

Internet of Things in Electricity

MILAN, May 2019

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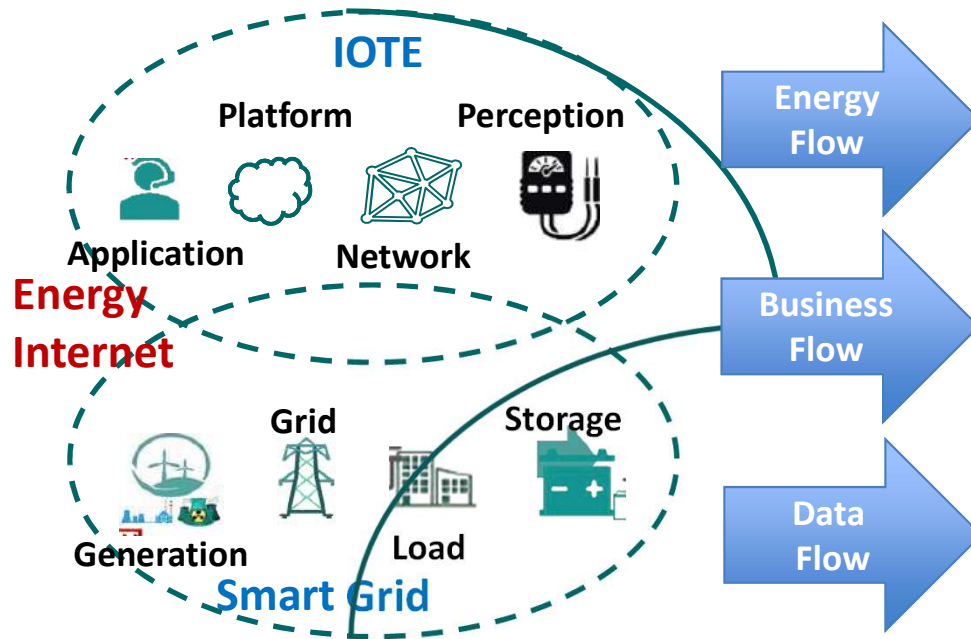
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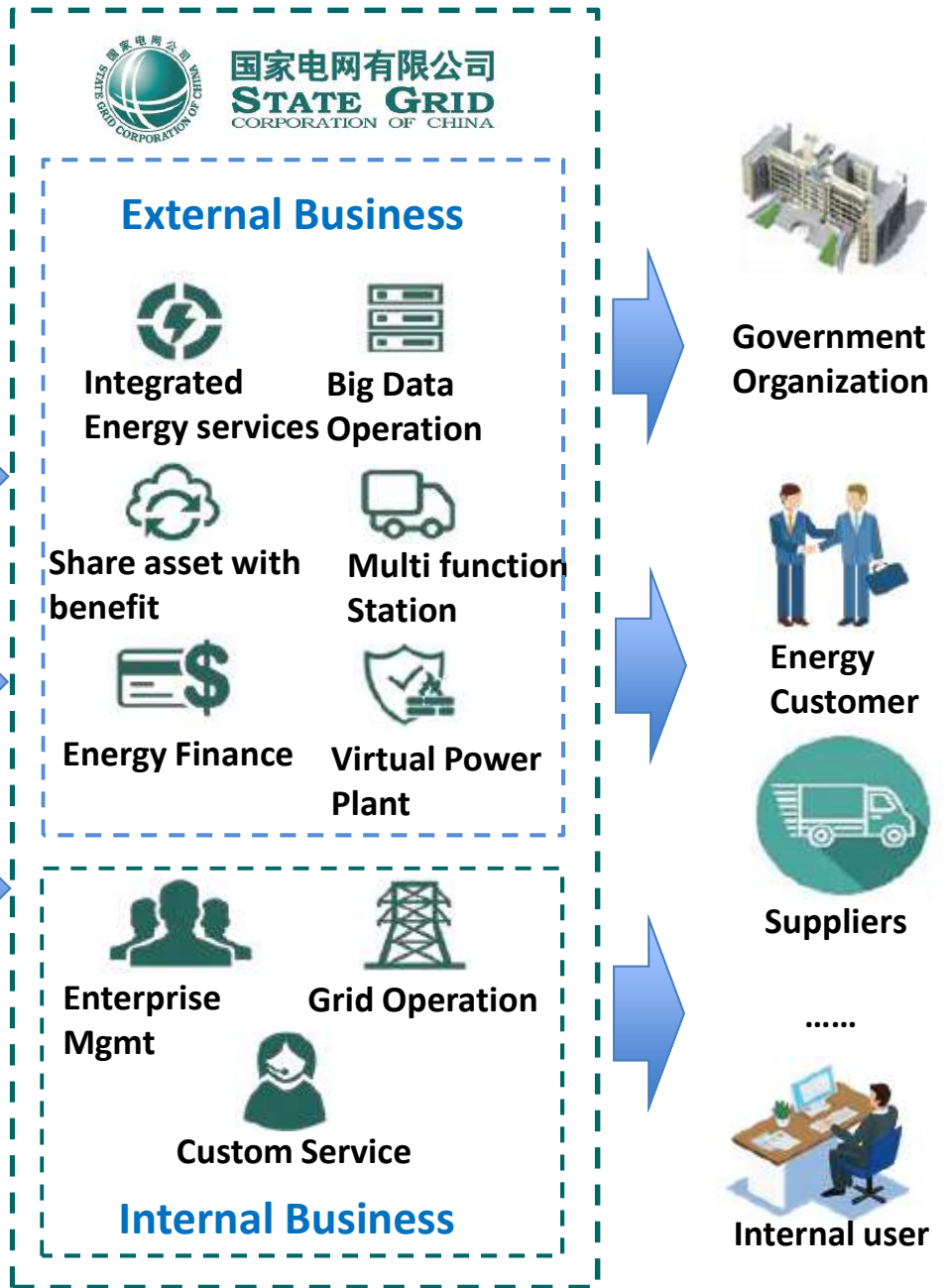
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1. Internet of Things in Electricity (IOTE)



