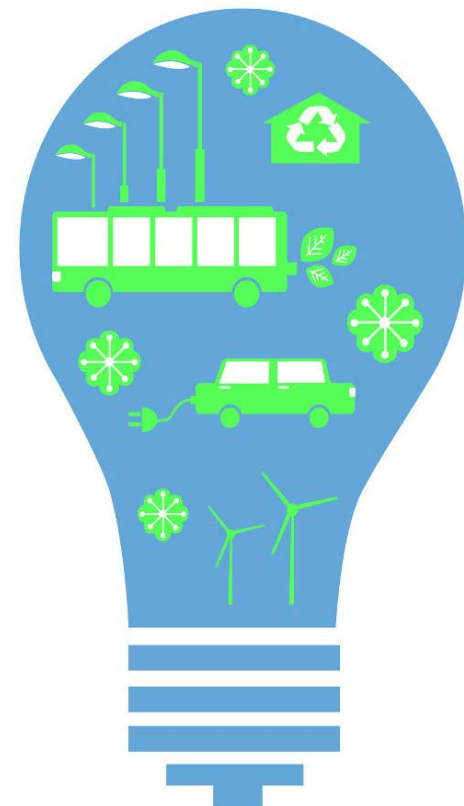
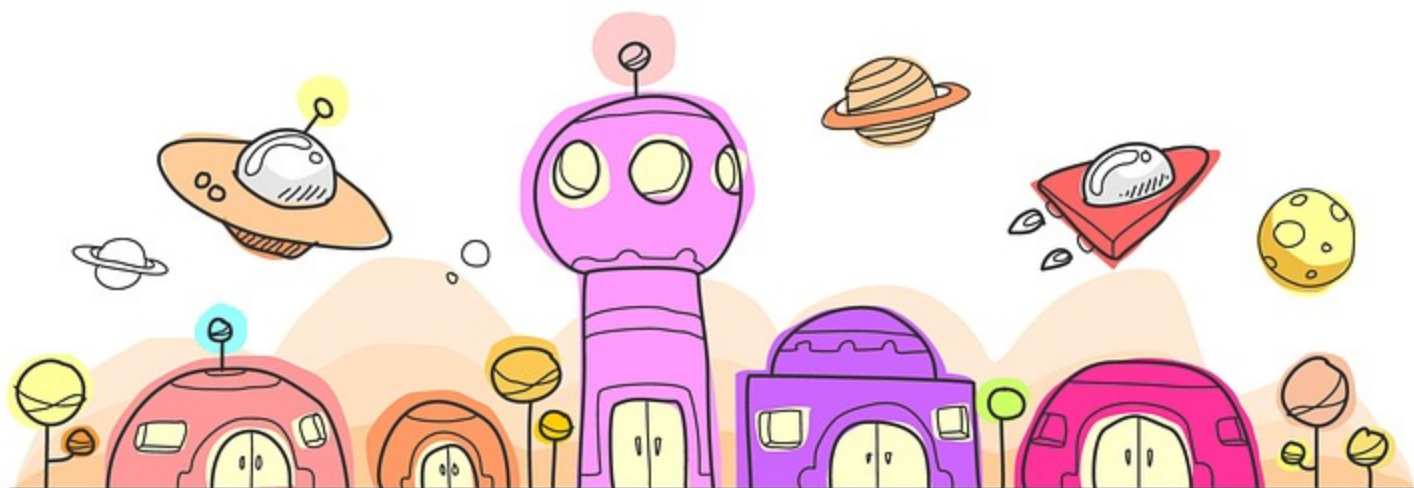
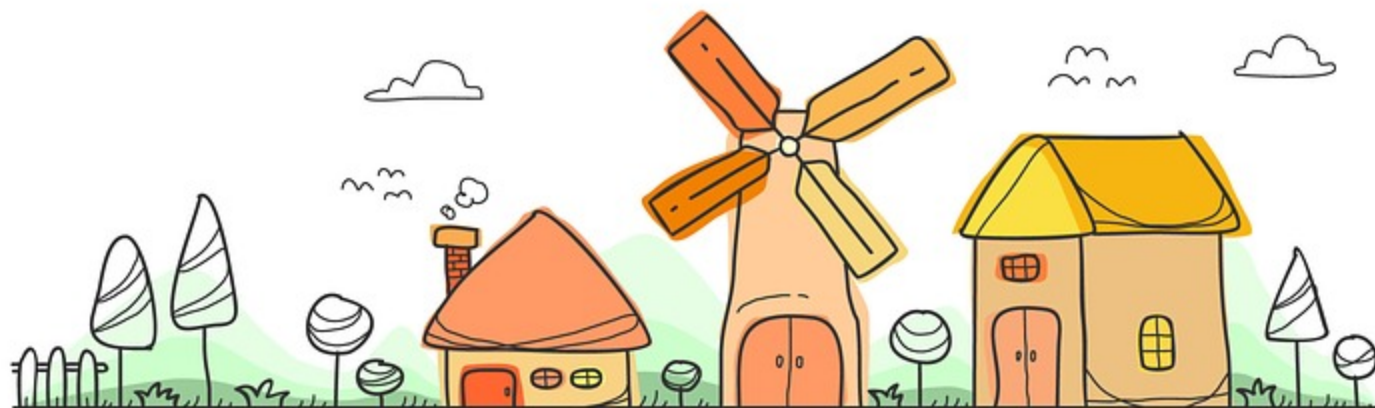


