CONSTRUCTION INDUSTRY COUNCIL
建 造 業 議 會

Advocating Engineering Innovations in Hong Kong

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12 November 2020

Advocating Engineering Innovations in Hong Kong

- Why shall we all go Green
- How Smart City can sharp the future of urban development
- How to advocate engineering innovations

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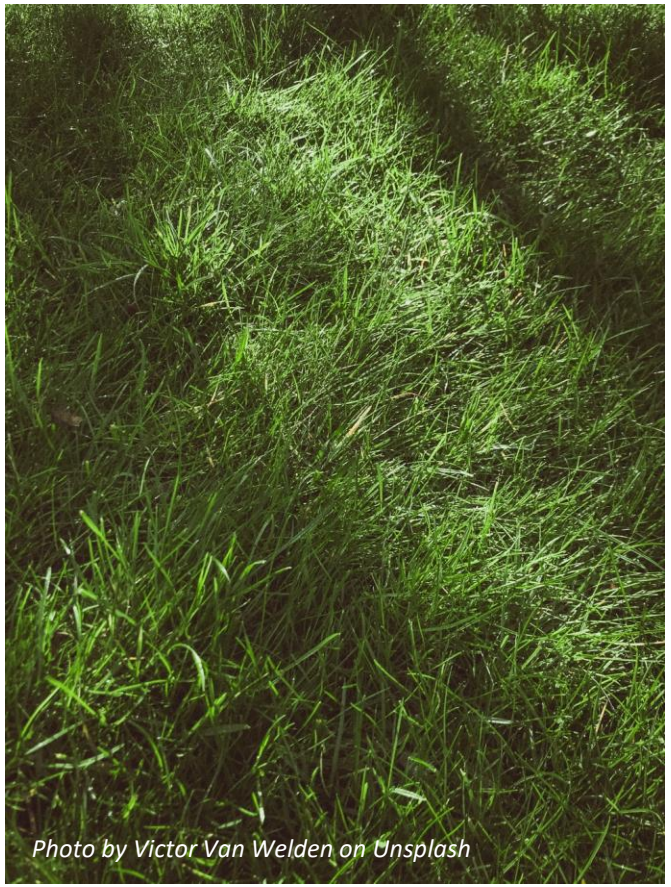
What is Green?



The colour of a well-kept lawn?

A mindset?

Paris Agreement and Climate Actions in Hong Kong

Global Temperature

2°C

Global Actions

- 40% - 70% reduction of absolute carbon emissions
- Net zero emissions of CO2 and other greenhouse gas by 2100

