

Managing Real Time Data Reliability in Brownfield Digitalisation

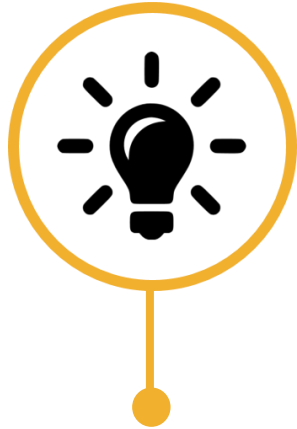
Arun Valliappan
Nurbaitie Imana Bt. Abd Rashid



A large offshore oil platform is shown at sunset. The sky is filled with orange and yellow clouds, and the sun is low on the horizon. The platform has a tall flare stack on the right side that is emitting a bright flame. The water is dark and reflects the light from the sky. A white banner with the word "Brownfield" in teal text is overlaid on the right side of the image.

Brownfield

Data Reliability



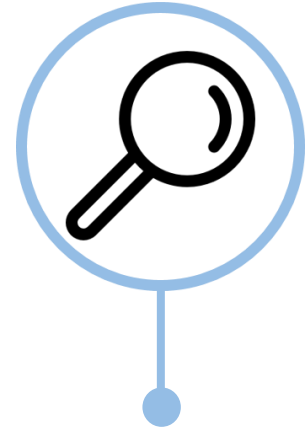
What?

What does it mean?



Why?

Why do we monitor
Data Reliability?



How?

How do we monitor
Data Reliability?

Data Reliability: WHAT does it mean?

Trustworthiness of data from transmitters *(within acceptable limitations)*

WHY do we monitor Data Reliability?



Arrest **value leakage**

- Investment on Infrastructure
- Investment on Analytic Tool (Optimization, Predictive Tools)



Criteria for digital investment decisions

- Assessment of asset's readiness for future investment on digital capabilities

HOW do we monitor Data Reliability?

VISIBILITY



+

Across all system
in terms of

INSIGHTS



STATUS



PERFORMANCE



ACCOUNTABILITY



HOW do we monitor Data Reliability?