# What is 'smart,' What is 'circular'?



Jessica Yom, Associate Editor, *Policy & Society*

PECC Seminar | Taipei | 28-29 March 2018















Creative,  
smart solutions



# First 'smart nation' in the world...



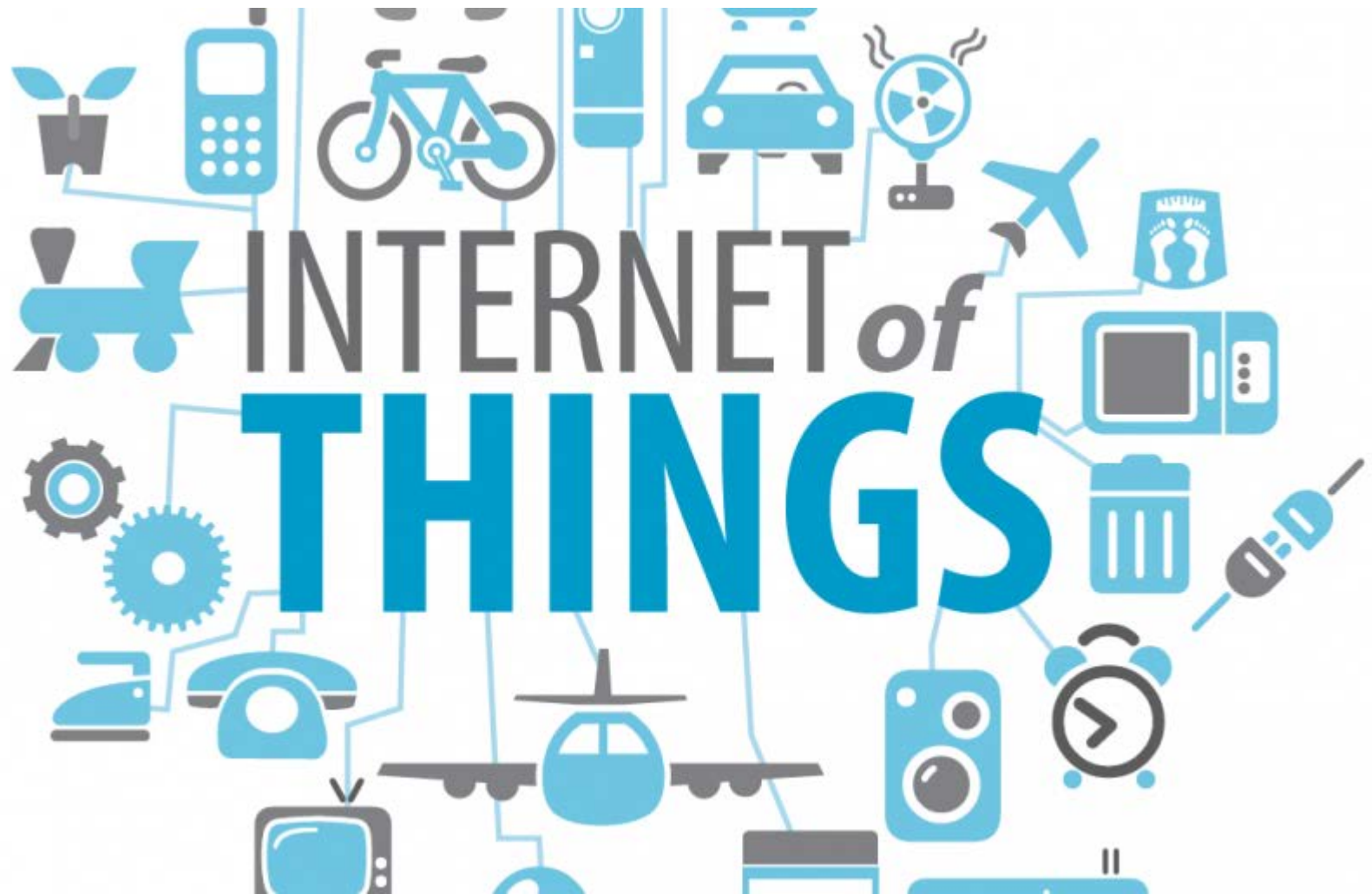




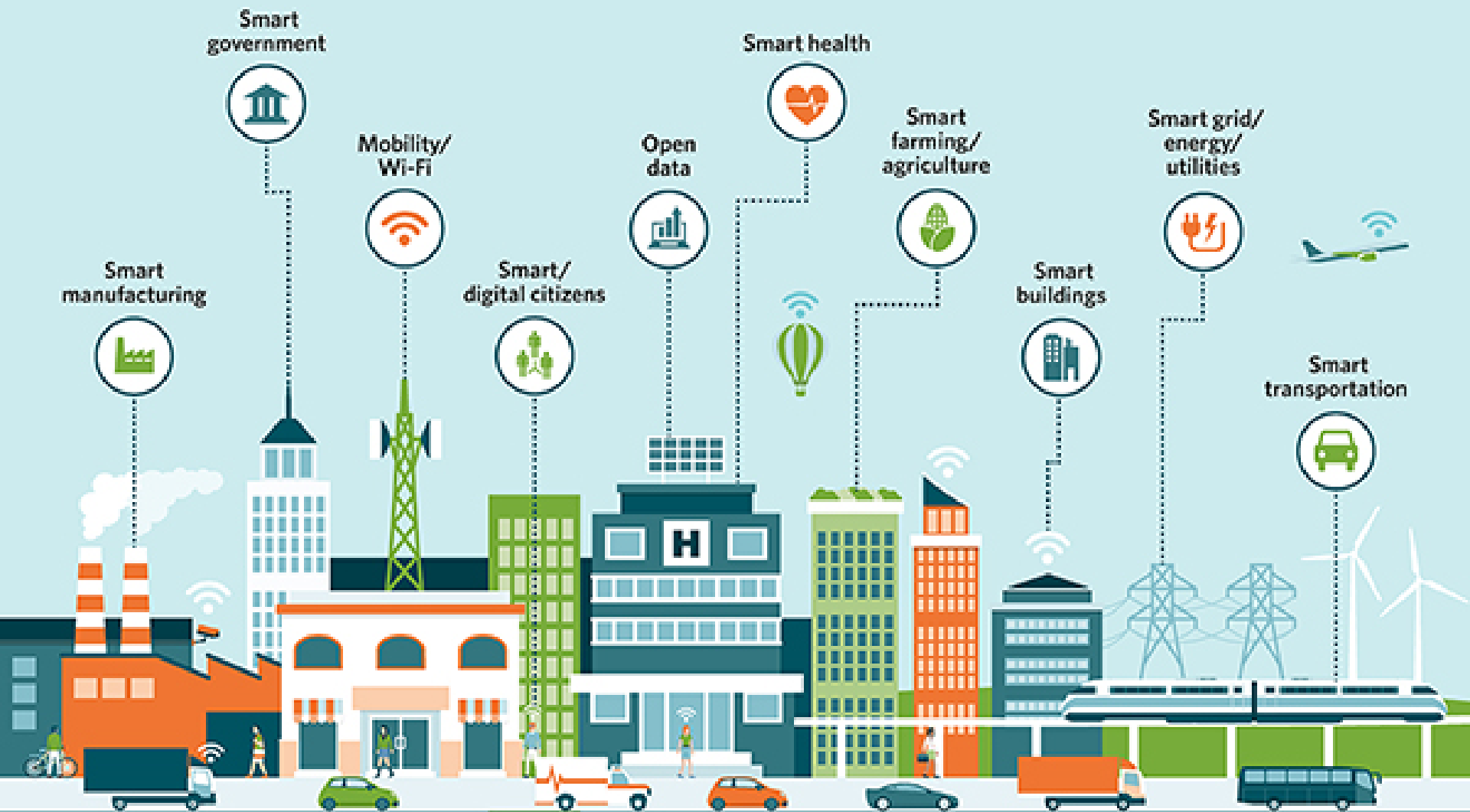
Credit: [Terreform.org](https://www.terreform.org)