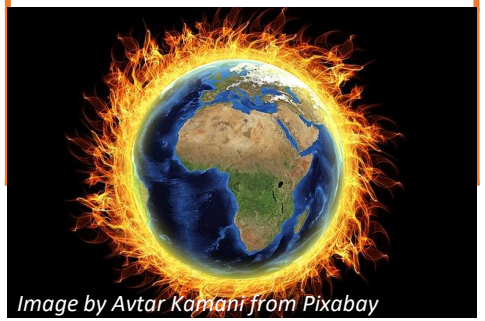


Image by Avtar Kamani from Pixabay

Carbon Intensity

65% - 70%

Hong Kong's Target

- 26% - 36% absolute reduction
- 3.3 – 3.8 tones on a per capita basis

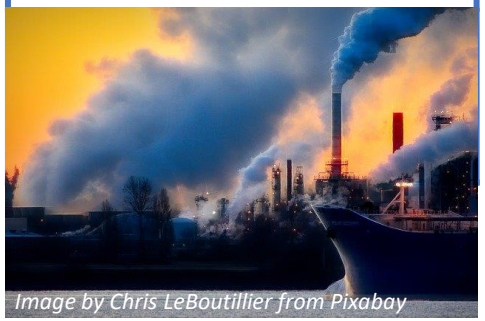


Image by Chris LeBoutillier from Pixabay

Peak Carbon

70%

Electricity Generation

- The biggest contributor
- Renewable energy

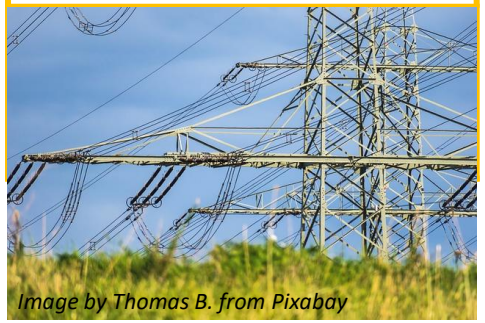


Image by Thomas B. from Pixabay

Timeline

2030

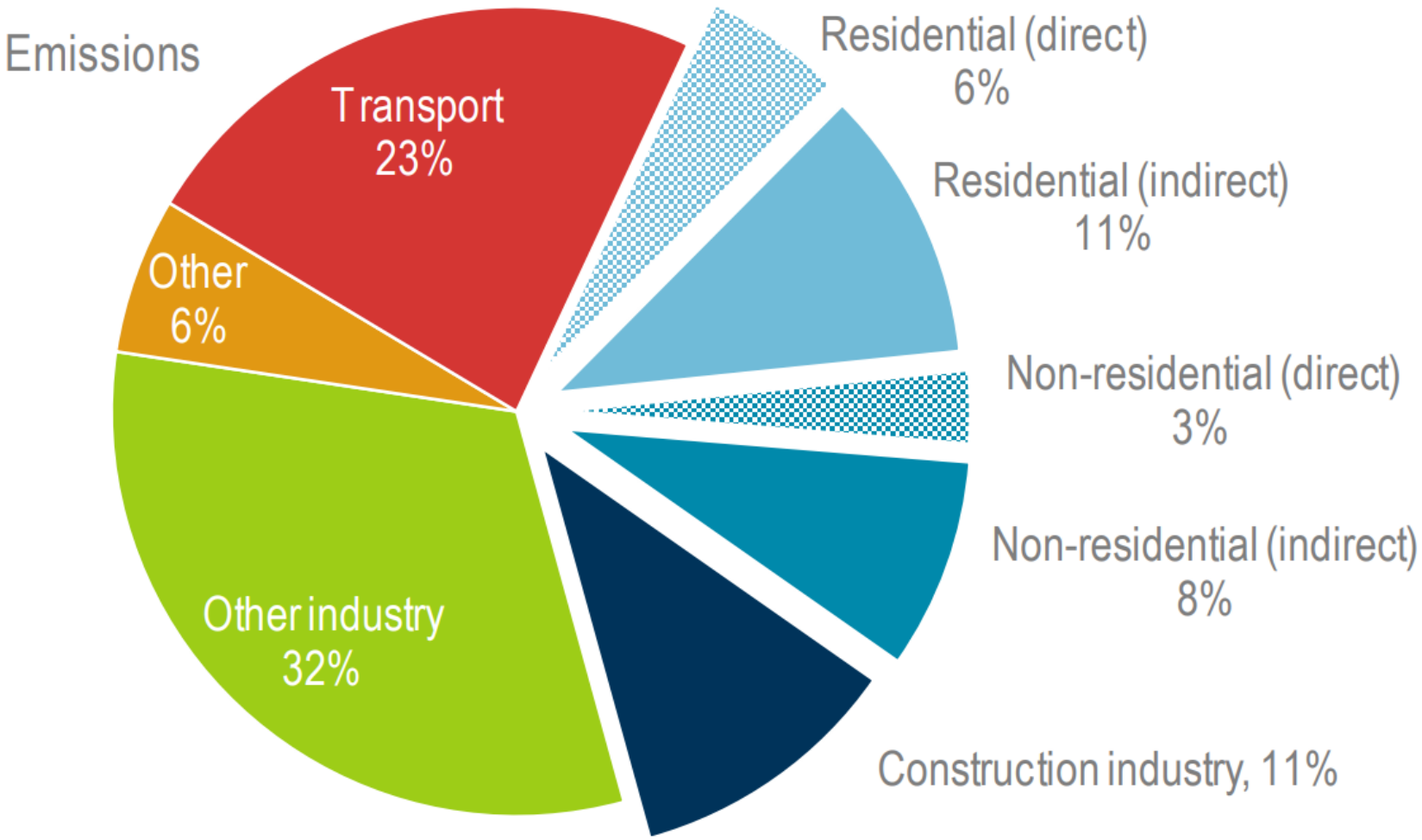
Critical milestone

- 5-years review
- Next climate action plan

Image by nile from Pixabay

Environment Bureau. Hong Kong's Climate Action Plan 2030+. January 2017. https://www.enb.gov.hk/sites/default/files/pdf/ClimateActionPlanEng.pdf

CO2 Emission by Construction and Building Operations



2018 Global Status Report. https://globalabc.org/sites/default/files/2020-03/2018_GlobalAB_%20Global_Status%20_Report%20_English.PDF

