

# Digitalization for Climate Mitigation and Adaptation

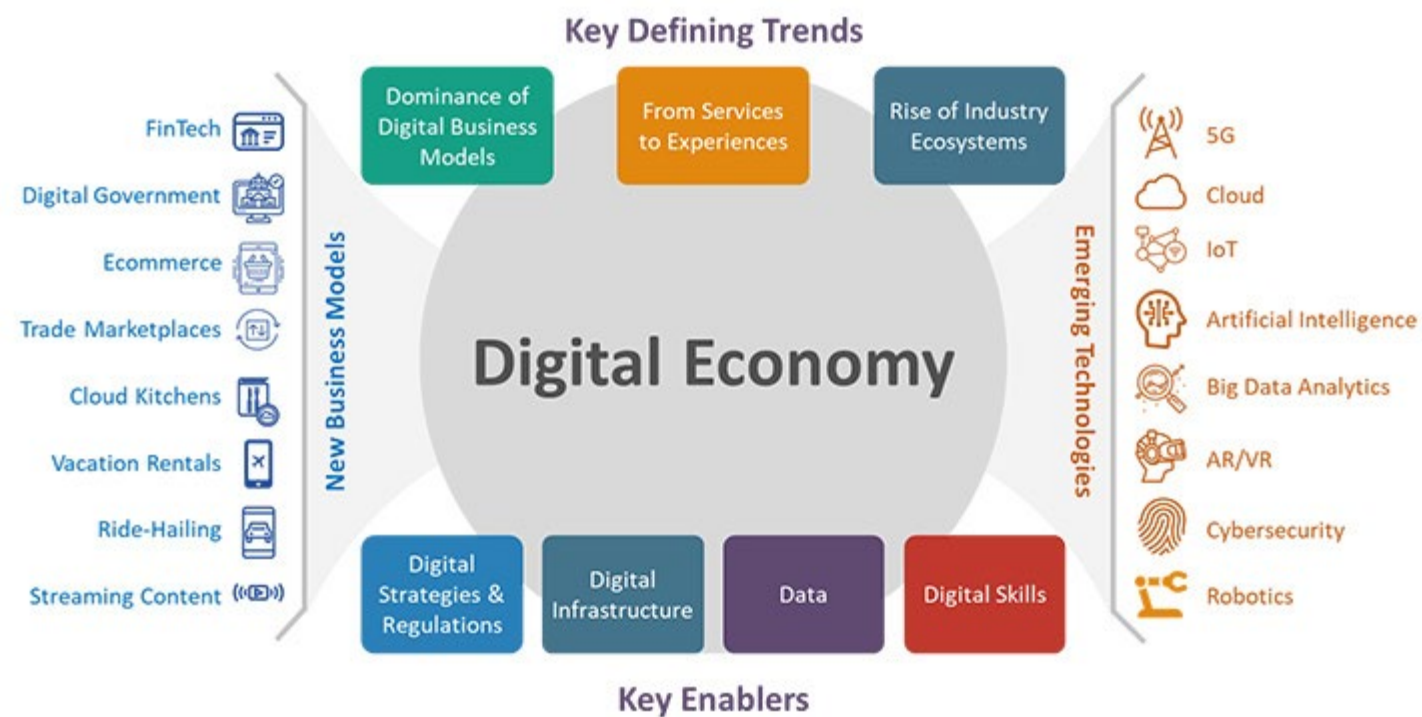
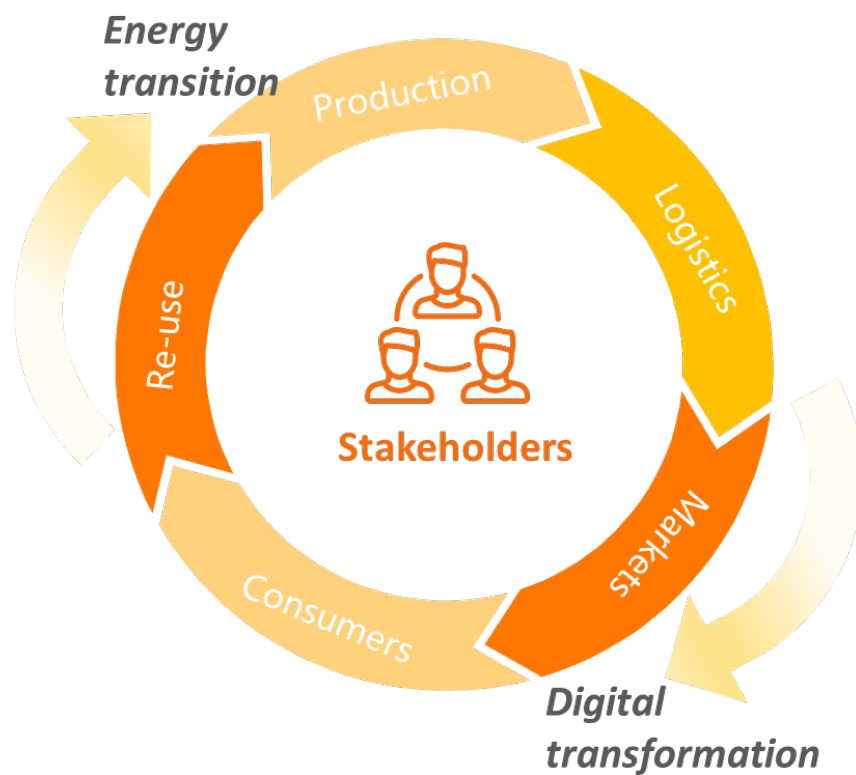
**Wei Liu**

