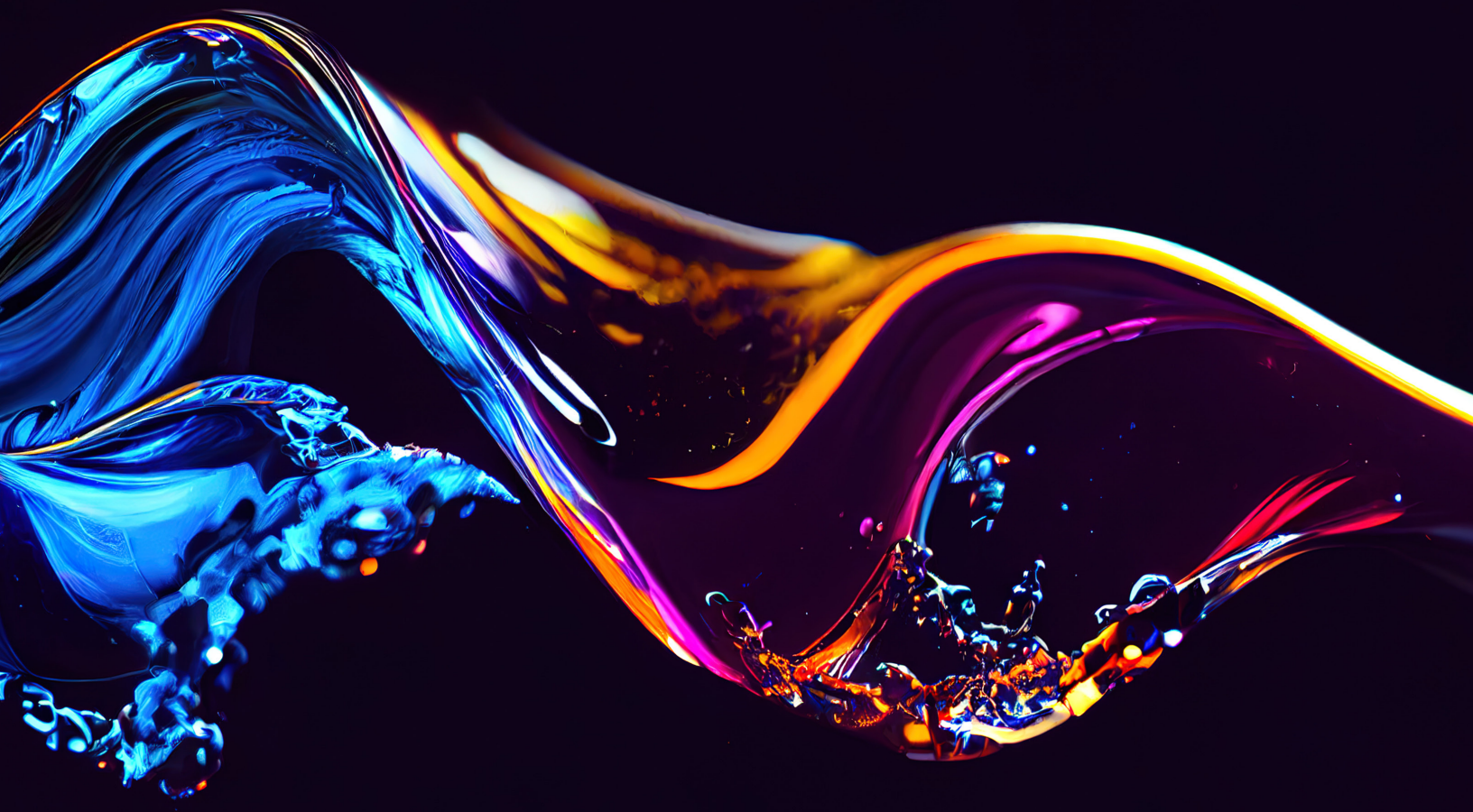
ENGINEERED SOLUTIONS

CASE STUDY

Ensuring Accurate & Consistent Energy Management for a Global Chemical Manufacturer



