JEDI

Building. With Data.

JARDINE ENGINEERING DIGITAL INSIGHTS

JEDI utilizes Data-driven Insights to improve the Building Management experience of buildings and ultimately deliver better Experiences for End Users

JEDI

Value Proposition
Objectives & Methodology

Fault Detection Diagnostics

Minimize Unplanned Downtime

Energy Optimization

Minimize Energy Consumption

ESG Reporting

Business Environmental Disclosure

achieved through...

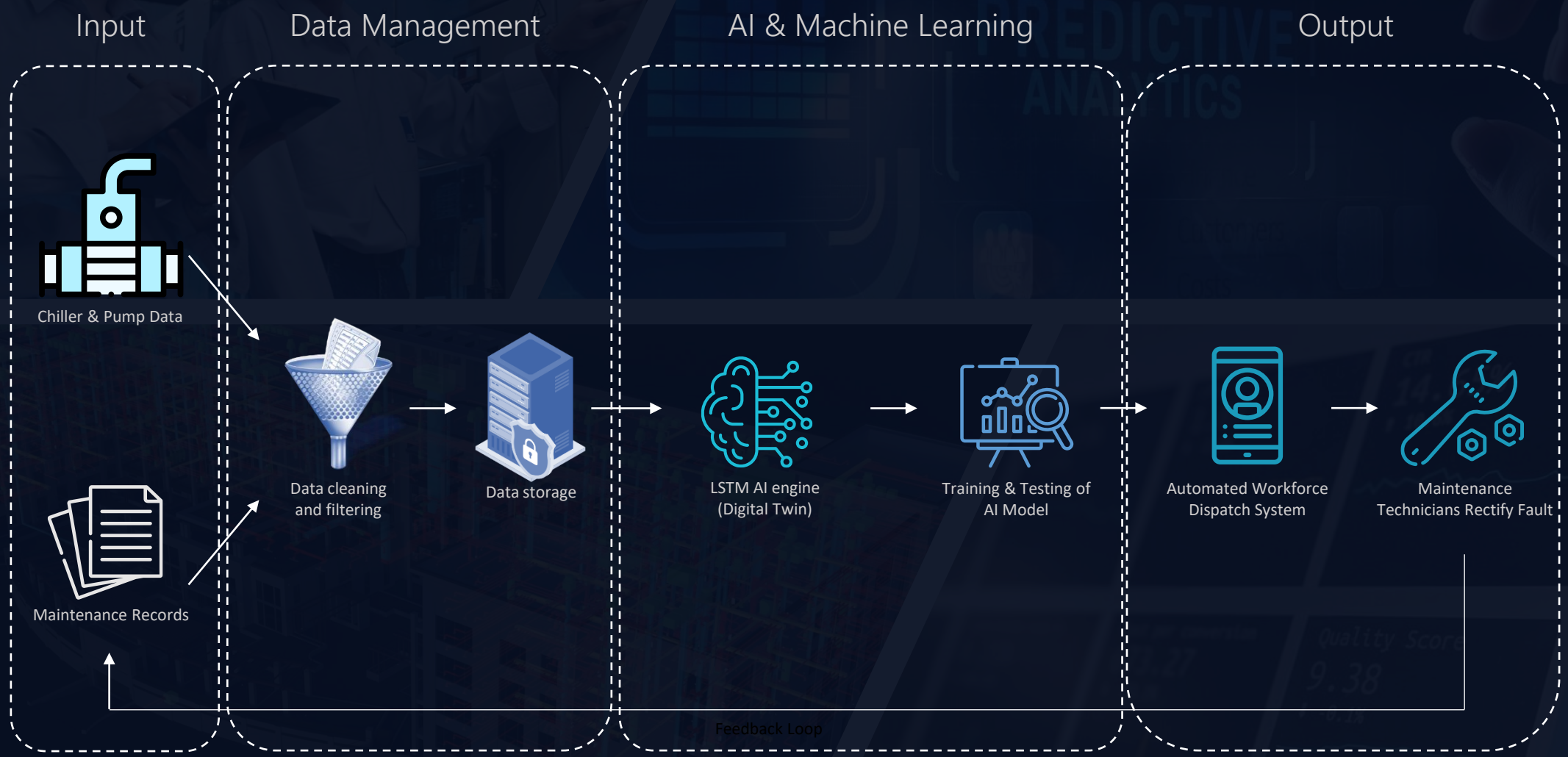
