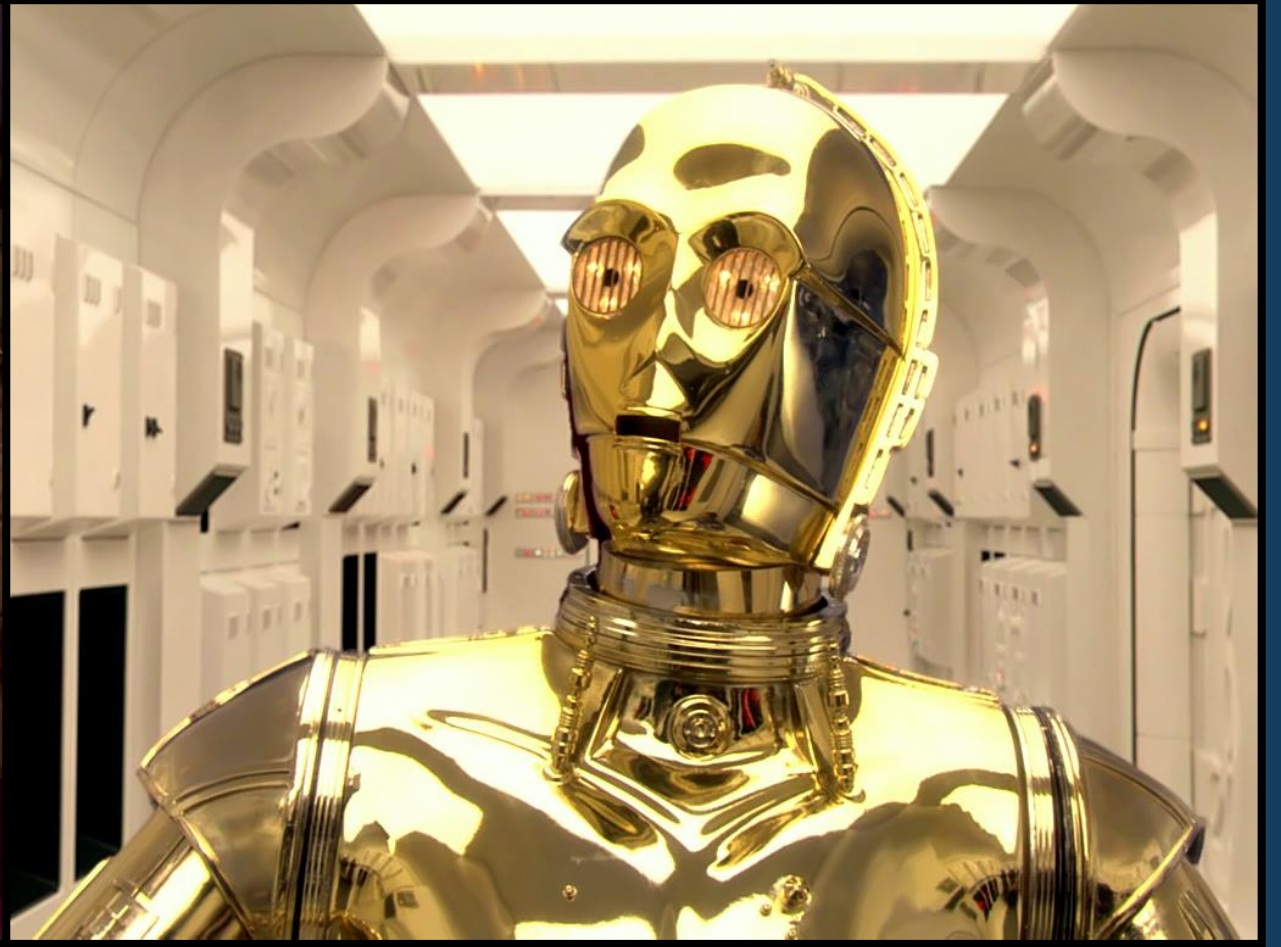


Utilisation of Data in the Electricity Industry

Challenges and Opportunities