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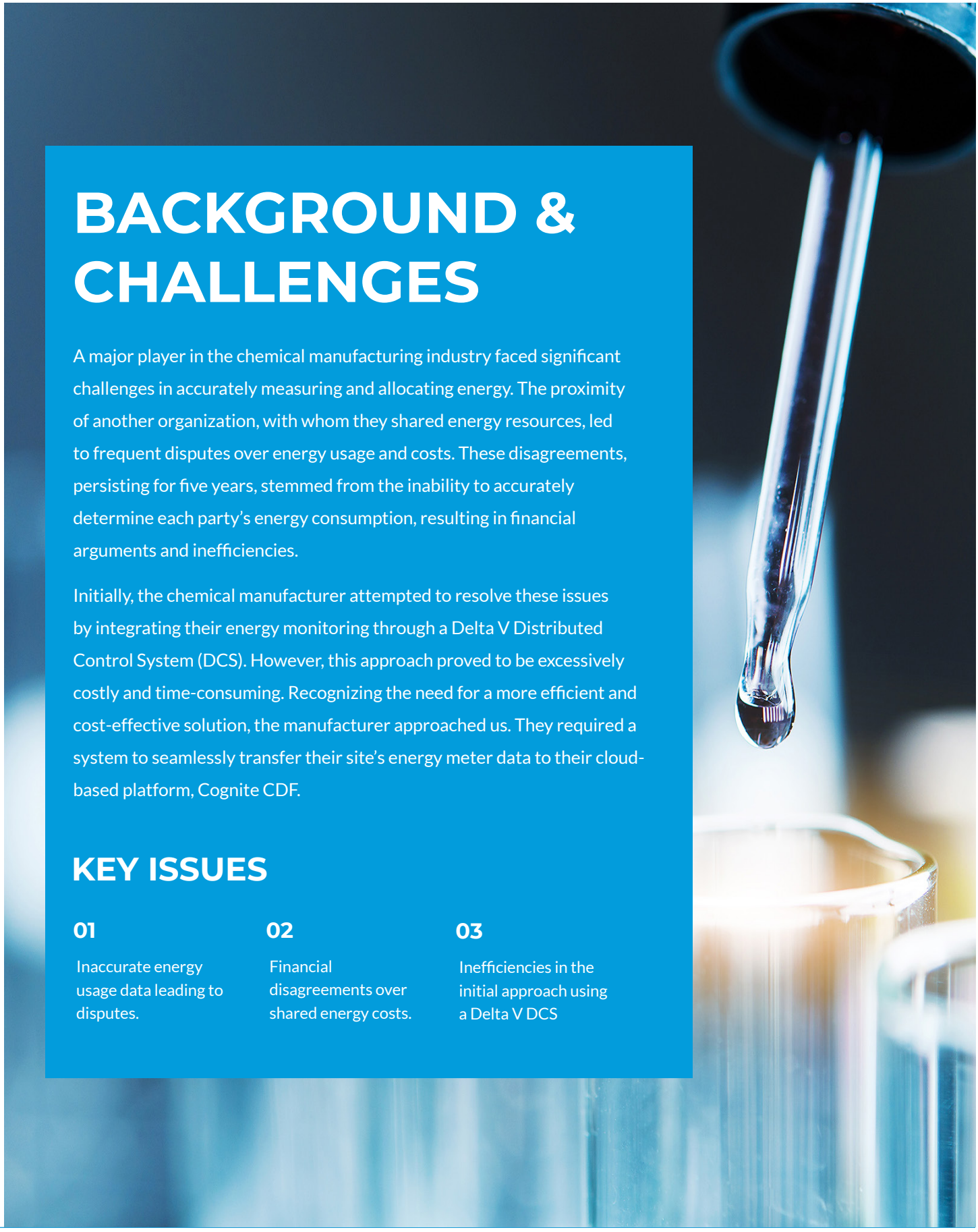
BACKGROUND & CHALLENGES

BACKGROUND

A leading company in the chemical manufacturing sector encountered substantial difficulties in precisely measuring and distributing energy.

KEY ISSUES

1. Inaccurate energy usage
2. Financial Disagreements
3. Problems in Initial Approach



BACKGROUND & CHALLENGES

A major player in the chemical manufacturing industry faced significant challenges in accurately measuring and allocating energy. The proximity of another organization, with whom they shared energy resources, led to frequent disputes over energy usage and costs. These disagreements, persisting for five years, stemmed from the inability to accurately determine each party's energy consumption, resulting in financial arguments and inefficiencies.