Automated Maintenance Manpower Dispatch

Real-time Predictive Diagnostics

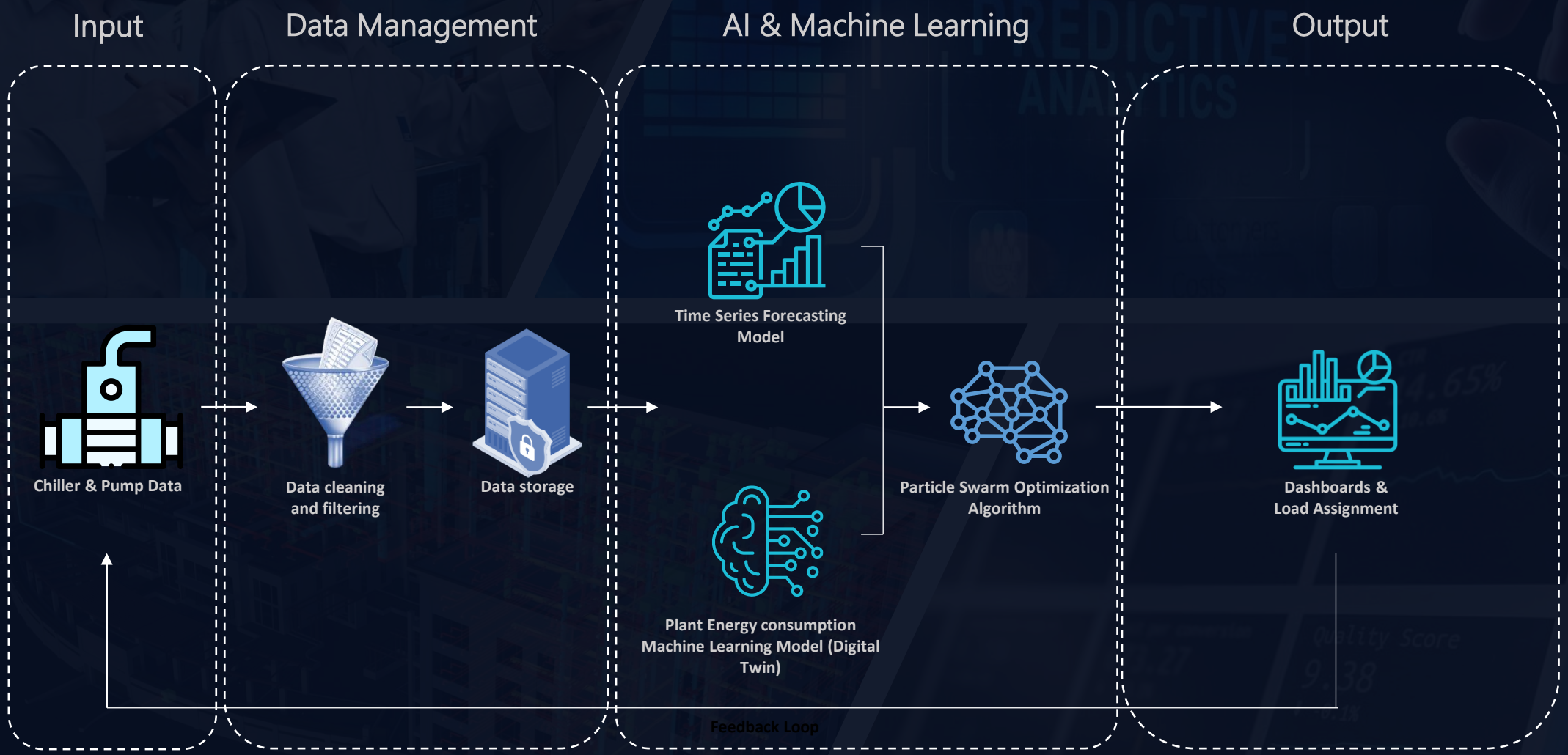
Optimize Chiller Sequence & Load

Continuous Data Acquisition & Analysis

How It Works
Fault Detection & Diagnostics



How It Works
Chiller Optimization



Analytics Dashboards

Portfolio Dashboards

View and manage large and complex building portfolios with ease, monitoring key indicators to ensure serviceability of portfolio