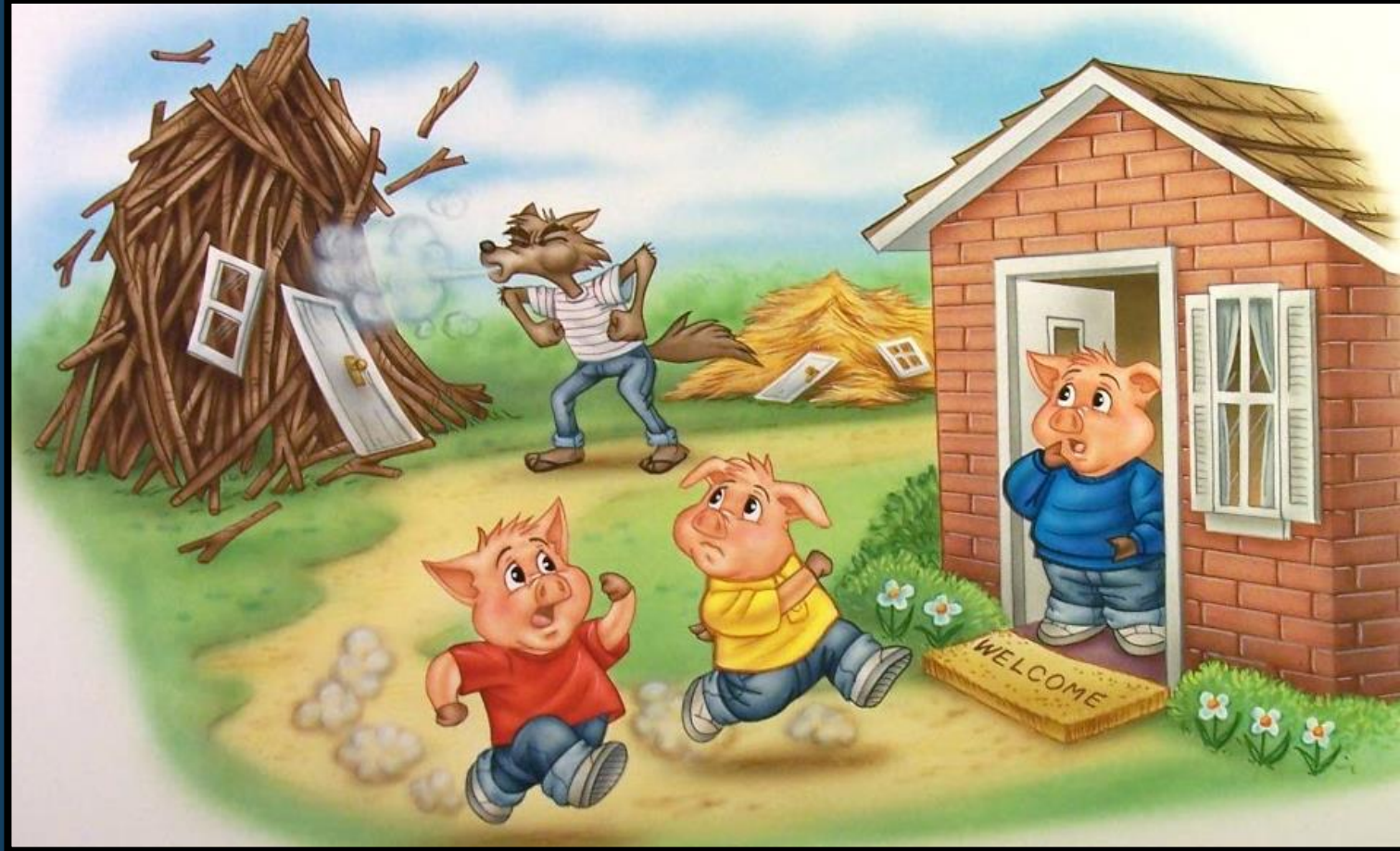


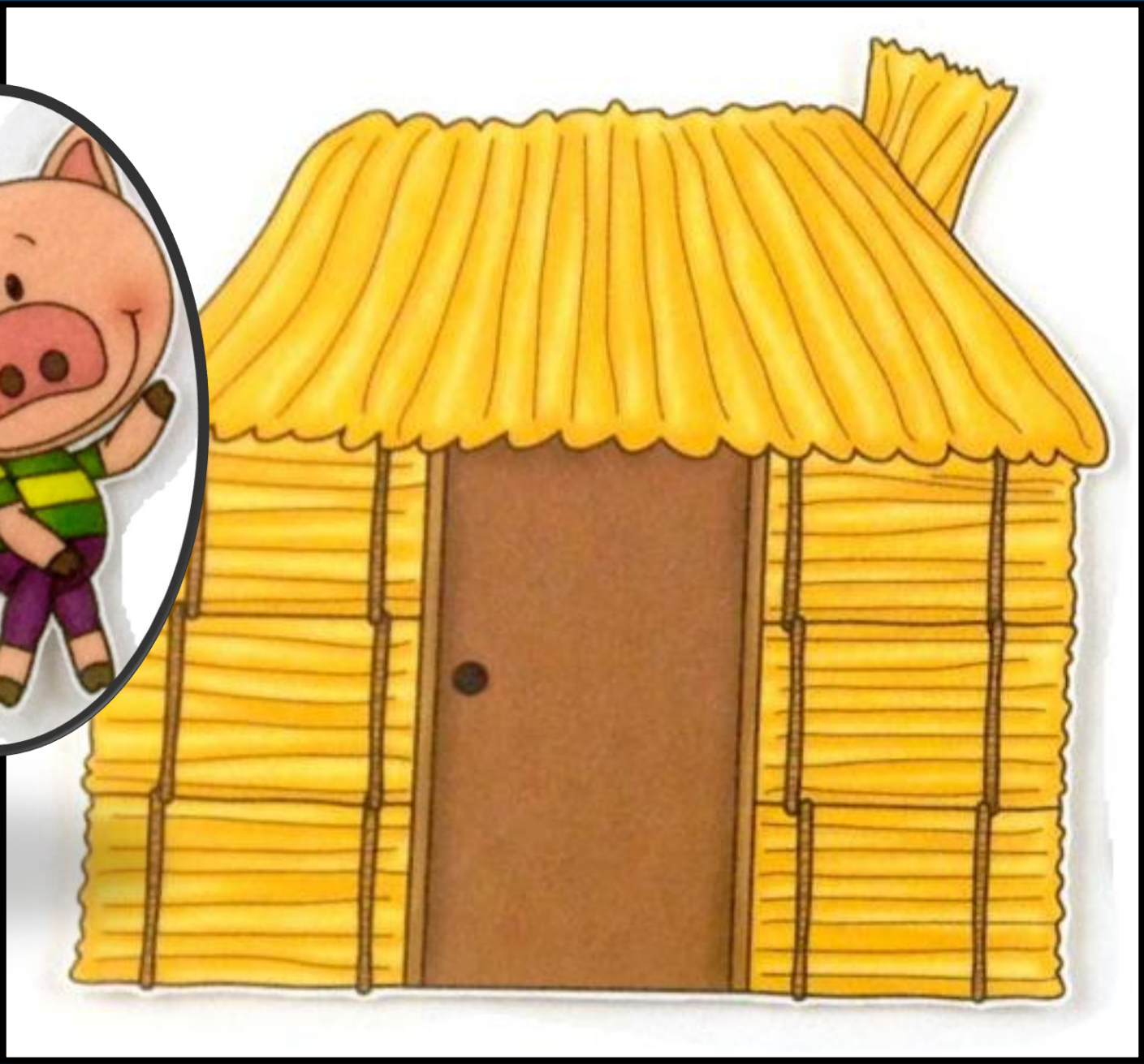


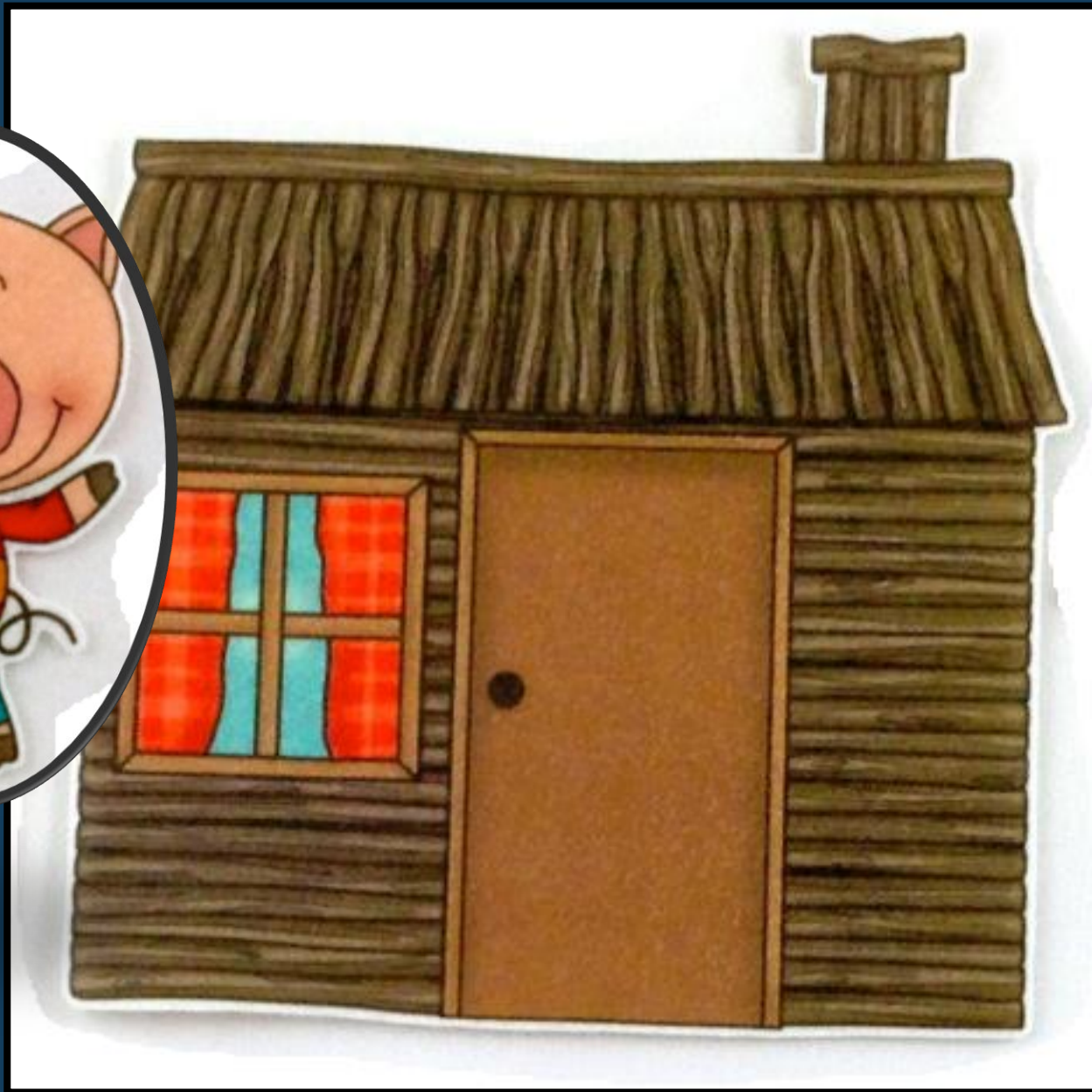
meridian



meridian