Initially, the chemical manufacturer attempted to resolve these issues by integrating their energy monitoring through a Delta V Distributed Control System (DCS). However, this approach proved to be excessively costly and time-consuming. Recognizing the need for a more efficient and cost-effective solution, the manufacturer approached us. They required a system to seamlessly transfer their site's energy meter data to their cloud-based platform, Cognite CDF.

KEY ISSUES

01

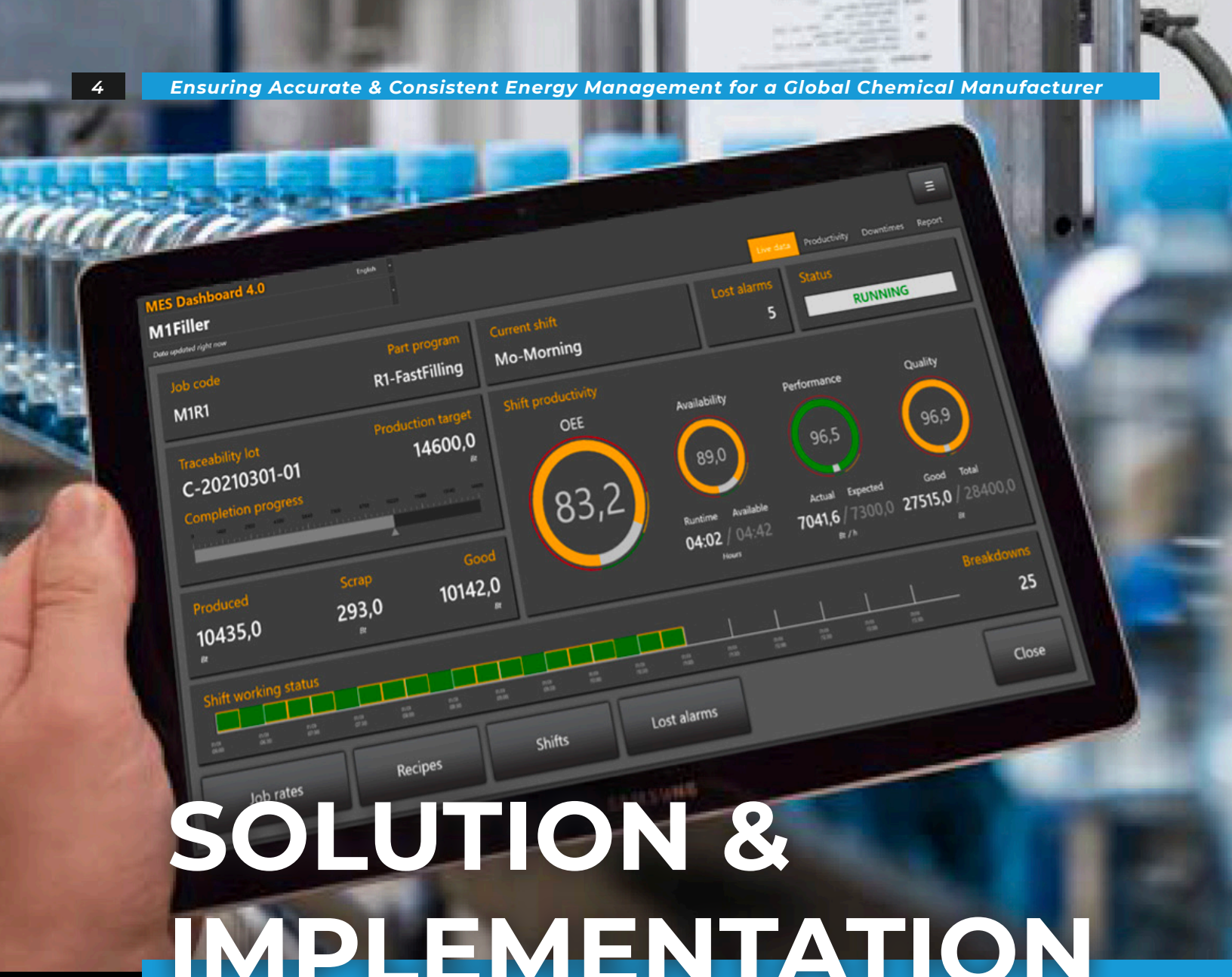
Inaccurate energy usage data leading to disputes.