IOTE: Internet of Things in Electricity, connect people and things in energy internet.
It's an open platform, power grid is the hub.



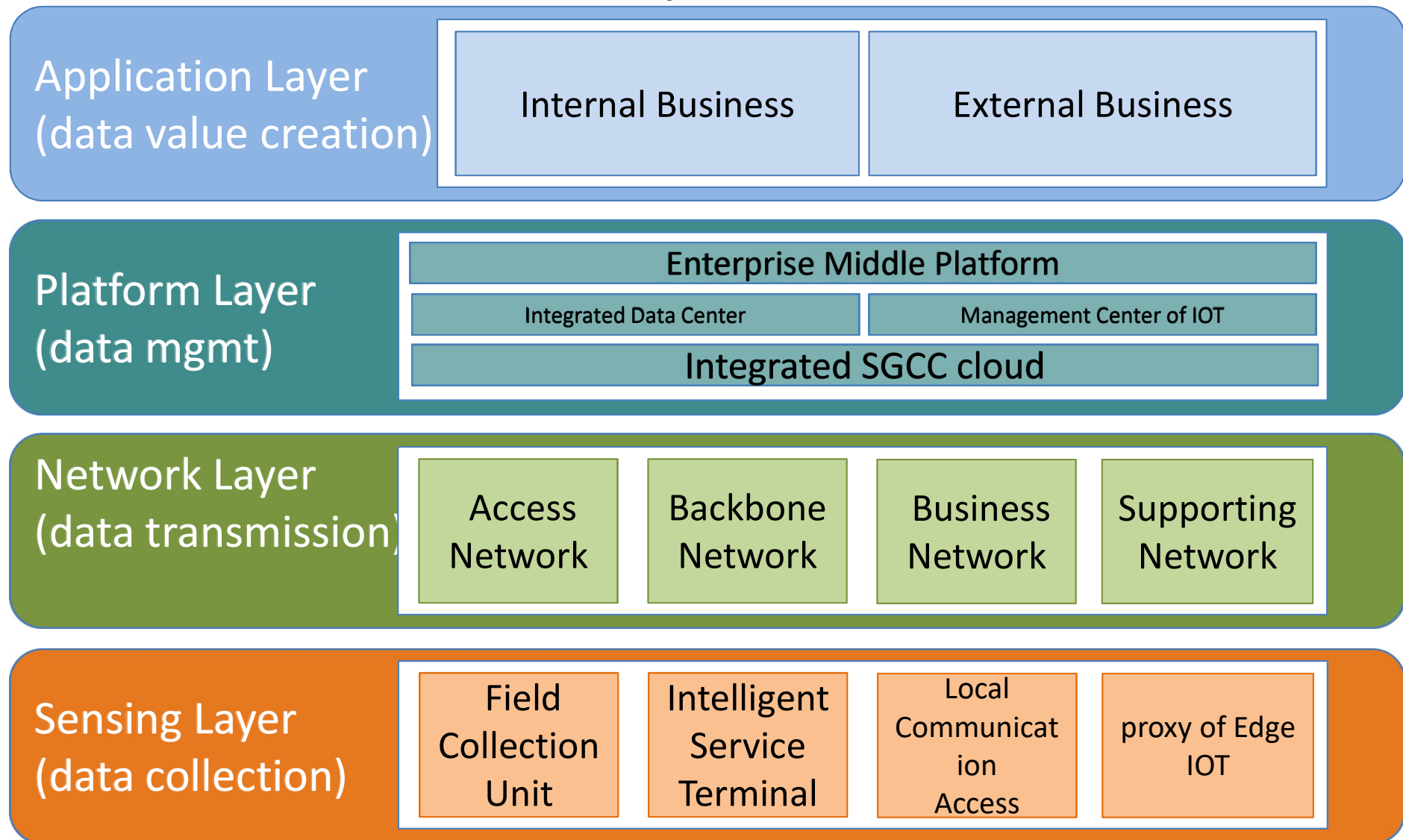
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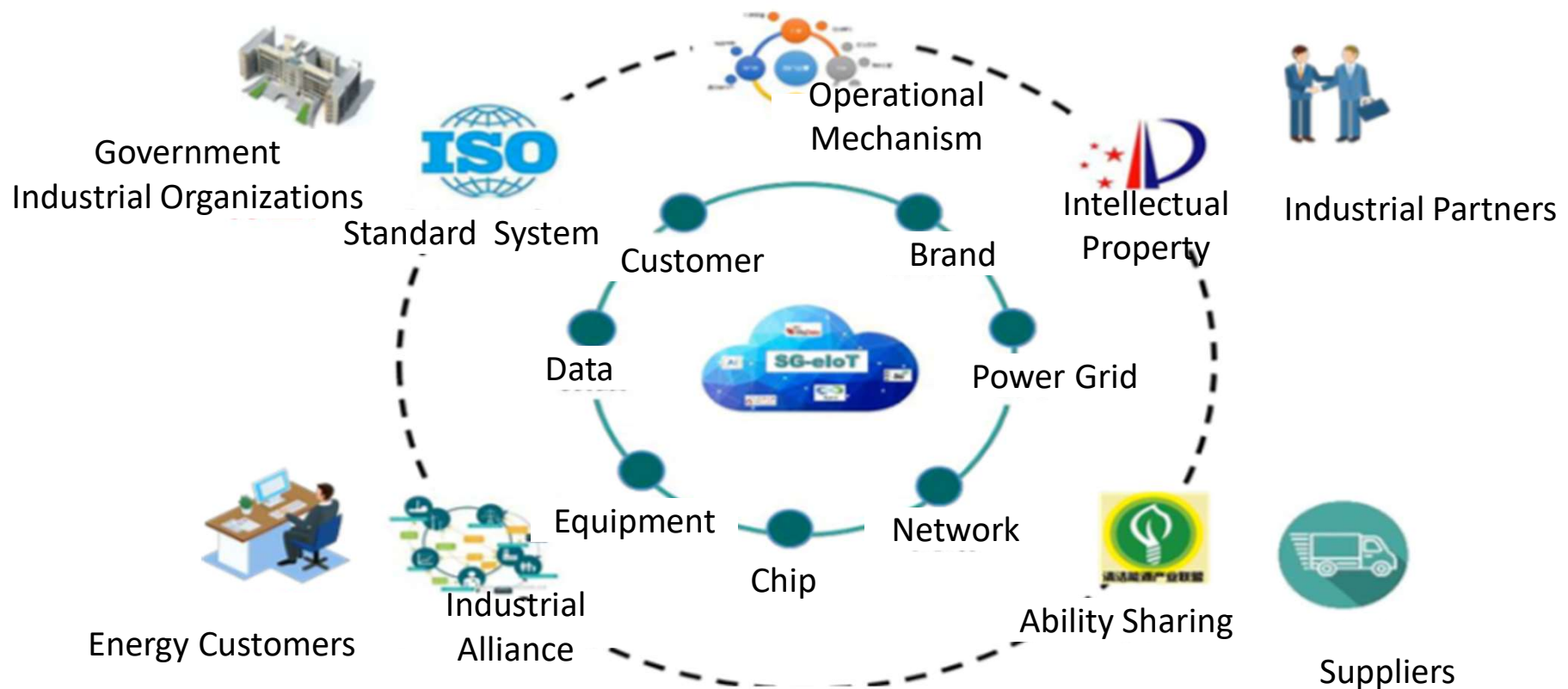
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Structure of IOTE: four layers

