NITES

KNOWLEDGE & COMMITMENT

NITES Utility Solutions: Integrating Advanced Technologies for Utility Management

NITES Group 2024

Content

NITES

About us

Established in 2007 in Prague, Czech Republic, we are a privately held company.

With over 200 employees, we maintain our own development teams across 6 countries.

Products and solutions tailored to specific customer needs.

Over 120 completed projects with global exchange of experience.

Vast experience in executing large projects, with our smart solutions benefiting millions daily.
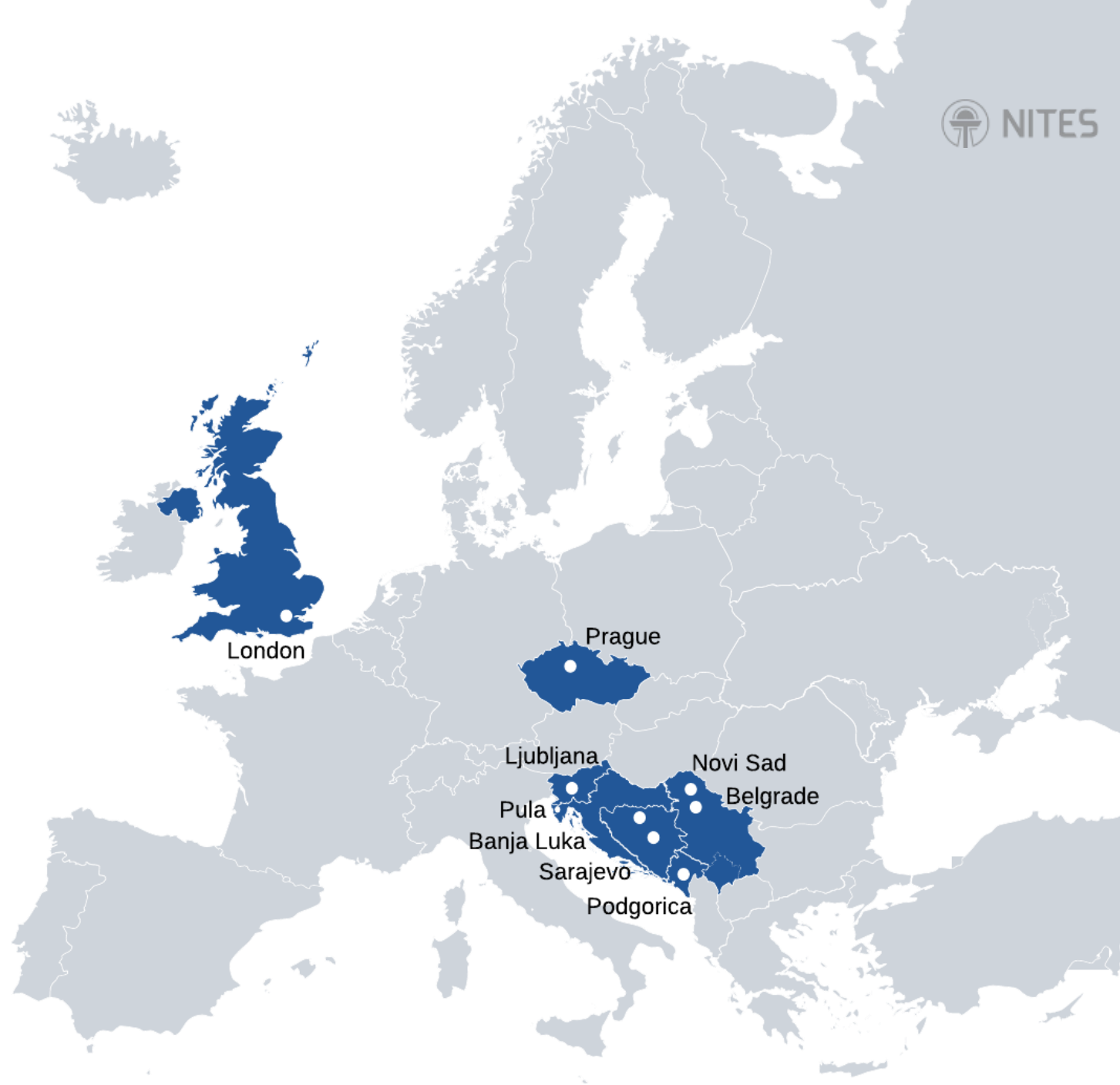
We continually refine our solutions portfolio through significant R&D investments.

NITES

Our commitment
To your success

Our functionally organized teams help our customers to achieve the most effective project outcomes, with close local interaction and support.