How Smart City can sharp the future of urban development

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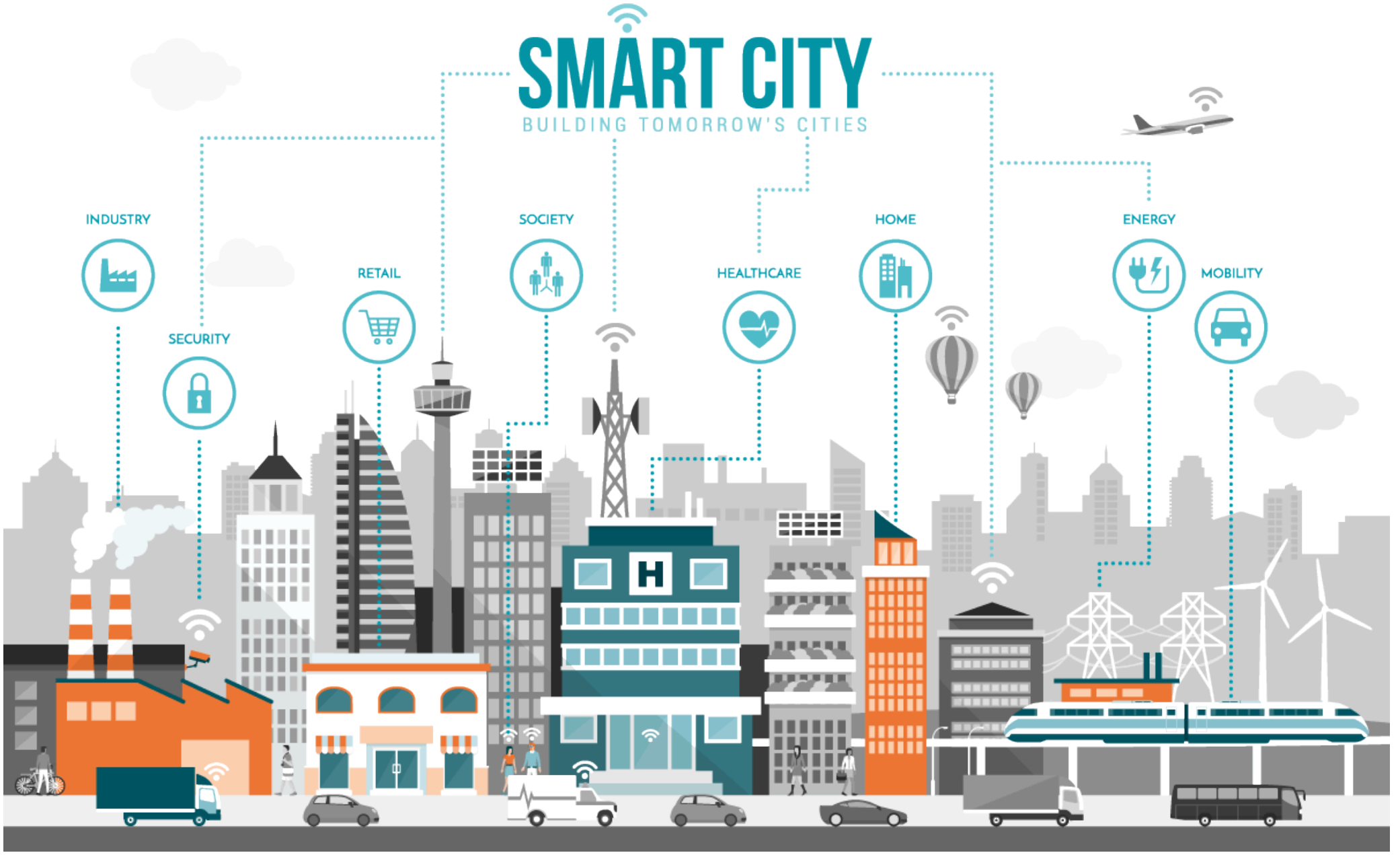
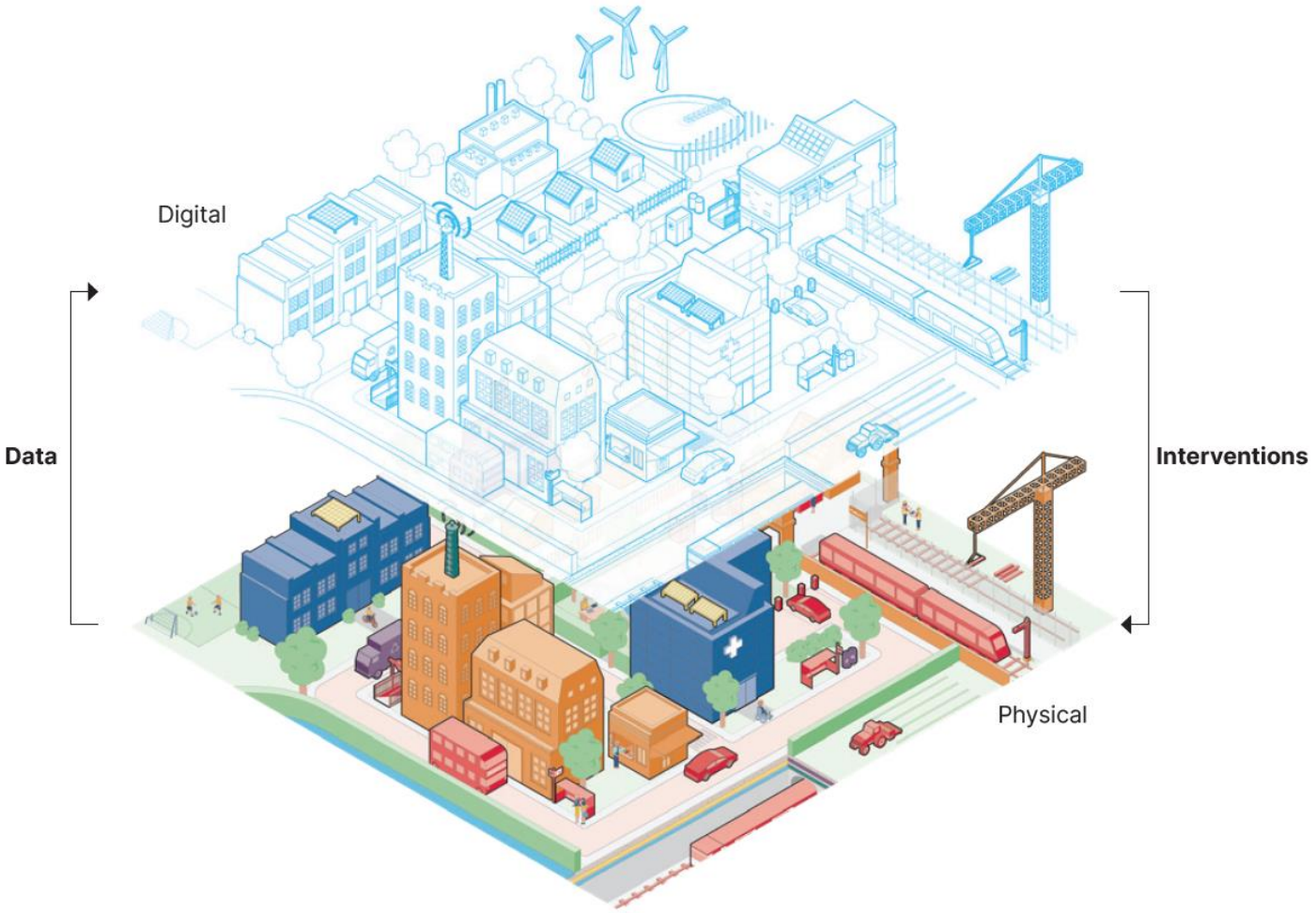