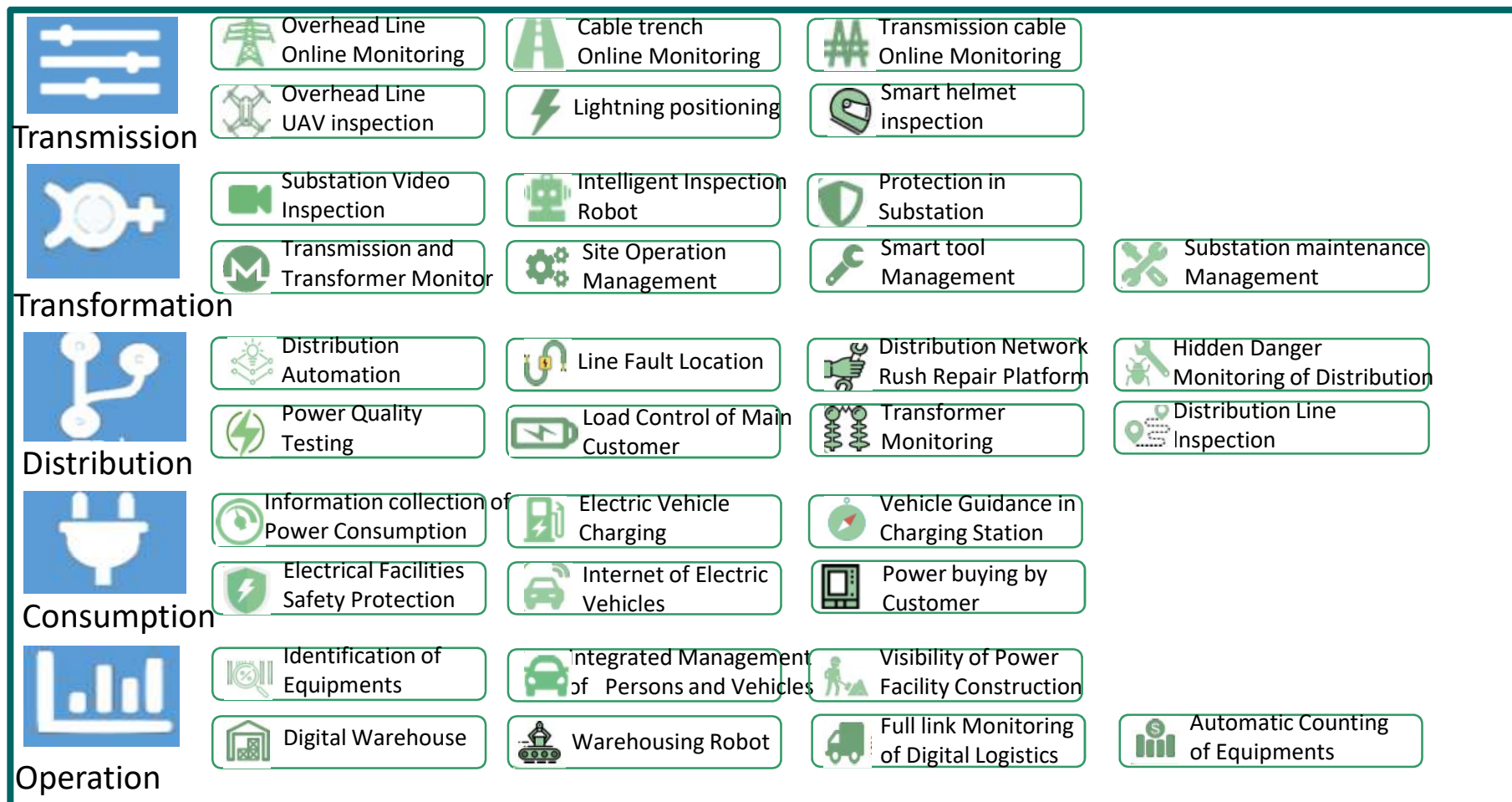


IOTE is an open, shared platform. Different parties offer services with support of data, standard, and equipment etc..



2.SGCC's Conception of Constructing IOTE

Big data, cloud computing, mobile internet, artificial intelligence, edge computing and standards are ready to construct IOTE. The deply cost dropped.



