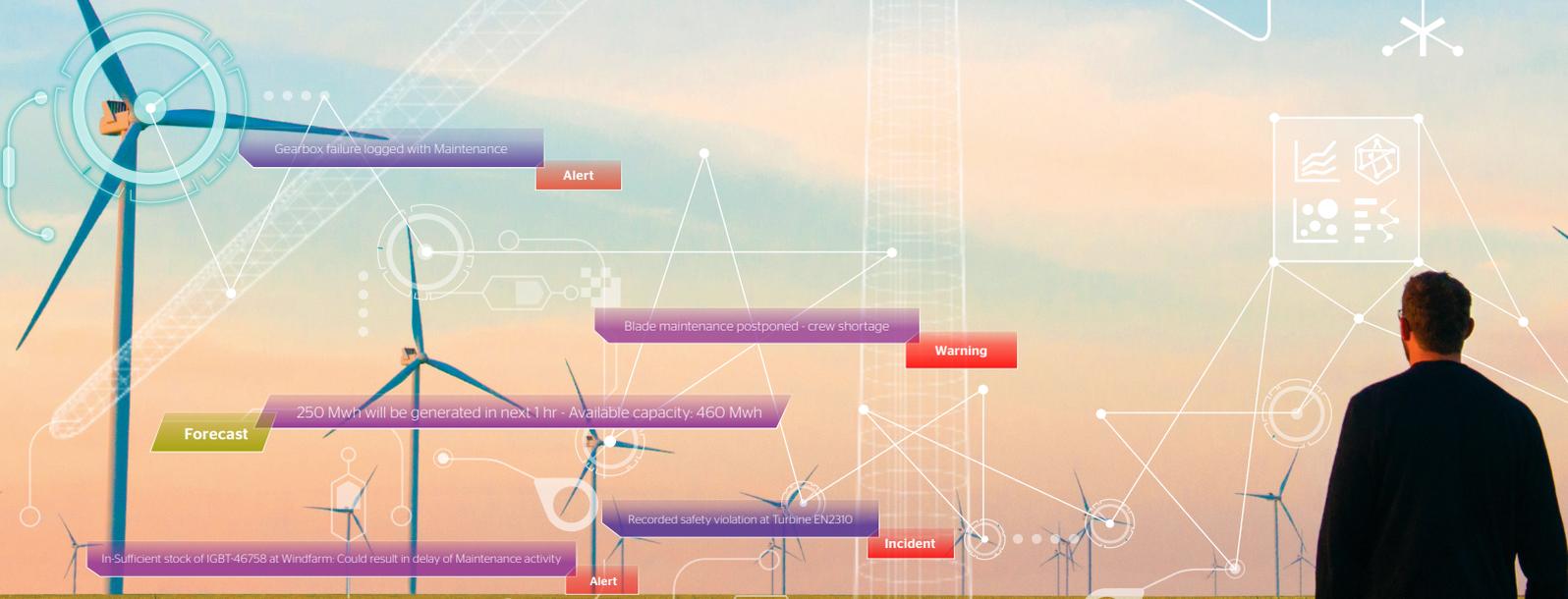


Digital Service Twin Digitizing Renewables



- » Is Portfolio Performance at the top of your Agenda?
- » Are you losing sleep on escalation in operations cost?
- » Does your organization feel behind the curve in Digital Transformation?

Our Digital Service Twin has the answers...