NITES

London

Prague

Ljubljana

Novi Sad
Belgrade

Pula
Banja Luka

Sarajevo

Podgorica

Technology Driven Utility Management

Why Is Technology Pivotal In Transforming The Utility Sector?

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Efficiency Improvements

- Leveraging technology to streamline operations, reduce energy consumption, and minimize waste.

- Direct contribution to environmental sustainability by optimizing resource use and reducing the carbon footprint of utility operations.

Enhanced Customer Service

- Utilizing advanced technologies to provide real-time, personalized services that increase customer satisfaction and engagement.

- Facilitates customer participation in energy conservation efforts, which supports environmental policies and promotes sustainable practices.

Environmental Impact

- Technologies contribute to more sustainable utility management through improved monitoring of resource usage.

- Helps in reducing waste and enhancing the integration of renewable energy sources.

Regulatory Compliance

- Easier compliance with changing regulations through adaptable technology frameworks.

- Enhanced ability to report and audit data with transparency and accuracy.

Core Modules Overview

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WEB PORTAL

Access to Distribution Network Info For Different Interested Parties (customer, producer, prosumer, suppliers, balancing parties)

Advanced Engine for Consumption Optimization & Savings based on identified Consumption Patterns

BCC - Billing & Customer Care

Real Time Supporting Dynamic Time of Use

Multi Currency, Product & Service Oriented

Supports Advanced Grouping & Billing for Ballancing Suppliers (Open Market)

FAM
Field Activity Management

Automatic Work Order Suggestion based on MDM analysis

Mobile App for Field Work focusing on Smart Meter Deployment

On Site Communications Test and Parameterization

Device Controls from MDM to AMM

ASSET INVENTORY

Quality Management based on Measured Data

Warehouse Management

Integration for Mobile App for Field Work

AMM
Automated Meter Management

Supports NBIoT, PLC, GPRS

Enhanced Meter Management

IoT Integration via ESB

NITES Utility Solutions
What problems do we solve?

Operational inefficiencies through automation and predictive maintenance.

Customer dissatisfaction by enhancing service responsiveness and personalization.

Environmental impact by optimizing resource management and integrating renewable energy.

Regulatory non-compliance with robust data management and security protocols.

Security risks by protecting infrastructure and data from cyber threats.

Demand forecasting errors by improving accuracy with machine learning and analytics.

ESB
Enterprise Service Bus

Process Orchestration

IoT Integration

CIM Standard Compilant

Adapters For Integrating Existing Systems

MDM
Meter Data Management

Billing Accuracy

Usage Analysis

Complex Energy Billing Calculations

KPI's, Virtual Schemas, Device Controls

Cost Analysis, Regulatory Compliance

ML
Machine Learning

Pattern Recognition

Load Curve Analysis

Anomaly Detection

Consumption Disagregation

Distributed Generator Production

OPERATIONS & MANAGEMENT PLATFORM

INTEGRATION & ANALYTICS INTELLIGENCE PLATFORM

Core Modules Overview

Key Features and Possibilites

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NITES Group leverages a suite of advanced technologies to modernize and optimize utility management across various sectors.

These technologies ensure efficient operations, seamless data integration, and sophisticated analytical capabilities, driving innovation and enhancing service delivery in the utility industry.

WEB PORTAL

Distribution Network Access, Stakeholders (Customers, Producers, Prosumers, Suppliers, Balancing Parties), Consumption Optimization, Savings, Pattern Identification.

ESB

Network Interoperability, Ease of Use, High Speed / High Volume Data Exchange, Expandable, Distributed Architecture.

ML

Prediction of Production & Consumption, Anomaly Detection, Simulations.

FAM

Merge, Disconnect, Reconnect, Install, Replace, Uninstall, Control, Download, Order Assignment, Work Order Automation, Printing, Shipping and Reporting.

BCC

Real-Time Dynamic Time of Use, Multi-Currency Support, Product and Service Orientation, Advanced Grouping and Billing for Balancing Suppliers in Open Market.

MDM

Data Collection, Validation, Estimation, Editing, Energy Calculations and Consolidations, Losses Calculation & Dynamic Dashboards.

AMM

Multi - Protocol / Multi - Meter, Multi - Communication, Geospatial Aware, Energy Storage Management, Encrypted Security and Customer Interaction Tools.

Asset Inventory

Connect, Relocate, Transfer Ownership, Verify Meters, Grid Control using Maps

Application - Electricity
Where Do We Make A Difference?

Key Solutions

Smart Grid Optimization

- Technology Used: MDM, AMM, ML, TRM

- Benefits: Enables real-time monitoring and control of the electricity grid, voltage predicition, optimizing energy distribution and reducing outages.