2.SGCC's Conception of Constructing IOTE

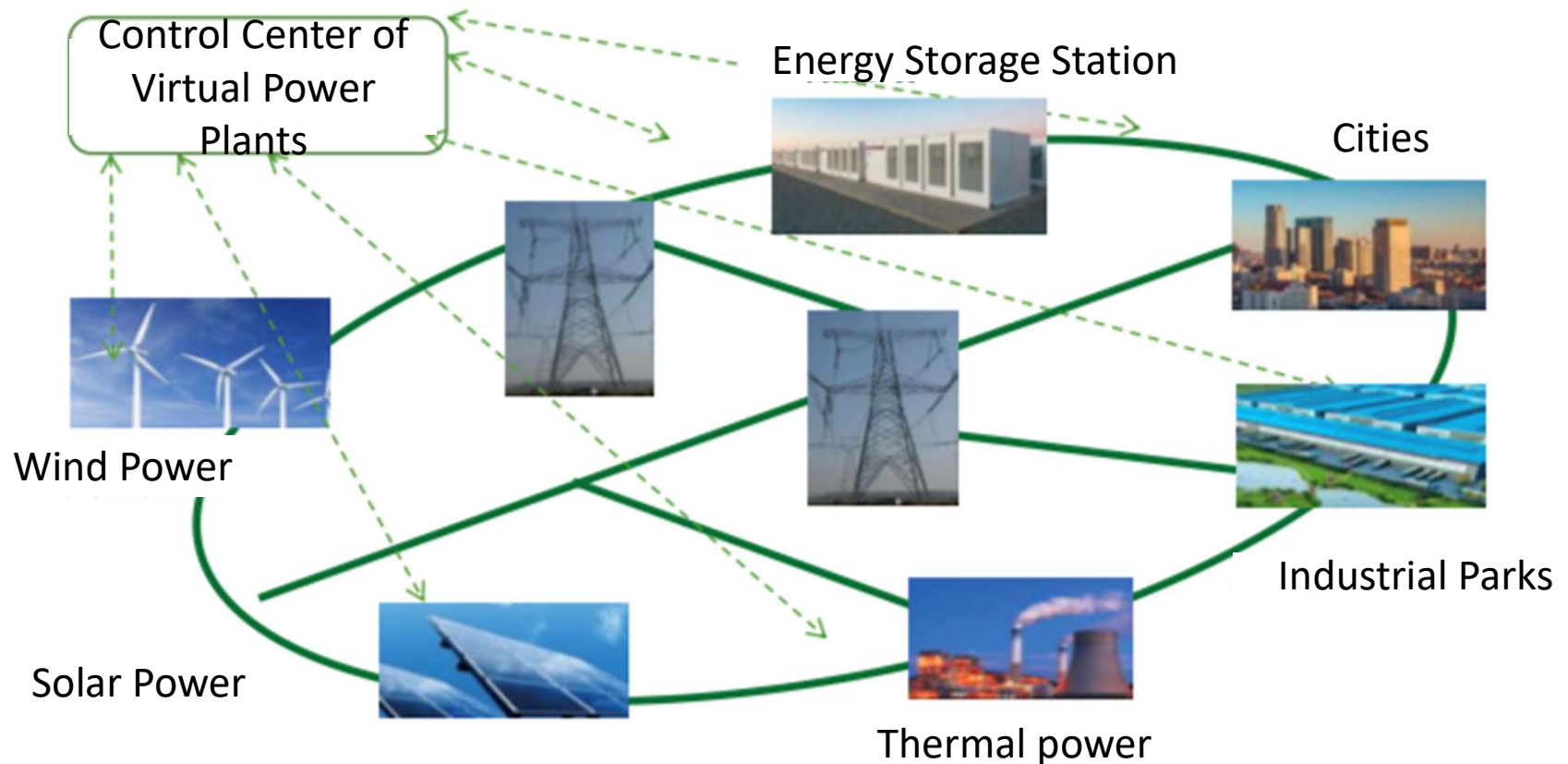
Massive positioning, status collectiong in real time, huge data mobile transmission is feasible.

SGCC has huge data resources.

- 540mi. connected smart meters.
