Problems with Transformers especially aging

- 75% of transformers are 25+ years old
- 500% failure rate expected to increase by 50% over the next 10 years
- 19% electricity demand expected to increase by 500% over the next 15 years

Old Ways of Monitoring

- Analog Gauges: analog outputs, log readings
- Manual samples, manual analysis, manual interpretation
- Visual indicators and sight glasses

New Ways of Monitoring

- Solid state sensors with intelligence
- Data concentrator to pull data together from multiple sensors
- More remote, less local
- 10-fold increase in sensors, 1,000-fold increase in data

WHERE DO YOU PROCESS YOUR DATA?

AT THE EDGE
- Placing artificial intelligence at the sensor head
- Allows for data actions with excellent decision intelligence
- Intelligent sensing at the edge can reduce data out by 80%

IN THE CLOUD
- Key to get information into and out of the cloud
- Concerns of data and smart edge applications data
- NERC CIP concerns on data security in the "CLOUD"

IN THE SERVER
- Processors to occur at one location and can physically secure and control this data
- Provides an infrastructure spanning the world enabling to affect the much large paradigms to a maximum stream of data pouring in 2020 public "internet" delays in processing and decision.

Intelligent sensing at the edge can REDUCE DATA OUT BY 80%

3–5 Gb/sec

Explore the strategy of Intelligent Sensing at the Edge and how deploying sensing technology correctly can enable Substation Life extension and optimize asset performance.

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Awakening Your 6th Sense

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