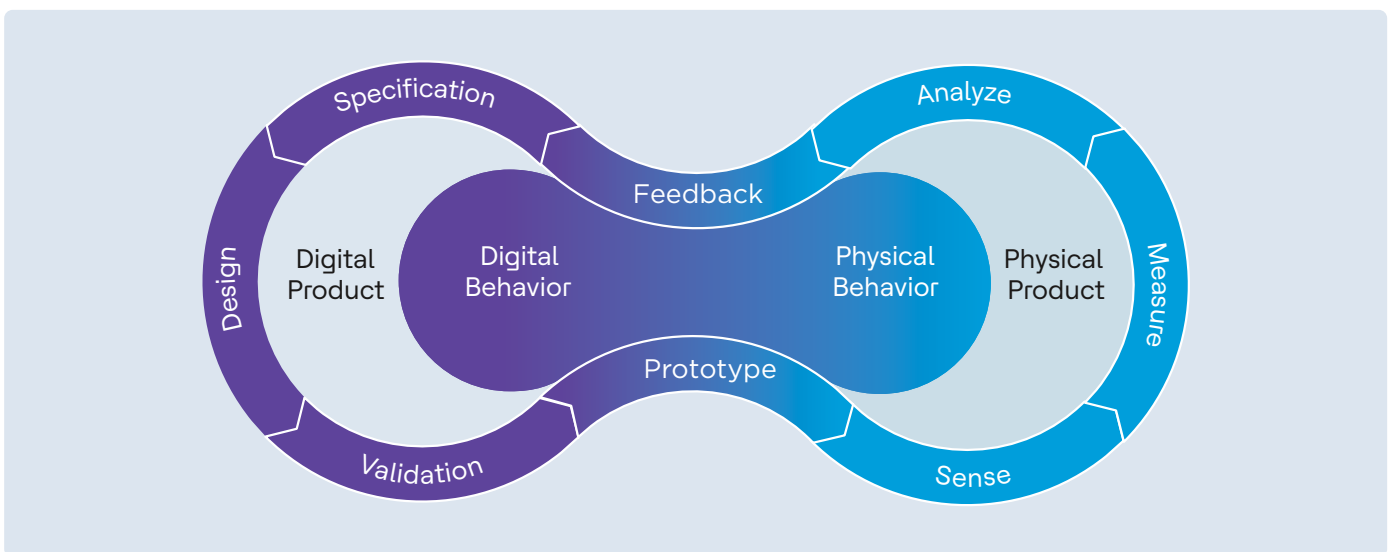# HCLTech | Supercharging Progress™

AssetTwin 360
Digital Twin offering

Redefining the digital utility for intelligent energy management

HCLTech has devised a solution by creating composite Digital Twins, making it possible to answer more complex questions, such as how to increase operational efficiency in an increasingly decarbonized and decentralized energy system.

HCLTech Digital Twin solution leverages real-time data acquisition from IoT devices mounted on physical assets for analytics, deep learning, and AI for asset monitoring and predicting the performance & RUL by forming As-Operational Twin and further establishing a connect with As-Designed Twin representing the connected engineering workflows like design, simulation, and V&V to find out the root cause analysis, and anomalies and provide real-time actionable insight, which further help in planning, consistent and reliable service delivery to end customers.

HCLTech has devised a methodology & reference architecture to access design & simulation data from PLM/SPDM systems and operational data of the asset from AMS (Asset Management System) by forming closed loop Digital Twin.
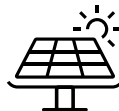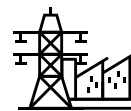
Use Cases

Oil and gas   Wind Farm   Solar Farms   Power Substation   EV Charging Station

HCLTech Digital Twin Offerings

Define
Consulting

- Study current Products/ Assets/ Processes
- Digital Twin platform selection
- Digital Twin architecture and roadmap
- Analyze real-time data and virtual sensor needs

Build
Develop the Digital Twin

- Digital Twin apps and IoT dashboard creation
- Simulation/behavior models, ML models
- Device Templates, Alerts, 3D Scenes
- Integrations with PLM, ERP, AMS

Deploy
Go Live

- Infrastructure set-up
- Deploy DT runtime on cloud
- Training across groups, sites
- Go-to-production

Operate
Run and Support

- Add/ retire products, devices, templates
- Onboarding new users/ geographies
- Update rules, alerts, trigger conditions
- Retraining the DT model

Benefits to the Customers

Remote Monitoring & Control of Fleet of Asset

- Dynamic tracking of distributed energy resources becomes easy
- Effective handling of fluctuating power demand
- Scalable platform enables to add new asset

Predictive Maintenance with Better Planning

- Identify anomalies
- Maximize asset life through predictive insights
- Reduce unplanned shutdown & limit downtime

Combat Operational Risks

- Risks & reliability assessment becomes easy
- Reduce operational risks by analyzing data on Digital Twin
- Prevent cybersecurity risk

Increase & Optimize Performance Efficiency

- Optimized power efficiency, swept area
- RCA becomes easy with a closed-loop DT approach
- Effectively manage the curtailments

Lower Cost of Maintenance

- Reduce labor cost
- Lowers Capex, Opex
- Reduce time-to-market for new assets commissioning

HCLTech

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