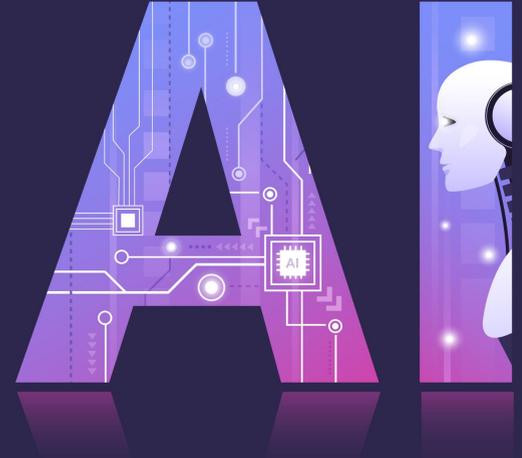


# ValveOps AI + Hydraulics

## AI-Powered Hydraulic Intelligence

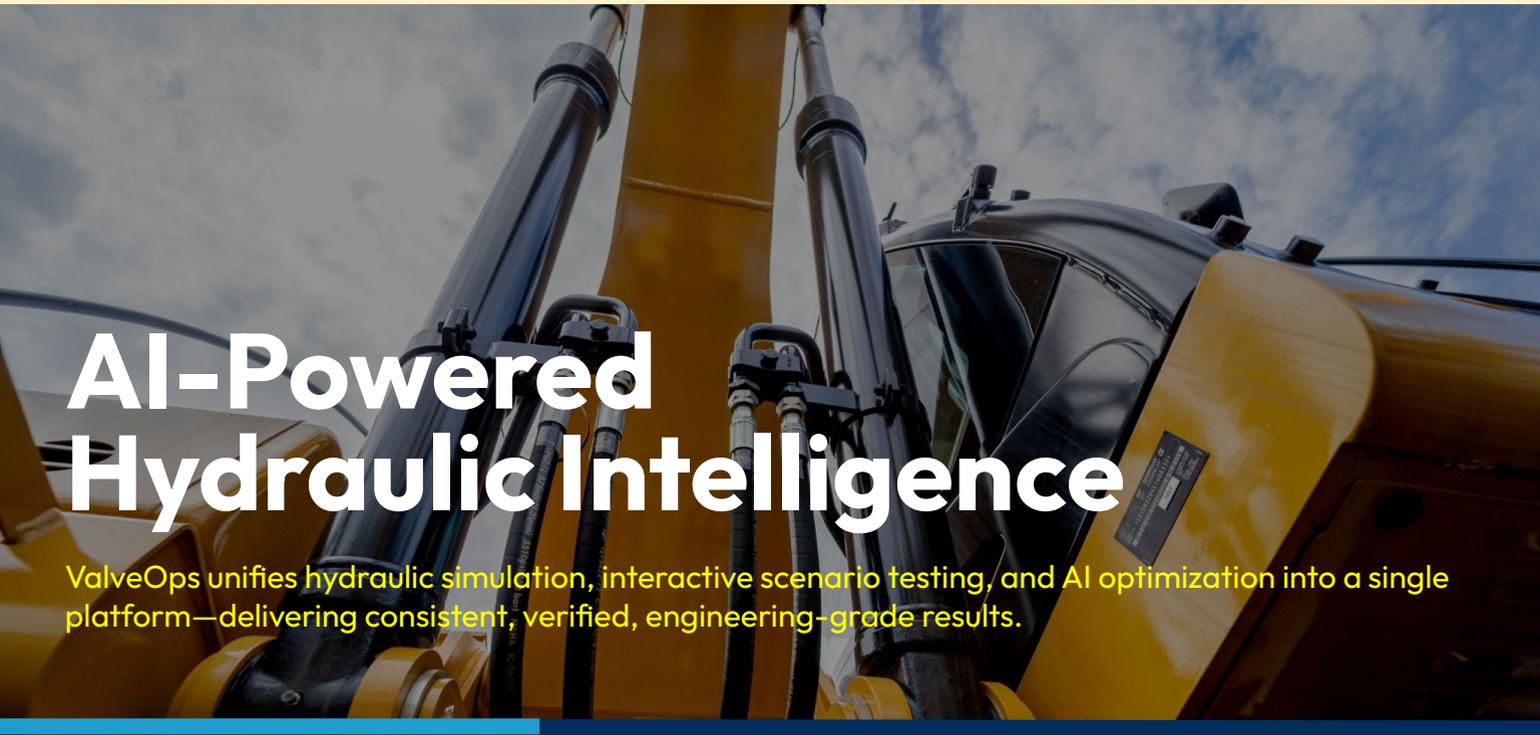


Empowering Industries with **Intelligent, Automated, and Cloud-Ready** AI Solutions.

At **Sukra Infotek**, we bring intelligence, automation, and engineering depth to water and chilled-water networks.