Image: https://www.arcweb.com/industries/smart-cities

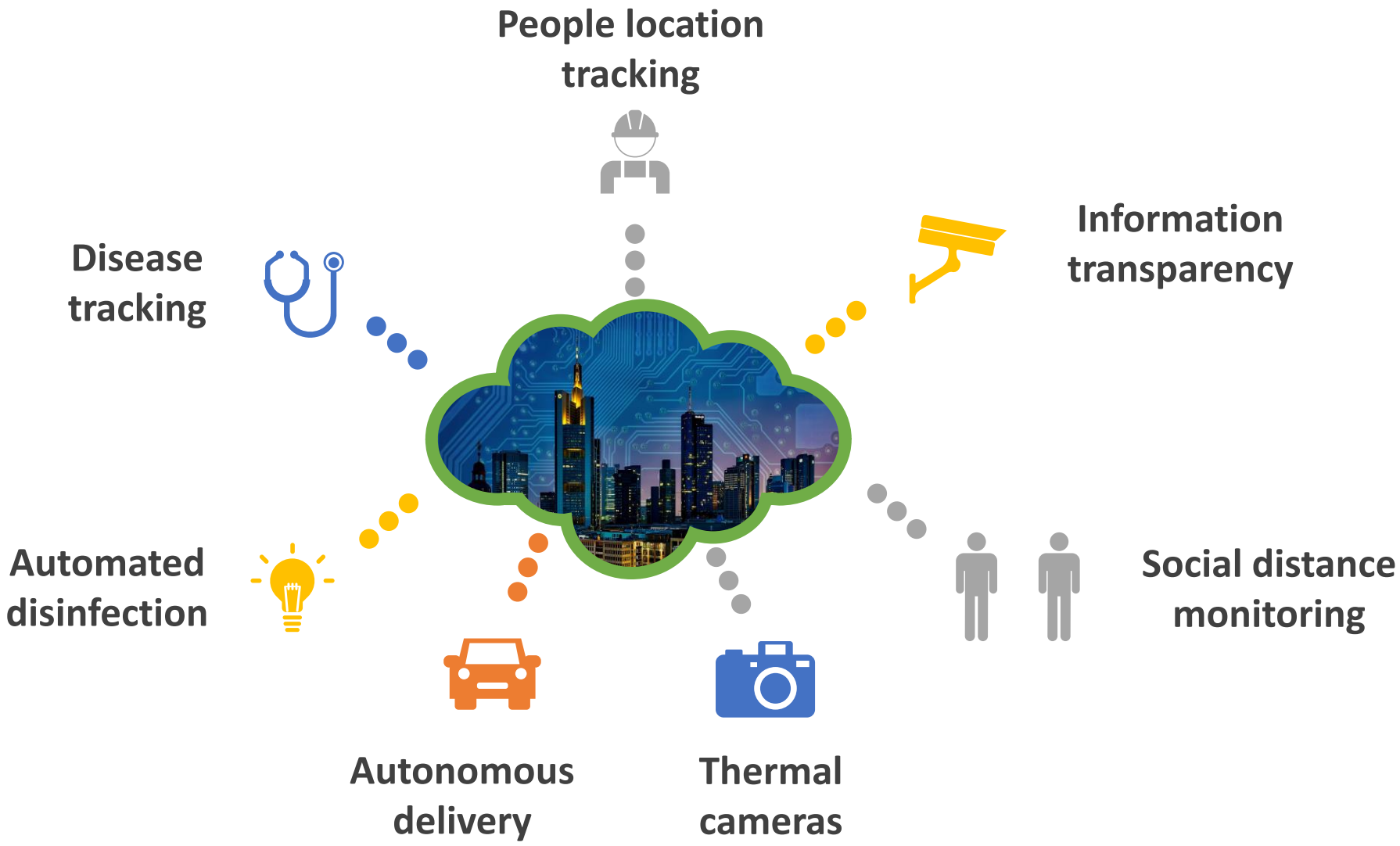
Digital Twins for Smart City



- Better informed decisions
- Reduced environmental impact
- Understanding the representation of communities in datasets
- Improved responses to new regulation
- Improved productivity
- Secure, resilient, data sharing
- Facilitating new business models
- Measure the impacts of interventions over time
- Enabling the circular economy

Centre for Digital Built Britain. The approach to delivering a National Digital Twin for the United Kingdom.

