

Lessons Learned Within Subsea: Leveraging Monitoring, Connectivity and Data for Robust Asset Integrity Management

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Supporting Oil & Gas Operators across the globe.

Offices in **Portishead, Aberdeen & Houston**. Regional representation in **Brazil, West Africa, China & Australia**.

Maximising the operational life of subsea controls equipment.

- Subsea Insulation Resistance Monitoring & Recovery.
- Online Electrical Cable Integrity Monitoring.

With cutting-edge, award-winning products...

Subsea Oil & Gas Systems

V-LIM® **V-LIFE®** **V-SLIM®** **V-IR®** **PlatformVi®**

Electrical Line Integrity
Monitor

Insulation Resistance
Recovery

Subsea Deployed Line
Integrity Monitor

Network Integrity
Monitoring

Trending and Data
Intelligence

Problem: Electrical Cable Water Ingress

Major industry challenge.

The cost of subsea electrical failures is significant and includes:

- Marine intervention costs.
- Replacement hardware costs.
- Unplanned lost production.
- Faults often lead to loss of power and/or communications.
- Known as a loss in Insulation Resistance (IR) affecting electrical subsea cables.
- Subsea fault-finding interventions and the replacement of cables, equipment or even umbilicals have been the only solution to this problem.



International Requirements

- **IEC 60364 is the International Standard which specifies that a subsea electrical system shall always be equipped with a suitable protective or monitoring device – a LIM (Line Insulation Monitor).**
- The primary function of a LIM is to measure the IR of conductors in a subsea electrical system. Provide a measure of the IR for either remote or local monitoring purposes.



INTELLIGENCE INSTALLED



MONITOR

Throughout the assets
lifecycle

 V-LIM[®]

 V-SLIM[®]

With our industry-leading devices and data acquisition platform, customers can track the health of their subsea electrical systems throughout the asset's lifecycle, enabling early risk identification.

IR>

TIME>

INTELLIGENCE INSTALLED

IR>



Utilizing our advanced hardware, software, and comprehensive support throughout the asset's lifecycle, we help customers evaluate and understand their systems' condition to assess operational risks.