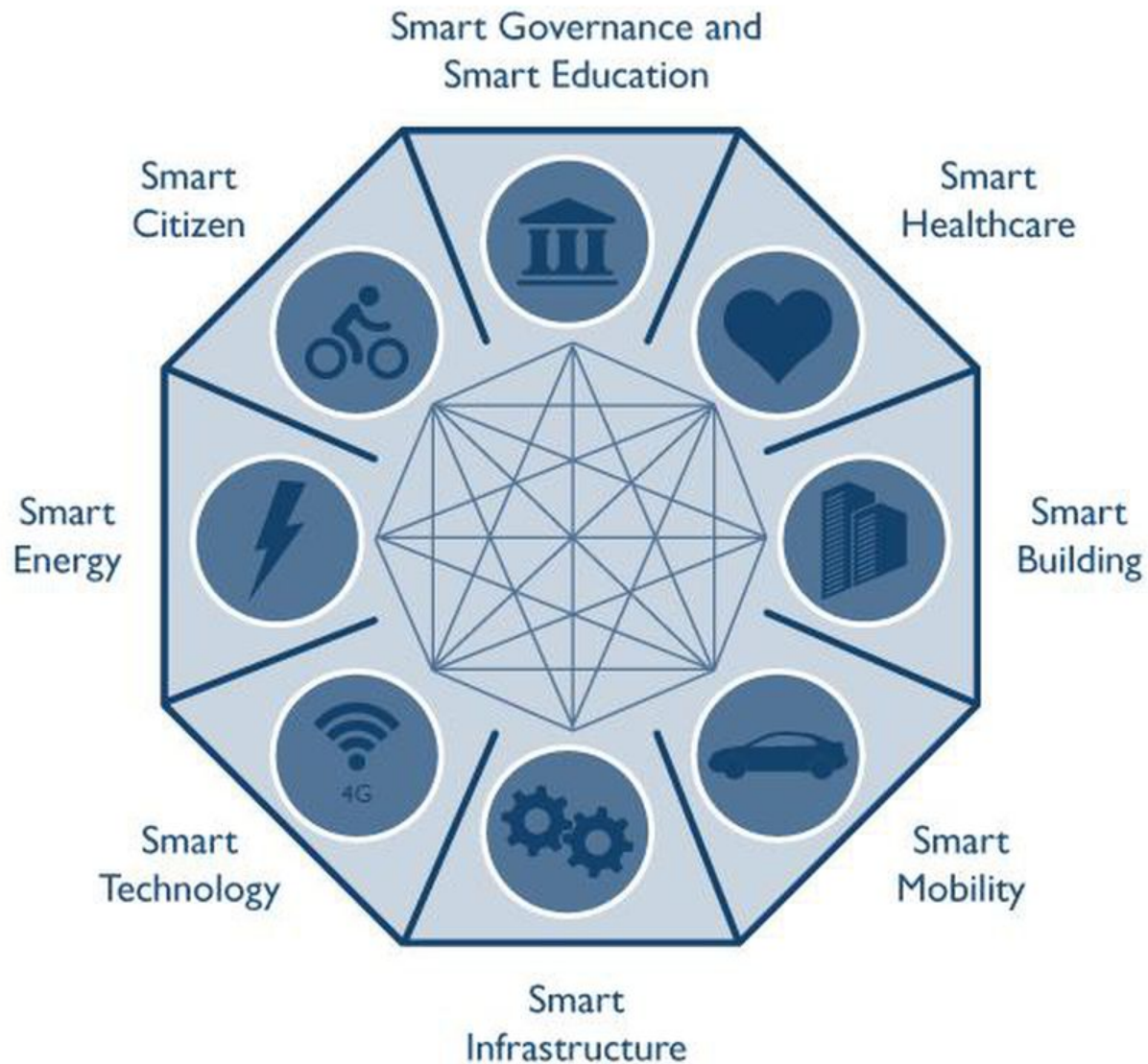
# SMART CITY COMPONENTS

# What does your smart city look like?

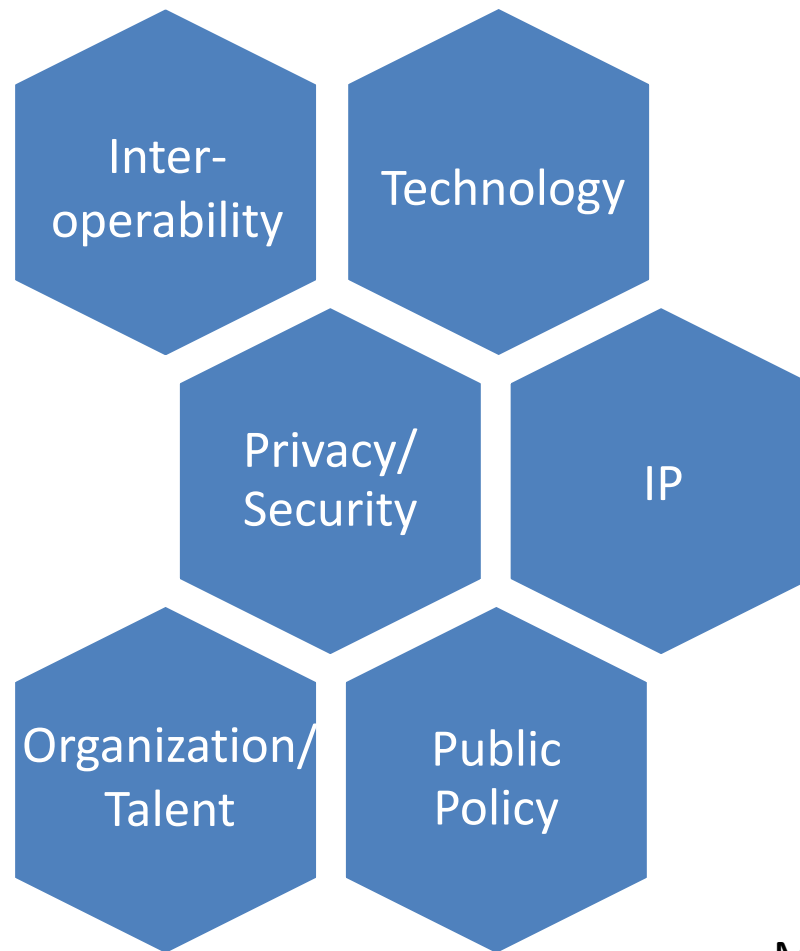




# SMART CITY CONCEPTS



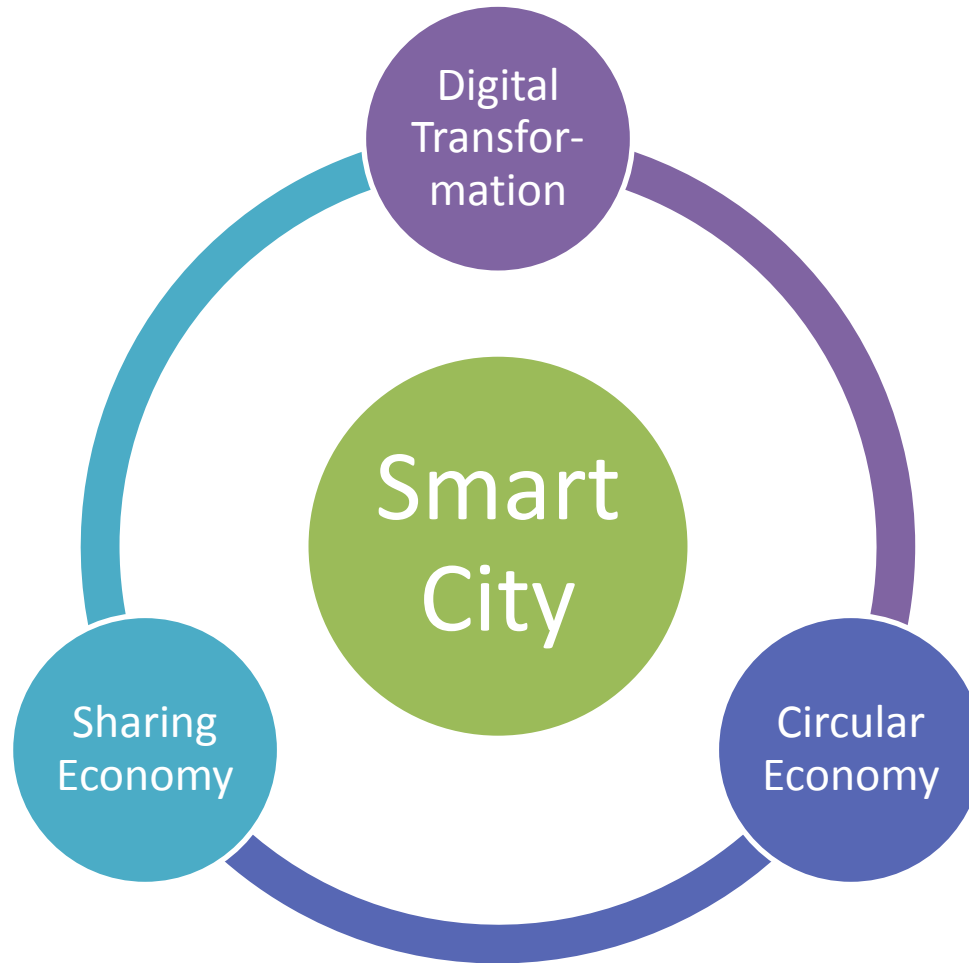