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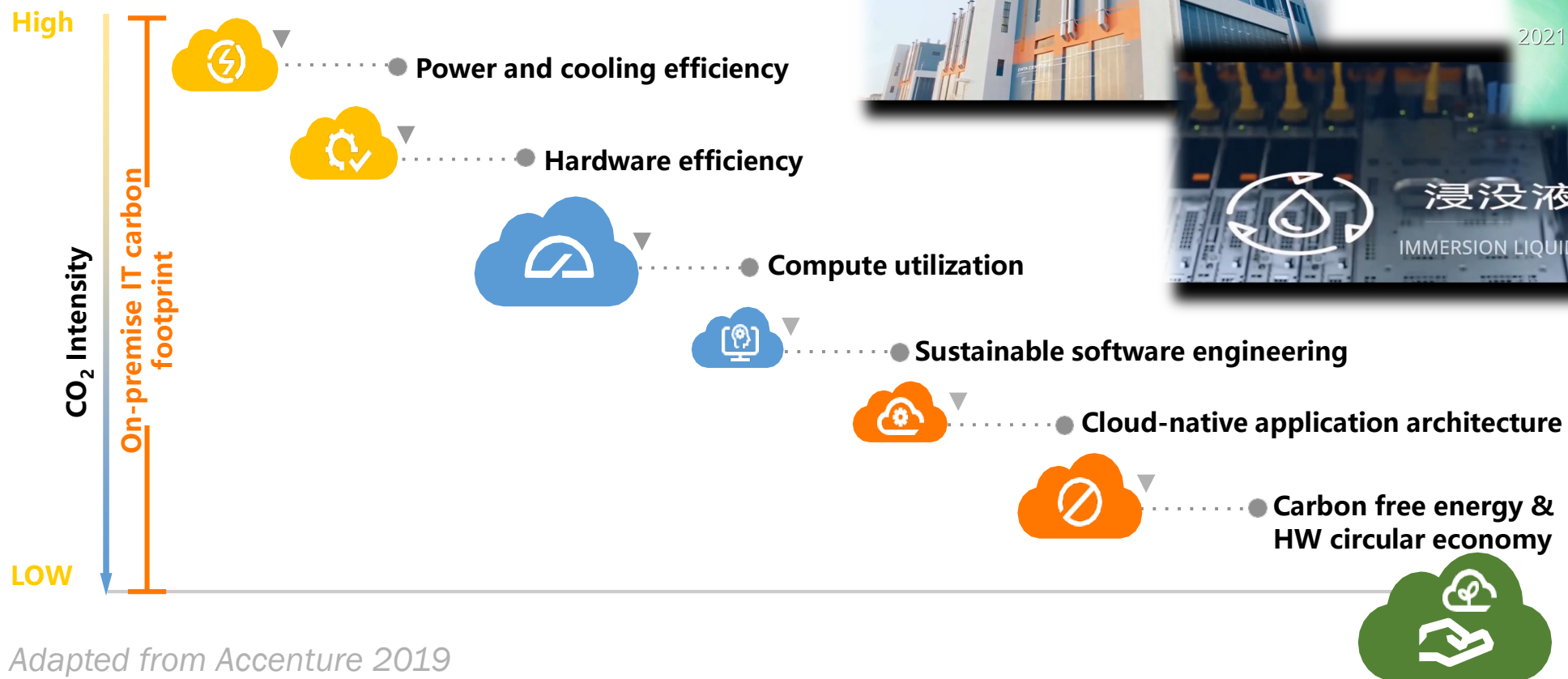
# Outline

