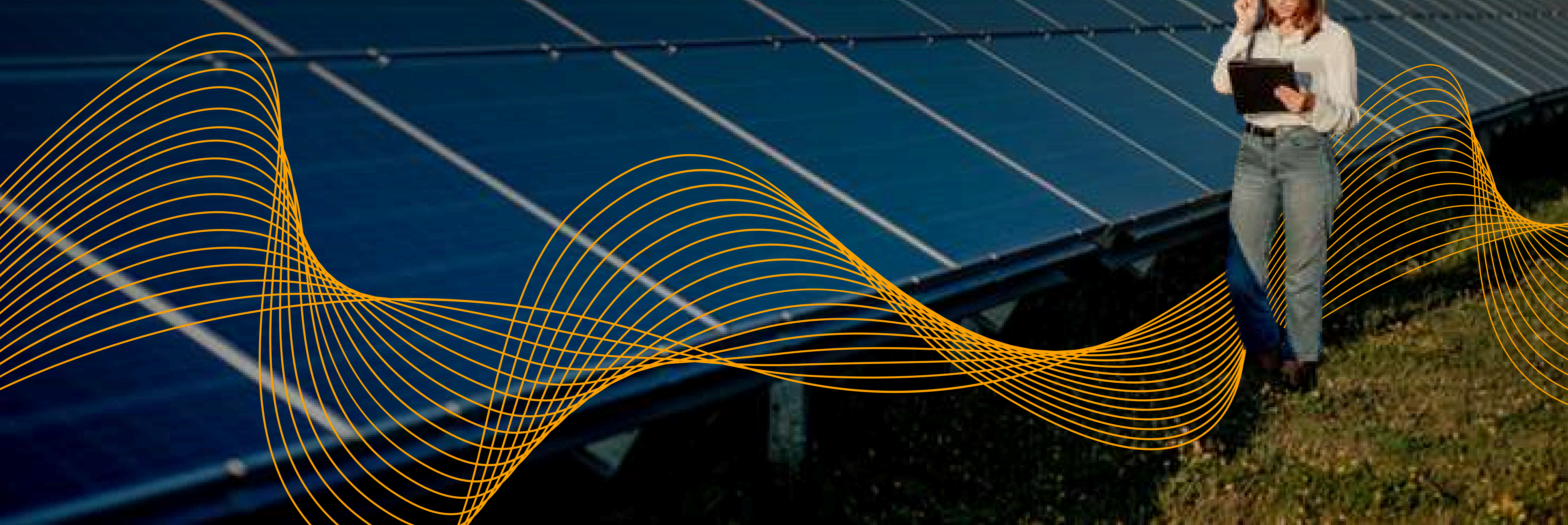
Building a resilient future for the energy and utilities sector

A Platned guide to strengthening infrastructure, improving insight and delivering a sustainable energy future with IFS Cloud

