IoT WoRKS™ by HCL Technologies

HCL

Zero Impact Platform

Minimize environmental footprint, from shop-floor to top-floor

www.hcltech.com

Industry 4.0 adoption continues to focus on optimizing energy consumption

Industries today, use nearly 54% of the world's total delivered energy. As Industry 4.0 adoption continues in full swing combined with stringent global sustainability regulations, organizations are looking for ways to optimize industrial energy consumption and reduce their carbon footprint. They are now closer to achieving the net-zero goals in the next decade – reflected in the low 1.5% energy use growth rate, globally. This makes it critical to closely monitor energy consumption by business processes and assets in energy intensive industries – as this holds the key to optimizing energy efficiencies, enhancing OEEs and profitability of these enterprises. Current energy management (EM) systems allow organizations to collect energy/efficiency data from manufacturing plant assets and processes, and deliver a unified view of energy consumption across the plant – enabling energy optimization measures at a local/plant level. But this becomes a challenge when enterprises look to introduce intercomparability of energy consumption data and optimizations of their shop floors across their global plant locations.

Industrial energy use accounts for 33% of total US energy consumption, while in EU, this number is 27%

Manufacturing accounts for 77% of overall energy consumption in US

Global EM system market size is est. to reach USD 42 Bn by 2027, at a 9.9% CAGR

Currently, manufacturers make up 30% of EM systems end users, with E&U and O&G accounting for over 40%

Sources: ScienceDirect, Our World in Data, US EIA, ECIU, Fortune Business Insights

But introducing intercomparability of energy optimization measures at the enterprise level, remains a challenge

Classical EM systems are on-premise solutions that typically offer key functionalities to on-field employees. These functions include:

- Collecting energy data from sensors in near real-time
- Aggregating energy data according to asset hierarchy up to site-level
- Calculating local KPIs based on on-prem aggregate data
- Providing local dashboard for local operations monitoring
- Optimization of parameters by local operators

This however leads to the following challenges:

Lack of Intercomparability
Sites are not mutually comparable – leading to uncertainty about energy optimization potential at enterprise level

Lack of manageability
Enterprises rely on local efforts to gain energy optimizations

18% energy professionals have expressed difficulties in collecting and analyzing energy data

About the solution

Zero Impact Platform (ZIP) by IoT WoRKS™, delivers a set of functionalities to optimize energy consumption in a manufacturing environment at the enterprise level – enabling organizations to optimize assets and process performances, enhance OEE and other KPIs, reduce their carbon footprint and achieve their net-zero sustainability goals. AI-powered ZIP begins by collecting real-time non aggregated data from the shop floors across plants at multiple sites, normalizing the data and analyzing efficiency of the optimization measures. The Cloud-based solution then identifies global energy optimization potential across the plants with reference to best-in-class standards, cross-checking them against the efficiency measures and finally, applying the identified energy optimization measures to the identified assets/processes/sites. The key value of ZIP lies in the Digital Twin-backed/intelligent enterprise level intercomparability it introduces while arriving at energy optimization measures – eliminating effort and time-intensive local optimization measures.

ZIP belongs to the Smart Sustainability suite of IoT WoRKS™ solutions

Key Industries

- Manufacturing (Discrete, Process, Pharma)
- Energy & Utilities
- Logistics

Key Personas

- CIO
- CTO
- CDO
- Head of Energy Management
- Head of Enterprise Sustainability program
- Head of Innovation Program
- Head of Finance
- Head of Energy Purchasing

Features:

- Real-time normalization
- Unified **smart sustainability data model**
- Integration with Energy/SCADA Systems, KI and cloud-based analytics to identify variations across facilities
- Smart dashboards for KPIs and reports from shop floor to top floor
- Digital Twin-led-automation and calculation of CO_2 levels
- Real-time anomaly detection
- Predictive models for building efficiency measures

Introduce Flexibility:
Eliminate vendor lock-in – as ZIP is easily portable, cloud-agnostic and vendor-independent

KPIs available:

- **Efficiency measures** (abs [kwh], Rel [%], TOP lists)
- **Energy efficiency** (abs [kwh], Rel [%])
- **Energy transparency** (%)
- **Energy per unit** (kwh/unit)
- **Energy cost** ($/e)
- **CO_2 output** (kg/t)
- **Optimization potential** (abs [kwh], Rel [%])
- **Best-in-class asset** (TOP lists)

Benefits:

Shift
From Local to Global:
Rapid shift in energy optimization measures – enabling up to 10% energy savings

Reduce
Carbon Footprint:
Reduce CO_2 output by up to 10%

Optimize
Operational Costs:
Achieve up to 10% cost savings

Leverage
Best-in-class practices:
Utilize real-time data for enterprise best practices

Identify
Significant Energy Users (SEUs)

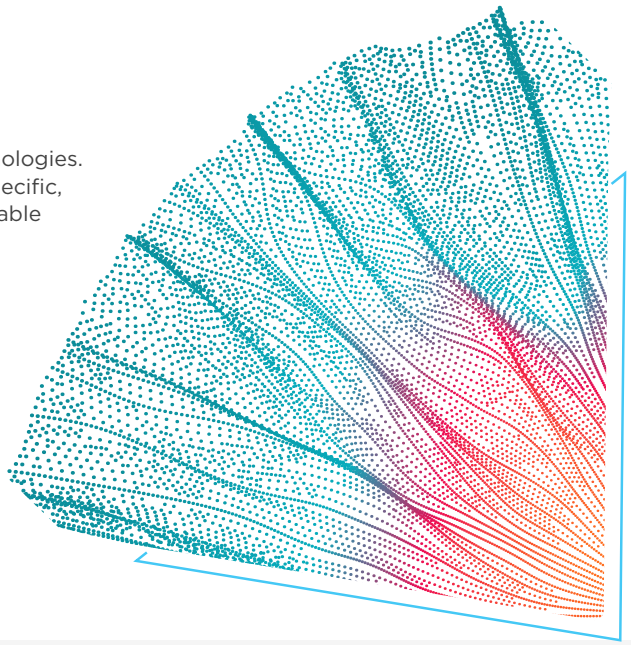
Ensure
regulatory compliance:
Key standards like ISO 50.001

Who we are

IoT WoRKS™ is a dedicated IoT business unit of HCL Technologies. Our award winning, best-in-class, customer and industry specific, deployment ready solutions co-created with customers, enable them to maximize effectiveness and returns on their asset investments.

Rated as a global leader in IoT consulting & services by top analysts, our solutions, enable IoT-led business transformation through creation of more efficient business processes, new revenue streams and business models that deliver measurable business outcomes.

At HCL we believe that the transformative impact of IoT is realized by IoTizing the 'things', connecting the assets to a data platform.



Analyst Recognitions

LEADER
IDC Marketscape, IoT Consulting and Systems Integration Services, 2020
IDC

LEADER
Zinnov Zones for Connected Assets & Connected Logistics, 2019
Zinnov

LEADER
ISG Provider Lens™ for IoT managed services, USA 2019
ISG

LEADER
ISG Provider Lens™ for IoT consulting and services, USA 2019
ISG

LEADER
ISG Provider Lens™ for IoT in Manufacturing, USA 2019
ISG