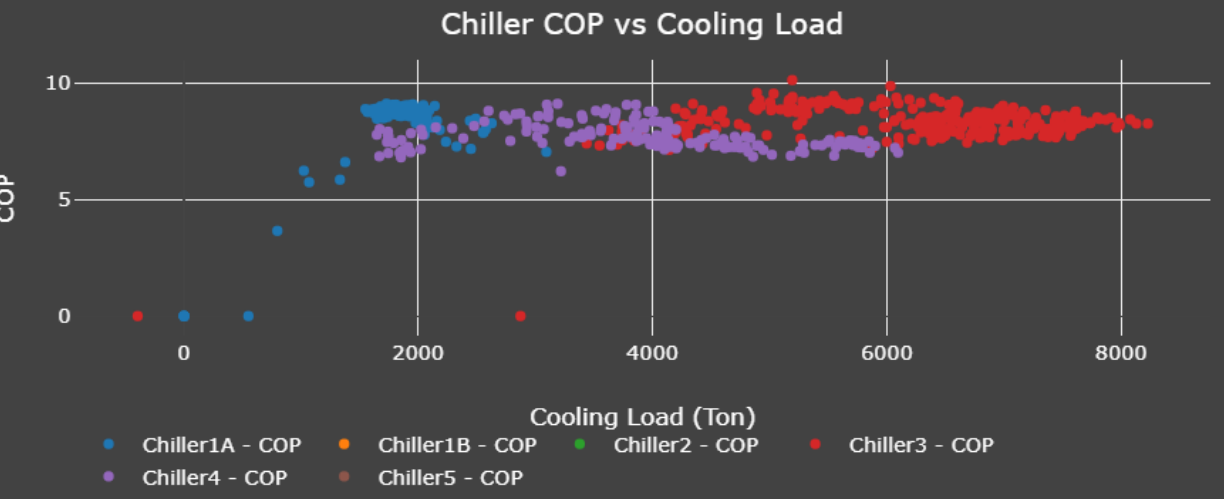
Performance Dashboards

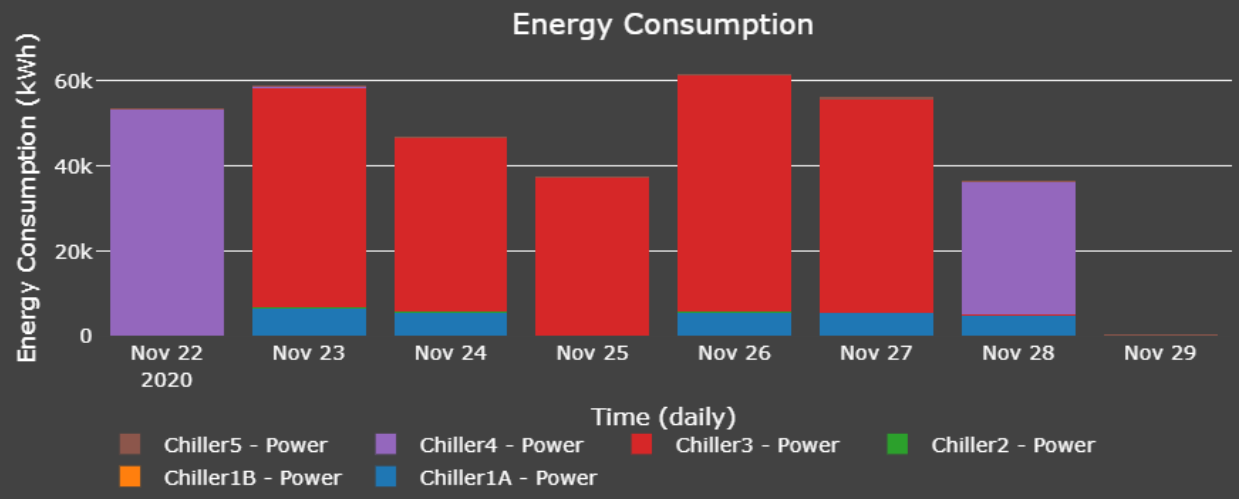
Capture energy, operational and financial insights all within one dashboard for better overview and quicker decision making