02

Financial disagreements over shared energy costs.

03

Inefficiencies in the initial approach using a Delta V DCS



SOLUTION & IMPLEMENTATION

THE SOLUTION

1. PACEdge Software
2. Modbus TCP Output
3. Custom Image of PACEdge OS
4. Secure Data Transmission

SOLUTION

In response to these challenges, the chemical manufacturer approached Relevant Industrial for a more efficient and cost-effective solution to accurately monitor and report energy usage. Relevant proposed the use of Emerson's PACEdge software as a cloud gateway to transmit energy meter data from their smart meters directly to the Cognite CDF platform. The PACEdge solution used the Modbus TCP output from SEL Energy Meters, bringing the data into the gateway. With this, Relevant was able to develop a custom image of the PACEdge operating system, integrating Cognite CDF's cloud extractor tool for efficient and secure data transmission, compliant with the manufacturer's security standards.

KEY COMPONENTS

01 PACEDGE SOFTWARE

Used as a cloud gateway to transfer energy data.

02 MODBUS TCP OUTPUT

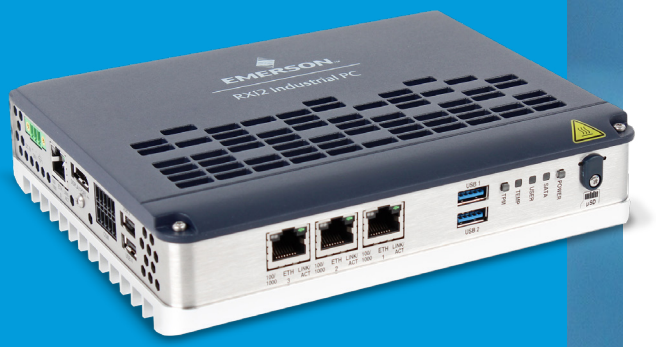
From SEL energy meters to PACEdge gateway.

03 CUSTOM IMAGE OF PACEDGE OS

Integrated with Cognite CDF's cloud extractor tool.

04 SECURE DATA TRANSMISSION

Compliant with the manufacturer's security standards.



IMPLEMENTATION

Implementing this solution involved deploying the PACEdge system across 26 substations, allowing for precise monitoring of energy usage. This new approach proved to be significantly faster and more cost-effective, with a deployment timeline of one to two months compared to over a year with the initial Delta V DCS approach.

01 INITIAL ATTEMPT

They originally tried integrating through a Delta V DCS, which proved too costly and time-consuming.

02 ALTERNATIVE APPROACH

We deployed the PACEdge solution across 26 substations, providing a seamless and secure data flow to the Cognite CDF platform.

03 DEPLOYMENT SPEED

Our solution allowed for quick implementation within one to two months, compared to the year-plus timeline of the initial approach.

RESULTS & IMPACT

RESULTS

1. Enhanced Accuracy
2. Cost Savings
3. Global Rollout

IMPACT

1. Financial Resolution
2. Operational Efficiency
3. Scalability

RESULTS

The results were substantial. They achieved enhanced accuracy in tracking energy consumption at each substation, effectively eliminating disputes with the neighboring organization. The cost savings were considerable, avoiding the high expenses associated with the Delta V DCS. Furthermore, this solution enabled the manufacturer to plan for a global rollout, including sites in Corpus Christi and Bay City.

01 ENHANCED ACCURACY

Precise tracking of energy usage at each substation, eliminating disputes.

02 COST SAVINGS

Efficient implementation avoided high costs associated with the initial Delta V approach.

03 GLOBAL ROLLOUT

Plans to expand this solution to other global facilities, including sites in Corpus Christi and Bay City.

IMPACT

The impact of the PACEdge implementation was profound. It resolved financial disputes involving six-figure monthly energy costs, potentially saving the client millions annually. Additionally, the improved energy tracking led to better resource management and operational efficiency. The scalability of the custom solution allows them to standardize energy monitoring across multiple global sites, ensuring consistent and accurate energy management worldwide.

01 FINANCIAL RESOLUTION

The system resolved disputes involving six-figure monthly energy costs, potentially saving millions annually.

02 OPERATIONAL EFFICIENCY

Improved energy tracking led to better resource management and operational efficiency.

