

Efficiency of Operations Tools for Overall Efficiency Optimisation **9**

Overview on Tools for Network Optimisation

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Selangor is located on the west coast of the Peninsular Malaysia, and it is estimated to be 8,000 kmsq width. Selangor is Malaysia's most populous state, as well as the state with the largest economy in terms of gross domestic product.

On 13 September 2019, Air Selangor has officially become the single holistic licensee as Malaysia's largest water operator, to extract, treat, and distribute water to all its 8.4 million consumers in Selangor, Kuala Lumpur and Putrajaya consist of 10 regions namely Petaling, Klang/ Shah Alam, Kuala Langat, Sepang/ Putrajaya, Gombak, Hulu Langat, Hulu Selangor, Sabak Bernam, Kuala Selangor and Kuala Lumpur.











PEOPLE VS TECHNOLOGY

Customer Expectations

M-11.92

RM 0.00

21 Nov 2019

B

Let's Go Green, switch to e-Billing

RM 4.00

16 NOV 2019

OF DUI ON



Customer Expectations



Continuous Water Supply



Water Quality



Timely & Accurate Bill



8

Technology Innovation SYSTEM

🖂 🗔 🍳 🛯 🔨

Air Selangor Digital Drive

Launched in 2019





Air Selangor Digital Drive





Customer Customer Empowerment

Tools for Network Optimisation

50%

65%

75%

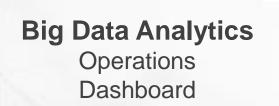


25%

Network Optimisation Tools



Real Time Monitoring Intelligent Command Centre

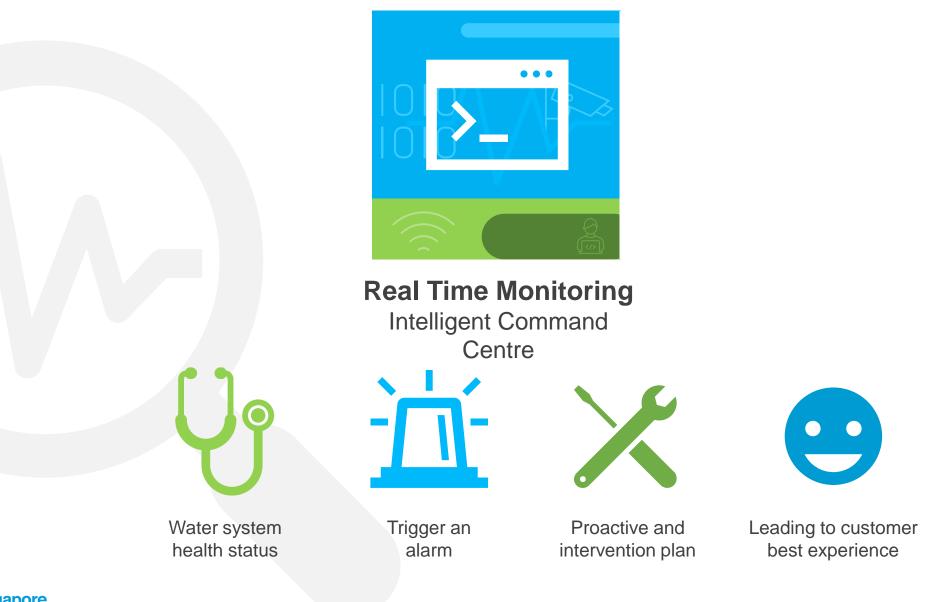




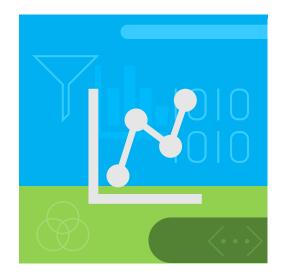
Digital Twin



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Big Data Analytics Operations Dashboard



Executive Dashboard



Deep dive Operation Business Intelligence (OBI)



Analytic Use Cases



Artificial Intelligence





Digital Twin



Network Optimisation



Network Improvement



Supply & Demand Planning Support Emergency Response Planning (ERP)



Strategic Network Surveillance Intelligent Command Centre

- Water Quality Real Time Analysers

STAGE1

Data Lake Platform

Smart Tactical Insight **Big Data Analytics**

- Executive Dashboard
- OBI Dashboards

STAGE 2 STAGE 3 Descriptive

Analytics

Describe what happened in the data by computing data descriptor and trends indicators combined with visualisation techniques

Optimisation Digital Twin (Source to tap)

*Impounding reservoirs to water intake by other agencies

Network Operation

• WTP

Exploratory

Discover pattern, trends,

performing unsupervised

machine learning such as

clustering, fixed pattern

Analytics

and correlations by

mining etc.

- Distribution Network
- Pumping System
- **STAGE 4**

Predictive Analytics

Predict what will happen in the future by building predictive AI models which will leverage the historical data trend, earlier indicators and exploit it for future predictions

Joy in Every Dr 🕹 p

Prescriptive Analytics

------ STAGE 5 ------

Recommend prescribed Lever Actions based on the predictive analytics outcomes and optimisation/simulation to improve the business performance metrics