TIME>

INTELLIGENCE INSTALLED

IR>

PREVENT

Alarms, faults and loss
of production

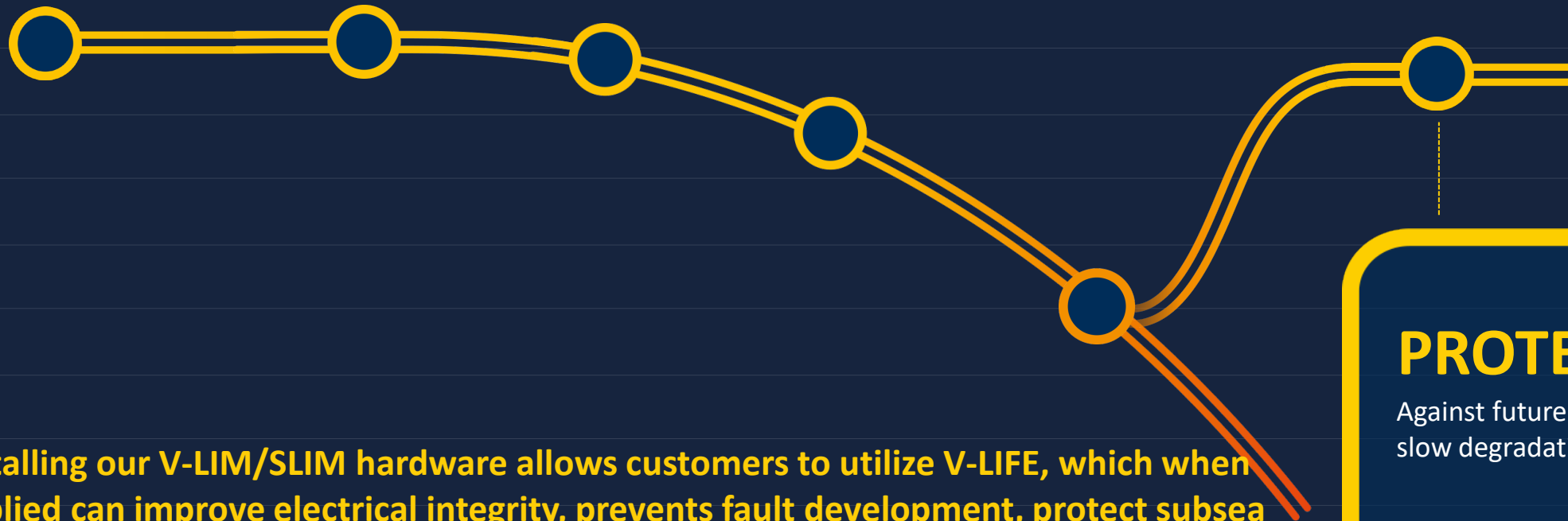


Intelligent early warning capabilities empower customers to make informed decisions, avoiding electrical safety issues, hardware damage, power loss, costly interventions, and production downtime.

TIME>



INTELLIGENCE INSTALLED



Installing our V-LIM/SLIM hardware allows customers to utilize V-LIFE, which when applied can improve electrical integrity, prevents fault development, protect subsea electrical systems from damage and extend operating life.

PROTECT

Against future faults &
slow degradation

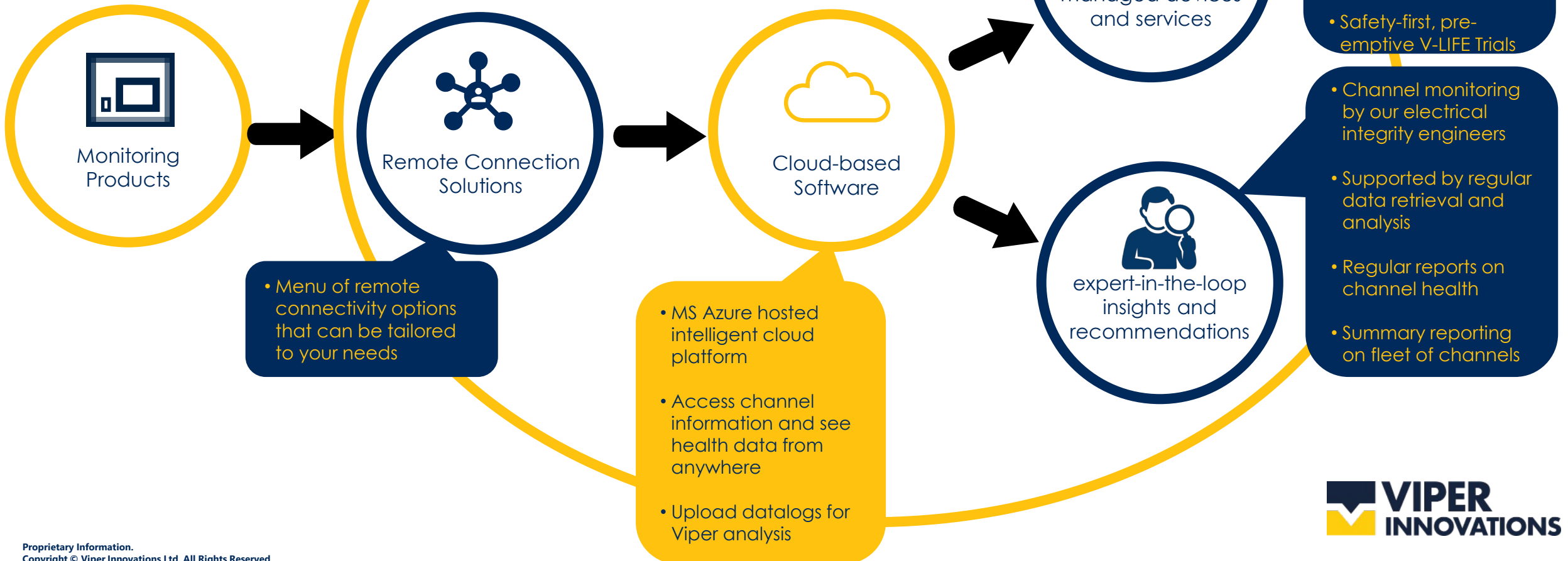
 **V-LIFE®**

TIME➤

 **VIPER
INNOVATIONS®**

IR➤

Technology Ecosystem



PlatformVi Insights

Holistic - Proven - Concise



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Answers the question: "how healthy is my channel today?"

A quick snapshot of how your channel is doing right now. It looks at the most recent data on key electrical characteristics to provide an overall sense of current condition.



