

Hubgrade



SMARTER UPSTREAM
WATER INJECTION

A DIGITAL SOLUTION FOR YOUR UPSTREAM ASSET INTEGRITY

Today's Oil & Gas operators face an array of challenges:

- ✓ reducing capital expenditures
- ✓ optimising energy and chemical consumption
- ✓ improving operating efficiency and stability
- ✓ minimising maintenance and preventing costly downtime
- ✓ reducing non-compliance events and limiting environmental impact
- ✓ continuous group monitoring
- ✓ getting a coherent view of operating status

With Hubgrade your water injection can be safely and sustainably managed remotely from an onshore location.

Hubgrade is the combination of digital tools and the knowledge of Veolia experts to deliver operational and environmental efficiency.

Capitalising on human competency and digital power to process data and provide you with a continuous supply of optimized solutions adapted to your priorities: compliance, operational excellence, and sustainability. Hubgrade enables

WE KNOW WATER

Veolia Water Technologies is the only company in the world that provides you with solutions for all water processes:

- ✓ wide range of technologies
- ✓ water treatment expertise
- ✓ digital tools
- ✓ wealth of global and local references
- ✓ local field service network
- ✓ 160 years of experience

our customers to consider and implement operational solutions in line with day-to-day concerns encountered by the operators and managers.

With Hubgrade, Veolia Water Technologies addresses the water optimization needs of municipalities and industries to respond to customer challenges throughout the water cycle.

VEOLIA WATER TECHNOLOGIES DELIVERS THREE INNOVATIVE SERVICES:

Hubgrade

ESSENTIAL

EVALUATE AND
CONTINUOUSLY FOLLOW
THE QUALITY
OF THE SERVICE
AND COMMUNICATE
WITH TRANSPARENCY

#CONNECT

Hubgrade

ASSIST

ACCOMPANY CLIENTS
IN THEIR PROGRESS PLANS
AND REMOTELY ADVISE
IN THE PILOTAGE
OF THEIR FACILITIES

#SUPPORT

Hubgrade

PERFORMANCE

MEASURE AND IMPROVE
PERFORMANCE
AND GUARANTEE
A QUALITY LEVEL
OF SERVICE

#IMPROVE

Hubgrade

Powered by  **VEOLIA**



Veolia's global digital offer



A wide and flexible range of digital solutions responding to operator and manager challenges



Fast access to a global network of Veolia experts



Digital platform that relies **on multi-source data, advanced analytics** and VWT lifelong water-treatment **expertise**



Proven solutions already **deployed worldwide** with **excellent customer feedback!**

Hubgrade, intelligent water management

Hubgrade™ offers a wide and flexible range of digital solutions that responds to your challenges. From operators to management, Hubgrade™ provides you with a tool to efficiently manage upstream water injection systems.

The data is aggregated and can be enriched through a suite of intelligent water process applications and algorithms. It is securely stored in the cloud and accessible to you any time, anywhere, on any device through a single private and secure platform.

All features are available to you in real time, providing a full dashboard overview of all information needed to make the right business decisions for your offshore water injection system.

Hubgrade™ digital solutions can be implemented for Veolia and non-Veolia process systems, for existing or new water injection systems.

BRINGING VALUE TO UPSTREAM WATER INJECTION

Operational Risk Mitigation



- Aggregation and cloud storage
- Intuitive 24/7 monitoring tool
- Remote monitoring of operating parameters
- Access to specialist personnel

Improved Organisational Effectiveness



- Consumables monitoring and spares management
- Customised chemicals optimisation for the offshore market
- Effective data usage to maximise intervention and purchasing efficiency

Greater Control of Operation



- Centralised documentation and report storage
- Site visit history and details
- Alarm and alert management

Increased Performance



- Early event detection to prevent critical failures
- Automated real-time report generation
- Performance and business KPIs for water injection targets