- Daily data collection: 60TB,
- on line settlement 50%,
- 280,000 EV charging pole connected,
- register e-commerce users 240mi.

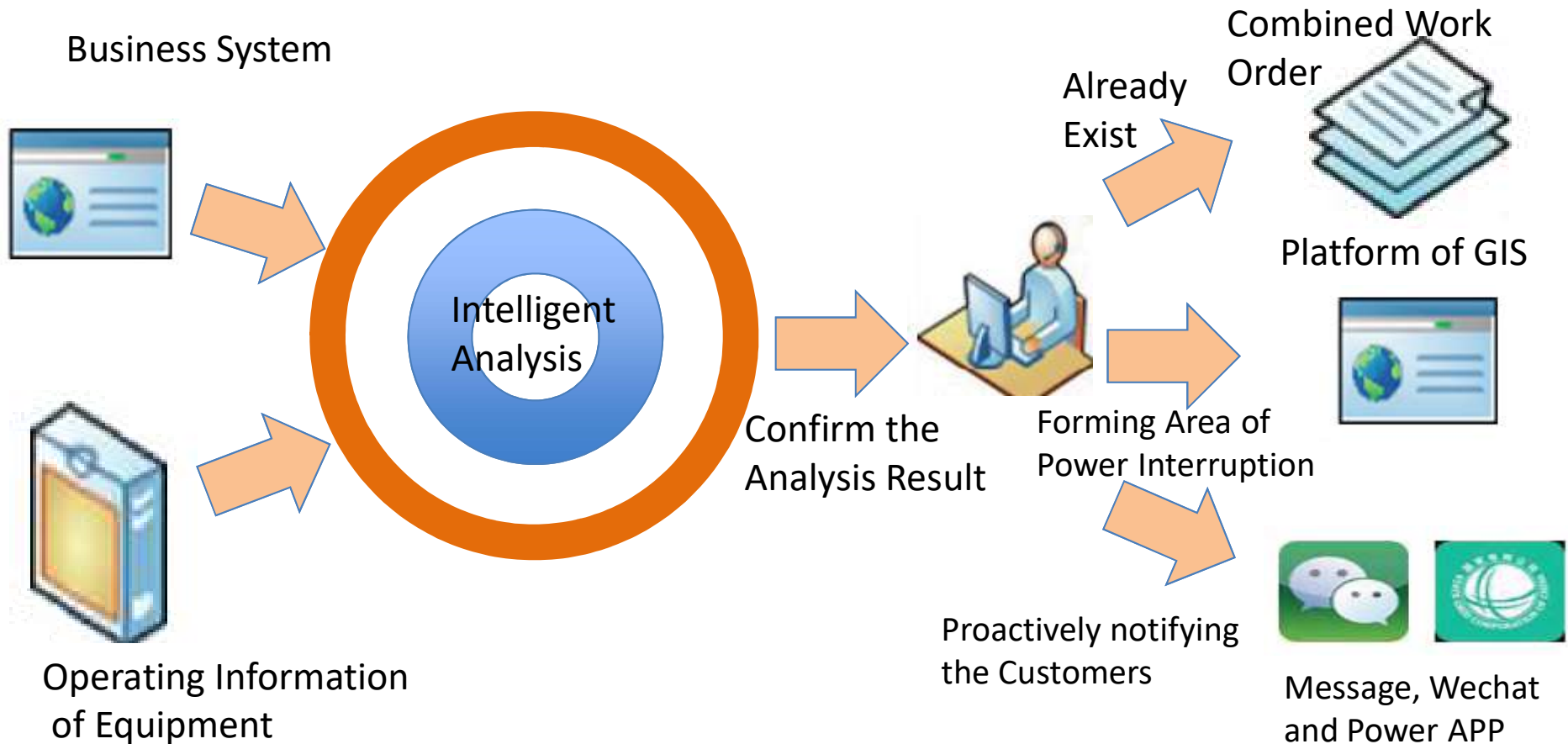
2.SGCC's Conception of Constructing IOTE