# IoT: Enablers and Barriers

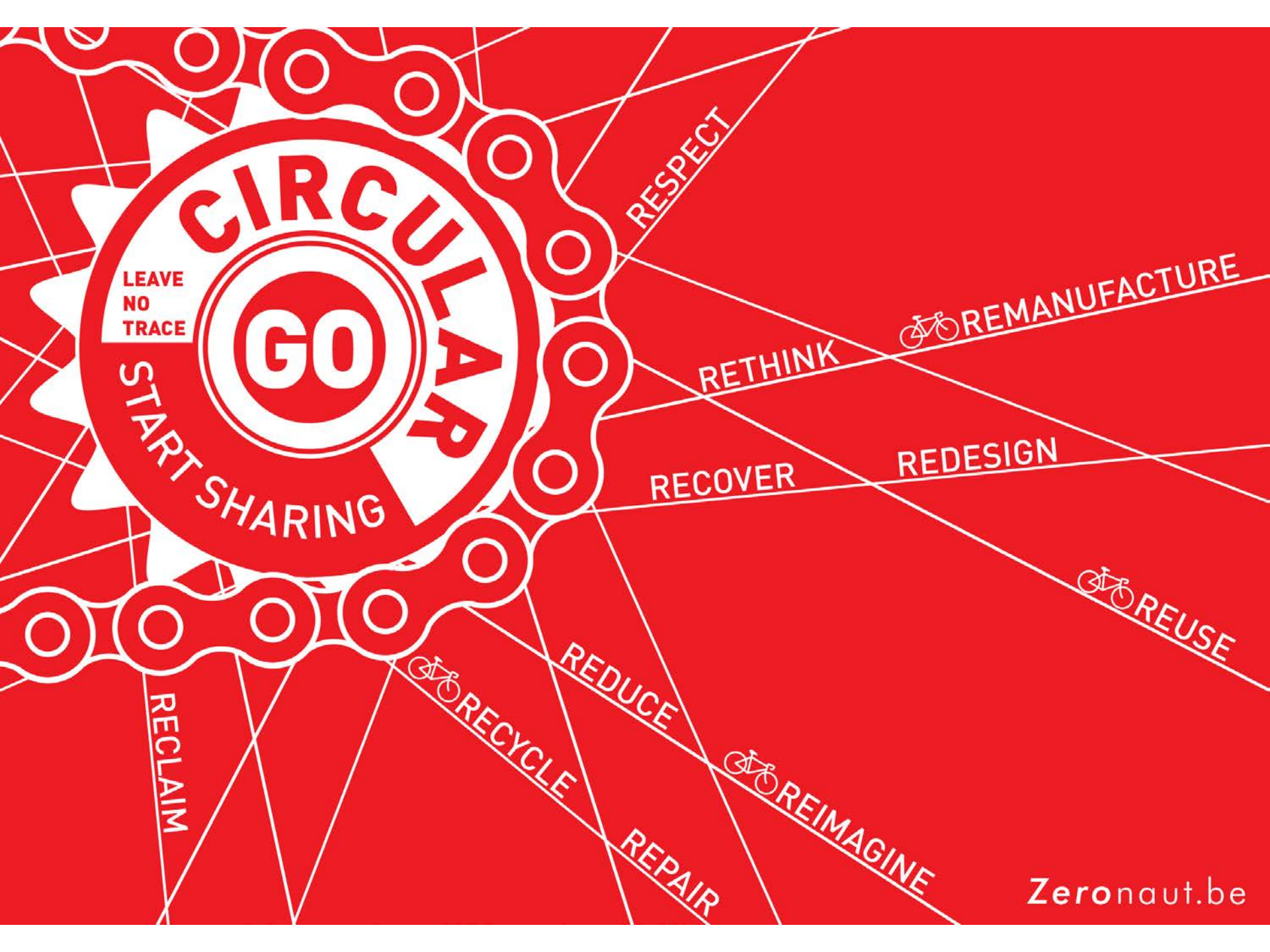


McKinsey Global Institute



# Mutually reinforcing





**CIRCULAR**

**GO**

LEAVE  
NO  
TRACE

START SHARING

RESPECT

RETHINK

RECOVER

REDUCE

REPAIR

RECYCLE

RECLAIM

REMANUFACTURE

REDESIGN

REUSE

REIMAGINE

Zeronaut.be



# Circular Economy + Sharing Economy





ELLEN MACARTHUR  
FOUNDATION

V1.1

# **DELIVERING THE CIRCULAR ECONOMY A TOOLKIT FOR POLICYMAKERS**

[www.ellenmacarthurfoundation.org](http://www.ellenmacarthurfoundation.org)