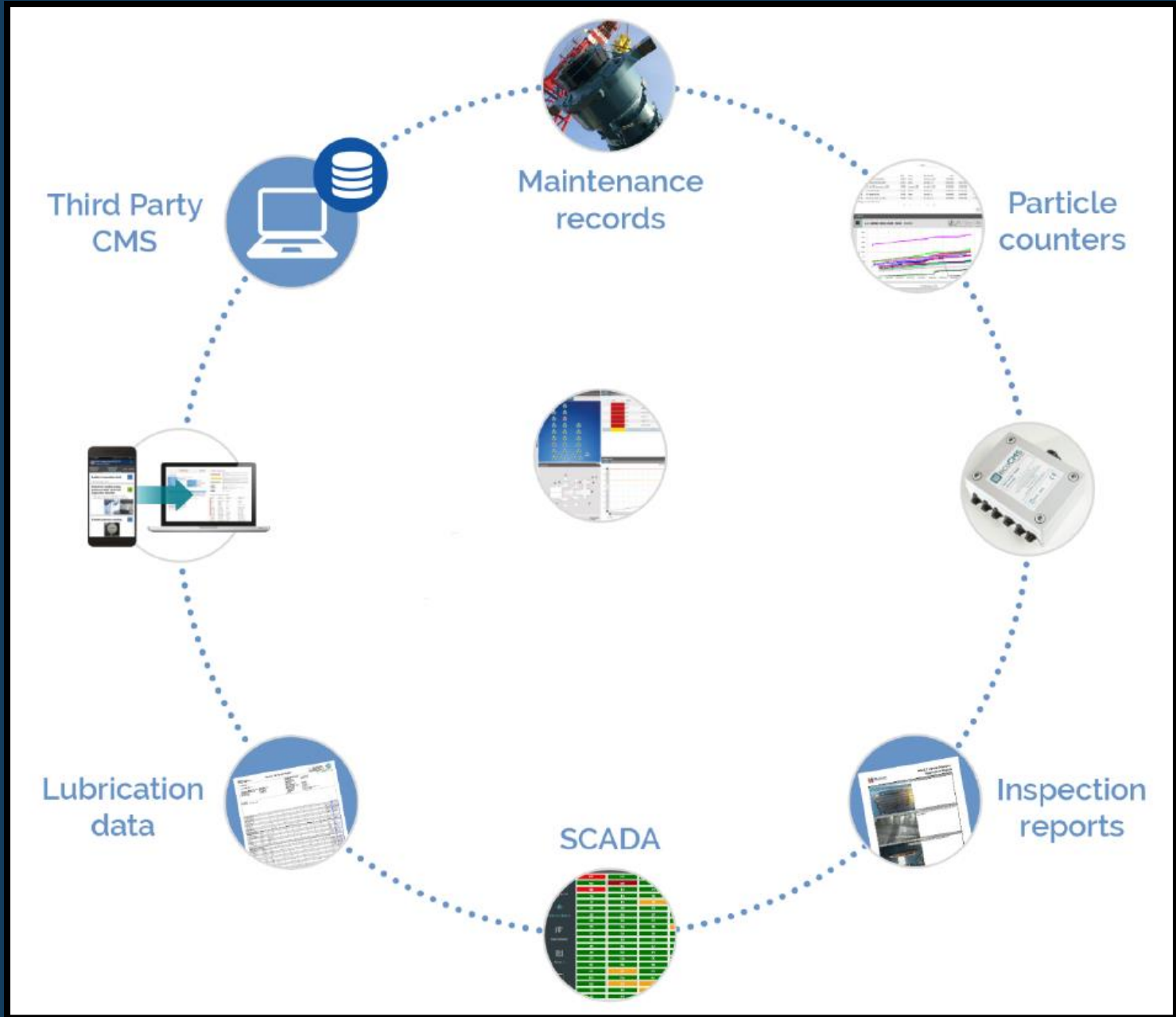
meridian



meridian



meridian





Big Data

How a transformer manufacturer
can help?

