

# Trustworthy AI in Smart Cities: Discussing the role of citizens

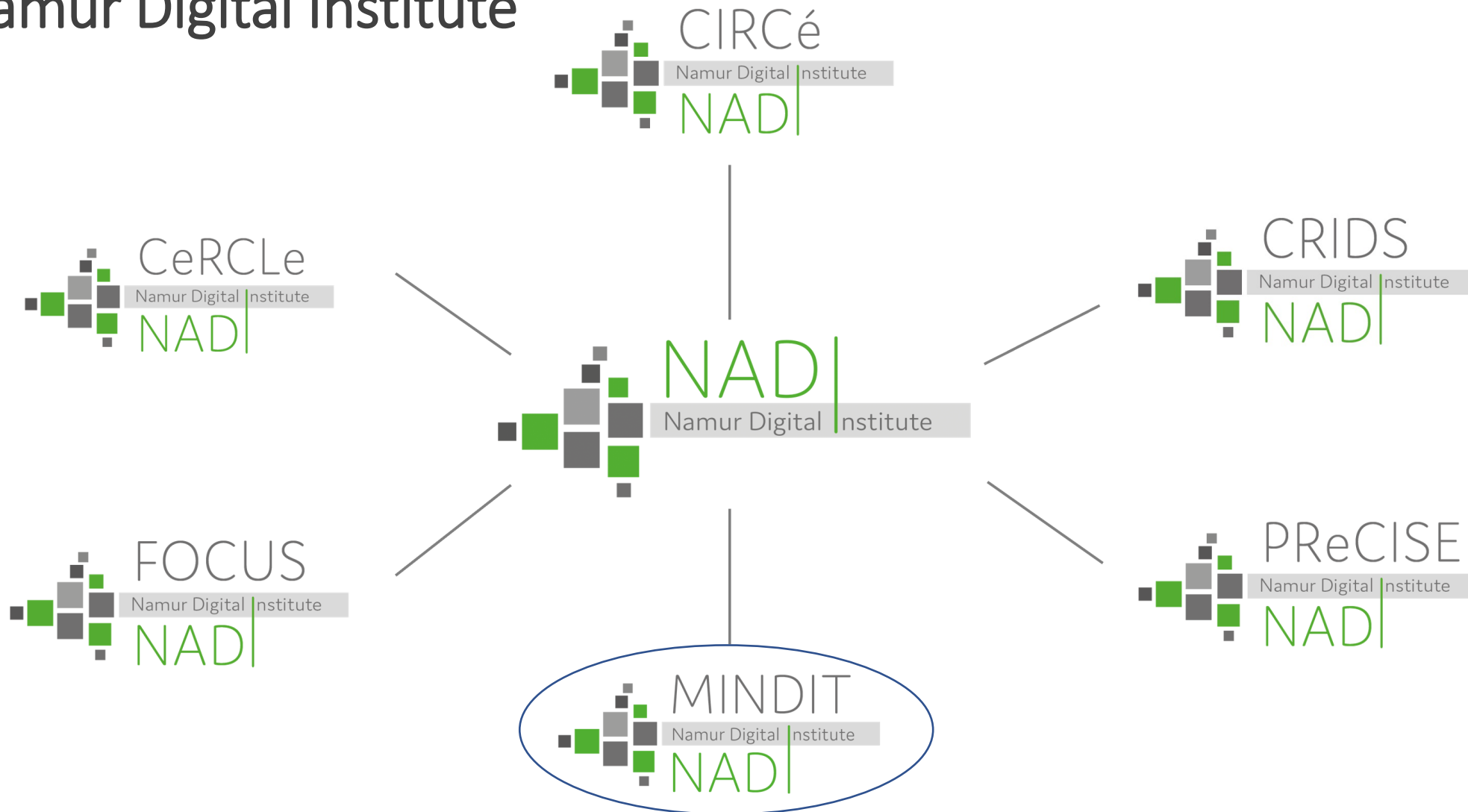
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Professor of Digital Transformation

Namur Digital Institute

Data Protection in Smart Cities – 01/03/2024

# Namur Digital Institute





## Transforming organizations with research on the Management of Digital Strategies, Decisions and Processes

### Digital Strategy

*Helping people in organization seize the full potential of digital technologies and better apprehend their integration*

- Enterprise architecture
- IT governance
- Digital transformation
- Novel uses of digital solutions
- Sustainable IT

### Decision Support

*Supporting manager and decision-makers in organizations with digital and data-driven solutions*

- Integration of Data, Information & Knowledge management
- Decision support systems
- Business Intelligence
- Decision-maker profiles

### Process Management

*Solving enduring challenges related to business processes with the help of disruptive digital technologies*

