Data Solutions and Analytics

Time Series Data and Panel Data of Operations of Building and Engineering Systems such as a Water Treatment Plant, a Power Station, or a Pump Station, if being recorded and analyzed appropriately, will give engineers and managers a window of insightful pictures on

* Efficiency
* Reliability and Stability
* Correlation of variables
* Bottlenecks
* Risk factors and impacts

By understanding those, optimal decisions can be made. The tasks on data solutions and analytics can also be linked to Asset Management and Auditing tasks using the power of statistical correlation and prediction capacity, which could potentially save significant cost for asset’s owners. This conclusion can be demonstrated with an example herein.

Owner of an industrial plant, a power station, or a pump station expect their facilities and assets to perform with high reliability and minimal downtime. In order to verify the reliability and reliability of the entire system, they might decide to implement an expensive program to conduct physical tests on long-lead equipment and major assets without first to examine operational data. However, if operational data is analyzed, it can provide clear evident on efficiency and reliability of an asset or a ground of assets. This information should then be used to decide on whether or not physical tests are required, thus, potentially save significant cost.

#### Methodologies

We combine knowledge and understanding on engineering and data science to provide data solutions and analytics for operational data of building and engineering systems.

Some of state-of-the-art data software and tools will be used to conduct - Data mining and filtering - Data transformation - Data modeling

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#### Analytical Software

Our data team use R and Python extensively for data mining, data transformation, quantitative analysis, data modelling, and data visualization.

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Other Business Intelligence and Analytics Software such as [Power BI](https://powerbi.microsoft.com/en-us/) and [Tableau](https://www.tableau.com/) are also utilized.

#### Interactive and Reproductive Reporting and Apps

Interactive Reports and Apps can be generated using [R Shiny](https://shiny.rstudio.com/) and [Markdown](https://rmarkdown.rstudio.com/) language. This approach will guarantee transparency and visibility of results to Clients.

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