Traditional



Future



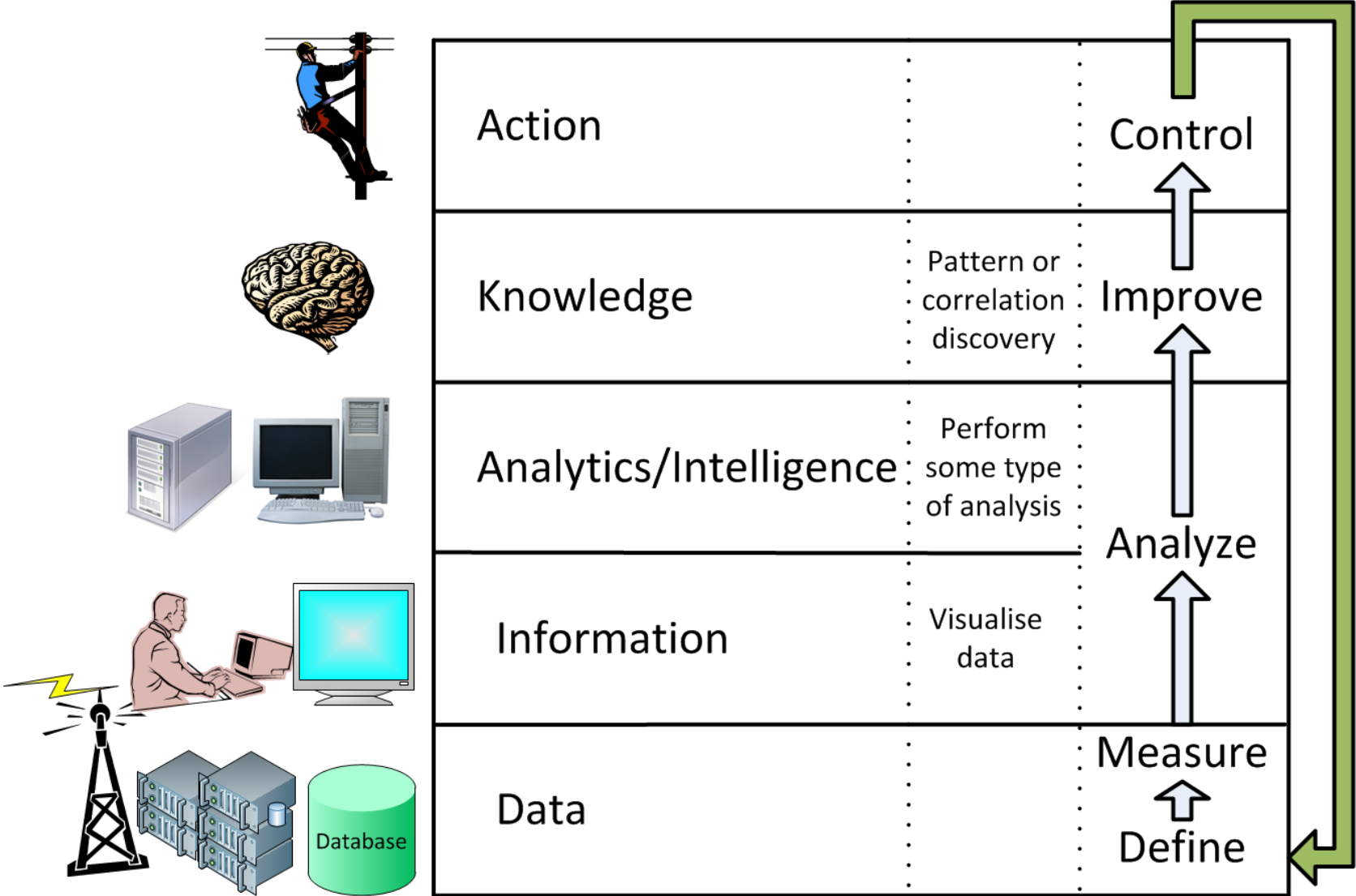
- To date, Asset management had a strong reliance on individuals knowledge and experience.
- This included a lot of work in manual data handling.
- Manually managing data is impossible when data is generated every few minutes from technology deployed within a smart grid



- Manual data handling is time consuming and stressful
- Impossible when new data comes every few minutes or seconds



The close loop for "Big Data"



Assets

Power Transformer



Overhead Lines



Ground Mounted Distribution Transformer



Underground Cables



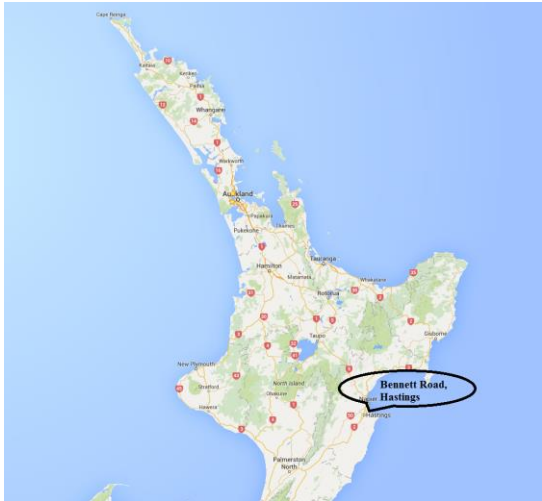
Pole Mounted Distribution Transformer



Ring Main Units



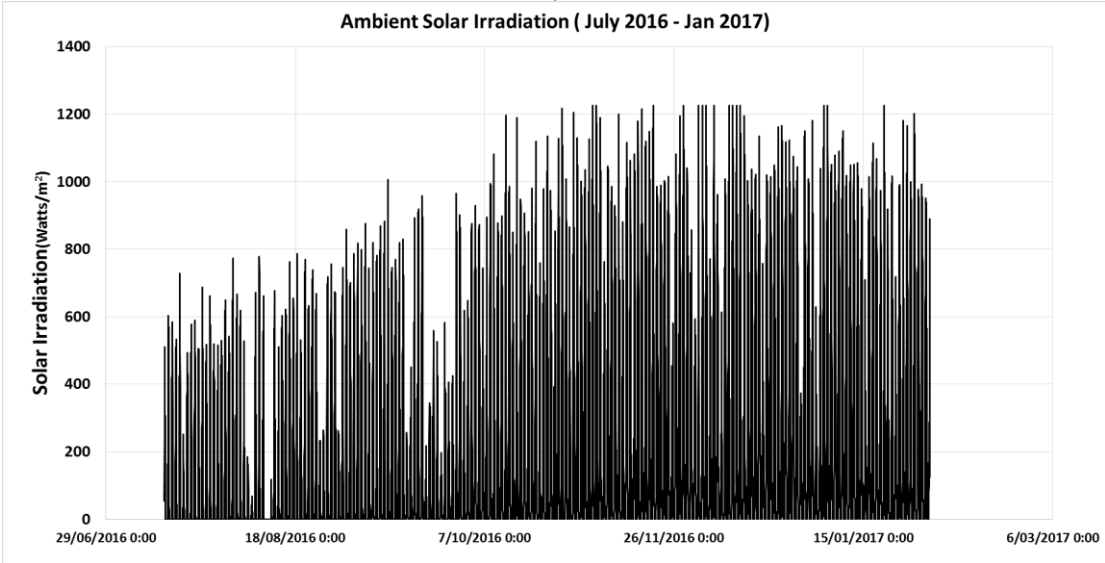
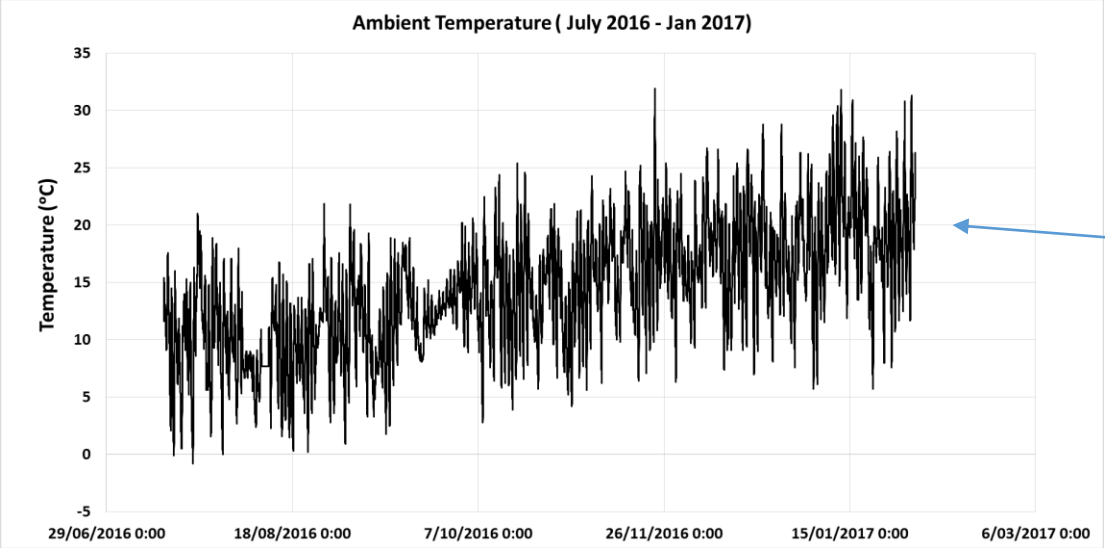
ETEL Smart Transformer