- Digital circular economy
- Net zero
  - Sustainable cloud
  - Green logistics
  - Sustainable consumption
  - Re-commerce platform
- Climate adaptation
  - Tech innovations for disaster risk management
  - Digital economy for adaptation goods and services

# Digital circular economy



# Sustainable cloud & data center



2021 Paulson Prize for Sustainability



# Green logistics

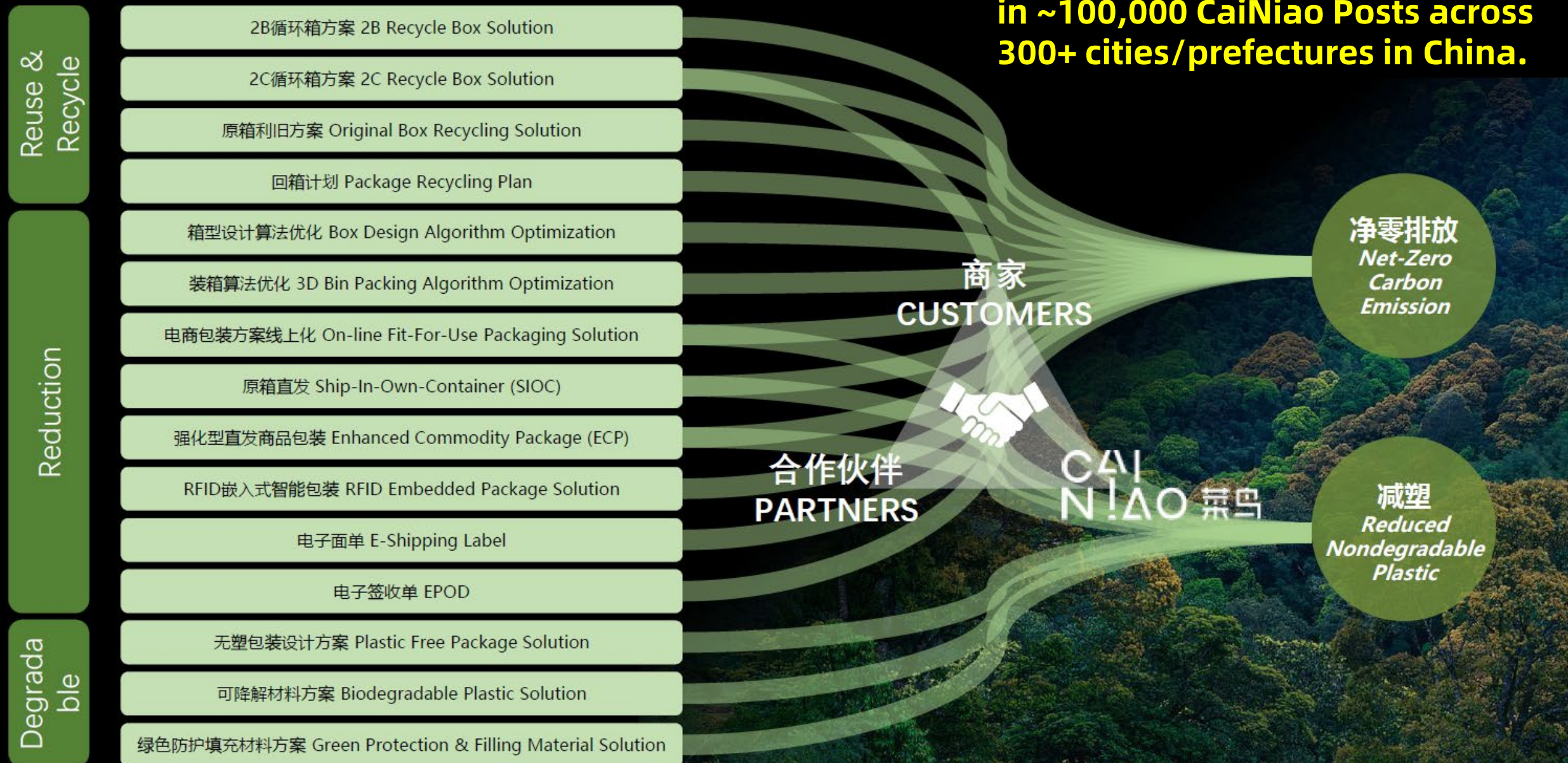
- Original packaging delivery: resource saving
- Smart route planning and smart inventory allocation
- Digital identity: efficiency improvement and resource saving
- Low-carbon transportation: Xiaomanlv intelligent logistic vehicles