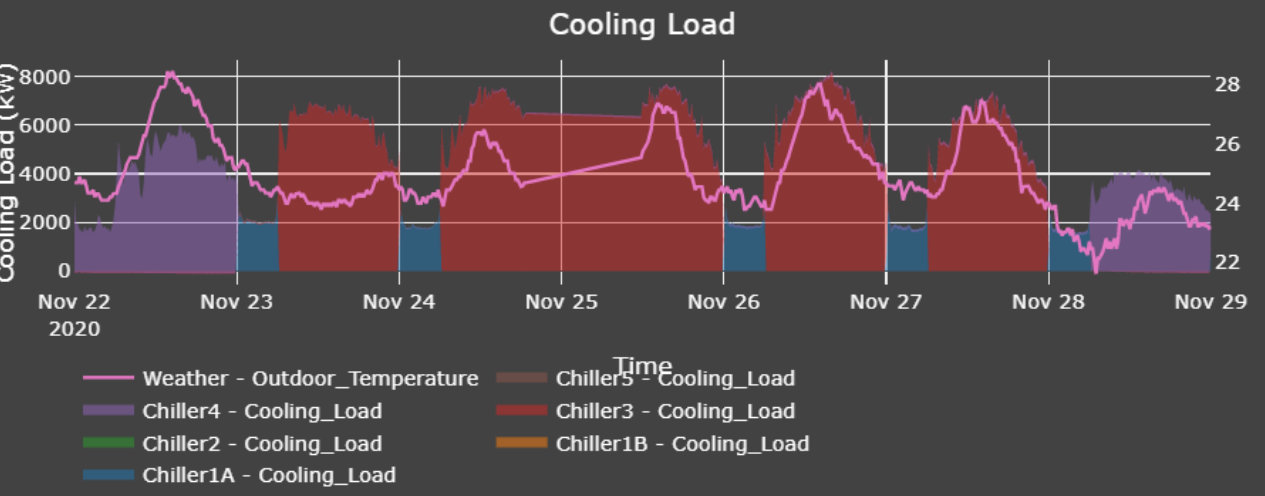
Diagnostic Dashboard

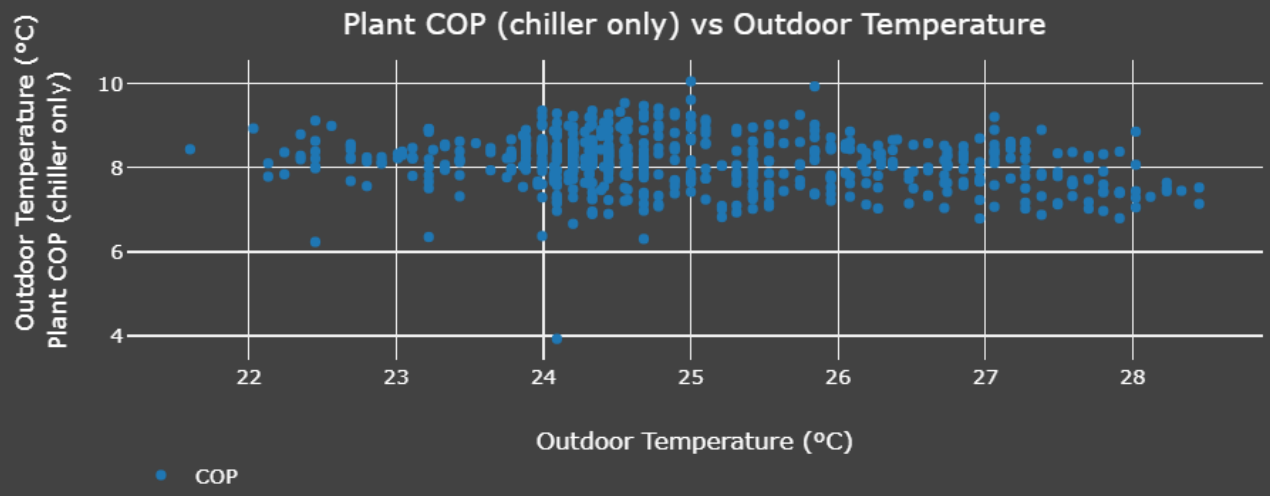
A wide array of modules and dashboards for technical staff to monitor performance of individual chillers and equipment