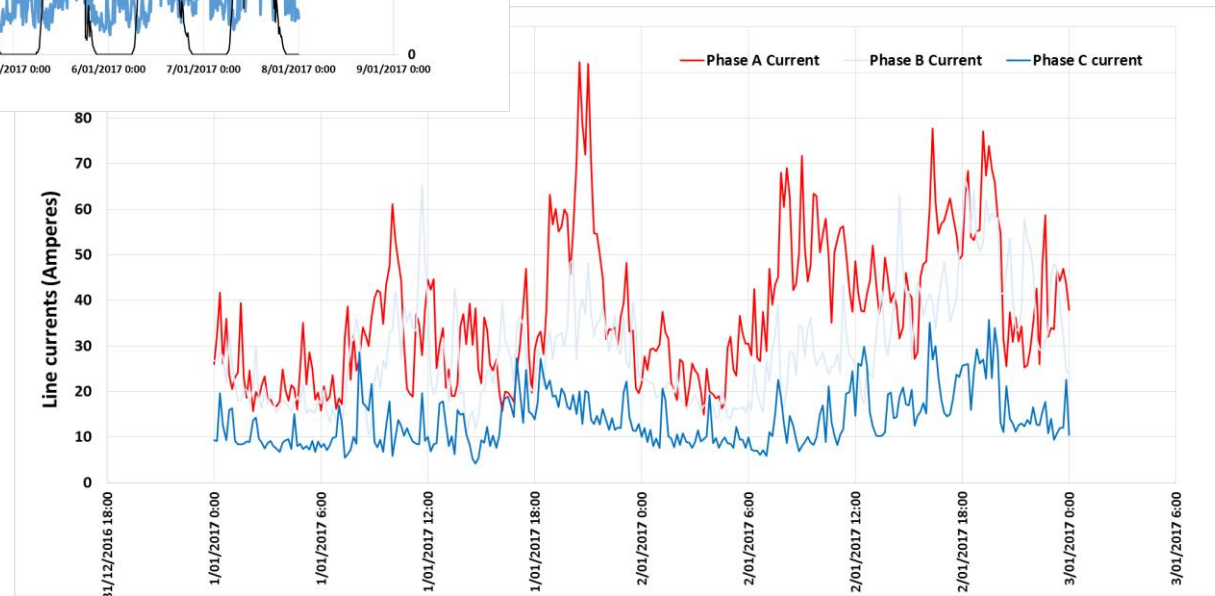
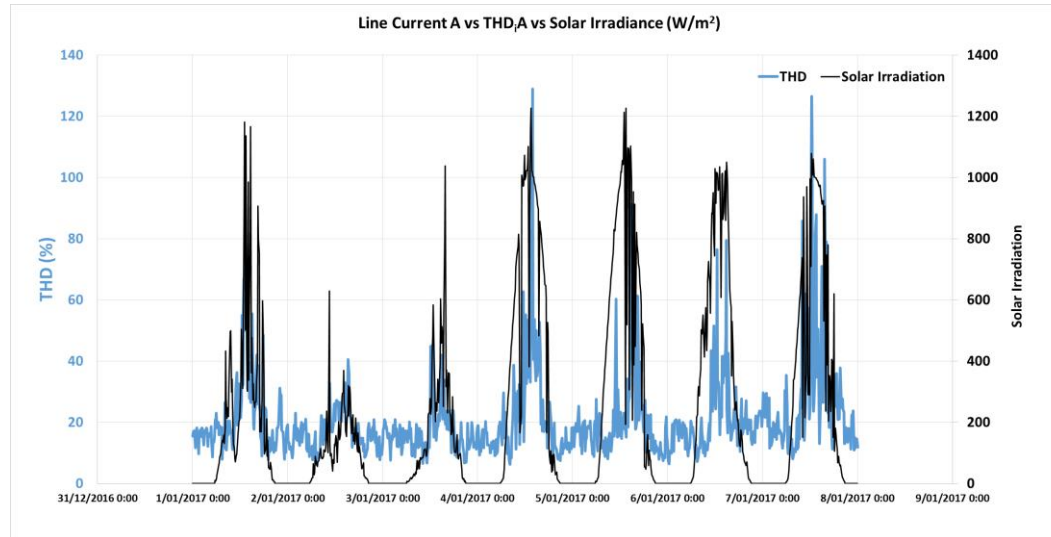
ETEL FBG reader