Scene 1: Virtual Power Plant----collect information of source-grid-load-storage equipment operation, status and environment, use virtual power plant model, to improve the dispatch flexibility of the power grid.



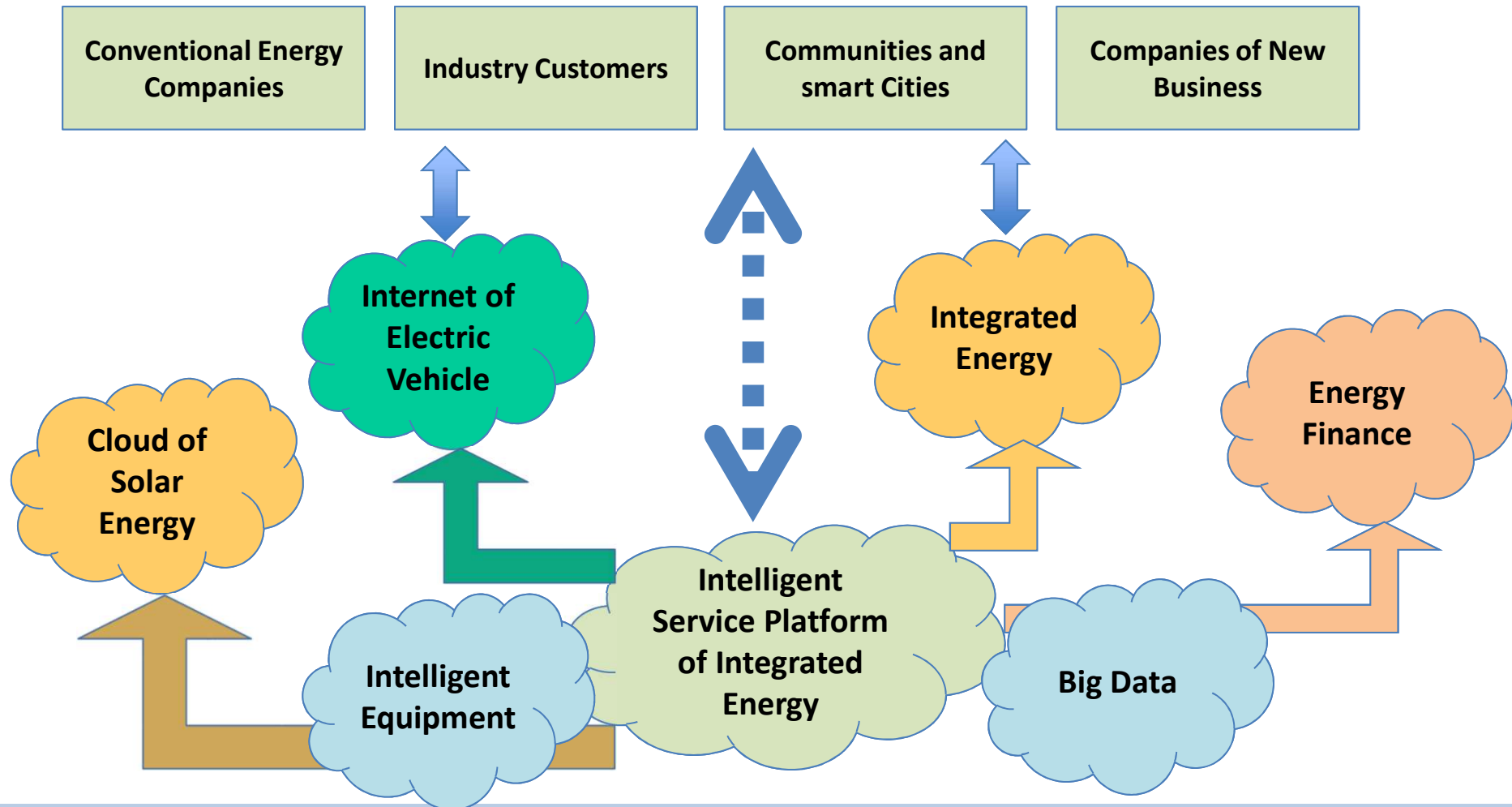
2.SGCC's Conception of Constructing IOTE

