Customer Segment

Industries that require the optical chromatic technology:
- Electrical Utilities
- Oil and Gas Industries
- Quality Assurance & Testing Service Provider

Potential Value

Delivering OPEX Cost Savings for Utility Company with Smart Asset Maintenance Practice

Offering New Technology Solutions with Expert Oil Diagnostic Services

Providing Technology Licensing Agreement for Other Oil & Gas, Food & Healthcare Industries

Optical Chromatic Transformer Oil Monitoring (OCTOM)

TNB RESEARCH SDN. BHD.
No. 1, Lorong Ayer Itam,
Kawasan Institusi Penyelidikan,
43000 Kajang, Selangor

+603 8922 5000 +603 8926 8828
infoTNBR@tnb.com.my

Contact Us
Extending the life of high voltage power transformers is crucial for the electric power industry therefore monitoring the condition of the mineral oil used for thermally cooling and electrically insulating active parts of a transformer becomes more essential. Several different types of measurements are used to check the extent of degradation of transformer oils. These include dissolved gas analysis (DGA), dielectric strength etc.

Only one optical method is formally used which is Colour Index (C.I.). Several optical assessments have been deployed e.g. Spectroscopy of various kinds but since spectra is complex in nature, distinguishing signals from different oils can be difficult and complex.

OCTOM (Optical Chromatic Transformer Oil Monitoring) use novel approach based upon multiple optical techniques and chromatic methodologies for monitoring the degradation of transformer oils. It gives preliminary indication of the oil condition using an electronic camera instead of a spectrometer based system so providing a convenient and robust approach for onsite monitoring.

A Novel method to produce Transformer Oil Degradation Indication that based on images captured by OCTOM. The method has been proven to correctly perform interpretation and identify concerned oil samples as compared to the routine lab test and post lab test analysis.

**Benefits**

It would be beneficial for cost saving by employing OCTOM system for on-site characterization and monitoring of transformer oil degradation induced changes. Potential new business and revenue from production of commercial optical chromatic monitoring system can also be deployed for other suitable uses and applications.