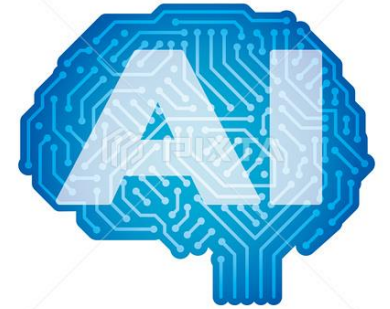
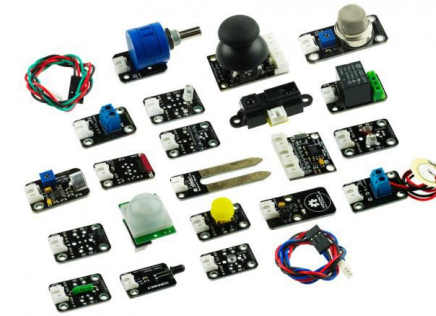
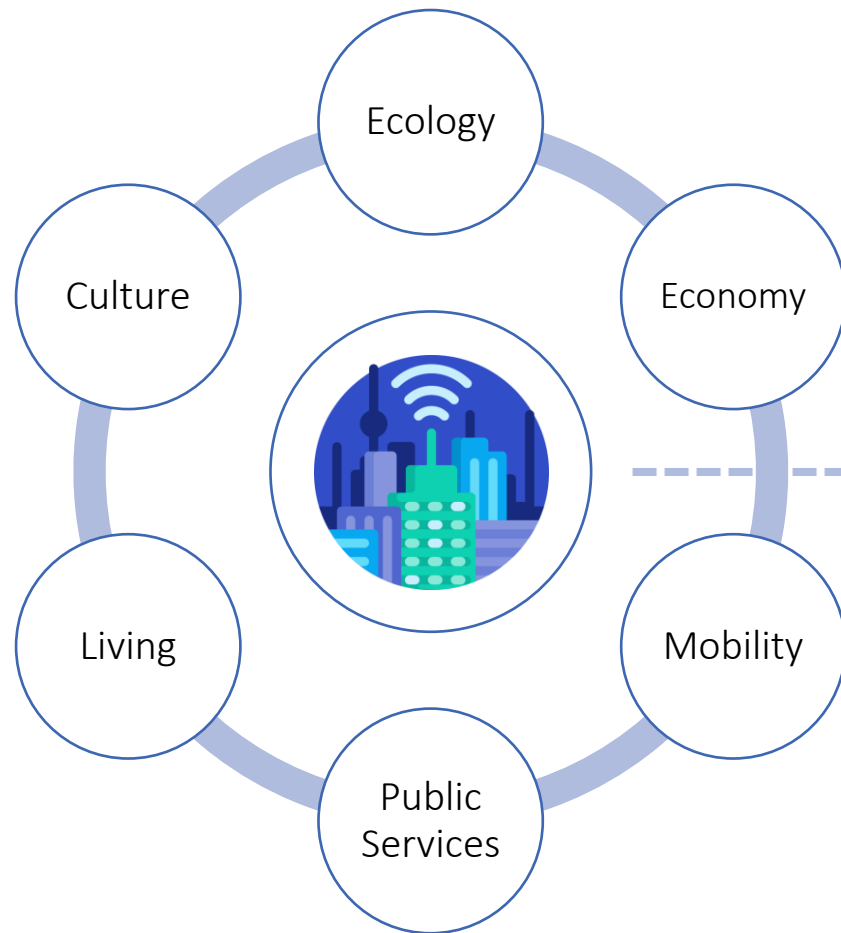
- Cross-organizational processes
- Decentralized applications
- Process mining
- Business process management

# Namur Digital Institute

1. Big data & artificial intelligence
2. Collaborative economy
3. Co-innovation & co-creation
4. Security & Privacy
5. Software & Systems
6. Smart cities and e-government
7. Ethics and technology
8. Digital Education