2) collect Operating Information of Equipment, analyse the scope of fault, create work order, push power interruption information automatically, to give customer a better feeling.



2.SGCC's Conception of Constructing IOTE

3) Platform of shared Services, such as grid connection, monitoring, metering, billing, charging, O&M services.



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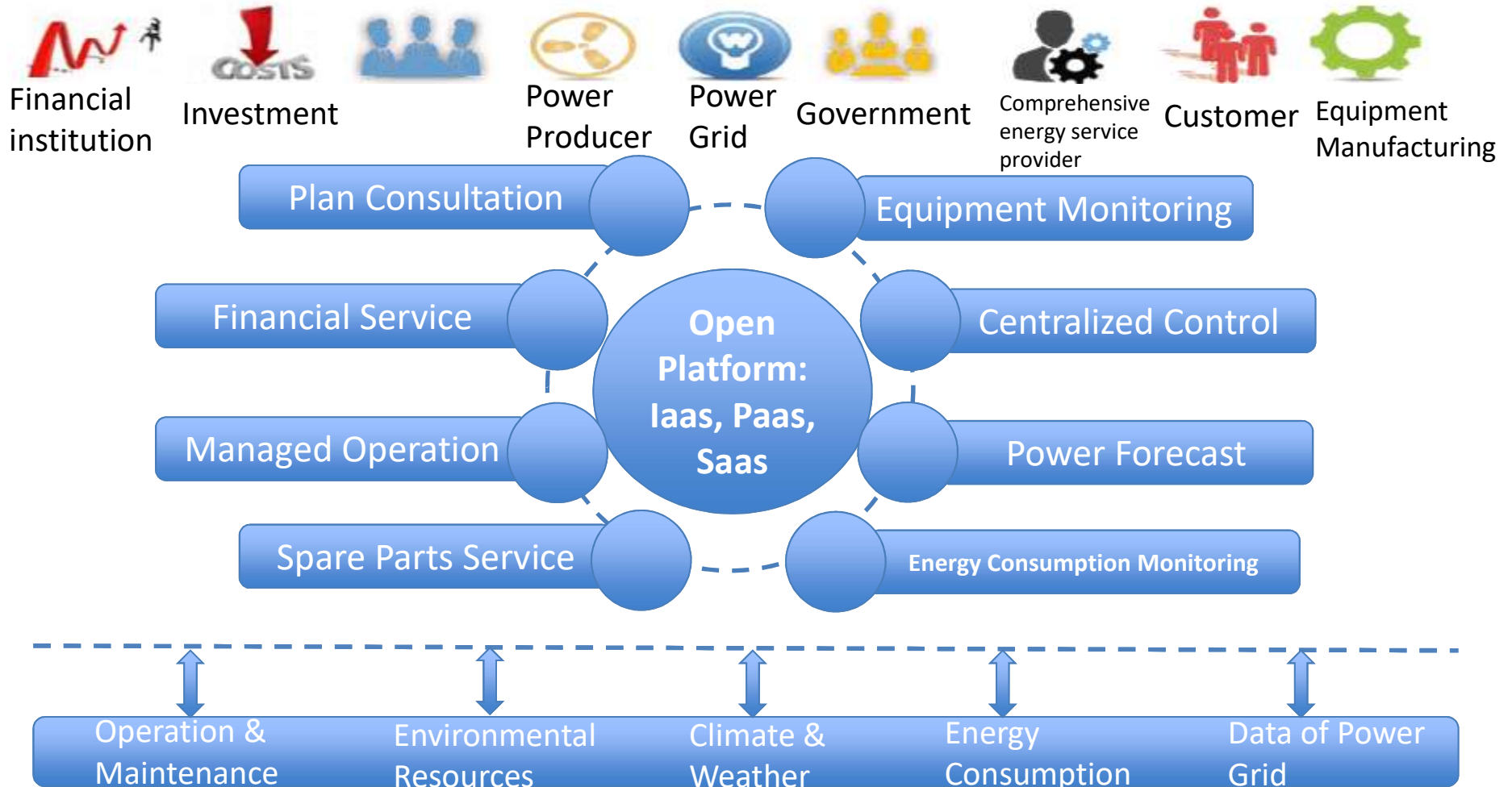