Demand Response Management

- Technology Used: ML, TRM

- Benefits: Enhances the accuracy of load forecasting and demand response programs, allowing for more precise adjustments to electricity supply and demand.

Fraud and un-metered Consumption Detection and Losses Prevention

- Technology Used: AMM, TRM

- Benefits: Identifies irregular patterns that may indicate electricity theft or loss, enhancing revenue protection and grid integrity.

Application - Electricity

Where Do We Make A Difference?

NITES

Key Solutions

Renewable Energy Integration

- Technology Used: MDM, ML, TRM

- Benefits: Facilitates smoother integration of renewable energy sources into the grid by predicting variability and managing intermittent supply efficiently.

Customer Engagement and Smart Billing

- Technology Used: ESB, MDM, TRM

- Benefits: Provides customers with detailed, real-time energy usage data and dynamic billing options, improving transparency and customer satisfaction.

Data driven Workforce Management

- Technology Used: ESB, MDM, FAM, AM

- Benefits: Provides automatic work order suggestions, based on measured and analyzed data and taking into account asset health (managed by mobile app).

Application - Electricity

Where Do We Make A Difference?

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Key Solutions

Smart Metering Rollout

- Technology Used: AMM, MDM, FAM, AM, Mobile App, ESB

- Benefits: Automated work order planning and issuing based on projects. Real-time optimized workforce management. Field communication, parameterization, and work order completion reporting. New meter registration and logging.

These integrated technologies significantly enhance electricity management by improving operational efficiency, promoting sustainability, and elevating customer service, leading to a more responsive and reliable energy system.

Advanced Solutions & Future Trends

NITES

Key Components

Field Operation Manager (FOM)

- Web Application:

Utilized by operators to assign work orders to field technicians, monitor order completion, and verify the accuracy of executed tasks.

Field Operation Application (FOA)

- Mobile Application:

Deployed in the field, this application enables technicians to directly execute and update the status of work orders in real-time.

*NITES Field Activity Automation

NITES system for automating field activities streamlines the execution of critical field operations such as meter replacements, disconnections, suspensions, and more.

This automation is vital for maintaining efficient utility services and enhancing customer satisfaction.

Advanced Solutions & Future Trends

NITES

Integration with Utility Systems

Initial Order Creation:

- All orders are initiated within the NITES system's FAM module, ensuring a seamless start to the workflow.

AMM Connectivity

- The system links with Automated Meter Management (AMM) for communication tests, ensuring that new meters can be remotely monitored and read, which is vital for meter management and fraud prevention.

NITES Field Activity Automation

Orders are initiated in the NITES system's FAM module to streamline the workflow.

The system connects with AMM to ensure new meters communicate effectively and can be remotely read, crucial for meter management and fraud prevention.
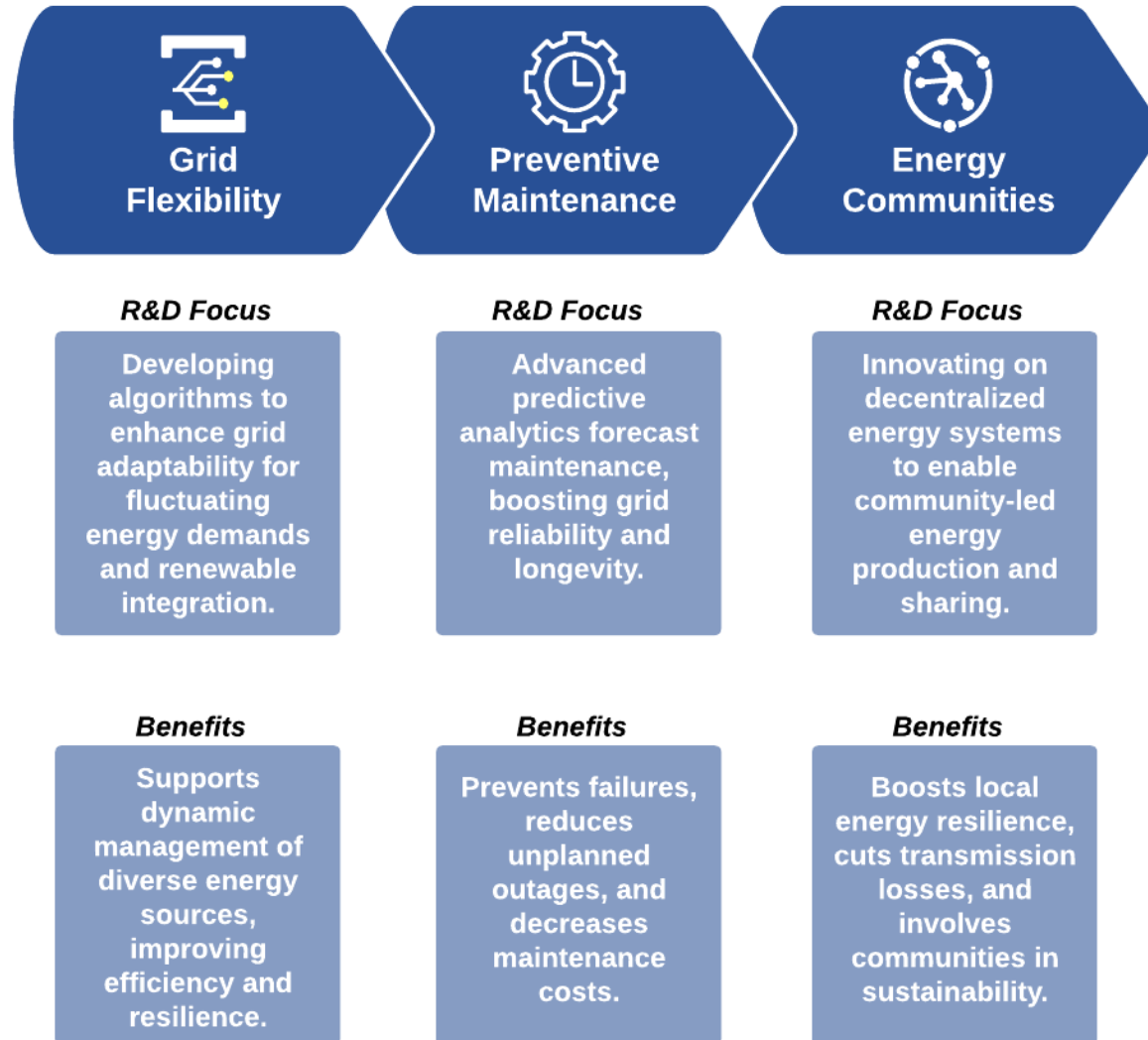
Application – Success Stories