How Smart City Can Defend Against Pandemics



How to advocate engineering innovations

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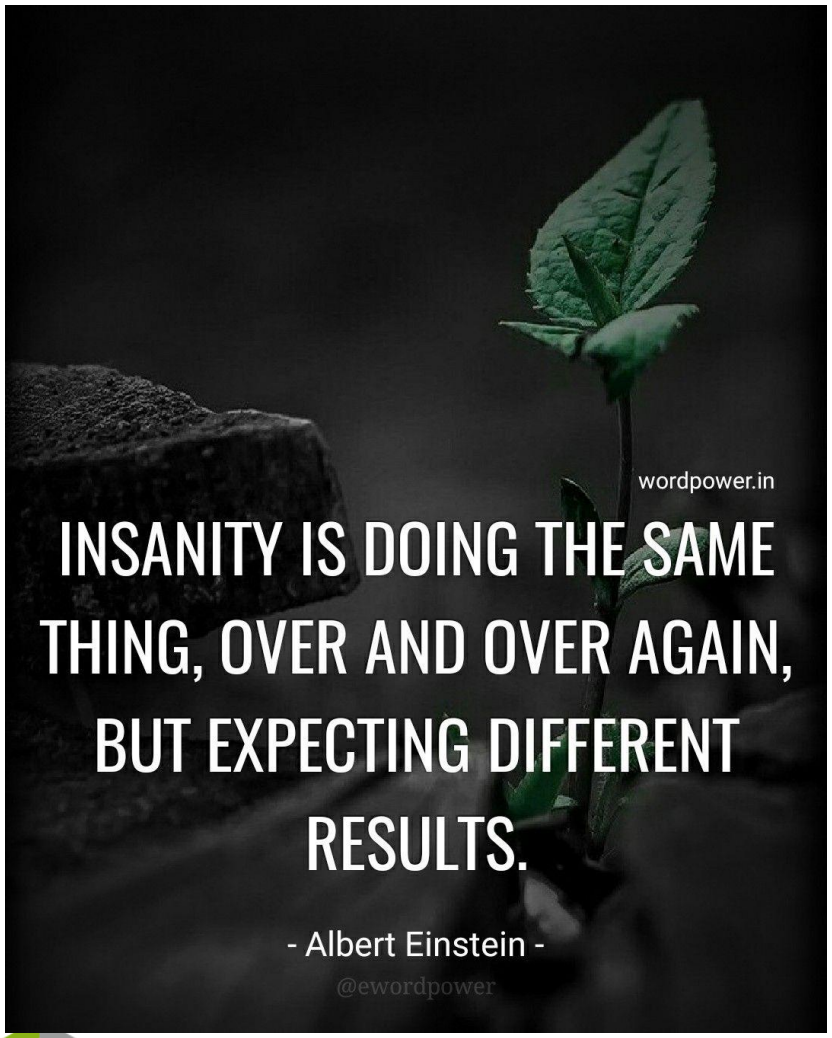
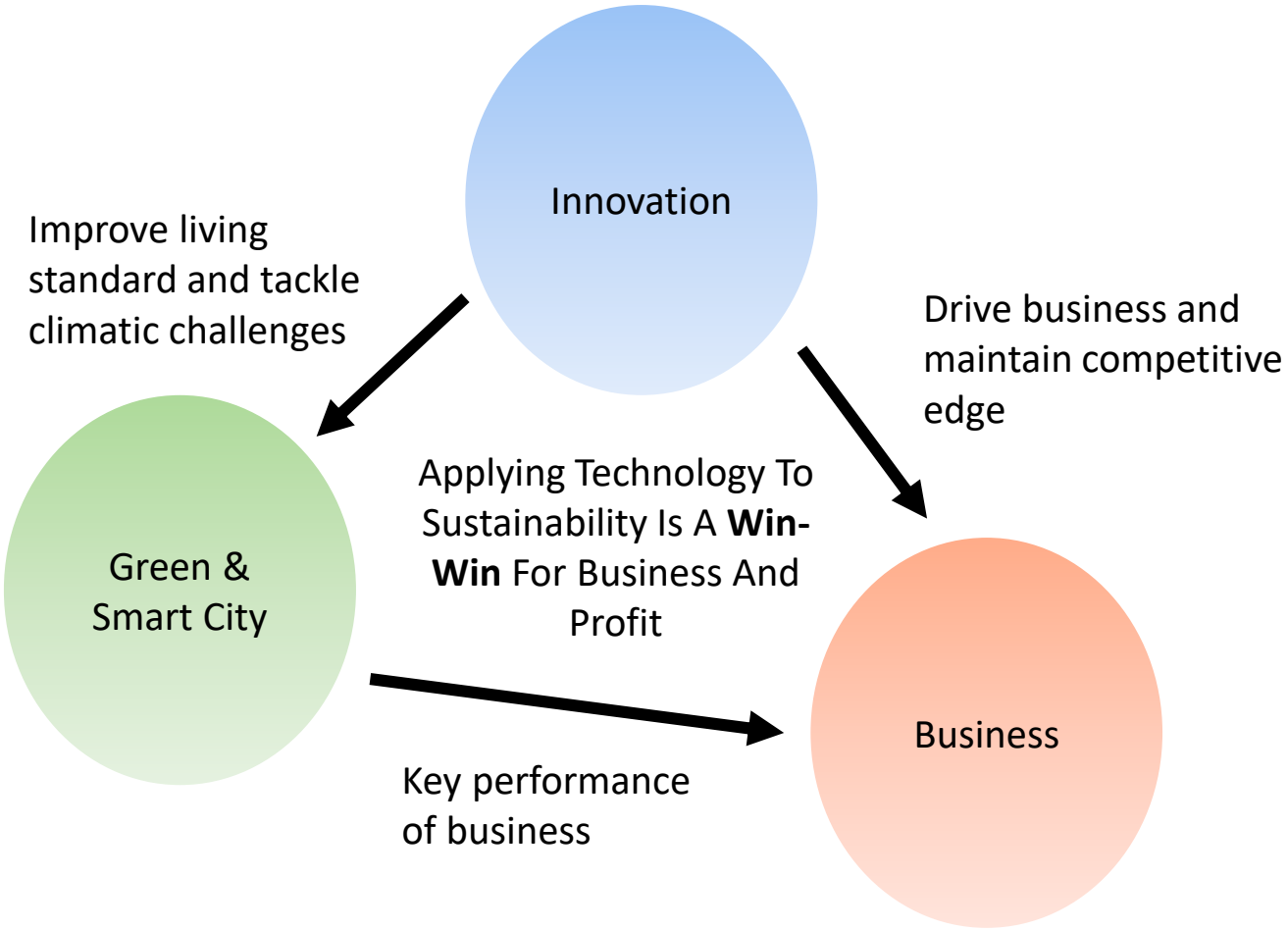
Innovation is the Enabler of Green and Smart City