Answers the question: "how healthy is my channel likely to be tomorrow?"

The Momentum Score looks ahead. It uses measurement data collected over a longer period to identify trends—whether things are improving, stable, or showing early signs of decline.



Answers the question: "how well do you know your channel?"

How much trust you can place in the analysis results. It takes into account how recent your data is, how complete it is, and how reliable the measurements are.



**Confidence
score**

Answers the question: "how prepared is your channel for dealing with problems?"

How prepared you and your system are to handle unexpected issues, such as a rapid drop in insulation resistance (IR).



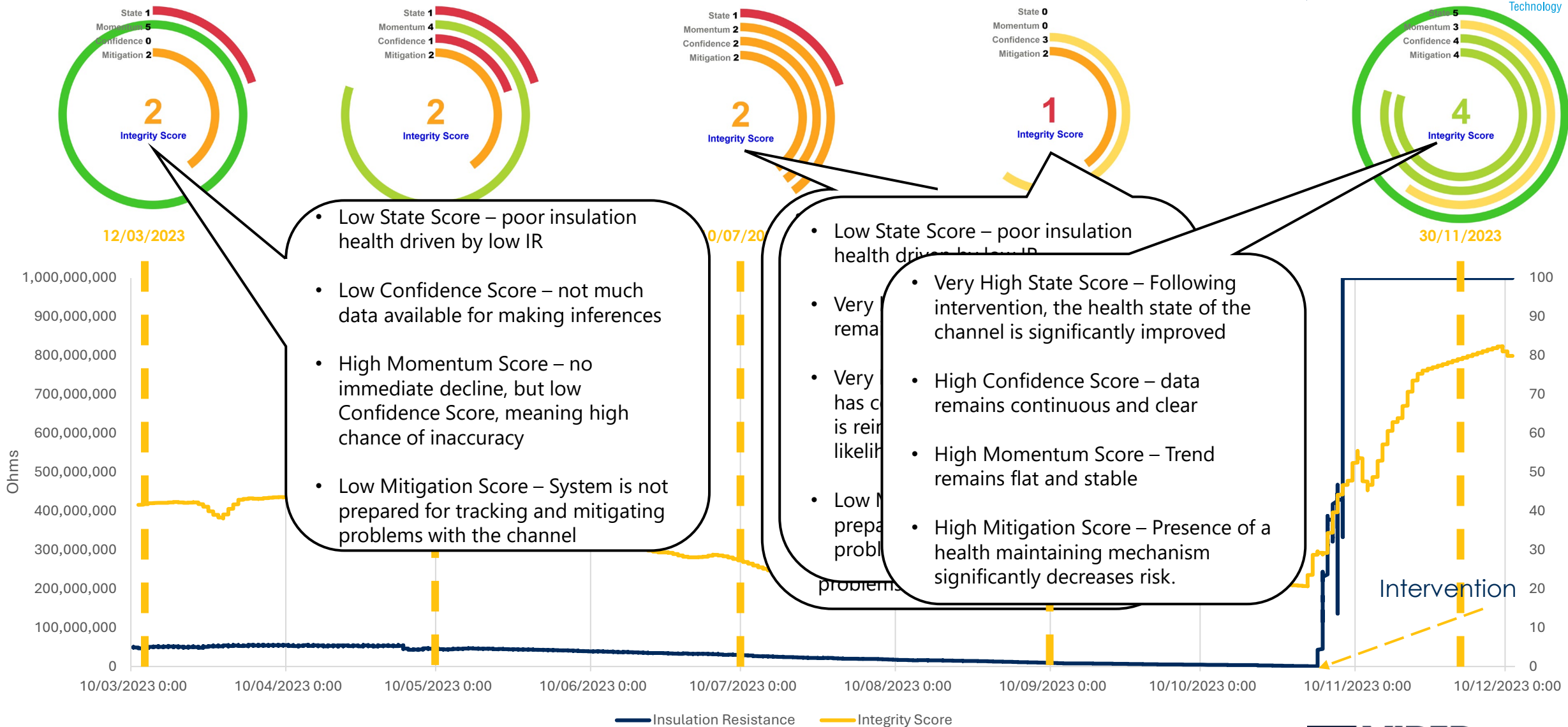
**Mitigation
score**

The Integrity Score is used to holistically assess the overall health of your channel.

