

Building a Winning Business Case for Asset Predictive Analytics

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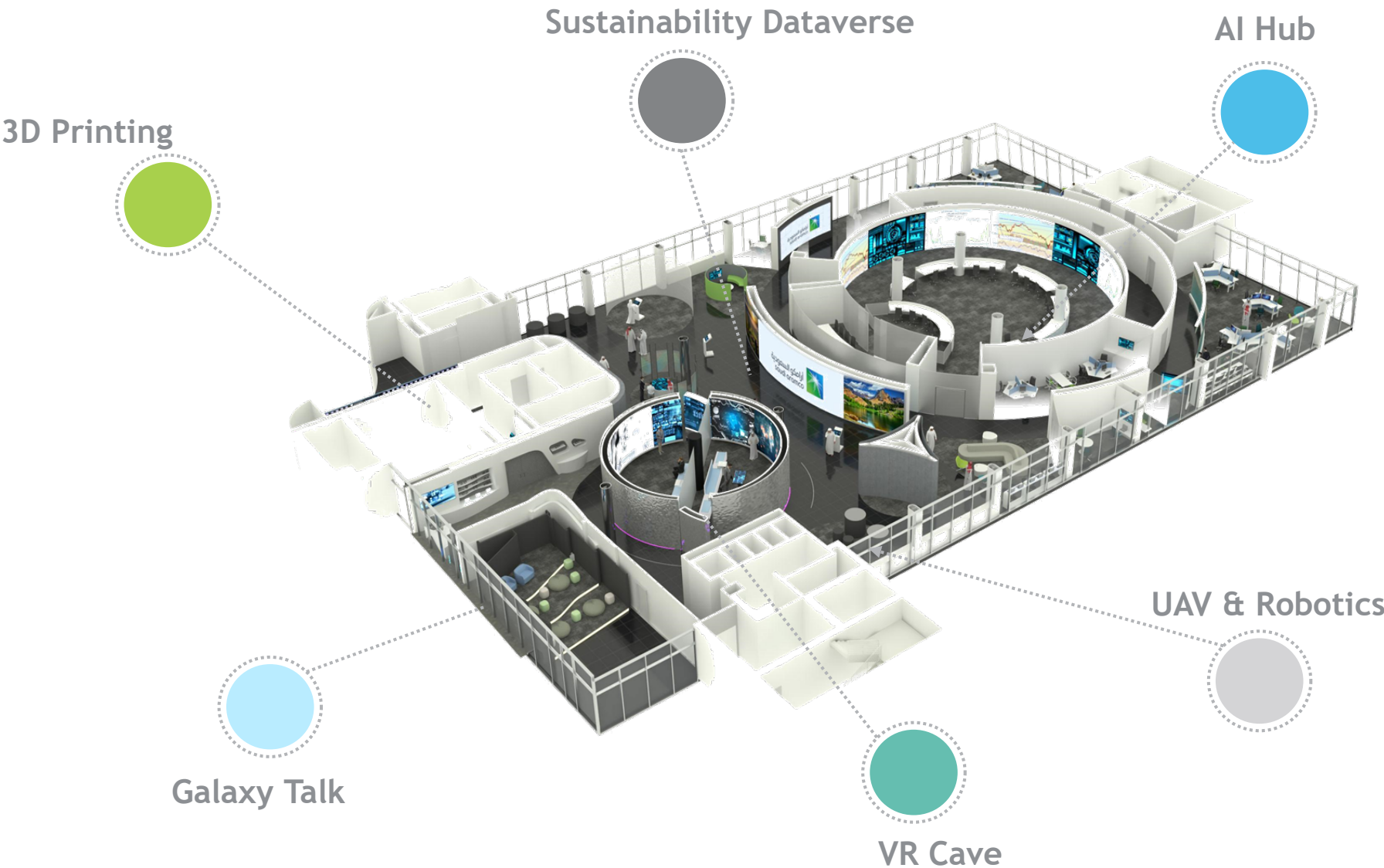


Our aim is to be the world's leading digitalized energy company

Our Digital Transformation program enables us to utilize the latest breakthroughs in digital technology so we can deliver tomorrow's energy more safely, efficiently, and sustainably.

Key to our vision is how we foster digital innovation, partner with leading technology companies and research institutions, and invest in the digital skills of our own workforce.

Fourth Industrial Revolution Center (4IRC)



Overview

- What is a business case
- Why do we need a business case
- Elements of a winning business case
- The business case for Asset Predictive Analytics project

Business Case Definition

The information required to make informed business decisions regarding the proposed digital project, its justification, scope, cost, benefits and risks throughout its development.