# 菜鸟绿色包装

## CAINIAO GREEN PACKAGING PROGRAM



# IdleFish: Trust-building and network effects of re-commerce platforms

>10 million mtCO<sub>2</sub>e  
Avoided in 2019 (Estimated\*)



300~Million  
Users by 2020 (Actual)

How to foster trust in this lemon market ?

- **Match professional appraiser in the transaction process**  
e.g. Buyer only has to pay \$ 1-2 to the appraiser in a P2P transaction of a second-hand mobile phone  
Seller will express the mobile phone to the appraiser. Then the the appraiser will send it to the buyer.
- **Introduce a third-party insurance company** (in case the appraiser making any mistake)
- **Utilizing Sesame Credit** (credit ratings of consumers built in the ecosystem of Alibaba)
- **Bridge with E-commerce platform** → Commodity traceability  
e.g. Seller could resale her order in Taobao/Tmall by one click and this information will be posted in Xianyu directly



# Sustainable consumption

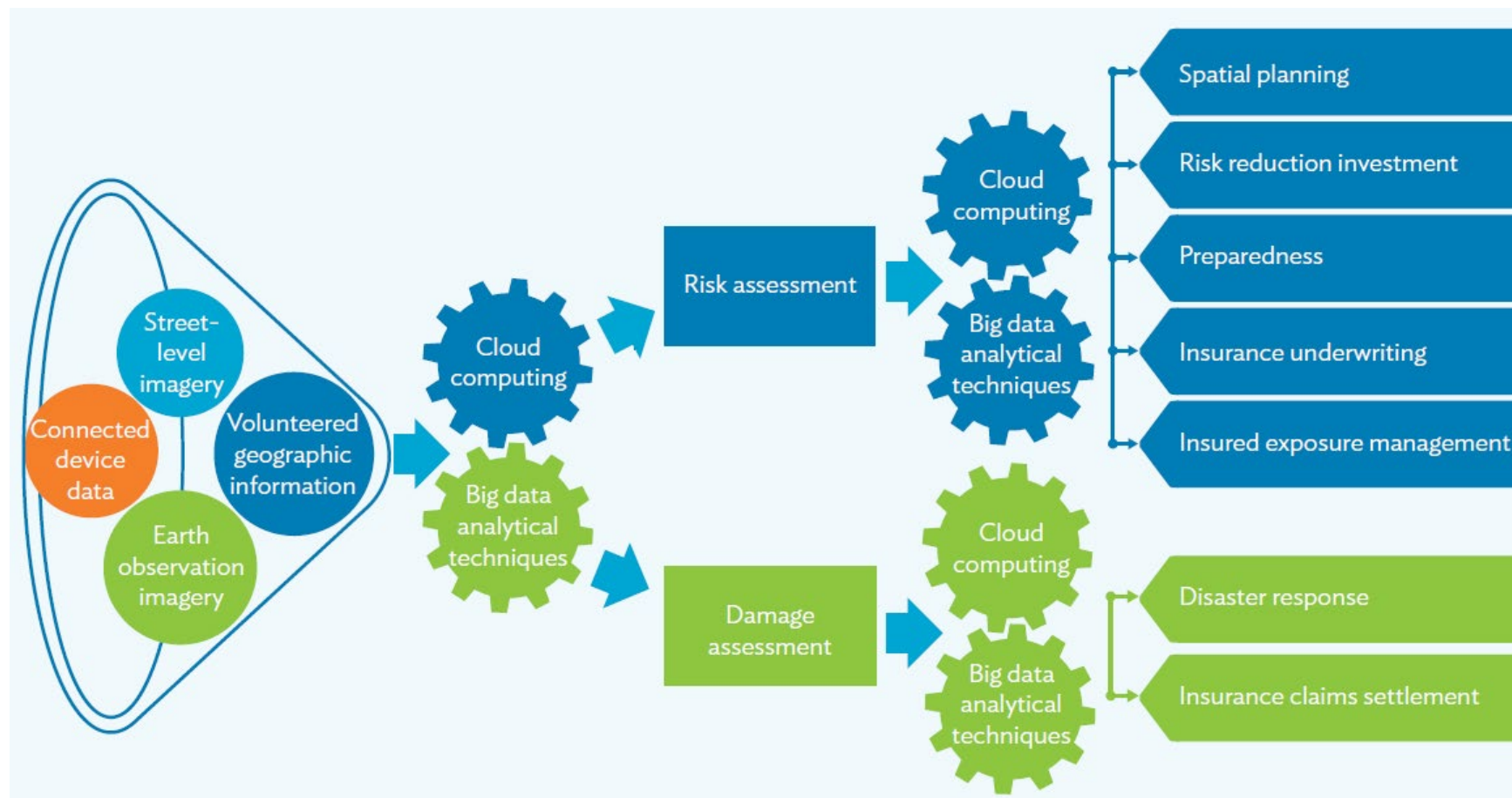
Platform quickly transmits information on sustainable product demand upward in value chains, and propel upgrade on the production end.