ETEL Smart Transformer



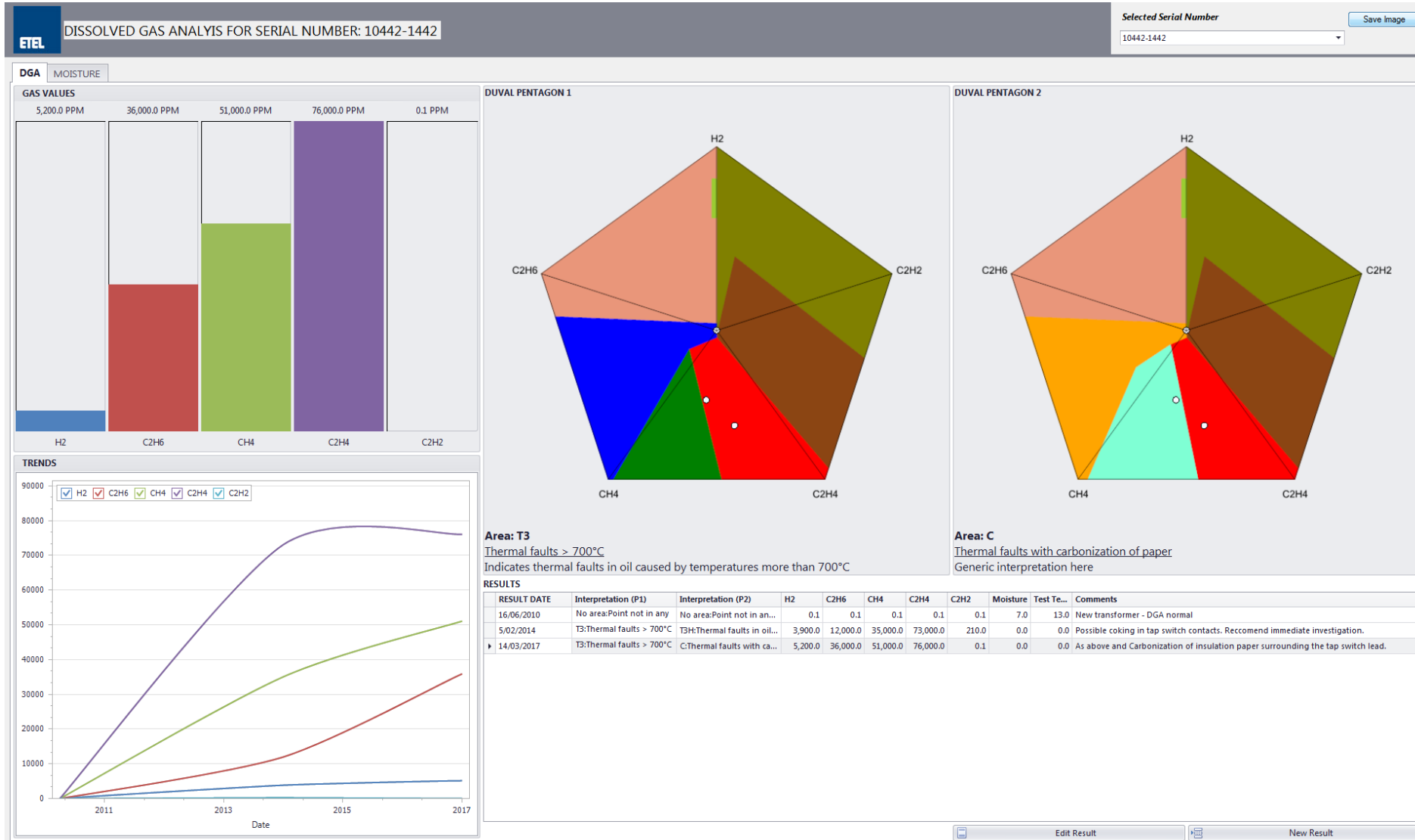
Weather dependent transformers!



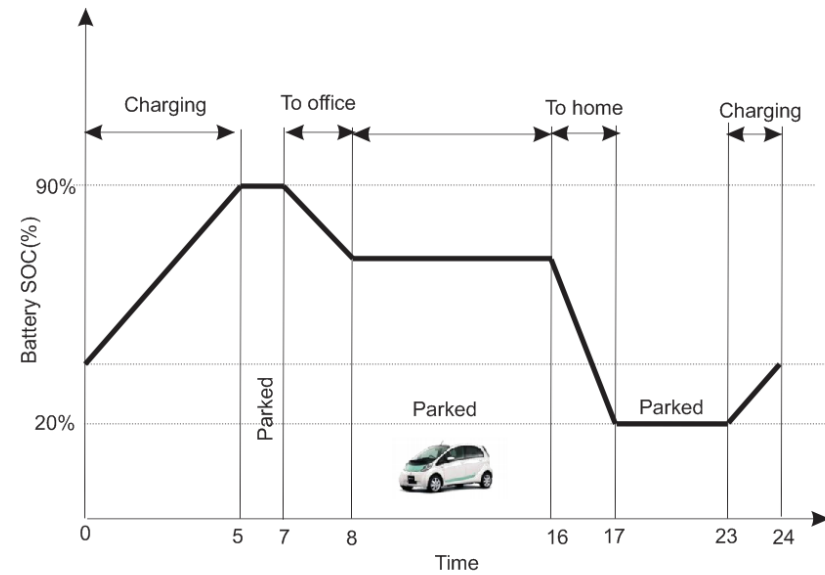
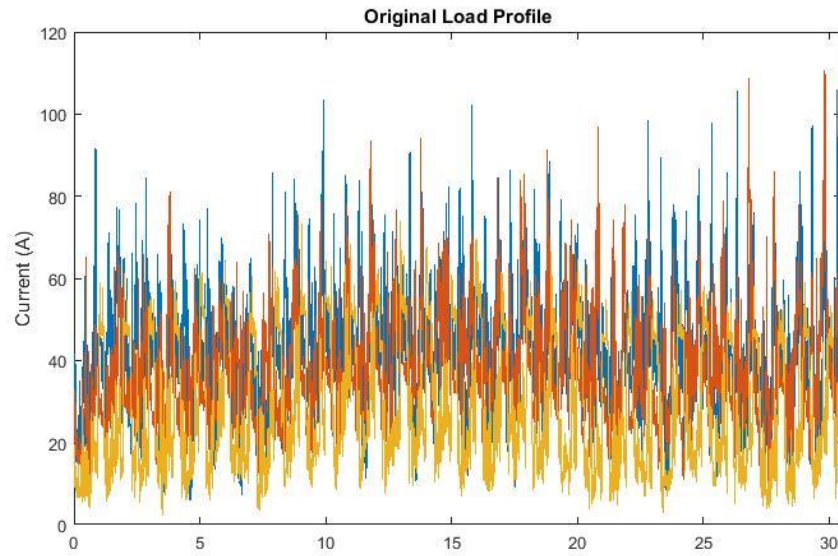
ETEL Smart Transformer