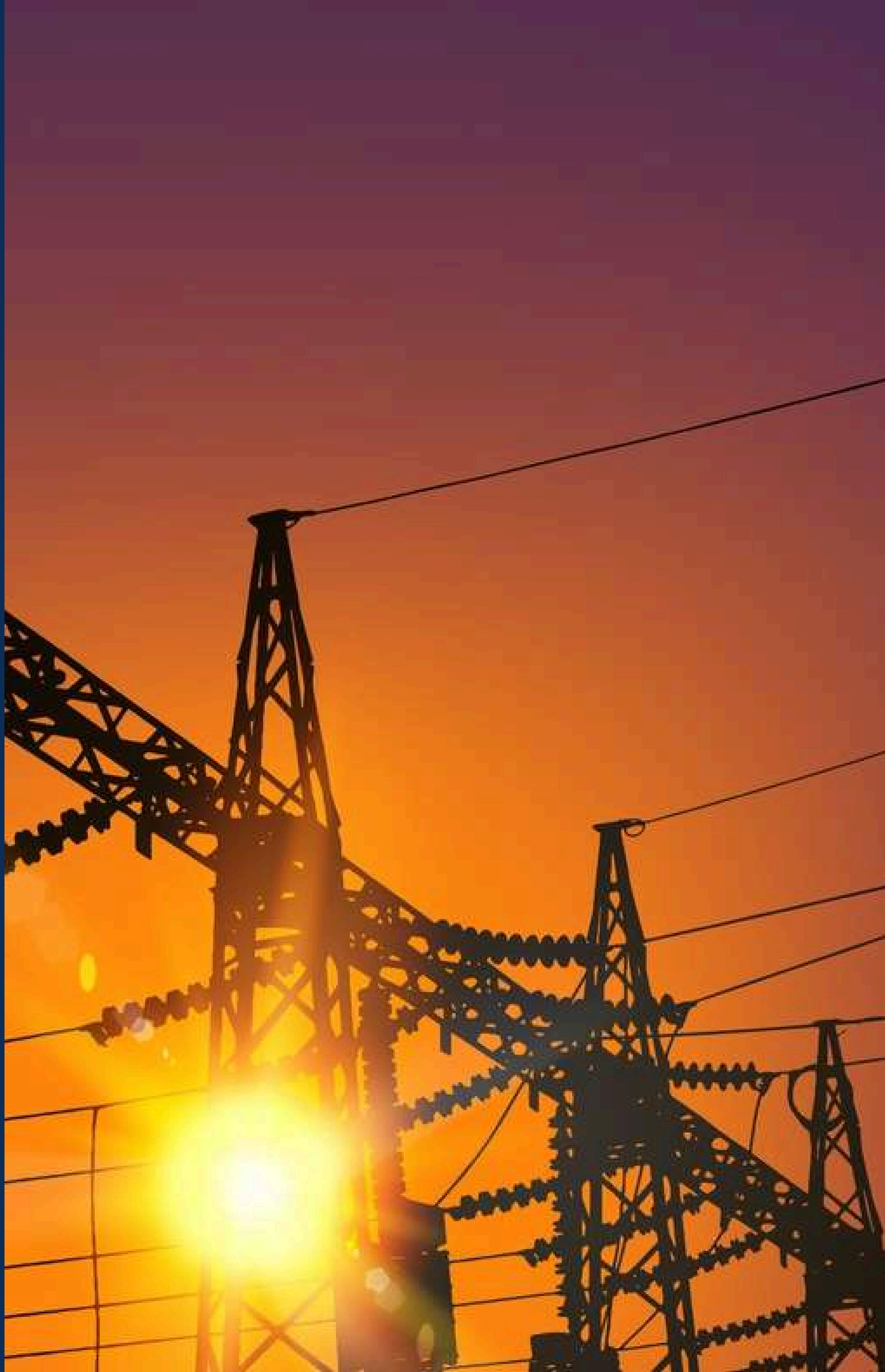


Introduction

The energy and utilities sector is operating in an era of continuous disruption. Extreme weather events, rapid environmental shifts, ageing infrastructure and increasing sustainability pressures are reshaping operational risk.

Utilities must now respond to risks that are more frequent, less predictable and more severe than at any point in recent decades. At the same time, they must maintain reliability while transitioning toward renewable energy and modernising ageing assets.

Platned, as an experienced IFS partner, supports these challenges by delivering integrated, AI-enabled solutions built on IFS Cloud that improve visibility, asset performance and operational resilience.



Chapter 1

Environmental change and ageing infrastructure

A sector under pressure

Across Europe and worldwide, utilities face more severe environmental events including prolonged rainfall, flooding, damaging storms and hotter, longer heatwaves. These conditions directly affect asset performance and increase the likelihood of outages.

Historical weather patterns are no longer reliable. Climate volatility means extreme events occur more frequently and with greater impact, creating a new operational baseline for utilities.

Ageing infrastructure creates system risk

Much of today's transmission and distribution infrastructure was installed decades ago and was not designed for current environmental pressures. As assets age, failure rates increase and maintenance costs rise.

Ageing networks require more intensive maintenance, yet maintenance windows are shrinking as systems operate closer to full capacity throughout the year. Utilities need stronger asset insights, predictive monitoring and structured investment planning to maintain resilience.

1/3

of the United Kingdom's offshore wind farms will reach the end of their originally anticipated operational design life by 2035.

Key statistic

63

years old is the average age of electrical transformers across the UK, leaving much of the grid operating at or beyond expected lifecycle limits.

Key statistic

Immediate resilience actions

01 Elevating equipment in flood-prone regions

02 Improving vegetation management in wildfire-risk areas

03 Strengthening inspection cycles based on local risk patterns

04 Isolating high-risk sections of the grid

05 Using geospatial tools to understand localised exposure

IFS Cloud provides the centralised data visibility needed to support these decisions.
Platned ensures each organisation’s risk profile is reflected in the solution.

Chapter 2

The role of meteorological insight and industrial AI

Weather-driven planning for modern utilities

Historic weather patterns can no longer support accurate planning. Utilities increasingly rely on real-time data, satellite information and long-range forecasting to anticipate environmental impact.

IFS Cloud integrates these datasets, enabling utilities to assess risk, plan ahead and protect critical assets.