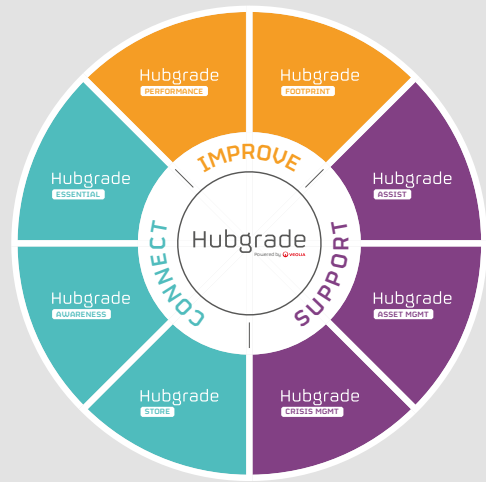
Driving OPEX reduction



- Centralised monitoring for increased asset efficiency
- Predictive analytics for operational optimisation
- Leveraging global experience to benefit each individual asset
- Centralised library of downtime events

Lease contractor ROI > 10:1
Owner/Operator ROI > 80:1

Through our modular offer you have the flexibility to choose the service package to meet your water injection needs.



Hubgrade

ESSENTIAL

A customer portal for remote monitoring and reporting with a complete overview of all your data.

Key features:

- ✓ dedicated web portal,
- ✓ remote monitoring of critical operating parameters,
- ✓ ability to enter data manually,
- ✓ archive of all service and sales orders,
- ✓ All project and site documentation,
- ✓ O&M manuals, essential parts lists and training videos.

Added value:

- ✓ accessible 24/7 from any device,
- ✓ acquisition, aggregation and cloud storage of all data,
- ✓ process Data Trends and alarm reports,
- ✓ critical alarms alert (E-mail and SMS),
- ✓ secure, state of the art cloud based system.

Hubgrade

ASSIST

Access to Veolia's process experts for readily accessible assistance.

Key features:

- ✓ network of Veolia experts to support operations,
- ✓ periodic key process indicators data review,
- ✓ review of laboratory testing results & optimisation recommendations,
- ✓ augmented reality tool*,
- ✓ online training platform,
- ✓ data driven service and site support.

Added value:

- ✓ process and automation hotline support,
- ✓ support and optimisation bank time,
- ✓ continuous knowledge transfer,
- ✓ remote audits.

* Additional fee applies.

Hubgrade

PERFORMANCE

A data driven performance optimisation tool, predictive, prescriptive analytics and recommendations

Key features:

- ✓ includes all feature within the Essential and Assist packages,
- ✓ high level dashboards,
- ✓ CIPs quarterly review and benchmarking,
- ✓ operational procedures,
- ✓ review/optimisation of set-points and alarms,
- ✓ logic review to look for improvements,
- ✓ maintenance procedures.

Added value:

- ✓ annual reviews - KPIs & Benchmarking,
- ✓ keep track of fines, availability, water injection targets, forecasting,
- ✓ global benchmarks to compare performance,
- ✓ machine learning algorithms predicting the evolution of operational performance,
- ✓ scenario planning as a basis for optimisation.

OUR OFFER

| | ESSENTIAL | ASSIST | PERFORMANCE | AD HOC |
|--|----------------------|--------|-------------|--------|
| Digital library | ✓ | ✓ | ✓ | |
| Data visualization | ✓ | ✓ | ✓ | |
| KPI's | ✓ | ✓ | ✓ | |
| Dashboards - High level (fines, availability, water injection targets, forecasting, predictives, etc.) | | | ✓ | |
| Events and Alerts | Asset integrity only | ✓ | ✓ | |
| Maintenance Tasks | | | | ✓ |
| Predictive Analytics | | | ✓ | |
| Optimizations & Procedures - Level 1 <ul style="list-style-type: none"> • Troubleshooting • Bespoke CIP procedures • CIP analysis & recommendations • Membrane procedures | | ✓ | ✓ | |
| Optimizations & Procedures - Level 2 <ul style="list-style-type: none"> • RCFAs • Other operational procedures • Maintenance Procedures • Downtime categorisation and assessment • Review/optimization of set-points and alarms • Logic review to look for improvements • Logic changes* AD HOC | | | ✓ | ✓ |
| Training | | | | ✓ |
| Real time daily reviews / real time data monitoring | | ✓ | ✓ | |
| 24/7 Technical Assistance | | | ✓ | |
| Automatic reporting | | ✓ | ✓ | |
| CIPs Quarterly Review & Benchmarking | | | ✓ | |