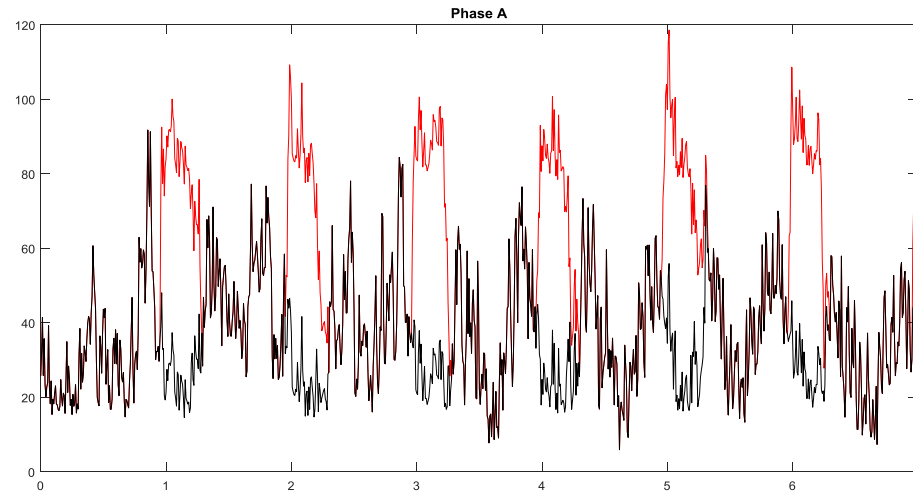
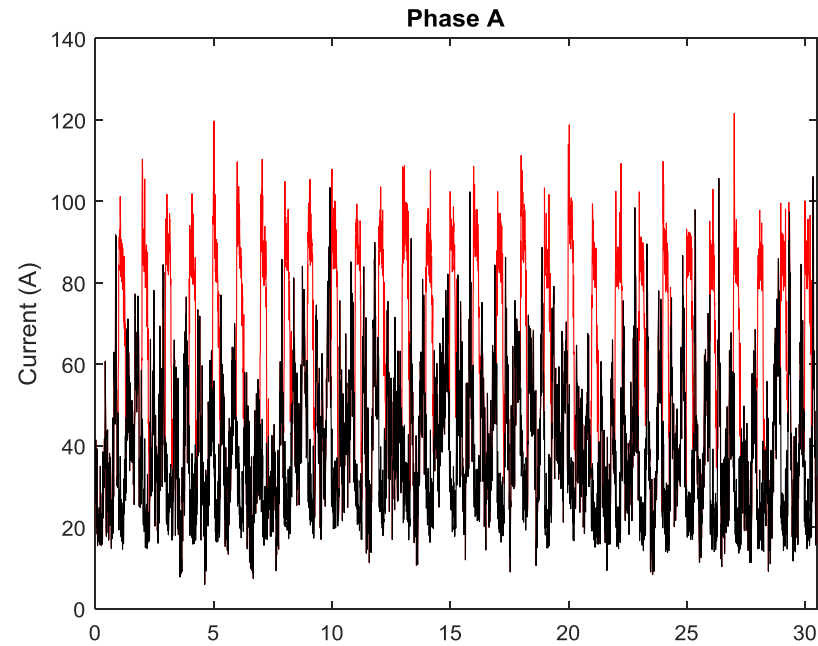
ETEL Smart Transformer



Impact of EV's on transformers



Impact of EV's on transformers

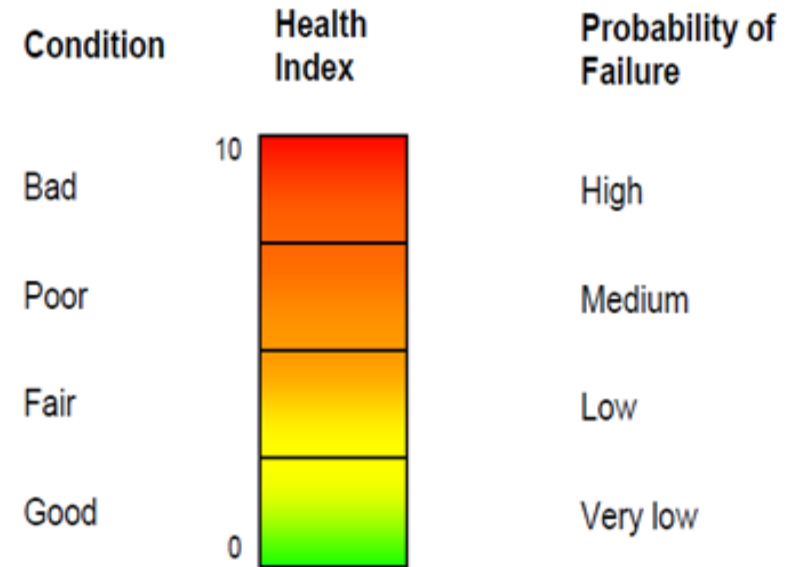


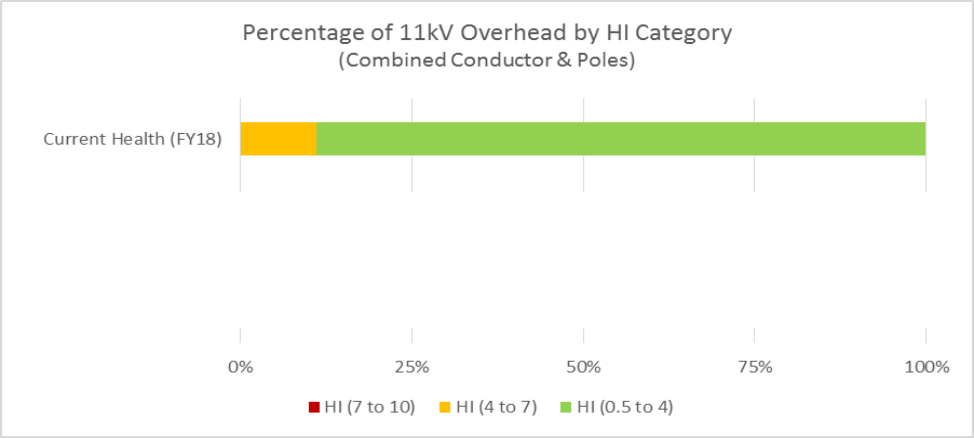
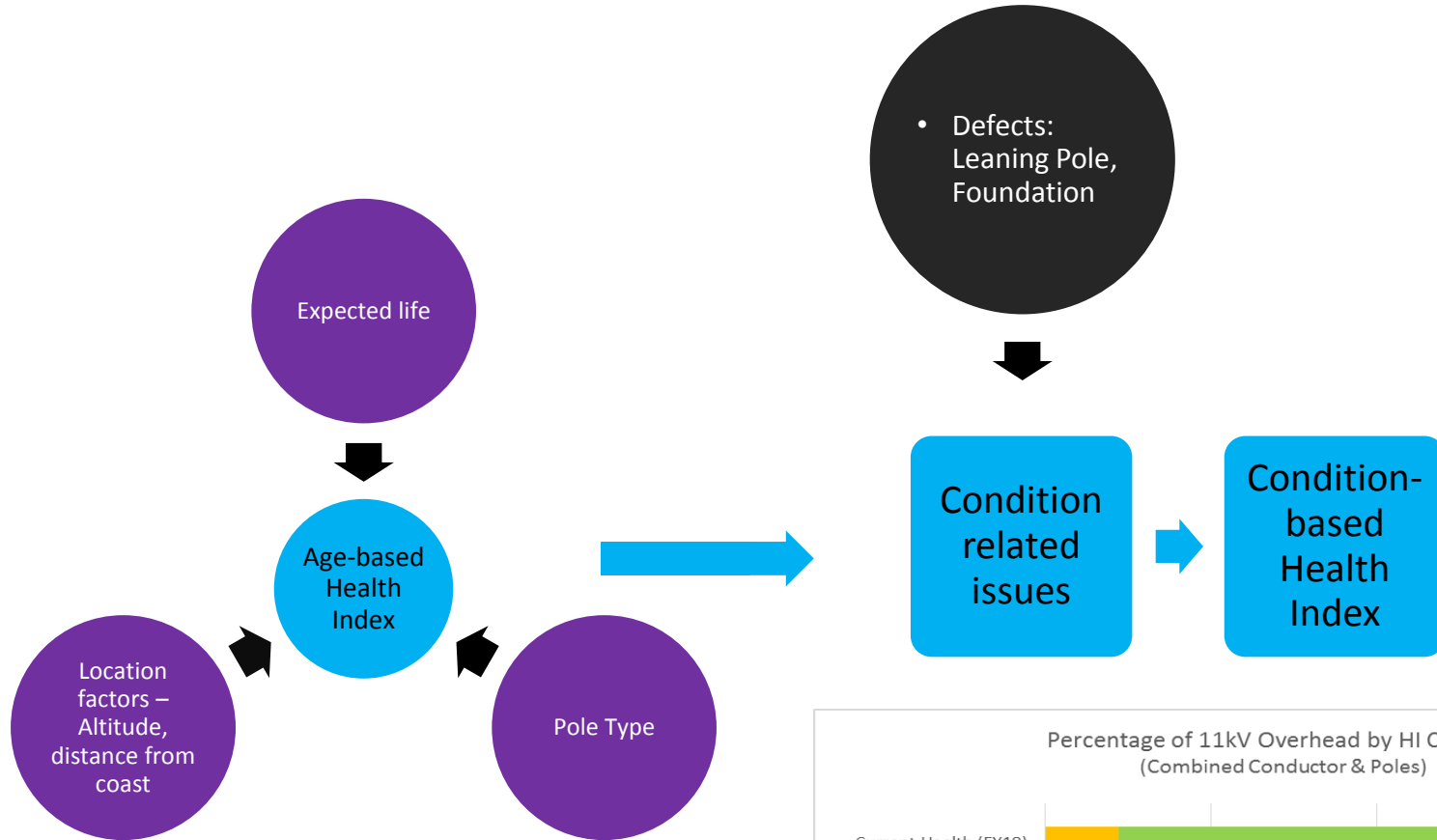
Transformers can be operated above nameplate rating!!