Analytics Dashboard
Building Monthly Summary









JEDI Use Case

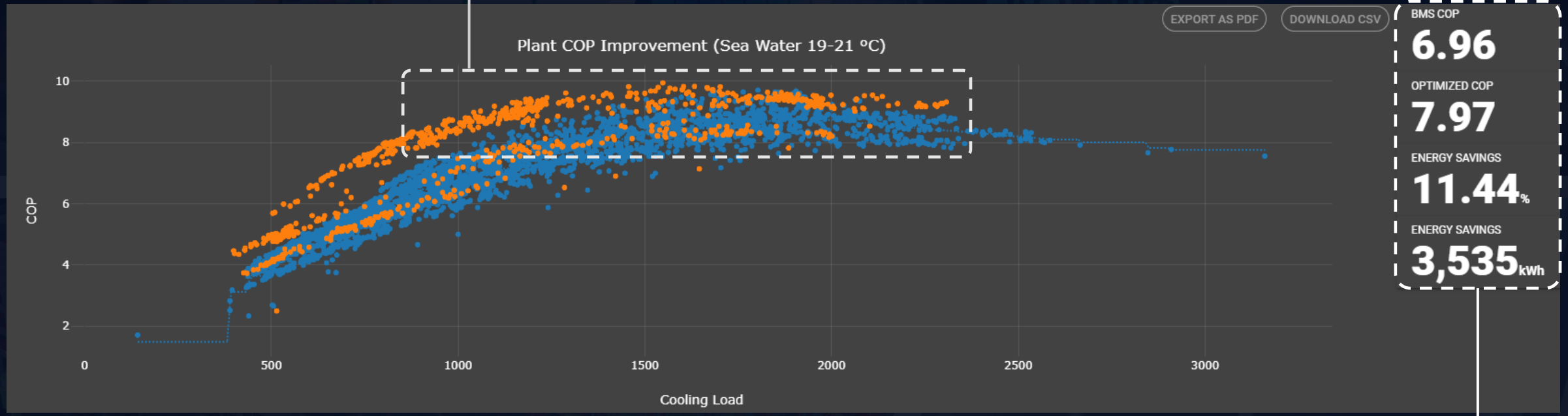
Fault Detection & Energy Optimization

Grade A Property Developer in Hongkong

11	100K	100+	92.7%	8-10%
Buildings	Sensor Points	Faults Resolved	Within 1°C of comfort level	Energy Savings

