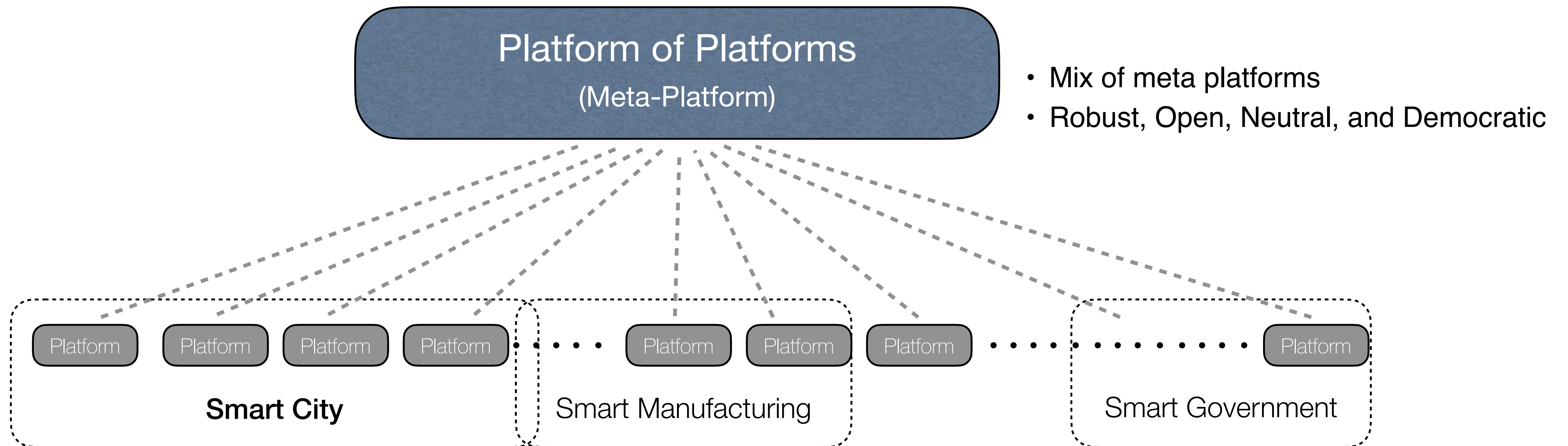


<https://p2.piqsels.com/preview/629/455/739/current-petrol-stations-current-qas-station->



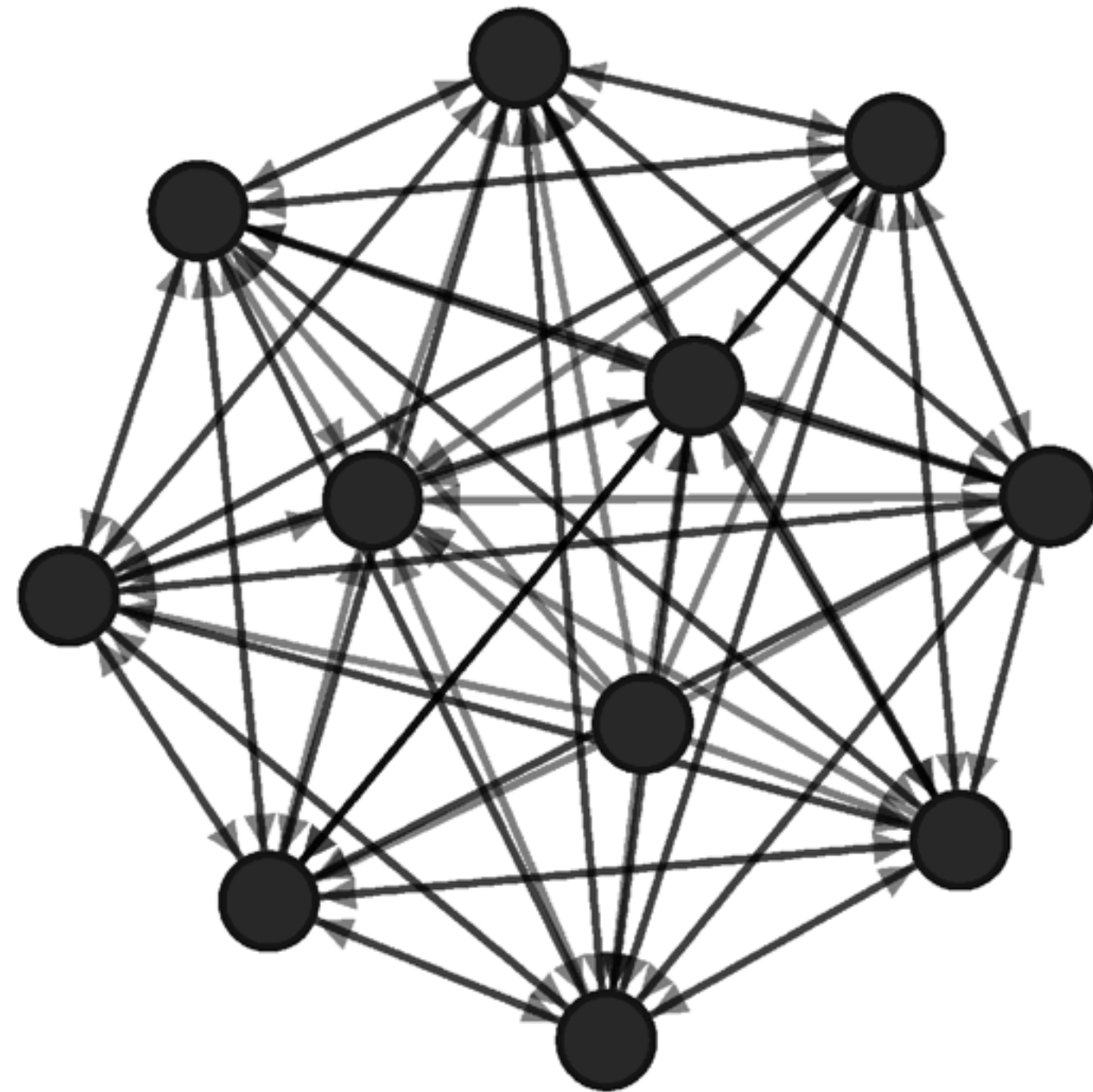
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One of the Biggest role of the government for AI is
to make platforms interoperable and accessible at all levels of society