<https://nadi.unamur.be/research>

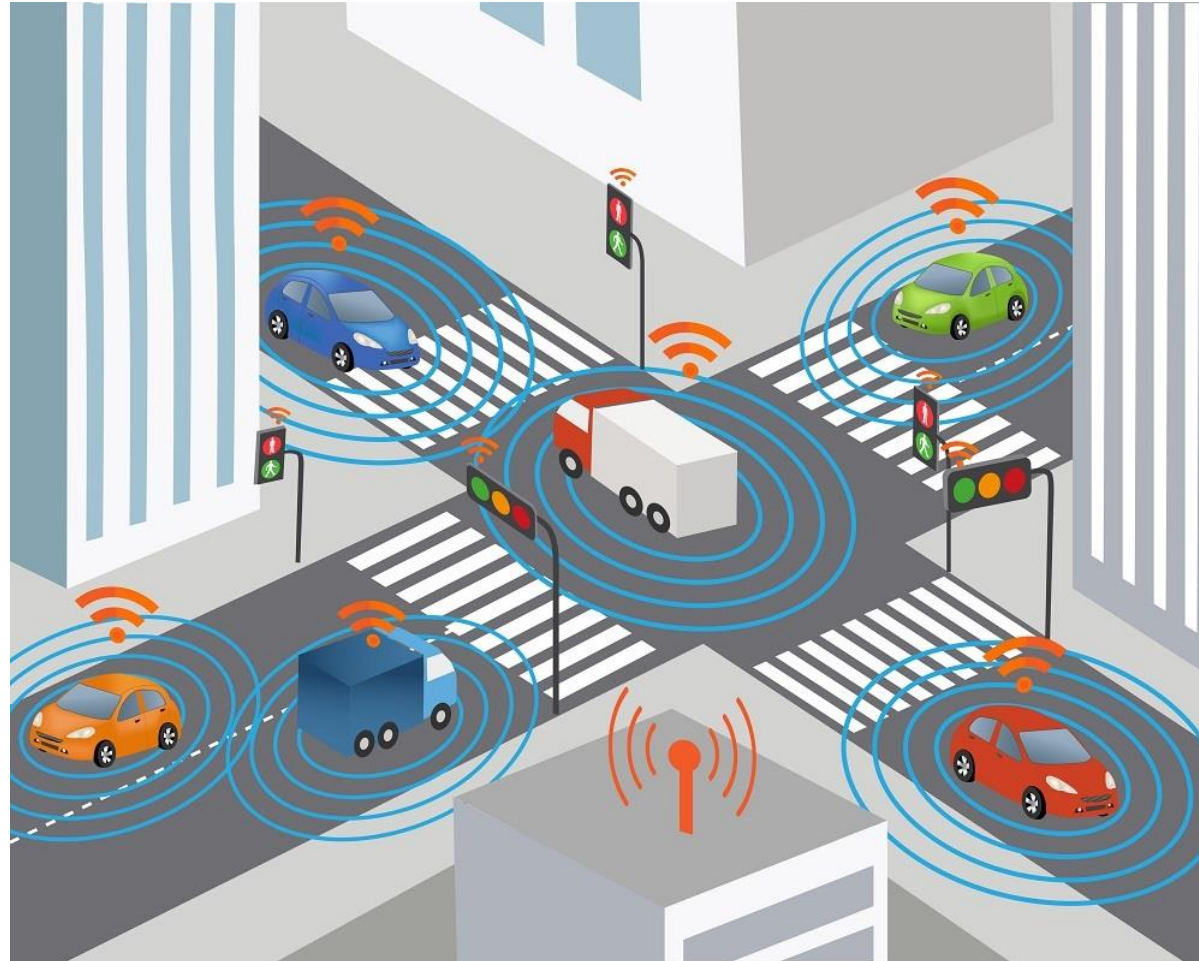
# What is a Smart City?



Digital Technologies  
as enabler



# Artificial Intelligence in Smart Cities: Mobility



(Iyer, L. S. (2021). AI enabled applications towards intelligent transportation. *Transportation Engineering*, 5, 100083.)

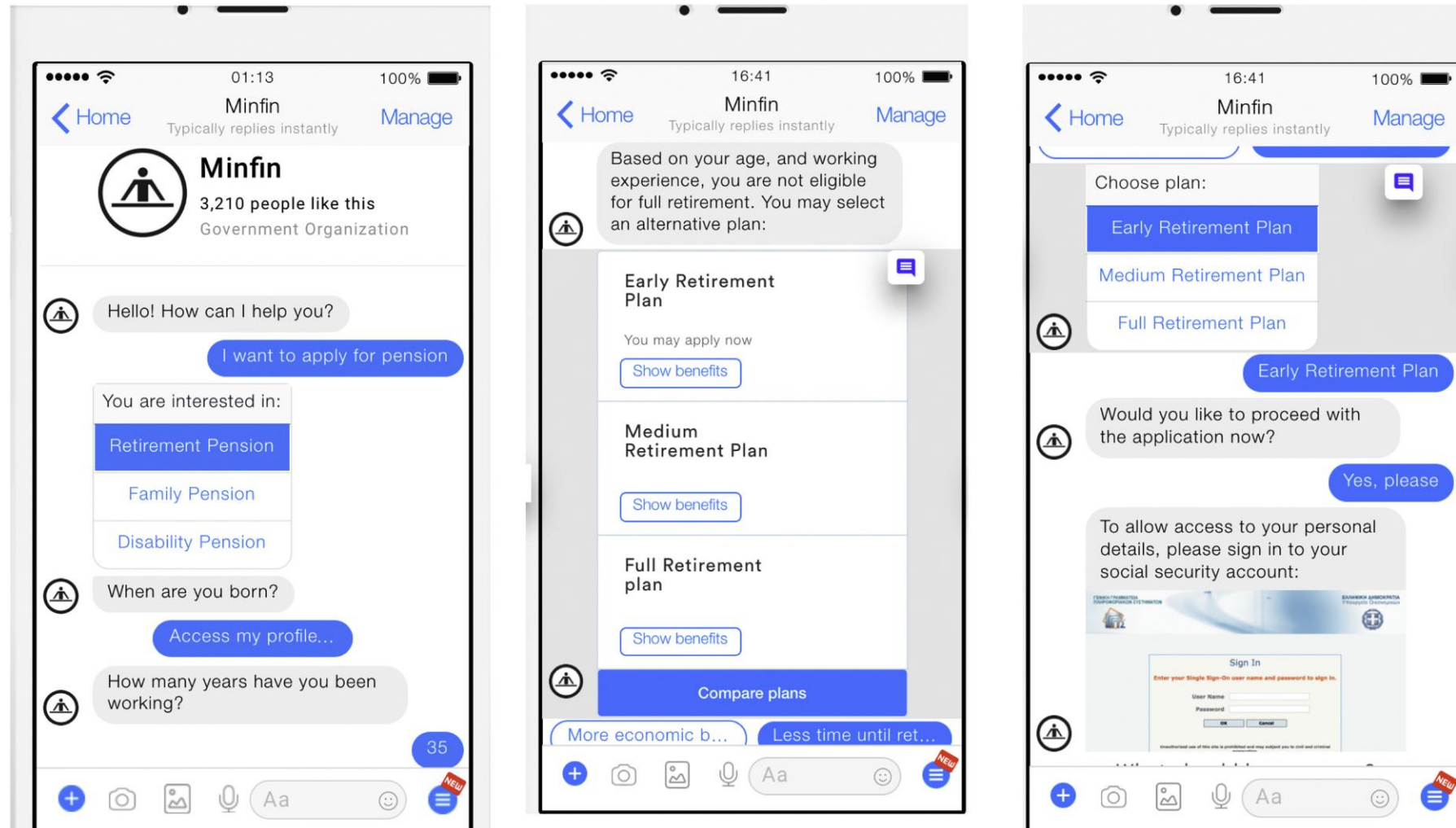
## Artificial Intelligence in Smart Cities: Environment