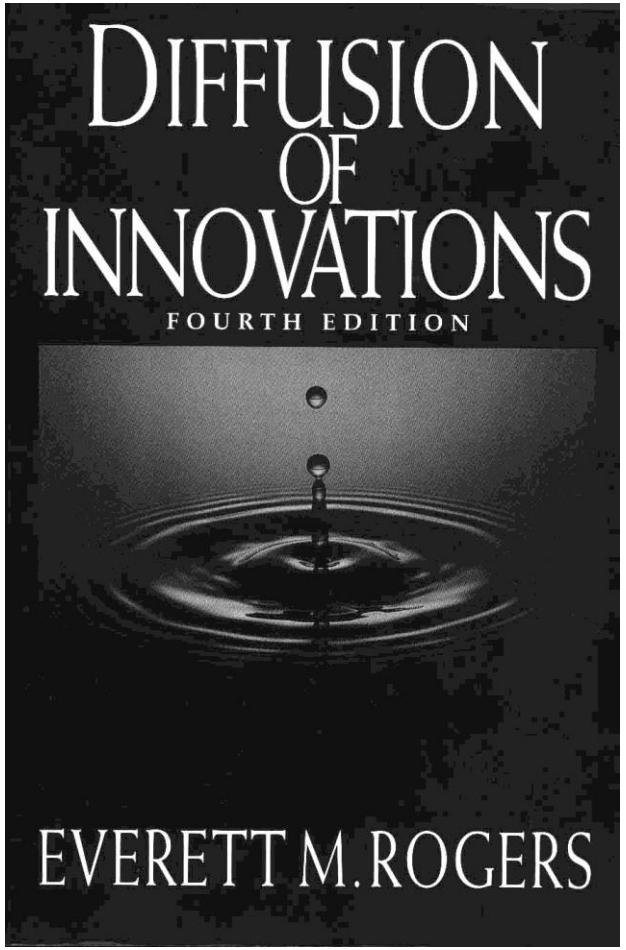
Tom Murray. Environmental Defense Fund. Applying Technology To Sustainability Is A Win-Win For Business And Profit. July 18 2019.
https://www.forbes.com/sites/jumio/2020/10/06/how-technology-is-improving-access-and-empowering-older-adults-to-embrace-telehealth/#1746f98588e3

Change is Difficult

"There is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than the creation of a new order of things…."

Nicolo Machiavelli, *The Prince*

Diffusion of Innovations

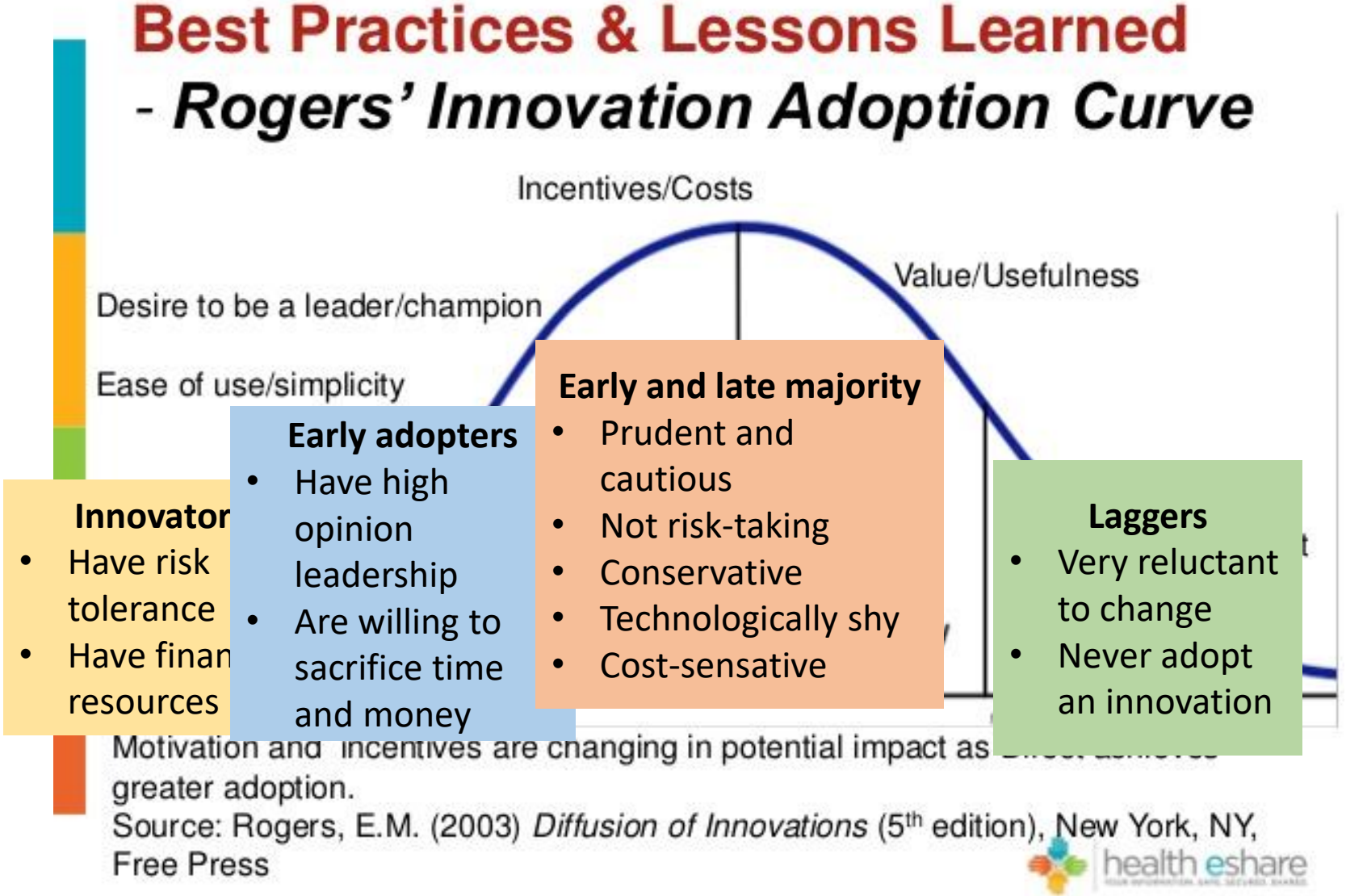


'Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system.'