Introduction

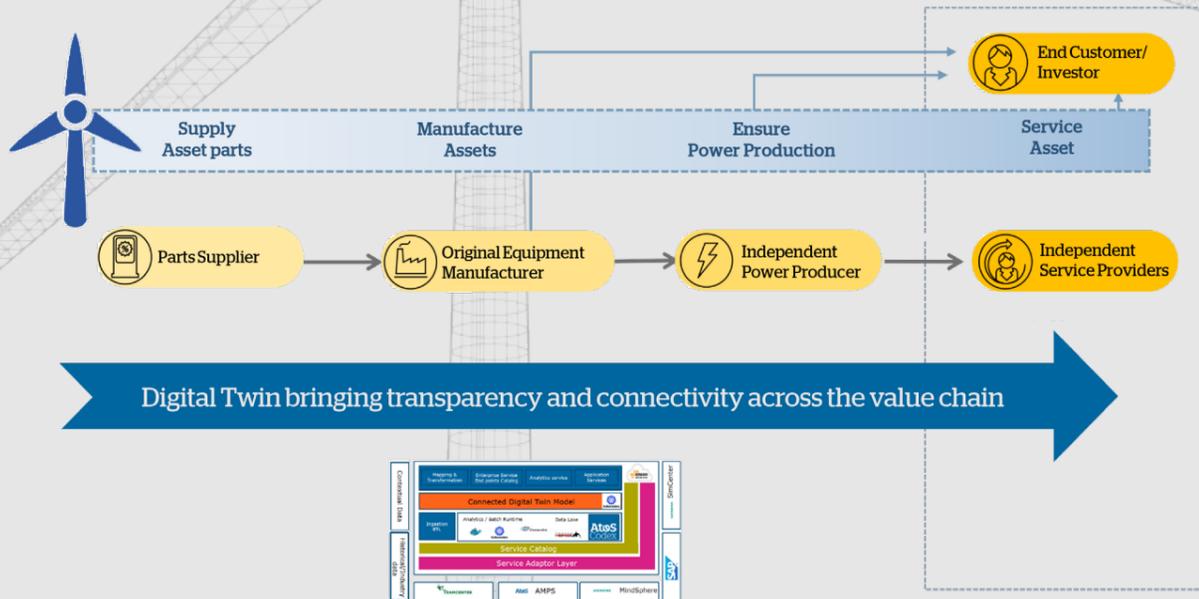
In India, the wind power generation has gained a high level of attention and acceptability. New technological developments in wind power design have contributed towards significant advances in wind energy penetration and to get optimum power from available wind. The yearly percentage increase in wind energy installation is very high.

India ranks fifth in the world with an installed capacity of about 21 GW.

Competitive tariff is forcing wind farms to be managed more effectively in utilization, predictive maintenance, process automation, decision making etc. giving flexibility for expansion.

Atos brings to you **Digital Service Twin Configurator for wind energy** where we are creating digital replica of physical product. A platform which will give you 360° overview of product / process / asset digital threads.