## OUTLINE OF A CIRCULAR ECONOMY

### PRINCIPLE

# 1

Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows  
ReSOLVE levers: regenerate, virtualise, exchange



Regenerate      Substitute materials      Virtualise      Restore

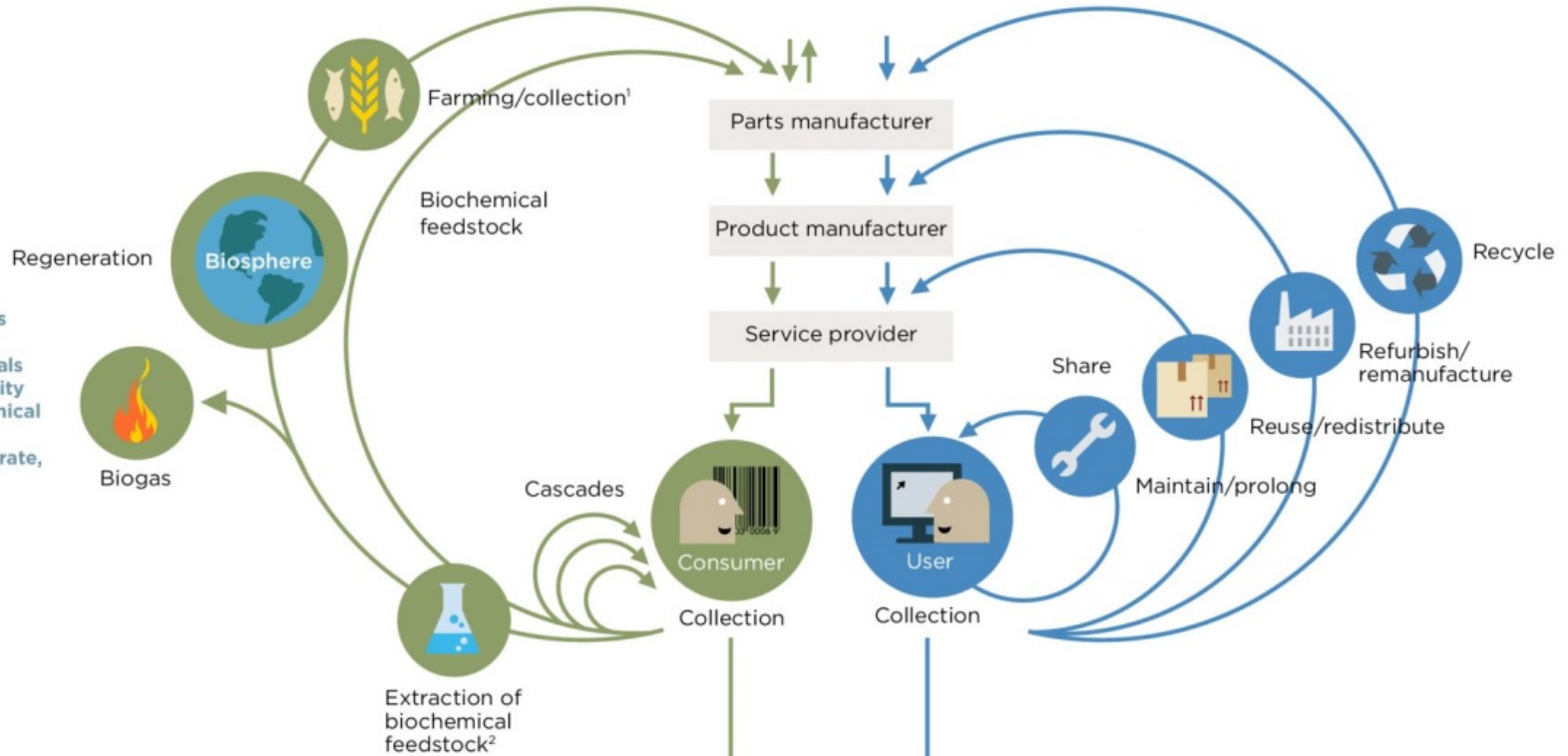
Renewables flow management

Stock management

### PRINCIPLE

# 2

Optimise resource yields by circulating products, components and materials in use at the highest utility at all times in both technical and biological cycles  
ReSOLVE levers: regenerate, share, optimise, loop