Everett M. Rogers

The Free Press, New York

Best Practices & Lessons Learned
- *Rogers' Innovation Adoption Curve*



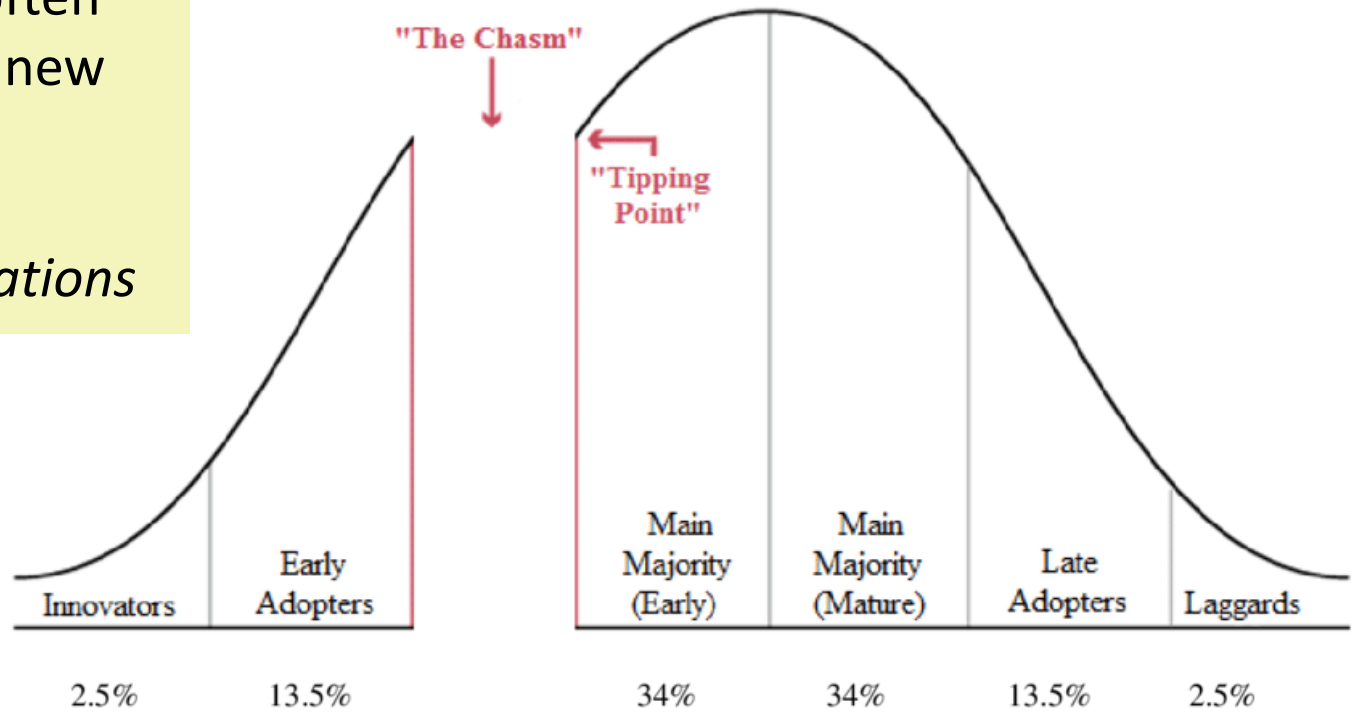
health eshare

Behavioral change models. https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/behavioralchangetheories4.html
Diffusion of innovations. https://en.wikipedia.org/wiki/Diffusion_of_innovations

Tipping Point

"The part of the diffusion curve from about 10 percent to 20 percent adoption is the heart of the diffusion process. After that point, it is often impossible to stop the further diffusion of a new idea, even if one wished to do so."