ValveOps transforms static hydraulic systems into **real-time, simulation-driven, AI-guided decision environments**—improving reliability, lowering energy costs, and making complex networks easier to operate and optimize.

With physics-based solvers, AI recommendations, and scenario automation, ValveOps empowers utilities, campuses, industrial plants, and smart-building ecosystems to run their networks with confidence and clarity.



# AI-Powered Hydraulic Intelligence

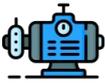
ValveOps unifies hydraulic simulation, interactive scenario testing, and AI optimization into a single platform—delivering consistent, verified, engineering-grade results.

## Our Core Competence



### High-Fidelity Hydraulic Simulation

Pressure, flow, headloss, pump behavior, NPSH, and valve performance modeling using EPANET/WNTR with standards-based validation.



### Interactive “What-If” Console

Instant testing of pump speeds, valve positions, and setpoints with violation highlights, KPI impacts, and scenario comparisons.



### AI-Guided Optimization

Safe operating recommendations with solver-verified adjustments, energy savings, reliability improvements, and clear justification statements.



### Leak Detection & Triage

AI compares live signals with synthetic leak models to identify likely zones, severity, and containment strategies.



### Automated CAD / PDF Conversion

DWG/DXF/PDF ingestion to auto-generate hydraulic networks, accelerating digital twin creation and design reviews.



### Chilled-Water Analytics

Primary/secondary loop behavior, chiller outage simulations, balancing, reliability analysis, and energy-impact insights.

## ValveOps Application Areas

### Smart Water Networks

Pressure-deficit studies, pump energy optimization, reliability improvement, leak localization, and emergency response.

### District Cooling & Chilled Water Plants

Load shifting, loop imbalances, valve mis-sets, and outage preparedness.

### Smart Water Networks

Utility line optimization, cooling-water reliability, and rapid triage during abnormal events.

### Smart Water Networks

Model validation for new developments, retrofits, and MEP engineering decisions.