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2.SGCC's Conception of Constructing IOTE

IOTE as a open platform to deliver data sharing and other digital economy services to the market with apps and data, such as energy consumption optimization, equipment mgmt,



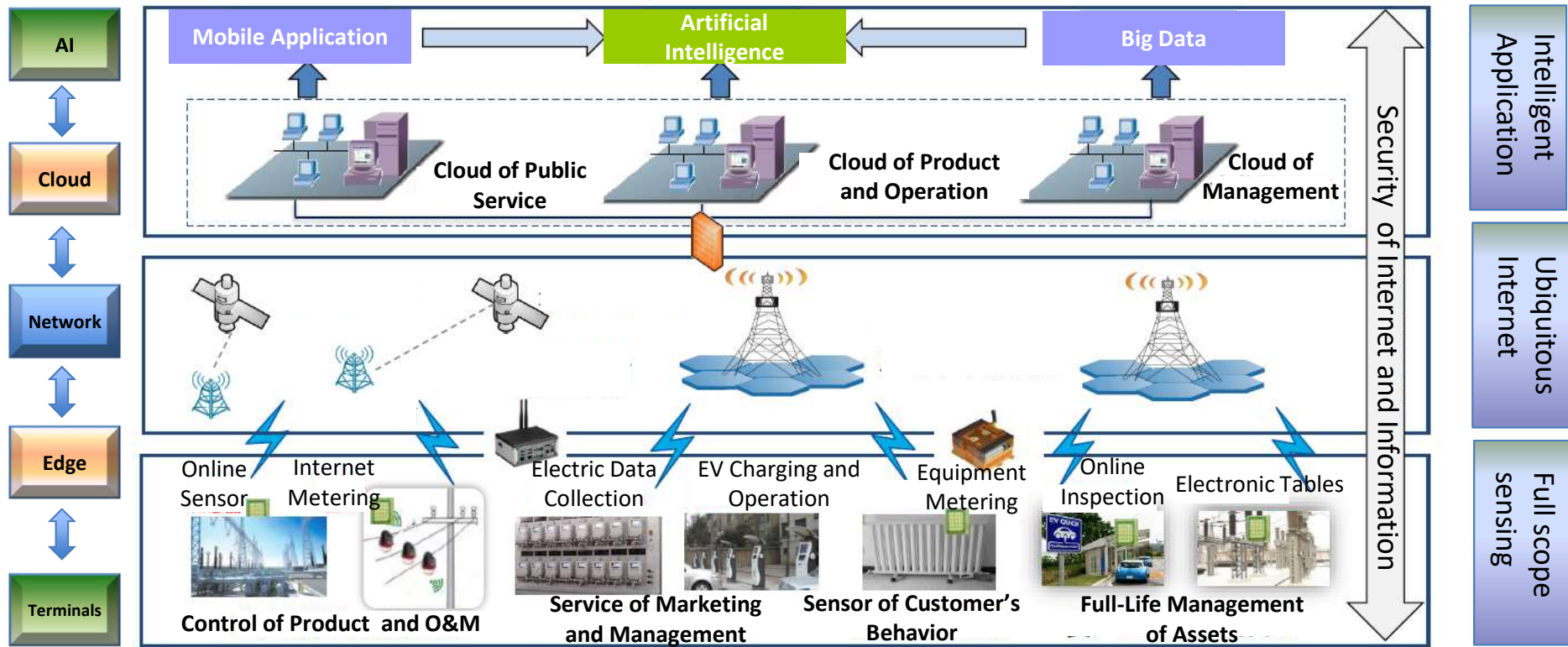
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3.SGCC's Focuses on IOTE



Build IOTE is one of SGCC strategic goals.

Key technologies focused: IOTE chips, smart sensor, information security, AI etc.

- Sensing layer: improve IOTE protocol and connection standards, edge computing, to collect data immediately, to feel the status of power grid and customers in real time.
- Platform layer:
 - build data middle-platform, classify raw data into data sets with tags, in multiple dimensions, to offer data sets as service.
 - build enterprise middle-platform, package common service components into sub-apps, to offer basic business operation(meta operation) as service.
- Application layer: build applications agile and iterated on-demand, using tagged data sets and sub-apps offered by platform layer.

Thank You !

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