# Climate Adaptation

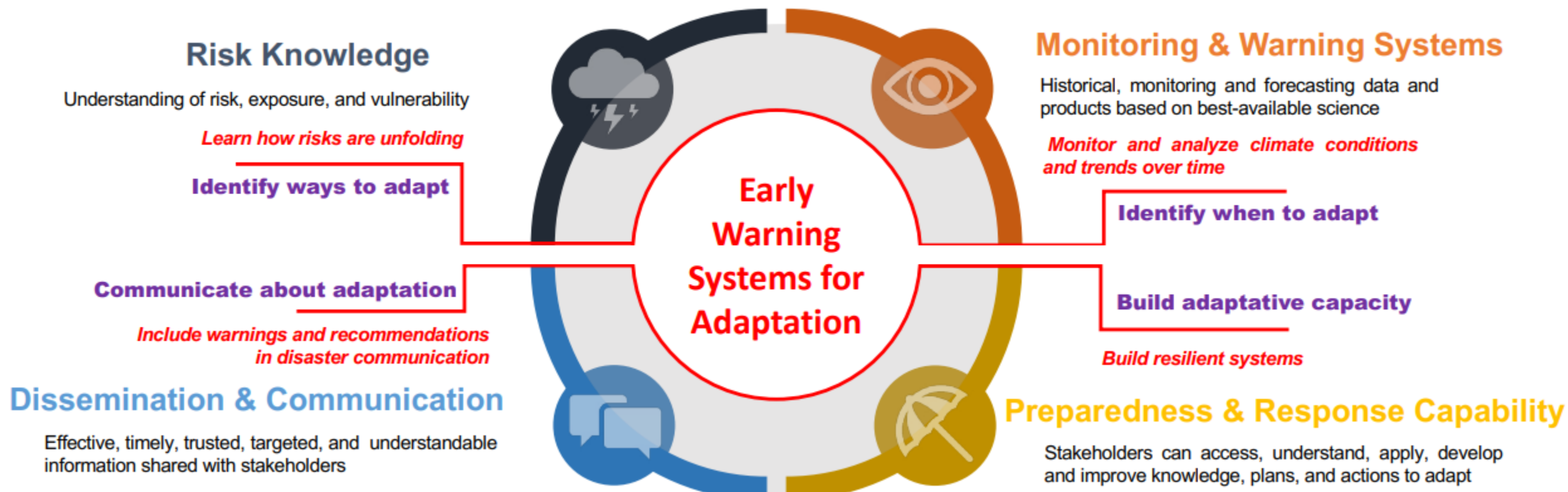
# Digital innovations for CCA/DRR



**LEVERAGING TECHNOLOGY  
AND INNOVATION FOR  
DISASTER RISK MANAGEMENT  
AND FINANCING**

DECEMBER 2020

# Early warning system for adaptation





# Flood emergency management

- Alibaba Cloud Zhengzhou “City Brain” Med Emergency System – **Top-down management system**;
- Amap’s “Henan Rainstorm Water Map” – local users directly click on the [Water Point] icon on the map to enter the relevant chat room, exchange information in real-time – **Bottom-up crowdsourcing**;
- DingTalk for Zhengzhou Government expands capacity and runs 24/7 for emergence coordination;
- CaiNiao delivers necessary goods and services, especially disaster relief materials;
- MMC Henan Branch provided daily necessities to 7,000 communities and 21,000 groups in Zhengzhou City for free;
- Ali Health actively collects needs, and provides medicines, medical equipment and other assistance in accordance.

**A lot of scenarios where digitalization can help!**

Alibaba Cloud  
ET City Brain



# Flood risk assessment supported by AI

- Poyang lake - Quick detection of new water surface areas by Damo Academy's AI Earth