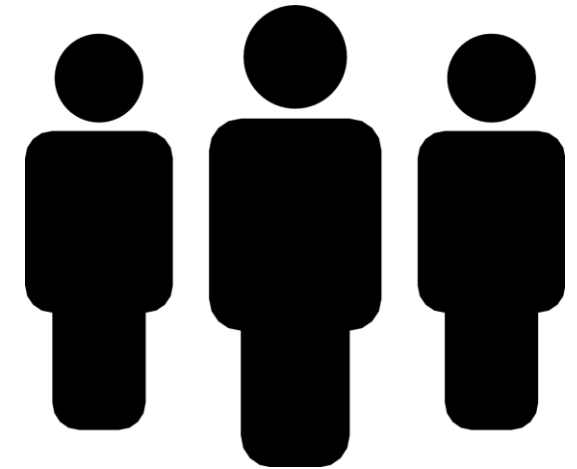
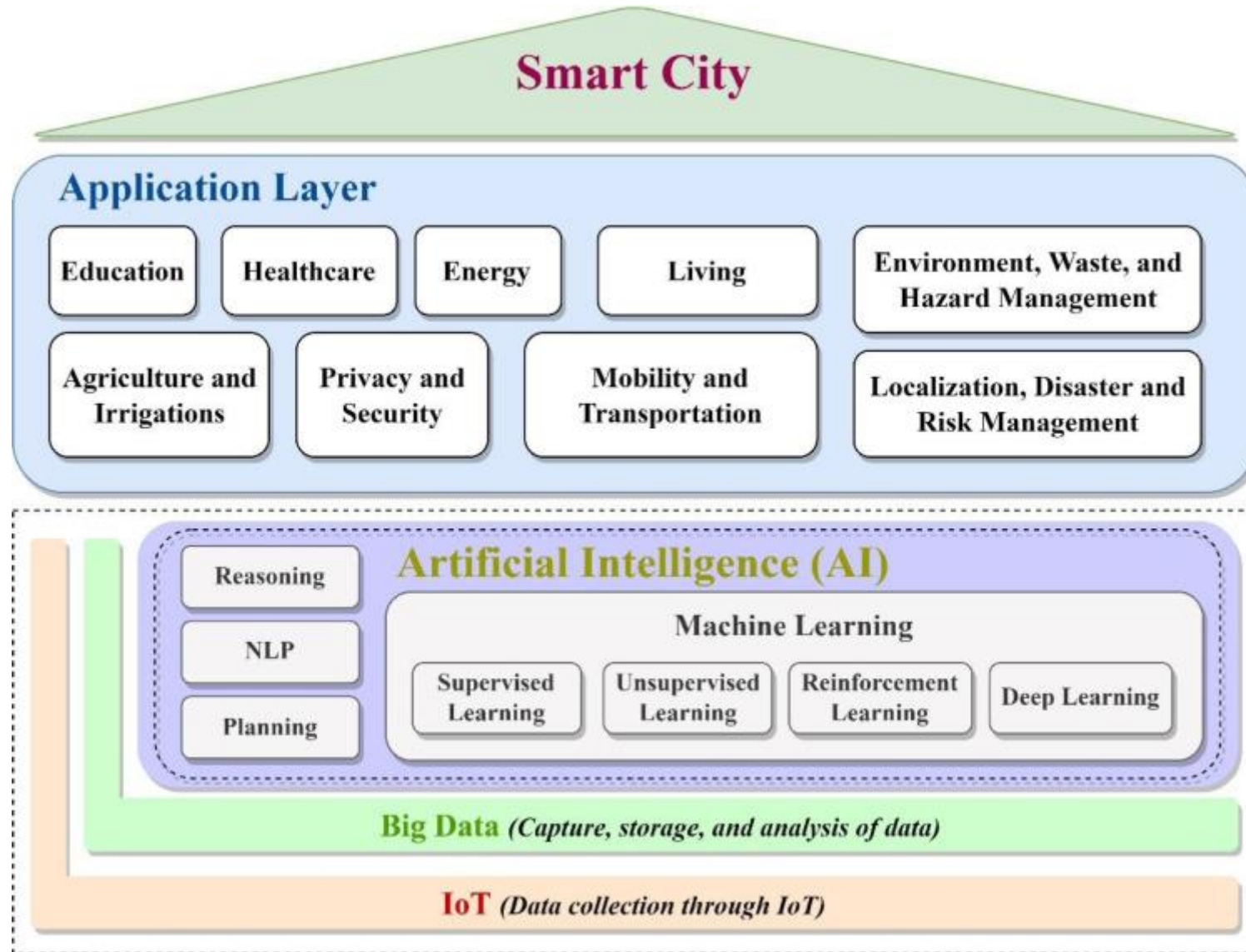
Fang, B., Yu, J., Chen, Z., Osman, A. I., Farghali, M., Ihara, I., ... & Yap, P. S. (2023). Artificial intelligence for waste management in smart cities: a review. *Environmental Chemistry Letters*, 1-31.



