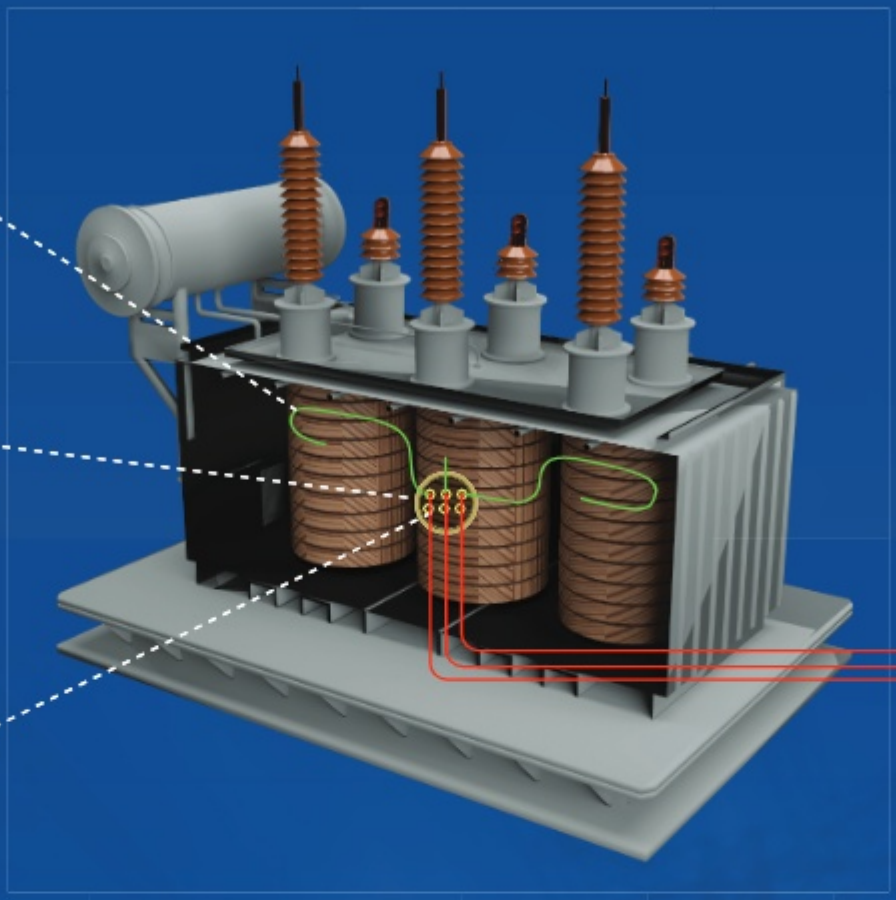
RUGGED MONITORING

MONITORING SIMPLIFIED

Transformer HOTSPOT MONITORING SYSTEM

Robust | Reliable | Responsive

Typical System



- Increase Accuracy of "Heat Run" Tests
- Detect Early Life Failures
- Transformer Dynamic Loading Response
- Transformer Performance Optimization
- Thermal Model Reflects Operating Conditions
- Enable Preventive Maintenance

Recomended Probes

IEEE: IEC:

Industry Trend : Emobility and Renewables driving specifications towards 24 probes per transformer

Recommended probes per transformer

Equipment	Non Critical Transformers	Standard Transformers	Critical Transformers
Central Winding-LV	2	2	6
Central Winding-HV	2	2	6
Lateral Winding-LV	1 per phase	1 per phase	2 per phase
Lateral Winding-HV	1 per phase	1 per phase	2 per phase
Top Yoke Core		1	1
Top Oil		1	1
Spare		2	2
Total Probes	8	12	24
Optical Feedthroughts	8	12	24
Tank Wall Plate	8 Hole Version	12 Hole Version	24 Hole Version
Interface Box (I-Box)	1	1	1
Extension Cables	8	12	24
Probes per Monitor	8	16	24

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TSENS Fiber Optic Temperature Sensors

A specifically designed innovative patented probe with robustness and ease of installation can attract much attention from transformer manufacturers. While the transformer operators get reliable and long term temperature data essential for precise transformer aging evaluation.

Our Rugged Monitoring Tsens probes have been designed and built to give precise results when installed in transformers by measuring temperature directly. The sensing technology is based on the proven zero-drift GaAs technology. They are completely built using first quality materials, with very high dielectric strength, so your transformers can benefit from accurate temperature readings, which is essential to a good knowledge of transformer aging rate. During factory heat run tests these probes will give both transformer manufacturer and operator invaluable information regarding the transformer expected MVA performance. The patented tip construction makes them extremely robust, while being very easy to install in radial spacers or in other pressboard material (such as for temperature measurements in cores or other transformer components). This tip along with a 200 µ Ø fiber offers the highest probe pulling force in the industry. The spiral-wrap cable is especially constructed to allow complete oil penetration assuring that no air can be present. All materials used in the probe construction are compatible with high temperature kerosene desorption processes.