## 遥感AI核心能力

### 地物分类

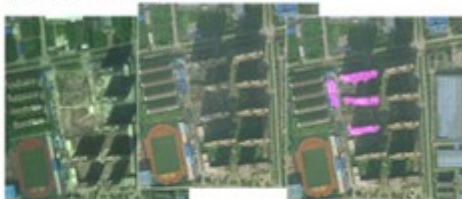


### 变化检测

#### 通用变化检测



#### 新增建筑物检测



### 目标识别



光伏电厂



拦河闸坝



采砂厂



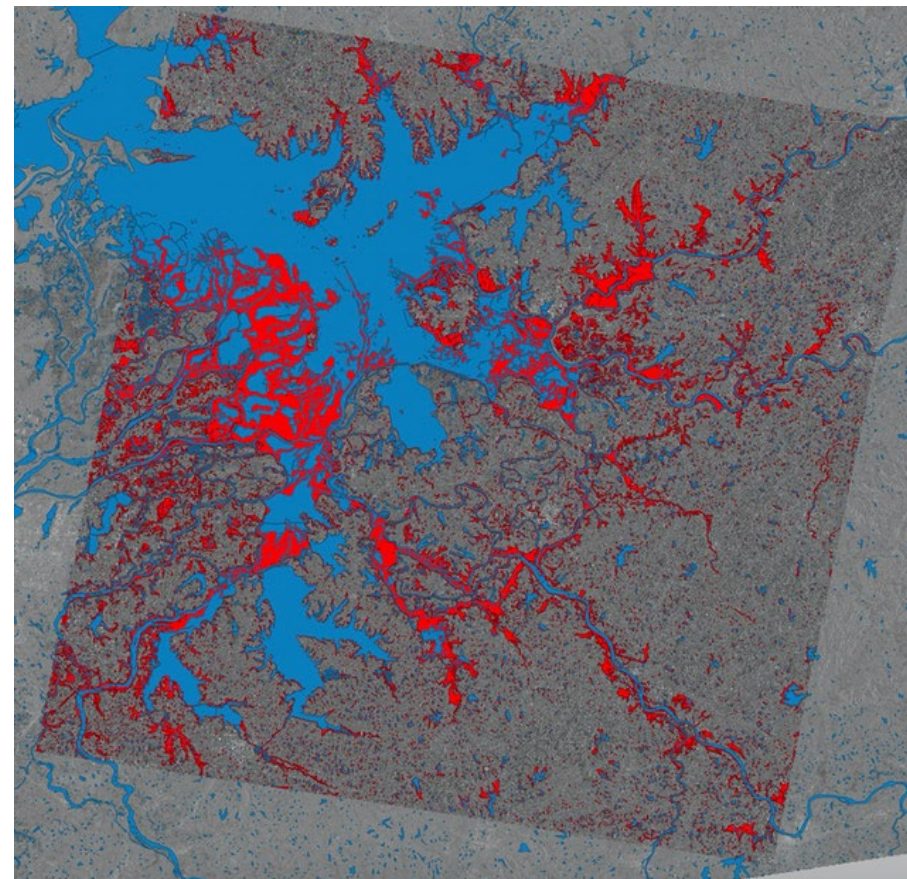
建筑物



网箱养殖



大棚





# Supporting at various disaster risk management stages

- WARNING: Poyang Lake – flood warning robots, 100,000 calls in 1 hour
- EVACUATION: Ligan, Zhejiang – security code system for mass evacuation
- RESPONSE: Poyang Lake – Aggregating demands to secure flood prevention materials direct supply
- RECOVERY: Qiandao Lake, Zhejiang , livelihood recovery supported by HeMa





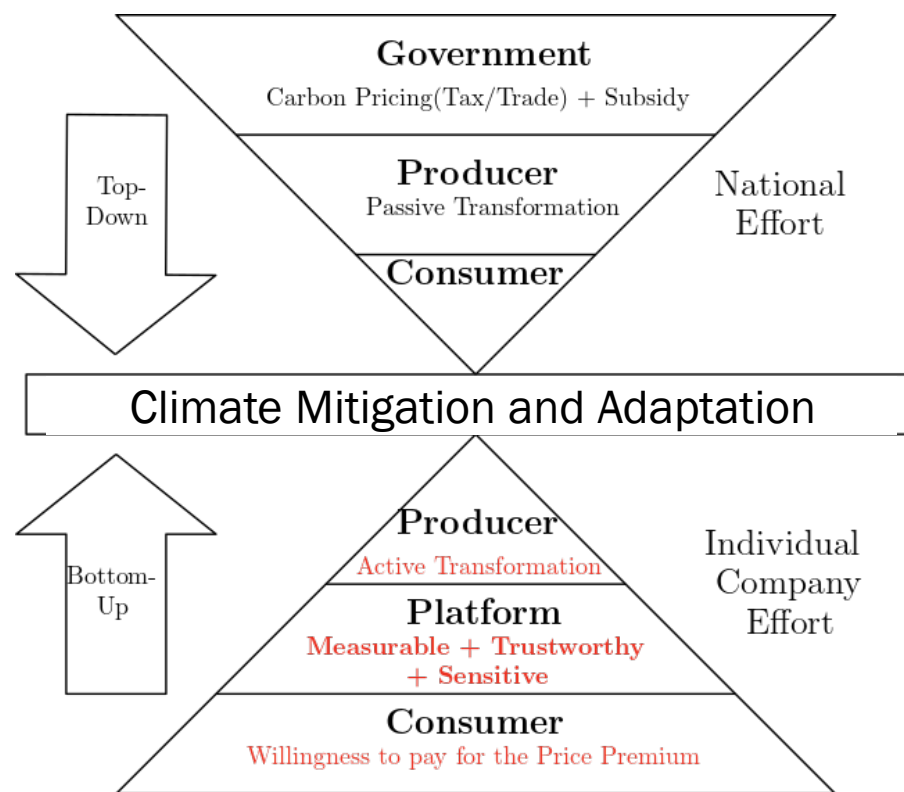
# World Hunger Map by Alibaba Cloud



# Other cases

- CaiNiao – supporting WFP's global humanitarian supply chain
- Local life service – gig economy helps coping with disasters in migrant workers home regions
- Digital agriculture for enhanced product quality, efficiency, and resilience

# Integrate top-down & bottom-up solutions for climate mitigation and adaptation





# Thank you!

- [www.LuohanAcademy.com](http://www.LuohanAcademy.com)
- <https://wasp-adaptation.org/>



# Trade can help enhance access to adaptation goods

**Goods produced with climate relevance** (including the whole value chain from production to marketing)

- Drought-tolerant maize varieties
- Clothing produced with special fibers that consume less water from a cotton-sourcing region experiencing drier conditions and water supply issues

**Goods used as inputs or consumed for adaptation end effects**

- **Final goods:** tools for early warning systems in the context of more extreme and intense extreme weather events; climate-resilient seeds
- **Intermediate goods:** specific machinery/technologies/spare parts/climate data etc. needed for producing the abovementioned final goods