### PRINCIPLE

# 3

Foster system effectiveness by revealing and designing out negative externalities  
All ReSOLVE levers

Minimise systematic leakage and negative externalities

1. Hunting and fishing

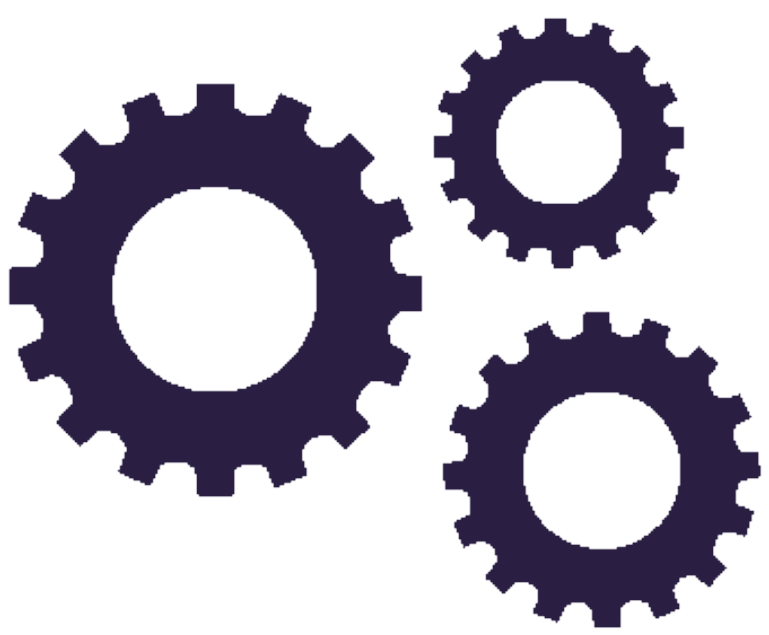
2. Can take both post-harvest and post-consumer waste as an input

Source: Ellen MacArthur Foundation, SUN, and McKinsey Center for Business and Environment; Drawing from Braungart & McDonough, Cradle to Cradle (C2C).

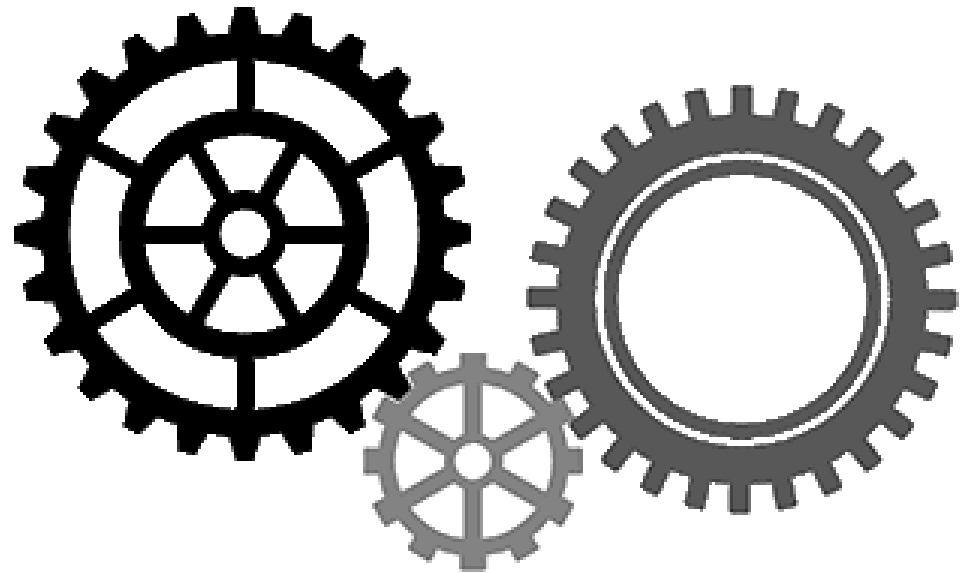
# Rolls-Royce: Revert







How do we go from our  
own circular economies  
to building the BIG  
circular economy?



# Are we on track?

## Policy implications

- Put people at the heart of policies
- Co-creation: citizen engagement, millennials
- Potential emergence or worsening of socio-economic gaps: Urban-rural divide; digital divide; knowledge/ education divide
- Cyber security
- Digital identity
- Cross-border, borderless



# Enablers of a Smart City