All individual scores come together in the Channel Integrity Score. A single number which represents the combined influence of the State, Momentum, Confidence, and Mitigation scores.



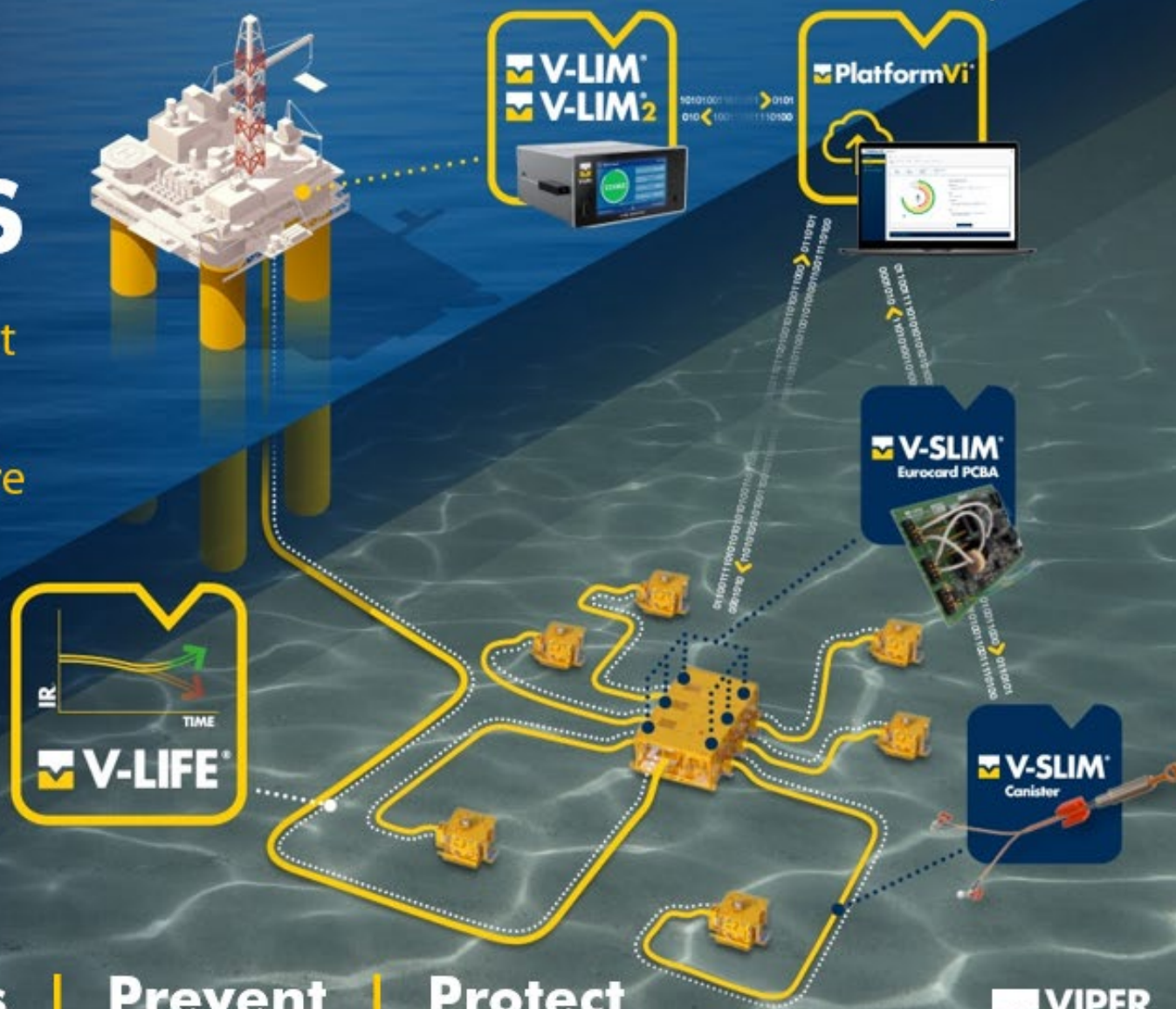
Real-world Example



VIPER INNOVATIONS

The **only company in the world** that can **solve and prevent** subsea electrical issues **without the need for subsea intervention** or hardware replacement.

Proud
sponsors of
SUT Perth's
ETM/AGM
2025.



Safe | Monitor | Assess | Prevent | Protect



Feedback and Questions

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