03 SCALABILITY

The custom solution is scalable, enabling the client to standardize energy monitoring across multiple sites globally.

CONCLUSION

This case study highlights how our tailored, technology-driven approach provided a global chemical manufacturer with a robust, efficient solution for their energy monitoring needs, significantly improving their operational transparency and financial accuracy.

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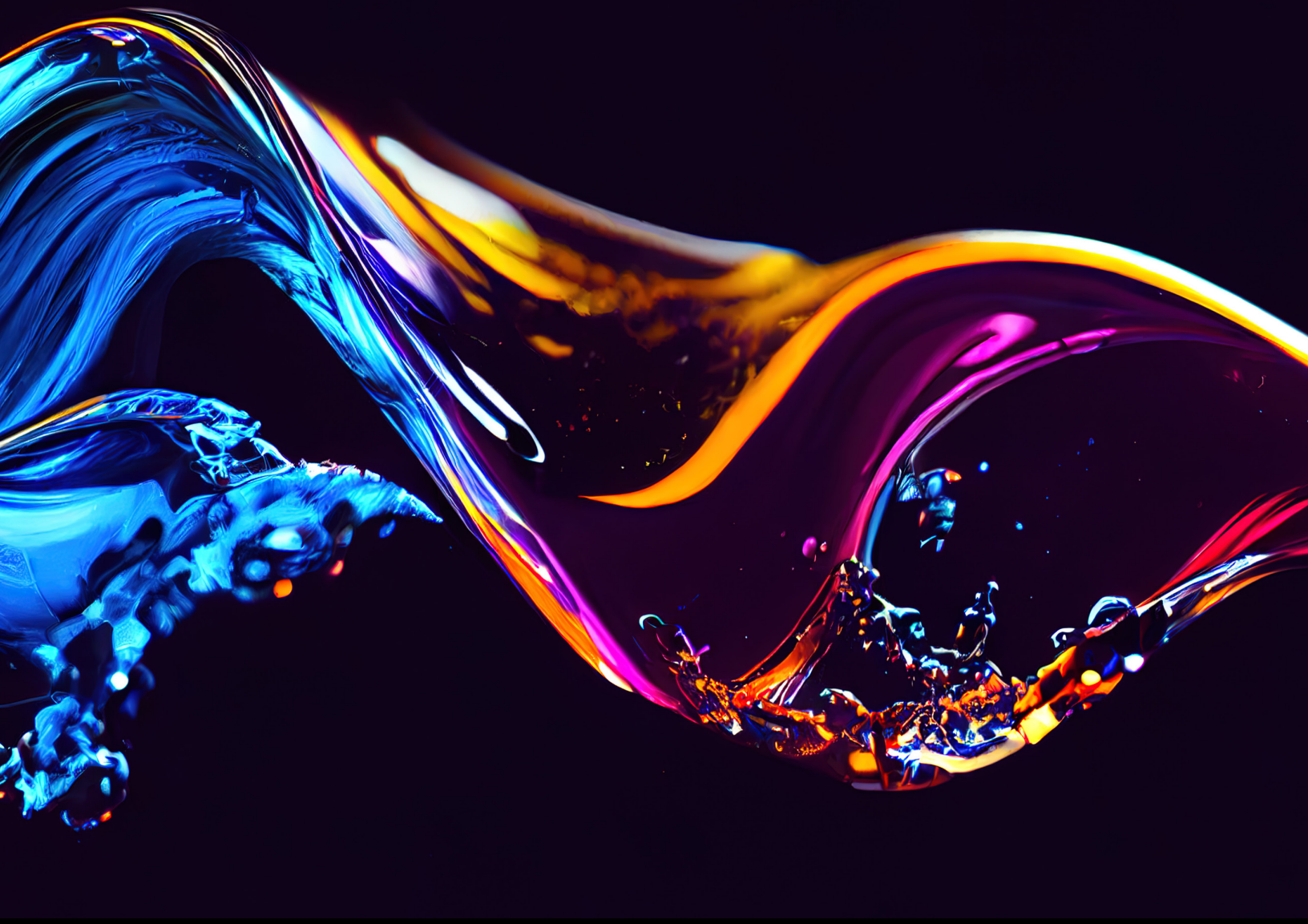

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