# Artificial Intelligence in Smart Cities: Public Services







Citizens as passive users

↓  
Trust ?

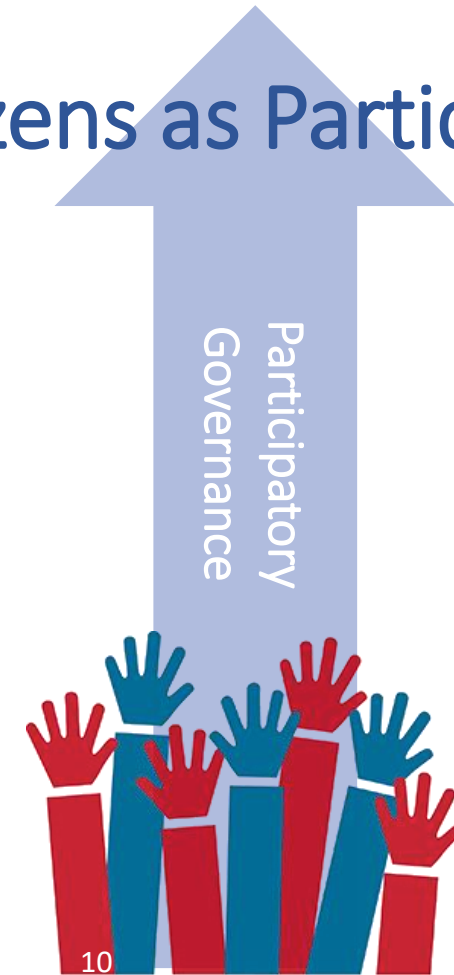
## Smart City Governance



Hollands, R. G. (2015). *Critical interventions into the corporate smart city*. *Cambridge journal of regions, economy and society*, 8(1), 61-77.



## Citizens as Participants



Dameri, R. P., & Rosenthal-Sabroux, C. (2014). *Smart city and value creation*. In *Smart city* (pp. 1-12). Springer, Cham.