Case Study
Chiller Optimization

Improving Coefficient of Power (COP) Curve
from Blue to Orange



--- Before Optimisation trend

● Before Optimisation

● After Optimisation

11% average reduction in Energy Consumption

670,000 + kWH Annualized Energy Savings

HKD 737,000 Dollar Savings

534 Tonnes CO_2 reduction

JEDI Use Case

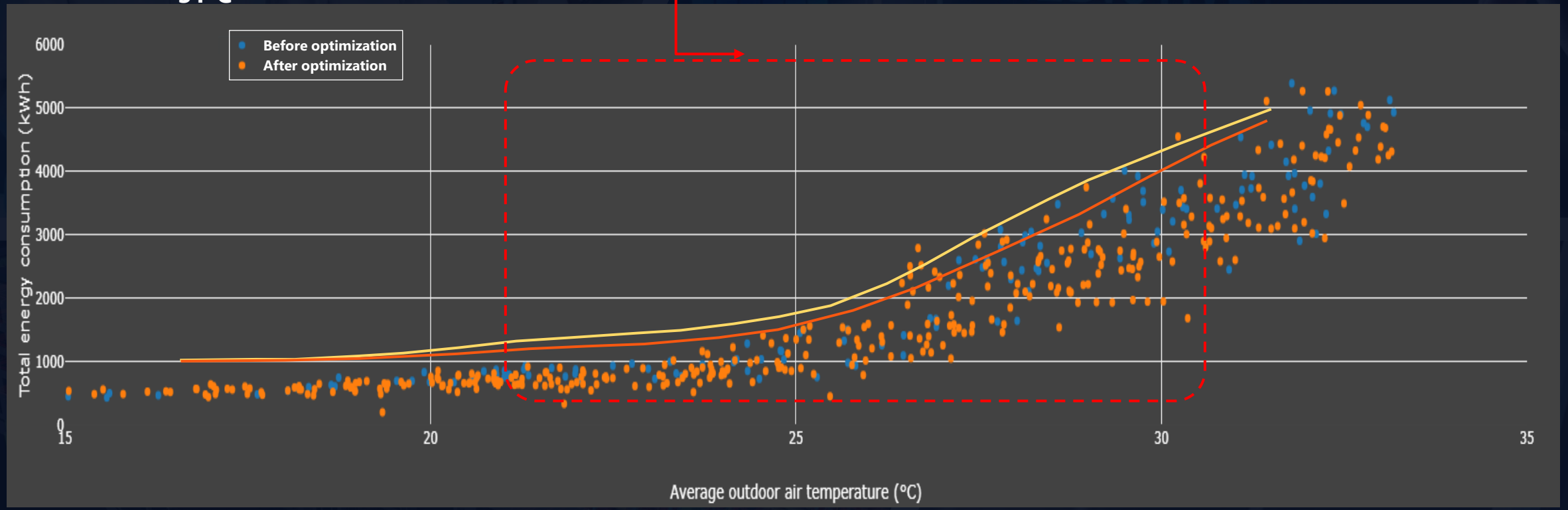
Energy Optimization

Leading Public Rail Transit in Hong Kong

6,200	4.8	2	12%	930k
RT Cooling Load	Million kWh Managed	Chiller Plants	Energy Savings	Annualized Savings (HKD)

Energy Consumption (One-Year Data)
Savings through Energy Optimization

Majority of energy savings average OAT between 22°C and 31°C



Proximity line Operation by Existing BMS

Proximity line Optimization by Software Platform

Remark: Data in one year (October 2019 – October 2020) - Overall 12% saving

JEDI Job Reference

MTR

領展 LINK

Hactl

Hongkong Land

KADOORIE

KELETI 啓歷學校
The British International School in Hong Kong

香港大學
THE UNIVERSITY OF HONG KONG

RQAM
Raffles Quay Asset Management

ESF 英基

TPP Healthcare

WING TAI

機電工程署 EMSD

Delivering Our Promise
Timeline & Implementation

Week 1
Commencement

Project commences with Contract Engagement, Initial User Specification Collection and Installation of Sensors

Week 3
Time Series Modelling

VPN connection is initiated after ensuring positive relay from BMS to gateway. Development of time series load forecast model and digital twin begins

Week 8
Optimization Algorithm

Develop Particle Swarm Algorithm to find Optimal Control Parameters and modify existing BMS control program

Week 12
Full Launch

Full Launch of Energy Optimization Module with an estimated 8-15% energy savings

Week 15
Continuous Feedback & Improvement

First post-launch meeting will be held at most 3 weeks to review progress, and discuss areas for greater potential savings

Solution Benefits

ESG Focused

Better understand your organization's energy consumption trends and reduce its carbon footprint

AI & ML Optimization

An ever-improving optimization model means higher accuracy and more savings over time

Predictive Maintenance

Get notified and rectify faults before they happen, providing your tenants the best experience

Zero Upfront Cost

This balance sheet-light, CAPEX-free investment certainly ticks all the boxes in the finance department

Non-intrusive Interface

Easily integrates onto existing chillers and equipment regardless of brand without replacements required

Savings-sharing plan

We only take a slice of what we save for you. This means minimal payback period and maximum ROI for you

Building Life Cycle
JEDI Place in the Value Chain

Year 1

Design, Plan and Build

JEDI integration with IOT and smart sensor to capture building operation data

Year 5

Construction Completed

Year 20

Equipment Replacement

Using the Data we collected, JEDI help support investment decisions to decide when and what equipment to replace

Year 10

Retro Commissioning

JEDI helps to identify new operational improvements to help building owners enhance the overall performance of their building

Year 60

Building Decommissioned

Using all the data collected, JEDI will help the next phase of Design planning to build better buildings

Year 40

2nd Equipment Replacement

Year 5 Onwards

Building Operation

Once a building is in operation, JEDI continuously collects, analyze and learn to optimize building performance

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