CBRM Health Index (HI)

- Numeric representation of the condition.
- It takes into age, environment, duty and condition info.
- Generate a comparable measure of condition in terms of end-of-life and probability of failure.





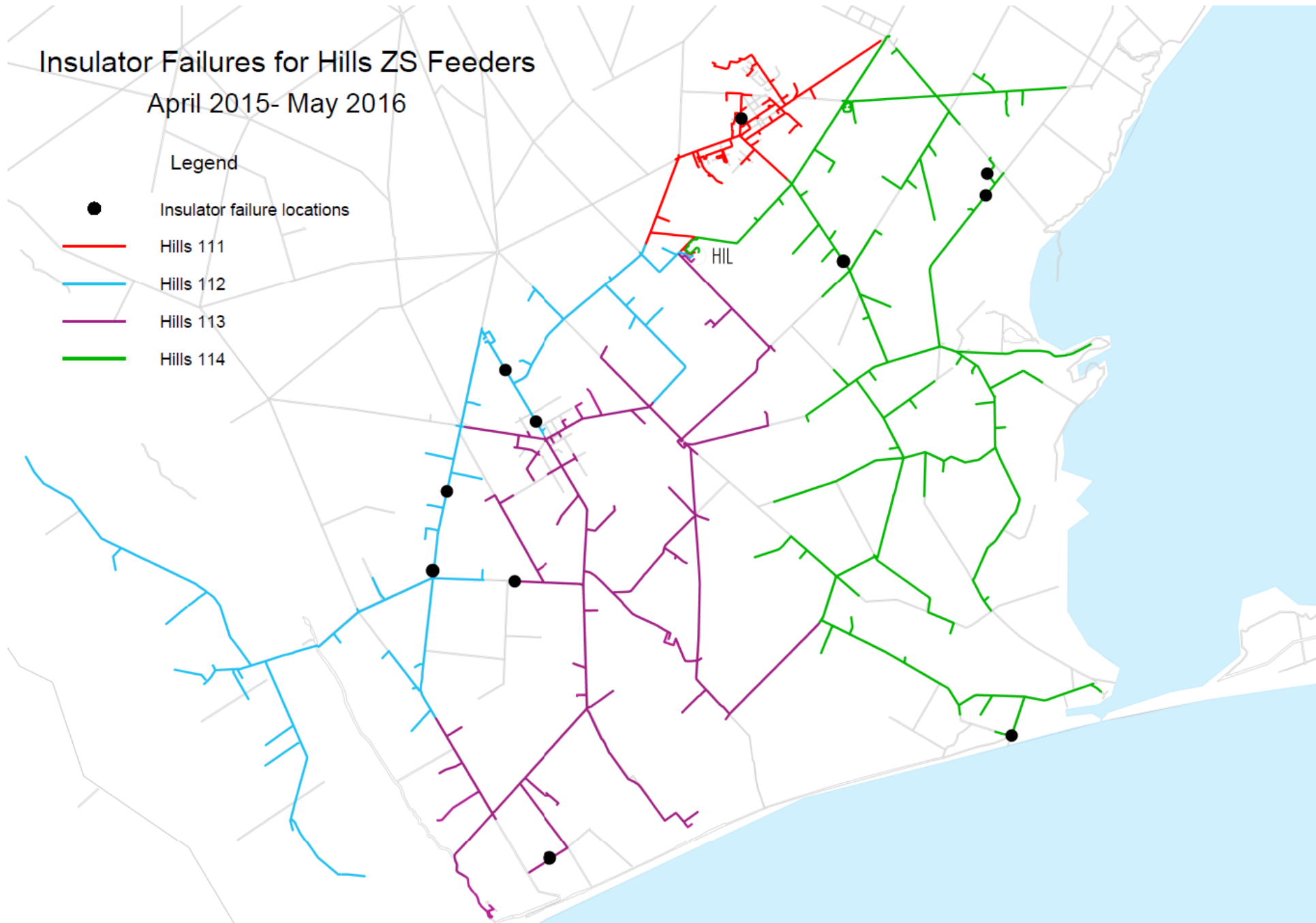


Insulator Failures for Hills ZS Feeders

April 2015- May 2016

Legend

- Insulator failure locations
- Hills 111
- Hills 112
- Hills 113
- Hills 114





No. of Bird Strikes





Halswell River

Lincoln Sewage Pond

Lake Ellesmere