The Hubgrade Digital Trust targets four sections of your digital landscape:



PHYSICAL SECURITY
Data acquisition



NETWORK SECURITY
Data transfer



CLOUD SECURITY
Data aggregation and data analysis



DATA SECURITY
Data protection

HUBGRADE RUNS ON TODAY'S MOST SECURE CLOUD-BASED SYSTEMS

Offering products with first-class digital security and compliance is our number one priority.

We guarantee a high level of cybersecurity, from the connectivity solution to your industrial control systems up to isolation at the application and data layers, with end-to-end encryption.

We constantly ensure that you are protected against cybersecurity threats.

To ensure this, we rely on certified partners and highly-resilient cloud-based systems.

Hubgrade also strictly follows guidelines from leading security standards such as ISO/IEC 27001:2013, ISO/IEC 27017:2015, NIST SP 800-210, and the NIST cybersecurity framework 1.1, in addition to best practices issued by industry 4.0 standards.

RECOVERY

Recovery planning, continuous improvement, advancement of tooling.

RESPONSE AND ACTION

Efficient analysis, rapid issue response, mitigation of risk with proper communication plus improvements.

DETECTION MONITORING

Security event detection, advanced tooling for monitoring, procedures to detect anomalies, automated process.

PROTECTION STRATEGY

Better access management data security, standard processes and practices.

CYBERSECURITY MODEL

Governance, business IT security environment, asset / fleet management, risk assessment strategy.



OUR FULL RANGE OF AQUASERVICE SOLUTIONS



OFFSHORE

- Rota Support
- Adhoc Visits
- Shutdowns
- Operations Analysis
- Surveys
- Supervising
- Trouble Shooting



ENVIRONMENTAL SERVICES

- Chemical cleaning
- NORM cleansing
- General Offshore Environmental work scopes
- Decommissioning
- Waste Management
- Mercury disposal



START UP & COMMISSIONING

- Bespoke personnel for specific water injection system start up
- Full onshore technical support at start up
- Support for non Veolia designed systems
- Oversee new process plant through installation and start up



SPARES MANAGEMENT

- Stock control
- Regional warehousing
- Adhoc supply
- Shipping and Storage
- Predictive Maintenance
- Loyalty scheme



ENGINEERING UPGRADES

- Lifecycle upgrades
- Study scopes
- Feasibility Studies
- Plant Enhancements
- RCFA's
- Operational Support
- Safety Reviews
- Risk Assessments
- Work Packs & Procedural modifications
- Job Card production



TRAINING

- Regional training centres
- Onshore training skid
- Bespoke Training
- Classroom plant familiarisation
- On-shore Practical training on key maintenance activities

CARTRIDGE FILTERS

- Seawater Treatment System
- Produced Water Treatment Systems
- Custom Element Types available
- Filtration ranging from 0.1 to 100 μ - nominal and absolute
- Various end caps
- Low Pressure Drop
- Excellent Temperature /oil resistance
- Low Pressure Drop

MEMBRANES

- Supply (SWRO & NF)
- LCC Studies for membrane selection
- Loading pattern advice



HYDREX™ CHEMICALS

- Optimisation
- Procedural reviews
- Product development
- Technical support services
- Membrane autopsy

Hubgrade
Powered by  VEOLIA

Resourcing the world

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