AI in action: meteorology-driven operations

- Flood impact prediction: AI analyses rainfall, soil saturation and river levels to predict which substations are at risk.
- Storm path deviation alerts: AI models shifting storm behaviour to support real-time workforce planning.
- Wind load forecasting: AI identifies high-risk periods for overhead lines to enable proactive preparation.

These capabilities help utilities move from reactive response to proactive preparation.

Renewables growth and grid resilience

The rapid adoption of renewable energy introduces complexities such as variable generation and increased grid dependency on environmental conditions.

AI in action: renewable energy performance

- Wind turbine blade defect detection using vibration and acoustic analytics.
- Solar panel soiling analysis using thermal imagery.
- Predictive wake analysis to optimise turbine positioning.
- Forecasting solar and wind variability using environmental and operational data.

Carbon capture and broader decarbonisation

Carbon capture and other low-carbon technologies require the same level of visibility, monitoring and operational precision as traditional assets.

AI in action: decarbonisation strategies

- Monitoring efficiency decline in capture systems.
- Identifying anomalies that increase emissions.
- Modelling operational impacts on carbon output.
- Supporting regulatory compliance with automated emissions insights.

Wildfires in 2024 emitted more carbon than was reduced by all industrial decarbonisation efforts combined.

Key statistic

Predictive asset management

Predictive maintenance extends asset life and reduces unplanned outages. AI models help identify deterioration early, optimise maintenance cycles and reduce operational risk.

AI in action: predictive maintenance

- Transformer overheating detection using load and thermal data.
- Cable fault forecasting using partial discharge analysis.
- Motor deterioration alerts based on vibration signatures.
- Switchgear performance prediction using duty cycle data.
- Pipeline corrosion forecasting using environmental inputs.

80%
of lost wind turbine energy is caused by inadequate blade maintenance.

Key statistic

Chapter 3

Emergency management and Black Sky planning

Modern emergency management

Emergency events are becoming more frequent and more severe. Utilities need integrated platforms that combine asset visibility, workforce insight and predictive alerts.

AI in action: incident response

- Automatic prioritisation of repair tasks.
- Predictive modelling of potential instability.
- Dynamic resource allocation based on proximity and skillset.
- Real-time dashboards for control rooms.

Preparing for Black Sky events

Black Sky events require total grid restoration and coordinated operational response.
IFS Cloud supports scenario planning, restoration workflows and multi-team coordination.

IFS Cloud supports large utilities with complex operational structures across onshore and offshore environments.

Key statistic

Chapter 4

Restoration and strategic asset investment

Pre-event and post-event restoration

Restoration is one of the most resource-intensive stages of utility operations. AI helps accelerate recovery and reduce disruption.

AI in action: faster restoration

- Predicting likely damage areas before events.
- Reprioritising jobs based on live field data.
- Route optimisation for field teams.
- Detecting anomalies during restoration.

Strategic asset investment

Strategic investment planning requires clear insight into asset risk, lifecycle, cost and environmental impact. IFS Cloud unifies these insights to support smarter decisions.

AI in action: investment decision support

- Evaluating risk across asset classes.
- Comparing refurbishment and replacement cost options.
- Forecasting future load based on electrification.
- Prioritising capital projects based on value.
- Modelling environmental and carbon outcomes.

AI-enabled lifecycle planning within IFS Cloud helps utilities reduce unplanned maintenance, improve reliability and support targeted investment.

Key statistic

Chapter 5

Planning and scheduling optimisation

IFS planning and scheduling optimisation helps utilities allocate resources accurately, reduce operational cost and manage high-volume workloads.

AI dynamically adjusts schedules using live operational data and workforce availability, improving completion rates and service levels.

Conclusion: The Platned advantage

Utilities must transform their operations to face environmental uncertainty, ageing infrastructure and growing customer expectations.

Platned delivers deep industry expertise and proven IFS Cloud implementation capability, enabling utilities to adopt AI-enabled practices and strengthen operational resilience.

Together, Platned and IFS Cloud help organisations build a smarter, more resilient and sustainable energy future.

About Platned

Platned is a global IFS Gold Services Partner supporting organisations across construction, manufacturing, energy, utilities, service industries, and more. With teams located in the United States, United Kingdom, Sri Lanka, and the Nordics, Platned combines deep technical expertise with practical industry experience.

Platned supports customers across the full lifecycle of IFS Cloud, from implementation and upgrades through to ongoing optimisation and managed services. The portfolio also includes specialist capabilities such as automated testing, finance automation, proactive support services, integration platforms, and advanced analytics.

Organisations around the world trust Platned to deliver solutions that improve resilience, increase profitability, and support sustainable growth.

Learn more at platned.com

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