Human-centric Digital Twins Services Utilizing AI, Big Data and IoT

Carbon-neutral digital twin with the core of energy big data

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R&D Team : Member companies in Science Tokyo "InfoSyEnergy consortium"

Summary :

The energy big data in the "Environmental Energy Innovation Building", which was built in 2011 at Institute of Science Tokyo, has already been accumulated in the cloud database, including the consuming electricity and the power generation data of solar cells etc. from other research buildings. In the project, based on this energy system-big data of more than 14,000 points per second or per minute, we will develop a grid cooperated/distributed energy system *"Ene-Swallow"* proposed as a carbon-neutral system. In addition, from the perspective of system development, the data and the analysis methods on elemental technologies (energy devices/energy materials) and scenario researches will be coordinated to be shared in "Carbon-neutral digital twin" to accelerate carbon-neutral researches.

InfoSy**Energy**: <u>https://www.infosyenergy.titech.ac.jp</u> Academy of Energy and Informatics : <u>https://www.infosyenergy.titech.ac.jp/Academy/</u> Ihara • Manzhos Lab. : <u>https://imlab.cap.mac.titech.ac.jp/</u>

Toward "Ambient Energy Society"

: Future society with high economic competitiveness and carbon neutrality "Carbon-neutral digital twin with the core of energy big data"

2. Construction of "Carbon-neutral digital twin" to share and accelerate elemental technologies (energy devices/energy materials) and scenario