Features

- Optimized for easy installation in oil-filled and dry-type transformers and reactors
- Rugged and robust construction built to outlast your transformer life
- Outstanding repeatability, zero-drift GaAs technology
- 9 mm disc design, suitable for all locations in a transformer (windings, cores, busbars, tap changers, etc.)
- Solvent and chemical resistant

Benefits

- Calibration free Sensors
- High Stability and No shift over time
- PTFE Teflon spiral-wrap reinforcement
- Robust fibre optic temperature sensor tip
- Available with disc and without disc
- Surpass ASTM D2413 and D149 standards
- Very low PD performance
- Designed to exceed transformer life

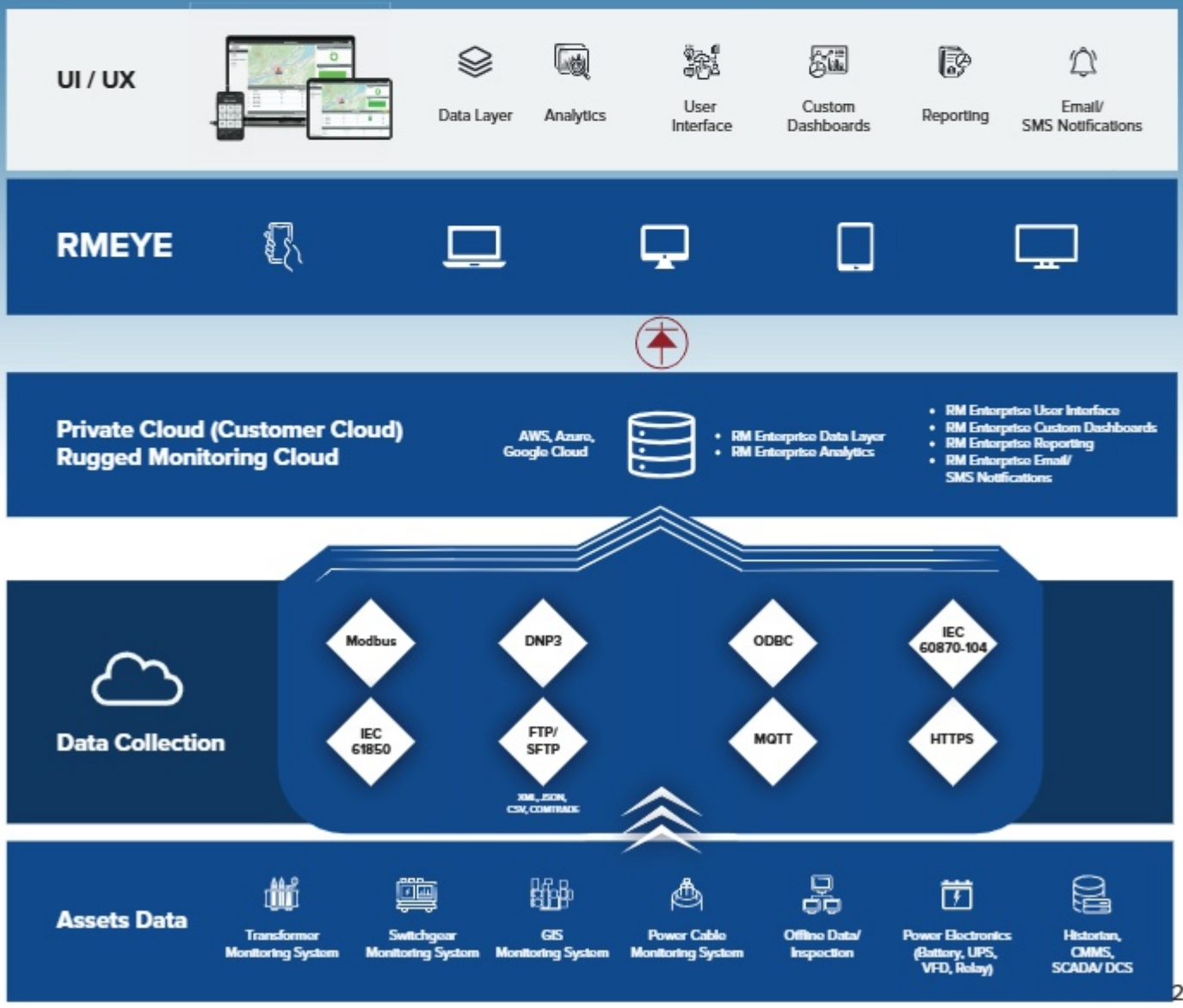
RM EYE Enterprise APM Suite

RM EYE is our advanced Asset Performance Management (APM) system designed to provide a scalable and future-ready solution undergoing digital transformation.

With AI-powered data intelligence, it offers comprehensive health indices for various assets across multiple locations. RM EYE surpasses traditional condition monitoring and facilitates a shift from reactive maintenance to predictive maintenance, maximizing asset lifespan and boosting ROI.

With its real-time remote monitoring capabilities, RM EYE equips experts, operators, SMEs, and engineers with real-time insights that support more informed, data-driven decisions. Through a combination of offline, periodic, and online assessments, it effectively lowers maintenance costs, helps avert unexpected failures, and enhances overall operational efficiency.

RM EYE' Architecture



A plan for Success

Our Customers are well satisfied with the advisory services that we offer to help them with best in class technological performance and a long durable life.

Why Customers **Choose Us**?

RM solution, the trusted monitoring solution for over 10000+ assets across 50+ countries. We are a leading High Value Electrical Asset Monitoring Company integrating fibre optic technology to the assets.

Experts only

We bring-in our diversified experienced team with over 100+ years of experience in Asset Monitoring

Money Matters

We protect you against currency fluctuation with competitive and fair market prices

Meeting Deadlines

Work with us, and you'll work with seasoned professionals – vigilant of deadlines, and committed to exceeding client expectations.

Our Presence **Across the Globe**

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Asia Pacific | China | India | Middle East and Africa | Europe | North America | Latin America

Certification

ISO 9001

ISO 14001

ISO 45001/ OHSAS 18000

Llyod's Register

ATEX Certification

NIST Certification

Rugged Monitoring Services

Rugged Monitoring provides customization of sensors, monitors & software. In addition we offer on-site commissioning services, maintenance contracts and technical support to all customers worldwide.

About Rugged Monitoring

Industry's leading team of asset condition monitoring experts with 100+ years of combined experience committed to delivering customizable solutions for challenging applications. We offer a range of reliable, high performance, customizable sensors and monitoring solutions that are immune to external influence.

ruggedmon

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