## Smart City

### Application Layer

Education

Healthcare

Energy

Living

Environment, Waste, and  
Hazard Management

Agriculture and  
Irrigations

Privacy and  
Security

Mobility and  
Transportation

Localization, Disaster and  
Risk Management

### Artificial Intelligence (AI)

Reasoning

NLP

Planning

#### Machine Learning

Supervised  
Learning

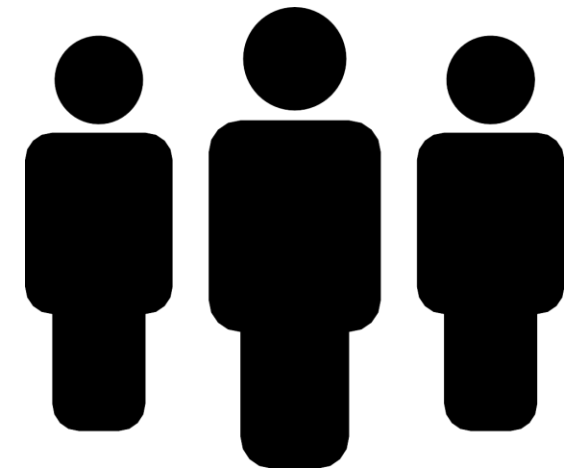
Unsupervised  
Learning

Reinforcement  
Learning

Deep Learning

**Big Data** (Capture, storage, and analysis of data)

**IoT** (Data collection through IoT)



Citizens as Open Data Consumers

# Citizens as Open Data Consumers



Daily quiz

Quiz du jour

Distribution of the Municipal Council

67% of users answered this quiz correctly. Test your knowledge! No idea? Don't hesitate to explore the source dataset!

Which political party is the most represented in the Municipal Council?

Answer

**Répartition du Conseil communal**

**67% des utilisateurs** ont correctement répondu à ce quiz. Mettez vos connaissances à l'épreuve ! Aucune idée ? N'hésitez pas à explorer [le jeu de données source](#) !

**Quel parti politique est le plus représenté au sein du Conseil communal ?**

PTB

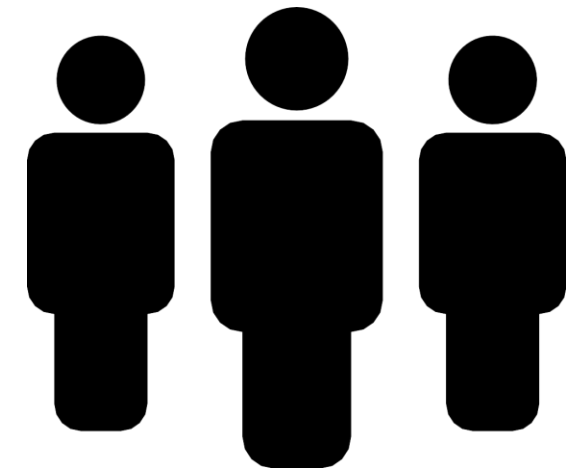
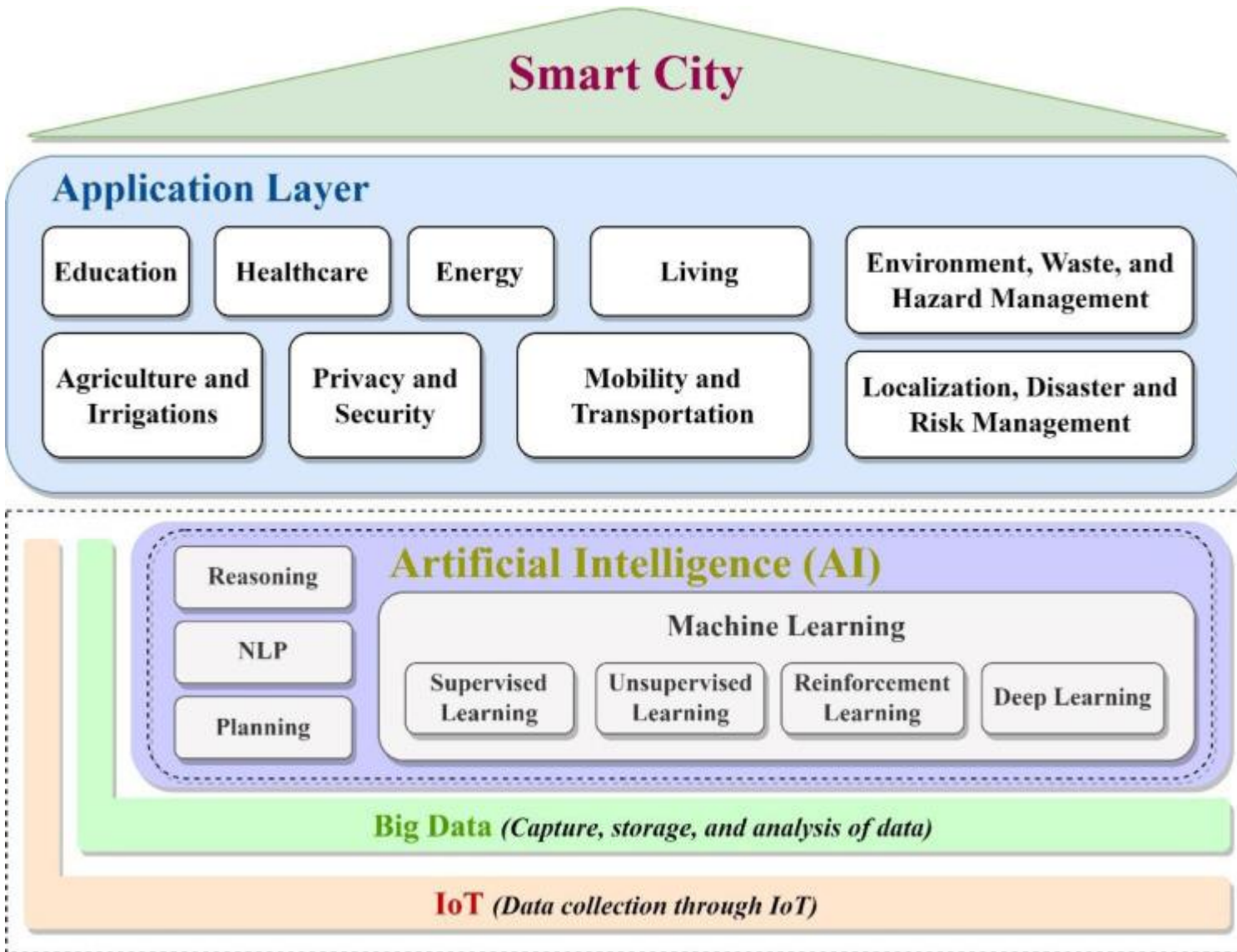
cdH