Bringing value addition to each stage of asset lifecycle value chain



Digital Service Twin Configurator

Digital Thread Enabler

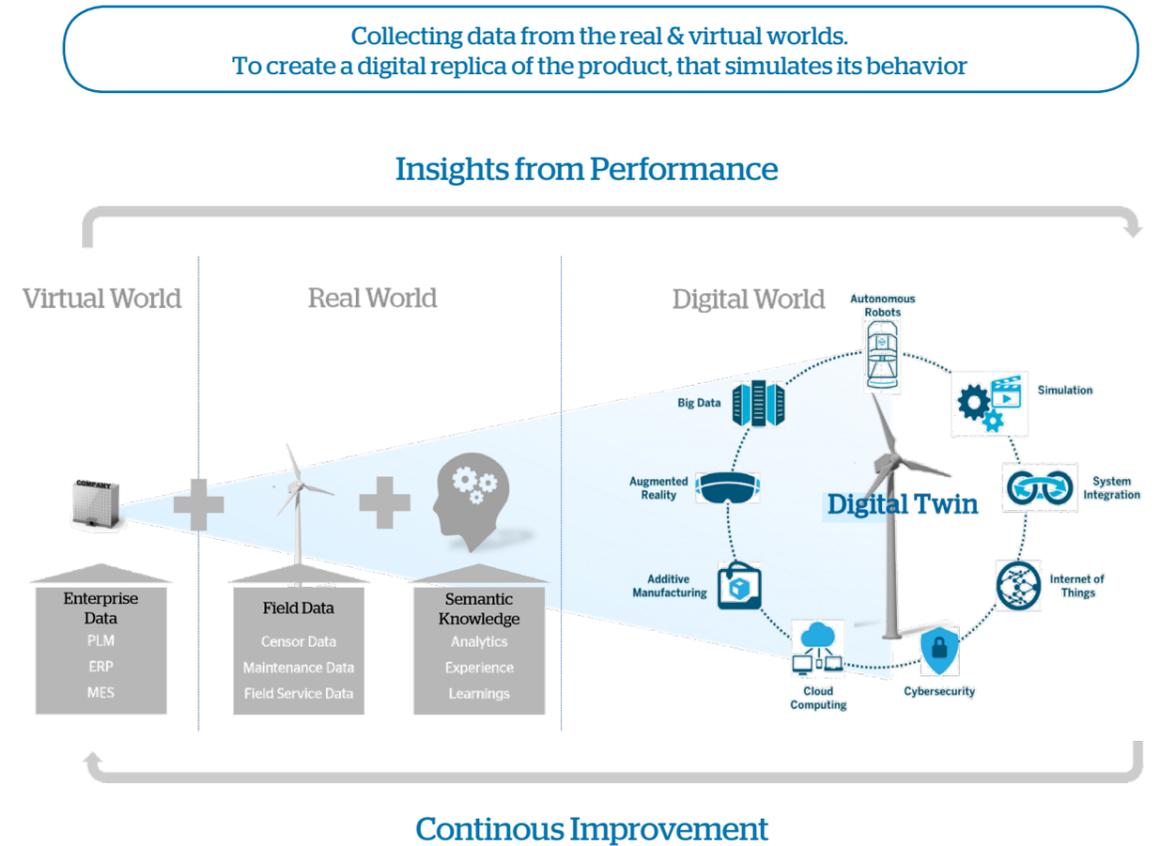


Atos Digital Service Twin Configurator is an orchestrator which enables and enforces seamless integration known as digital thread between IOT and enterprise world.

Digital Service Twin Configurator enables mapping of sensors of any

physical asset in the field with virtual asset's in enterprise systems (ERP, PLM, CAD, Document Management systems, MRO) to establish a digital thread. This in turn helps the system to seamless orchestration of data across systems in real time. Once we establish a Digital Thread through

the Digital Service Twin configurator, Digital Twin could be configured or established based on use case. To name a few, some Digital Twins that could be configured using Digital Thread are Product Twin, Process Twin, Sales, Project and Service Twins etc.



Digital Service Twin Configurator

Verticalized solution offering for renewables

360° View of Asset Performance

- Digital Unified Asset ID
- One App for Real time events & Maintenance History
- Asset Performance Cockpit
- CAD viewer for 3D visualization of Asset components
- Sub-System level Error Analysis

- Knowledge apps to help field engineers
- Connected systems enabling real time data integration

Data driven Spares Inventory Management

- Consumption patterns of spares
- Spares Forecasting
- Safety Stock Analytics
- Intuitive Dashboards on Service + Event history
- Actionable analysis on failure trends
- Analysis for elimination of frequent failures

ML and AI based Analytics

- with Actionable Insights

- Asset Performance Analysis
- Failure Analysis
- Power Generation Forecasting
- Predictive Analytics
- Remaining Useful Life for key Components

Manage your Assets Better with AMPS 7

- Planning & scheduling Maintenance
- Wind Energy process automation
- Document management + images/videos
- Integration with ERP (SAP). Ex: Store Stock ledger & Site level Inventory Consumption data

Real Time Monitoring and Control - on the Move

- Spares usage analysis
- OEM Agnostic solution
- Remote monitoring of assets
- Real time asset status to all stakeholders
- Power Curve analysis
- On-line DGR
- Sub-System level Health Status
- Role based access & asset control
- Remote Start/Stop/Reset of Assets & Windfarms

Optimized Logistics and Field Operations

- Integrated ops across IoT & Asset maintenance
- Real time updates on Events to optimize manpower movement

Regulatory Compliance

- Carbon footprint calculation
- Daily Generation reports to Investors
- Generation forecast to DESCOMS

State of the Art Architecture and Digital Platform



Futuristic Digital Experience Management

- Fully responsive, adaptive and intuitive UI
- Cloud agnostic platform
- Micro Services based Architecture
- Scalable and Secure