The resultant project will only be successful if it has been planned well

Elements of a Winning Business Case

- ❑ Alignment to Corporate Objectives
- ❑ Digital Maturity Roadmap
- ❑ Digital Master Plans
- ❑ Investment Strategies



Project Overview

Objective



Provide Asset Predictive Analytics solution to:

- Establish a uniform method to identify asset performance degradation
- Reduce the maintenance cost
- Improve operational efficiency
- Raise assets reliability and availability

Assets



2,500 critical rotating equipment at 28 operating facilities selected based on:

- Failure impact on production, health, safety, and environment
- Failure frequency and maintenance cost

Business Drivers



Economics - Business Improvement

Strategic Fit



Artificial Intelligence (AI) Hub

4IRC Solutions:

-  Sustainability
-  Energy Efficiency
-  Product Quality
-  Assets Health & Integrity

We are focusing on developing Advanced Analytics and Machine Learning solutions in the areas of sustainability, energy efficiency, product quality and Asset Health & Integrity

Justification Categories

Sustain Business Performance

Maximize Profit

Health, Safety & Environment

Loss Prevention & Security

Innovation

Growth

Proven Digital Solution



Visualization & Notification Engine

Assets
Templates

Fault Models &
Scenarios

Analytics
Engine

Rule
Engine

Calculations
Engine

Case
Management

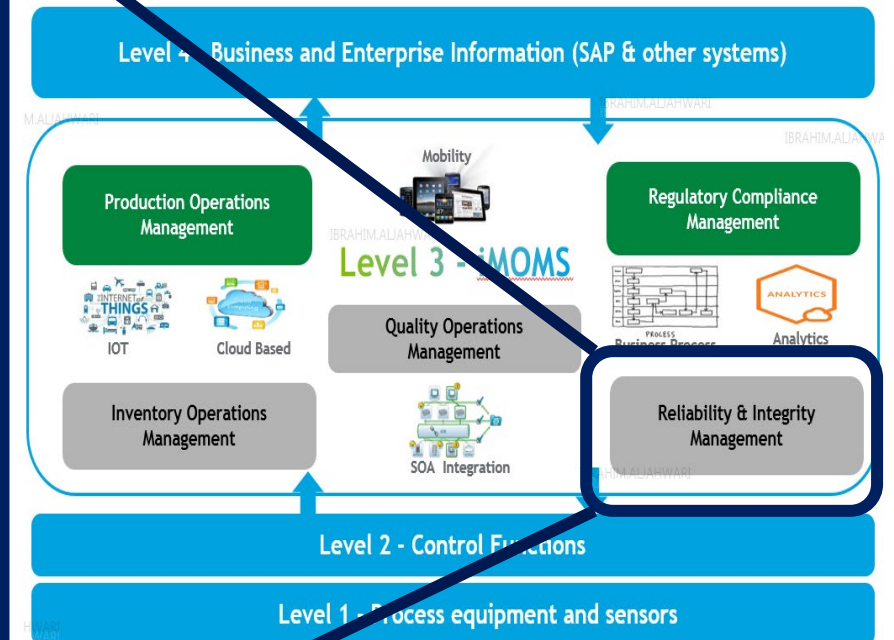


Plant PI
Historical Data

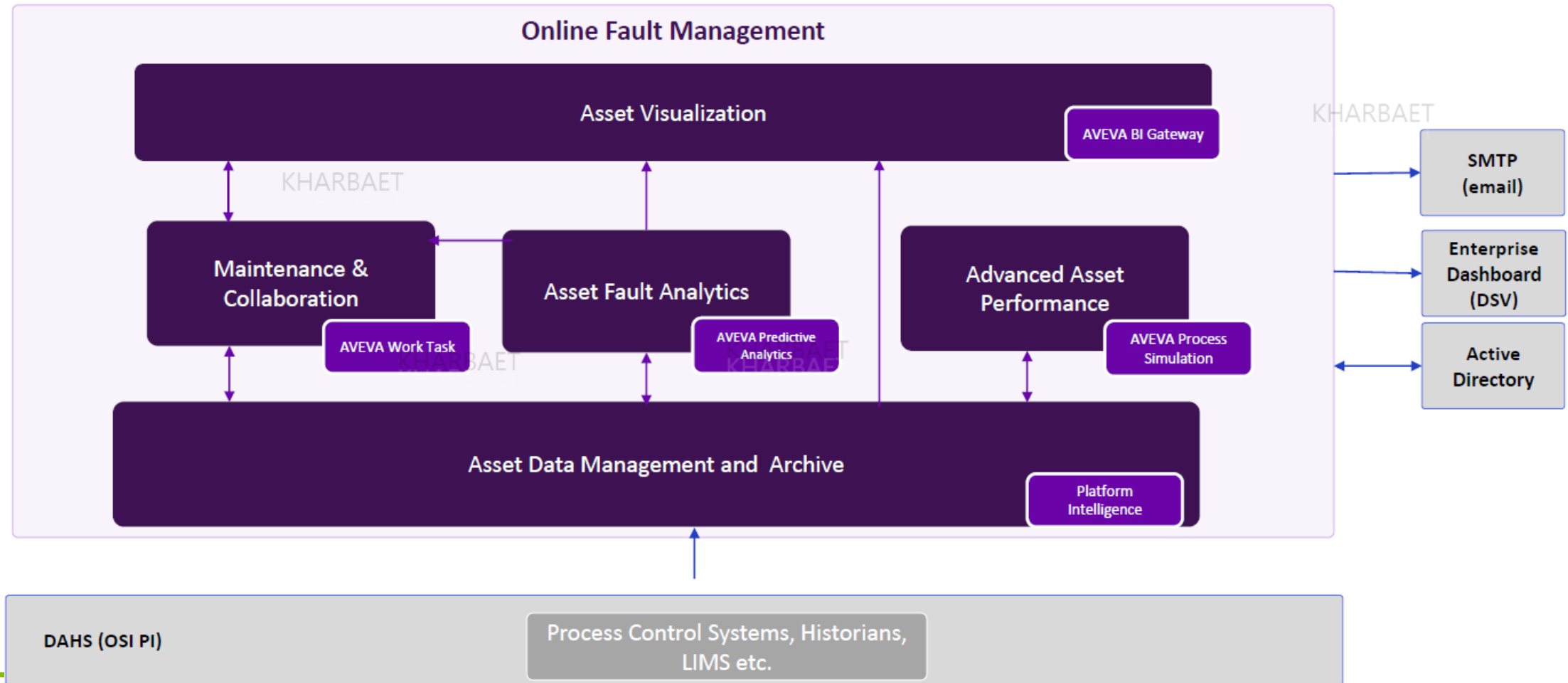