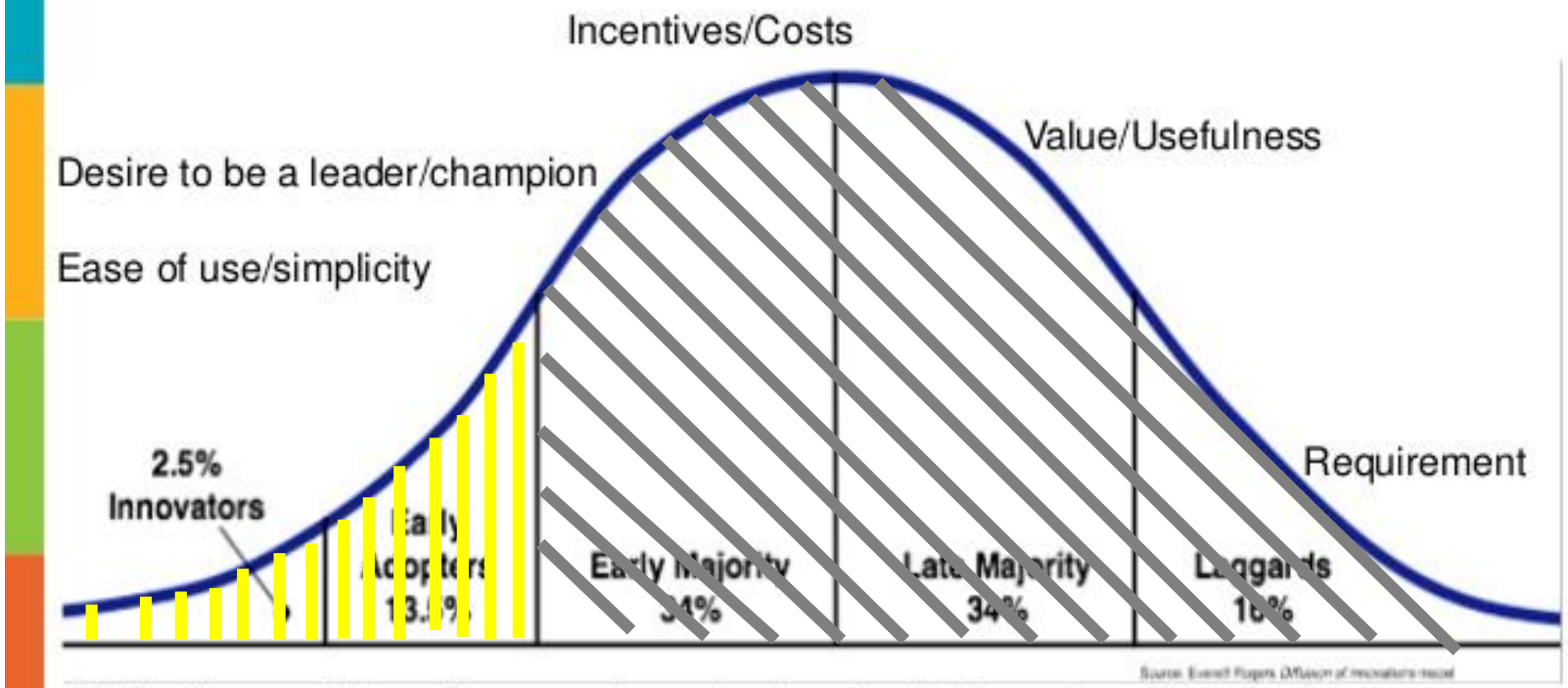
E.M. Rogers, Diffusion of Innovations



Adapted from Roger's Diffusion of Innovation (1962), Moore's Crossing the Chasm (2002) and Gladwell's The Tipping Point (2000)

Best Practices & Lessons Learned

- *Rogers' Innovation Adoption Curve*



Motivation and incentives are changing in potential impact as Direct achieves greater adoption.

Source: Rogers, E.M. (2003) *Diffusion of Innovations* (5th edition), New York, NY, Free Press

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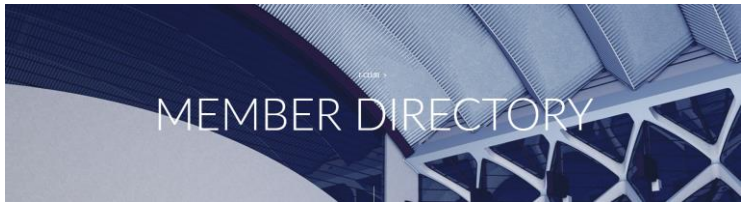
This can solve some of the issues we have. Can I have more information about this exhibit?

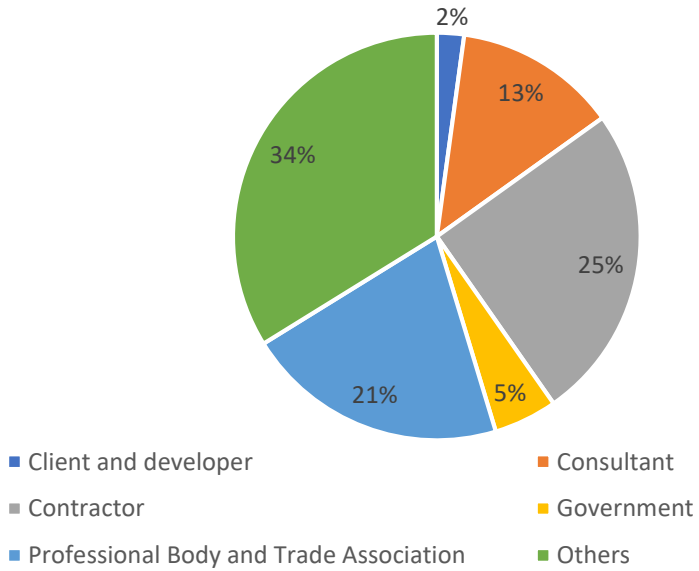
Emmm… good idea, but any project references? Any tangible benefits? Has it been approved by BD?

They will never work in HK. BD will never approve this solution!

CONSTRUCTION INNOVATION AND TECHNOLOGY APPLICATION CENTRE
建造業創新及科技應用中心



Number of registered corporate members (as of Sep 2020)



Company Information

Company Name*

Company Business Registration no.*

Company Category

Academia

Company registered address*

Company Name (English)*

Company profile (English)*

(50 - 100 words)

Company profile (Traditional Chinese)*

(50 - 100 words)

Company Website (Traditional Chinese)

Company Name (Simplified Chinese)*

Company profile (Simplified Chinese)*

(50 - 100 words)

Company Website (Simplified Chinese)

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https://citac.cic.hk/en-hk/iclub/citac-iclub

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