Operations

- DevOps Automated
 - Container based deployment
- Infrastructure and Application monitoring
- Application Logging for trouble shooting
- License Management for Platform integrated Cots products

Security Compliance

- Identity and Access Management (SSO, Authentication, Policy)
- Data encryption (at Rest and in motion)
- Security Management (Certificate-Key, Firewall management)

Availability

- Performance and high availability
- Data retention management
- Easy backup and restore

Robust Modern Configuration Platform

Flexible, scalable, robust and secure cloud based



Integrated View

Turbine and farm level view to see status anytime anywhere



Remote Monitoring

Remote controlling and diagnostics



SCADA Agnostic

Open system SCADA on standard protocol with no dependency on OEM



Detailed Diagnostic and Analytics

Sub system level view for fault analysis



Asset Management System

Planned and breakdown maintenance made easy and traceable



Predictive Maintenance

Know remaining useful life and reduce the downtime



Scalability

Scalable to handle 10x increase in load seamlessly leveraging the deployment on cloud



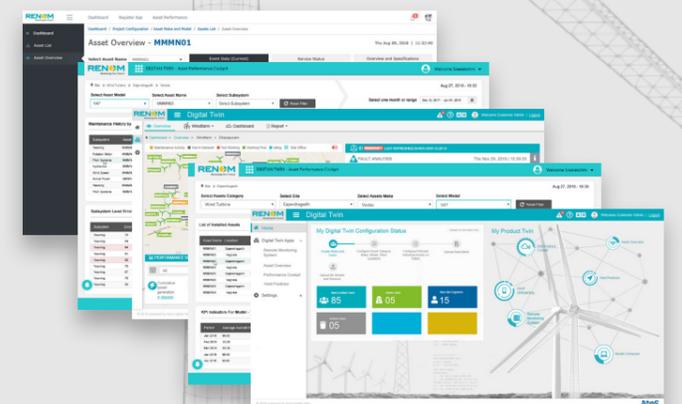
Value Proposition

Utilize Digital Service Twin Configurator to get the most from your Assets!

Digital Service Twin Configurator supports you over the lifecycle of your wind farm operations. Our Remote Windfarm Management system captures diverse streams of high velocity data from each asset in to a comprehensive data mart, creating a digital Wind Farm of your physical assets. We call this model a 'Digital Service Twin.' Your Enterprise tools and applications then leverage the Digital Service Twin to empower Operations Team with actionable insights. The power of the Digital Wind Farm lies in our ability to turn real-time operational data into better, faster decision making. These decisions can be made on individual Asset basis, across the wind farms and even across the enterprise.

We can detect patterns and anomalies in turbine performance, asset wise, to help you make proactive service decisions and keep your fleet running smoothly.

We use advance Predictive Analytics & ML to develop site-level RUL Predictions and action plans to help you prioritize the maintenance needs of your Assets. Our digital feedback loop allows you to save on both planned and unplanned maintenance costs while generating higher power output from machines that are operating with high availability, and more efficiently. All of our Digital Service Twin applications enable each turbine, farm and fleet to operate more efficiently over the entire duration of the project timeline without compromising turbine hardware or design life.



About Atos

Atos SE (Societas Europaea) is a leader in digital transformation with circa 100,000 employees in 72 countries and pro forma annual revenue of circa € 12 billion. Serving a global client base, the Group is the European leader in Big Data, Cybersecurity, Digital Workplace and provides Cloud services, Infrastructure & Data Management, Business & Platform solutions, as well as transactional services through Worldline, the European leader in the payment industry. With its cutting edge technologies, digital expertise and industry knowledge, the Group supports the digital transformation of its clients across different business sectors: Defense, Financial Services, Health, Manufacturing, Media, Utilities, Public sector, Retail, Telecommunications, and Transportation. The Group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and is listed on the Euronext Paris market. Atos operates under the brands Atos, Atos Consulting, Atos Worldgrid, Bull, Canopy, Unify and Worldline.

Find out more about us
atos.net
ascent.atos.net

Let's start a discussion together



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