Exceeding Our Clients' Goals In Various Markets

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Bosnia & Herzegovina	Serbia	Slovenia
▪ **1M+ Usage Points:** Managed through Head End and MDM systems, integrating with external systems via NITES ESB (IEC 61968 standard). ▪ **OSS/BSS Solutions:** Managing 200K usage points for DSO, integrating with Market Energy Suppliers. ▪ **Market Improvement:** Implementing NITES AMM system for real-time remote data reading and automated consumption management via AMM, AMR, MDM, and other services.	▪ **Smart Grid:** 2.5M+ usage points in production, expanding to 3.6M+ in Head End and MDM systems. ▪ **ESB Integration:** For DSO systems (MDM, HES, OCR, SAP IS-U, GIS) using IEC 61968. ▪ **Distributed Generation:** 400 generators managed with HES, MDM, and ML SYBIL for machine learning predictions & optimization.	▪ **Smart Grid:** Implementation of an MDM system for 100k+ metering points at 35 kV: including control measurements and virtual metering points. This system will enable sophisticated aggregations and precise calculations for network balance management.

Advanced Solutions & Future Trends

NITES

Grid Flexibility

Preventive Maintenance

Energy Communities

R&D Focus	**R&D Focus**	**R&D Focus**
Developing algorithms to enhance grid adaptability for fluctuating energy demands and renewable integration.	Advanced predictive analytics forecast maintenance, boosting grid reliability and longevity.	Innovating on decentralized energy systems to enable community-led energy production and sharing.
Benefits	**Benefits**	**Benefits**
Supports dynamic management of diverse energy sources, improving efficiency and resilience.	Prevents failures, reduces unplanned outages, and decreases maintenance costs.	Boosts local energy resilience, cuts transmission losses, and involves communities in sustainability.

*NITES Advanced
Grid Management Techniques*

Our direction of development emphasizes ongoing research and development as critical to tackling modern energy challenges and advancing utility management technologies.

Commitment to Excellence & Continuous Improvement

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Real-Time Data Access and Interpretation

Empower customers to understand their energy patterns, leading to more informed decisions about usage and potential savings.

Customized User Profiles

Enhance user experience by providing personalized insights and suggestions, making energy management more relevant and effective for different customer types.

Advanced Algorithms for Optimization

Help users optimize their energy consumption, thereby reducing bills and enhancing the overall efficiency of their energy use.

Support for CO2 Footprint Reduction

Support users in making greener choices that contribute to carbon footprint reduction and environmental sustainability.

Facilitating the Green Transition

Encourage and facilitate users' participation in the green transition, aligning with broader societal goals for sustainability.

Thank you!

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