AVEVA Asset Predictive Analytics

Asset Health
Predictions

Asset Performance Management



AVEVA Online Fault Management Architecture



Alternatives

The alternative of developing in-house applications has been evaluated and rejected due to its development and maintenance complexity.

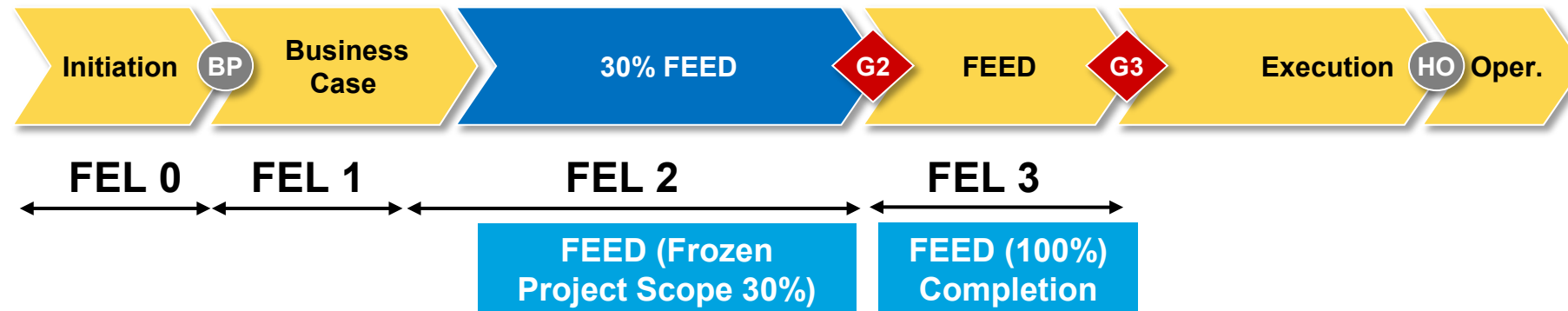
Project Economics - Benefits (Quantitative & Qualitative)

Case Type	NPV @ 2021	IRR	CAPEX	Benefits
<ul style="list-style-type: none"> Asset Predictive Analytics 2500 key assets Funding 2021 Completion 2023 	Positive		\$MM	<ul style="list-style-type: none"> Reduce maintenance cost Improve operational efficiency Raise assets reliability and availability Minimize unplanned shutdown

Assumptions

- Benefits captured from a pilot on 44 assets
- Software license and maintenance cost included
- Digital Solution lifespan 10 years

Project Milestones - Tailored for Digital Transformation Projects



Key Success Factors *for* Digital Projects



A Winning Business Case

Business Case Element	Check
Established a business need	<input checked="" type="checkbox"/>
Linked project to business objectives, Master Plans	<input checked="" type="checkbox"/>
Economic justification - demonstratable benefits	<input checked="" type="checkbox"/>
Proven technical solution - AVEVA	<input checked="" type="checkbox"/>
Project Schedule <i>fit</i> for Digital project	<input checked="" type="checkbox"/>
Risks & Mitigations	<input checked="" type="checkbox"/>
Reviews and validation	<input checked="" type="checkbox"/>

Thank You