## Innovation & R&D – Hydraulic Intelligence Lab

Jointly powered by

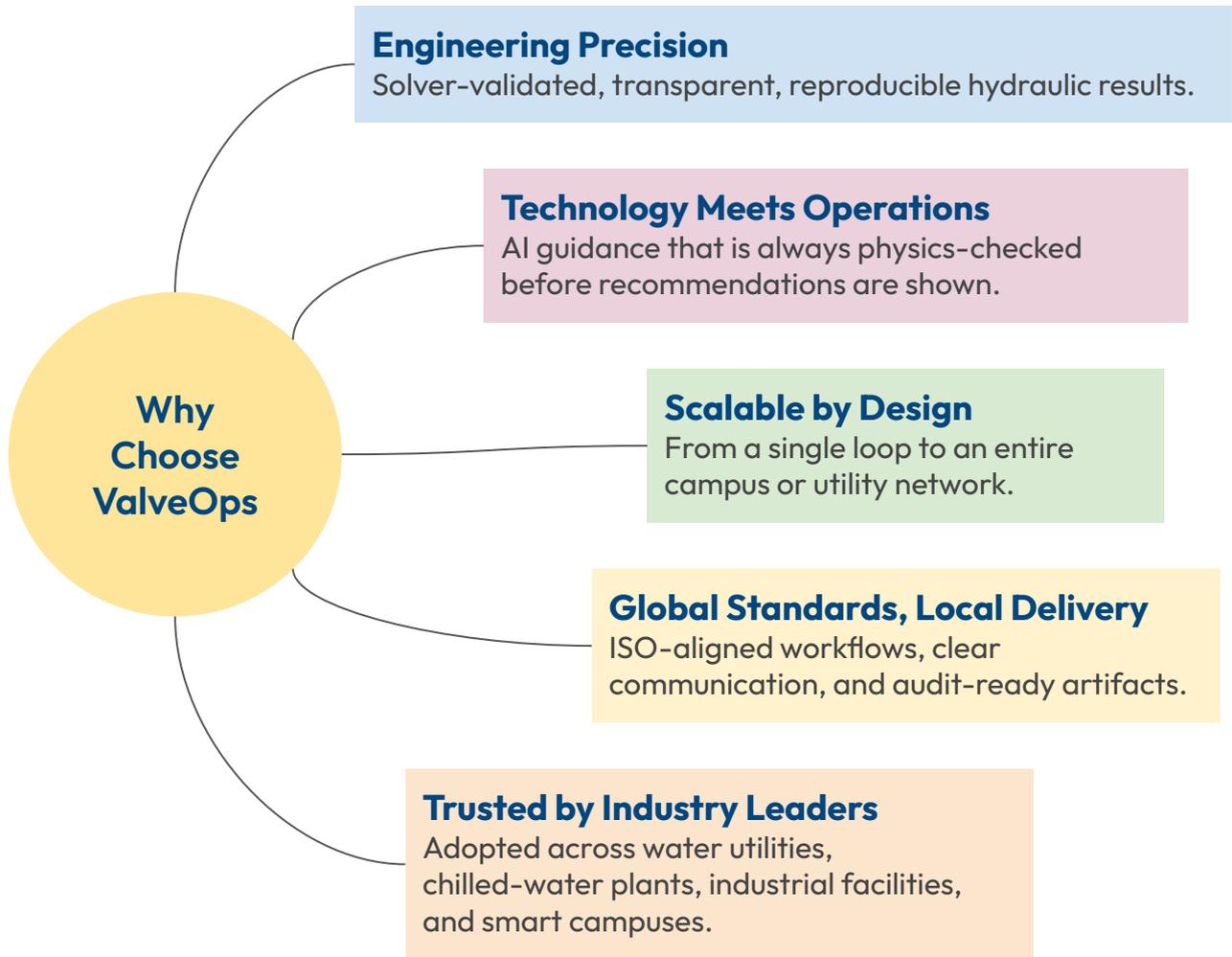


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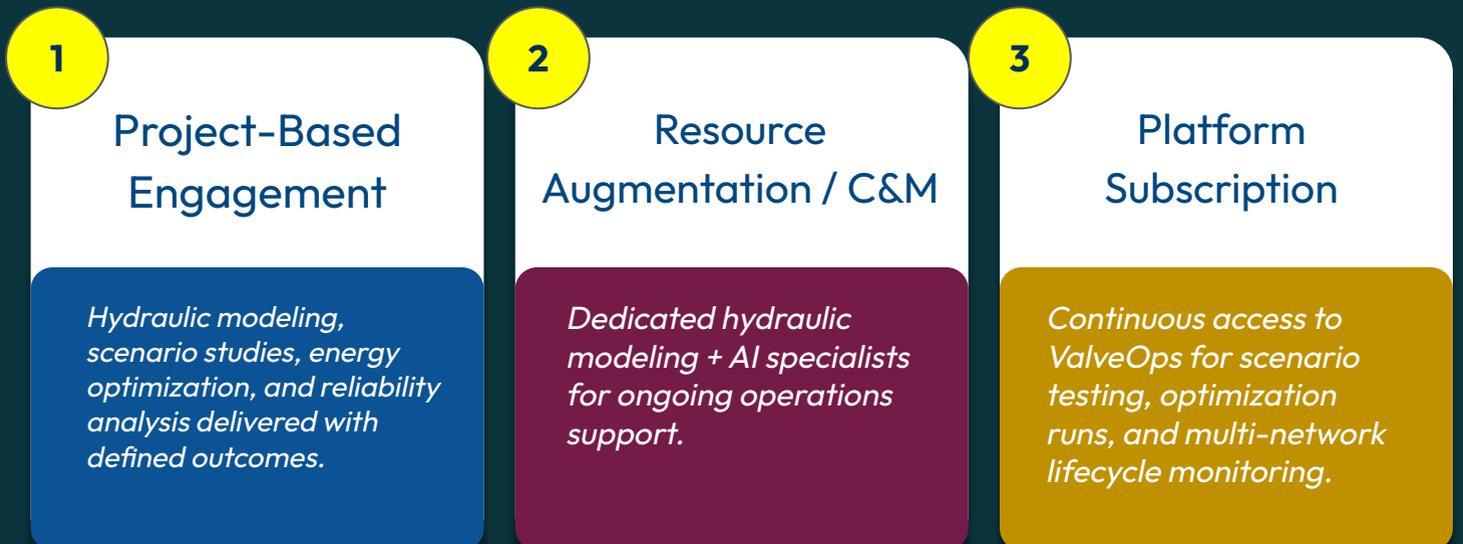
### Our innovation roadmap includes:

- AI-driven hydraulic optimization agents
- Autonomous pump/valve tuning
- Sensor + solver fusion for leak & anomaly detection
- Digital-twin integration with BMS/SCADA
- Auto-model-generation for complex utility layouts





## Our Engagement Models



# The Sukra Advantage

<b>Engineering-Grade AI</b>	AI systems built with domain physics, validated logic, and high-accuracy, real-world performance.
<b>Full-Stack Technical Backbone</b>	Expertise across data, cloud, DevOps, multi-agent systems, security, and scalable product engineering.
<b>Innovation + Delivery Stability</b>	Agility of a startup with mature processes, ISO-aligned quality, and dependable long-term execution.
<b>Trusted Global Partnerships</b>	Collaboration with <b>Atlas IntelliTek</b> (USA) and domain specialists strengthens our delivery depth and speed.

Let's build technology that truly empowers your business.



[workwithus@sukrainfotek.com](mailto:workwithus@sukrainfotek.com)

+91 86800 06293

+91 95000 90898

Reach us to explore, how Sukra can partner with your enterprise or startup.