MR

ECOLO

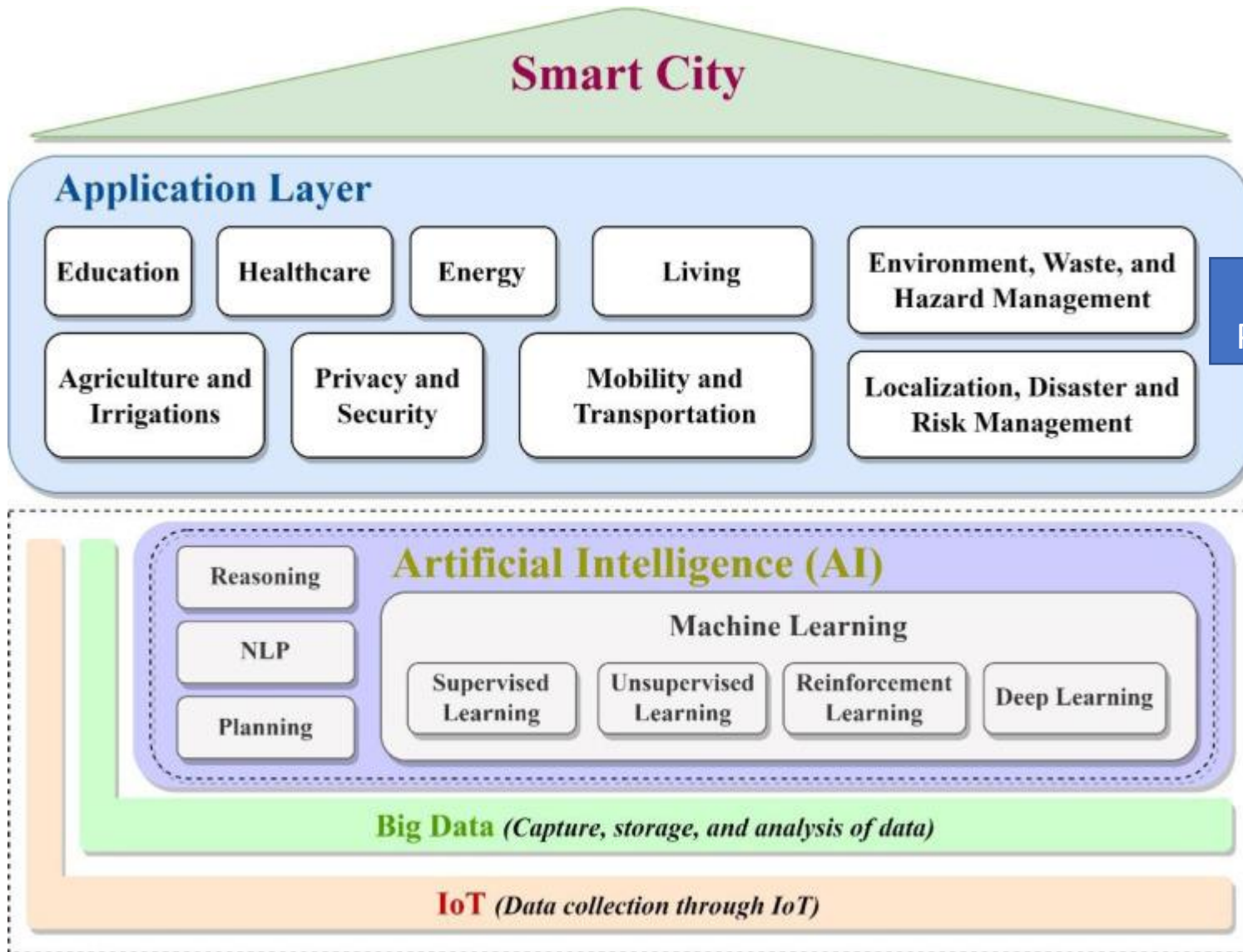
Répondre



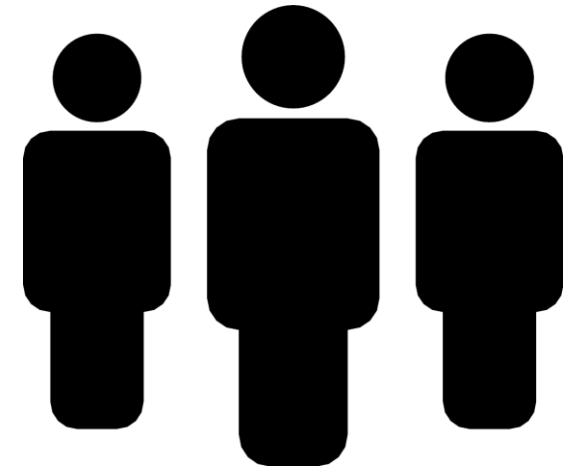


Citizens as Sensors





AI-Enhanced Participation ?

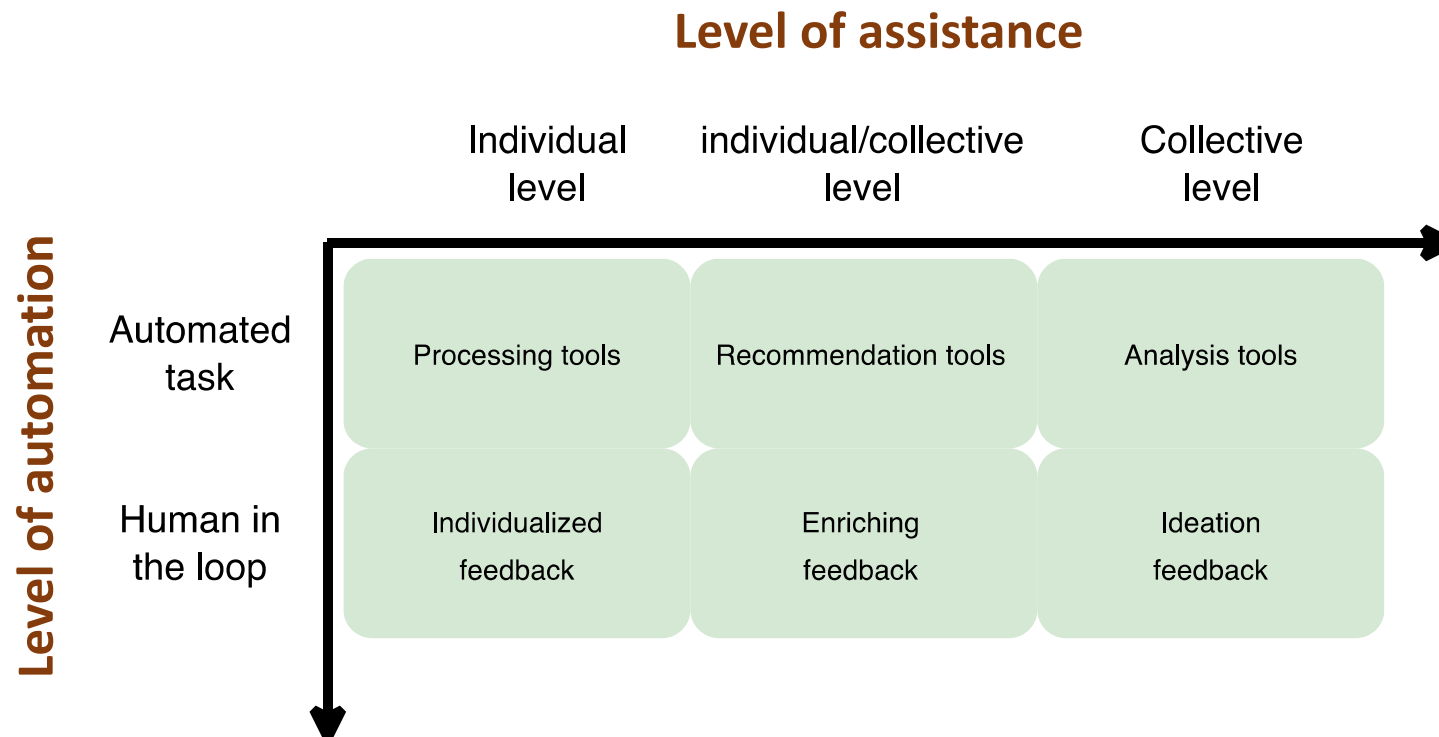


Citizens as Democratic Participants





# Artificial Intelligence for Digital Citizen Participation



Bono Rossello, N., Simonofski, A., Clarinval, A., & Castiaux, A. (2024). A Typology for AI-enhanced Online Ideation: Application to Digital Participation Platforms., Proceedings of the Hawaiian Conference on Systems Science

Thank you for your attention.

Let's connect and discuss 😊



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