Strategy 2: New Data Architecture

Balance between protection and utilization



System-based → Platform-based
Connectivity

(Standardization of Data)

Rule-based → Algorithm-based
Customization

(Representation of Data)

Strategy 3: New CPS (Cyber Physical Society)

New Digital Twin & XR Services

Real Space

Cyber Space

Urban Infra

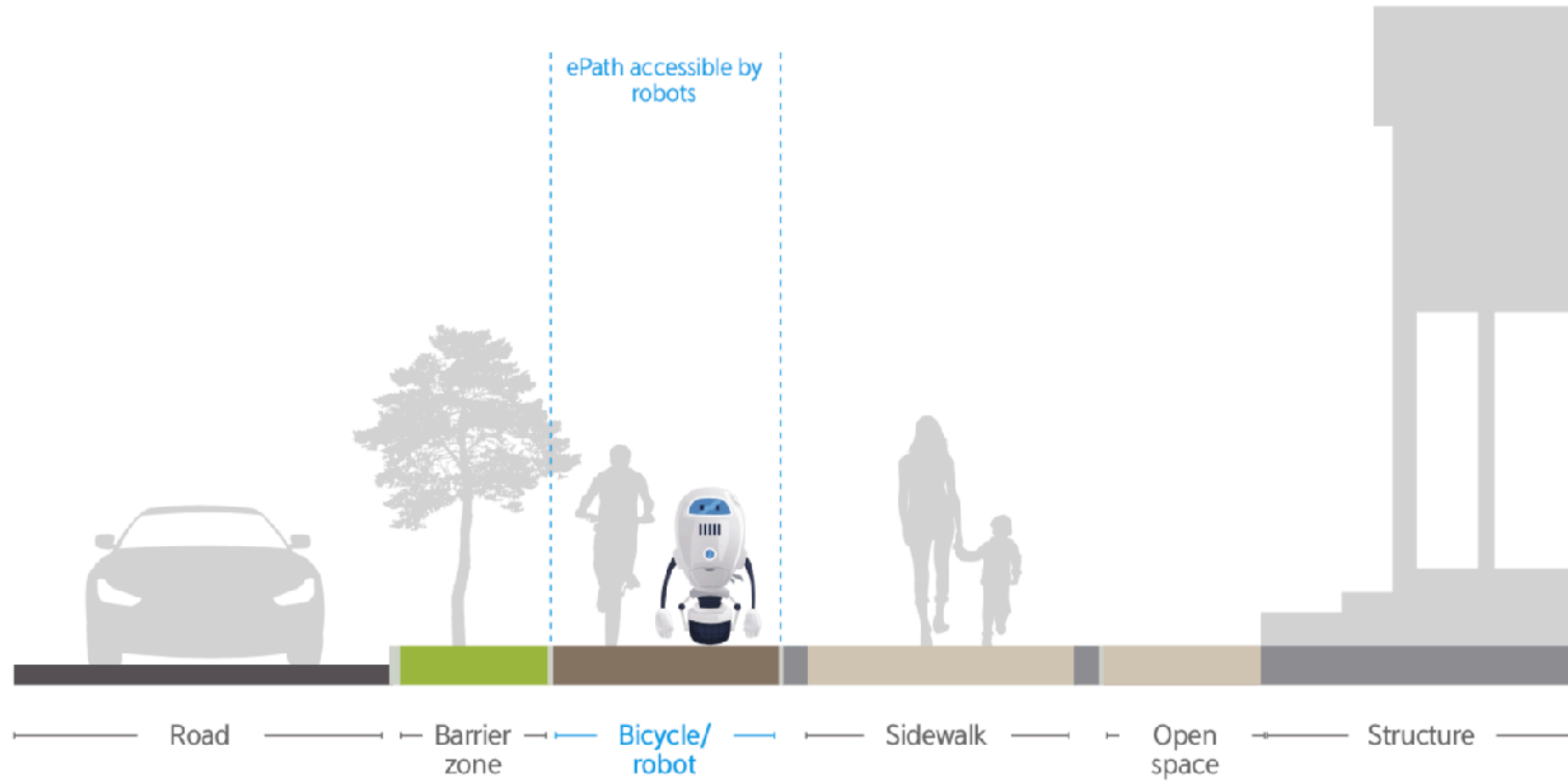
ICT & Data

Citizen

Public Service

Strategy 4: Robot-friendly City

New Urban Infrastructure suitable for the use of Robots



Conclusion

conclusion

- The core of the 4th Industrial Revolution is “artificialization” to create most resources artificially
- Even though not a genuine intelligence, AI is making a new paradigm, that is, augmented society where human can be independent from others but more dependent on platforms
- The biggest role of government for AI and social development is to develop and manage platforms most suitable for the development and use of AI
- Smart cities can play a crucial role in the development of AI platforms and augmented society

Thank you

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