Capture

I want to see the
data trustworthiness



Curate

I get all the data I
need to **quantify and
address the issue**



Consume

I use the data to plan
optimal intervention



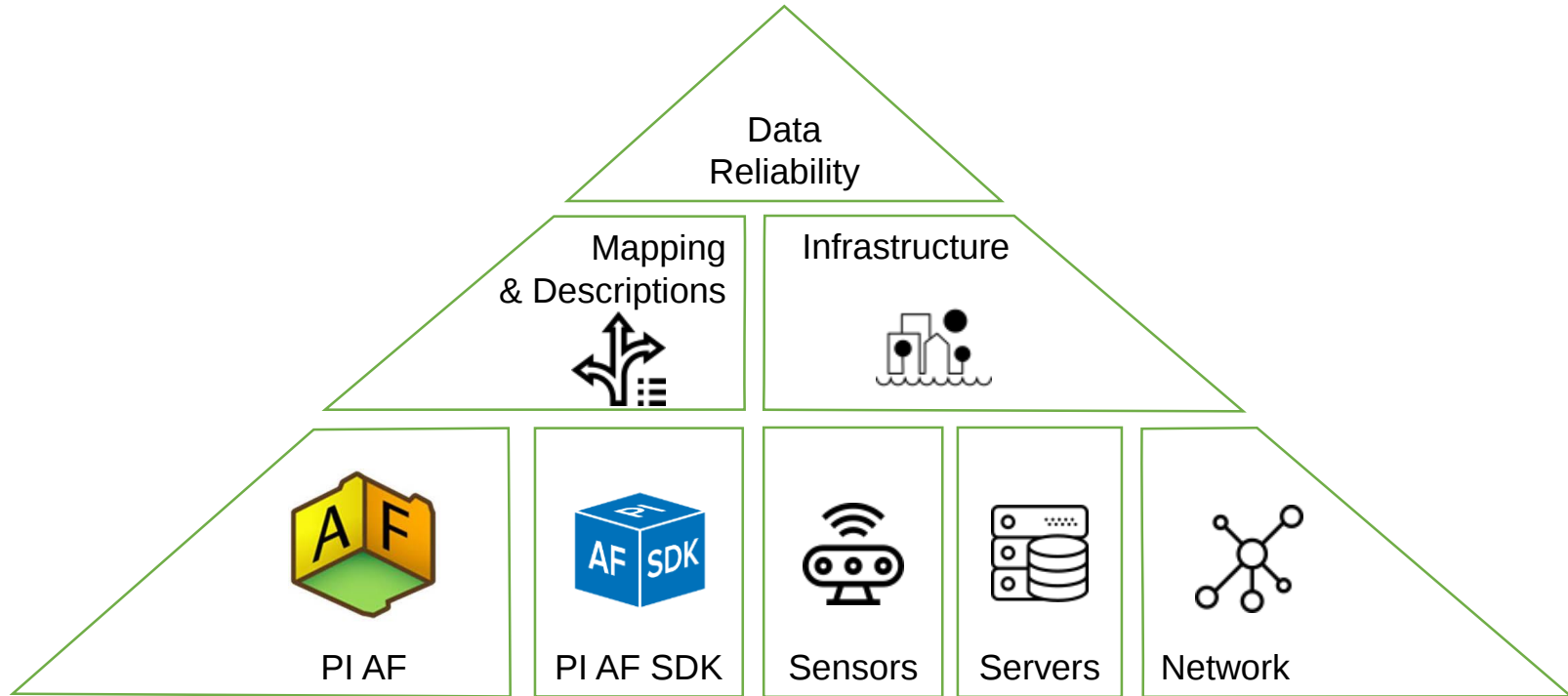
Act

I take actions that will
**solve the issue and
protect value at stake**

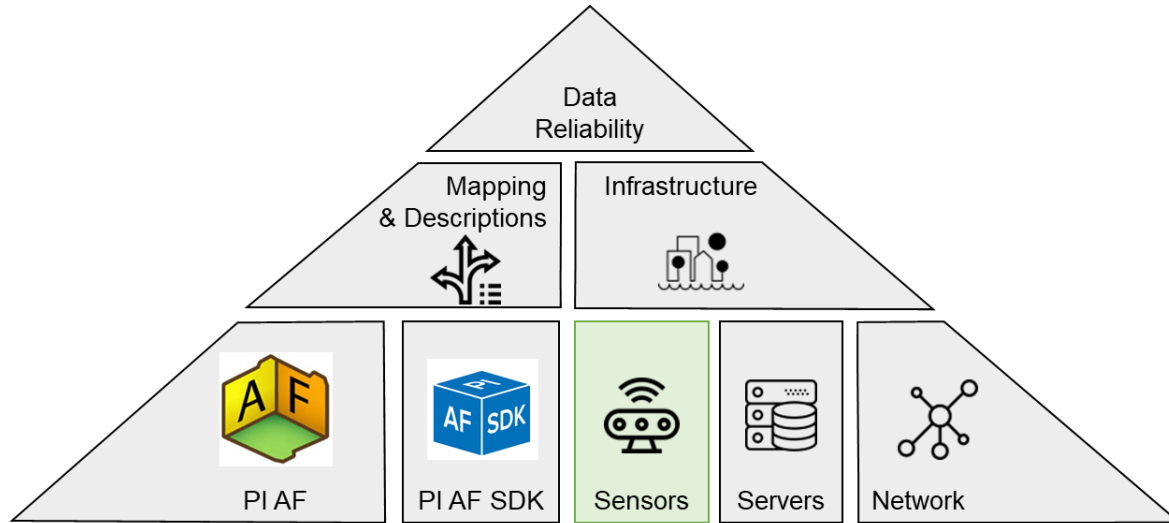
Cost

Value

HOW do we monitor Data Reliability?



HOW do we utilize PI Technology for Data Reliability?



Stagnant Data

Out of Range

Bad Data

No Data

HOW do we utilize PI Technology for Data Reliability?



PI Interfaces

- Data Sources Connection Handling

PI Data Archive

- Historical Values of Raw and Calculated Data Handling

HOW do we utilize PI Technology for Data Reliability?



PI Asset Framework (AF)

- Managing Data Clustering (AF Hierarchy)

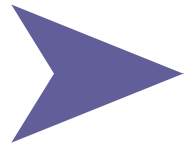


PI AF SDK

- PI AF Custom Data Reference
- Custom Calculations Engine – actively manipulates AF Attributes & Write back to PI Data Archive

WHERE we are now?

Pilot Phase



1 Region

8 Fields



DEMO

PI Data Reliability Insights Visualization

PETRONAS

System Name

Region > Region Overview

System Name

Region Overview

Server Performance

Issue by Department 1

Alert

Network Performance

Normal

Region Overview

Region Asset

Reliability

75%

Transmitters

10000/30000

Last update 1230 Next update 0130

Field 1

Field 2

Field 3

Field 4

Field 5

Field 6

Field 7

Field 8

23%

37%

43%

50%

63%

72%

89%

100%

Contact Person

Abu Bakar bin Salleh

Field 1 PIC

0179836474

Abdul Muin bin Muhammad

Field 2 PIC

0128476034

Tan Weng Hong

Field 3 PIC

0196739745

Muthu Rajawali

Field 4 PIC

0146672945

Aaron Cheng

Field 5 PIC

0186783045

Shukor bin Awang

Field 6 PIC

0134279757

Izzul Akmal bin Zulfikri

Field 7 PIC

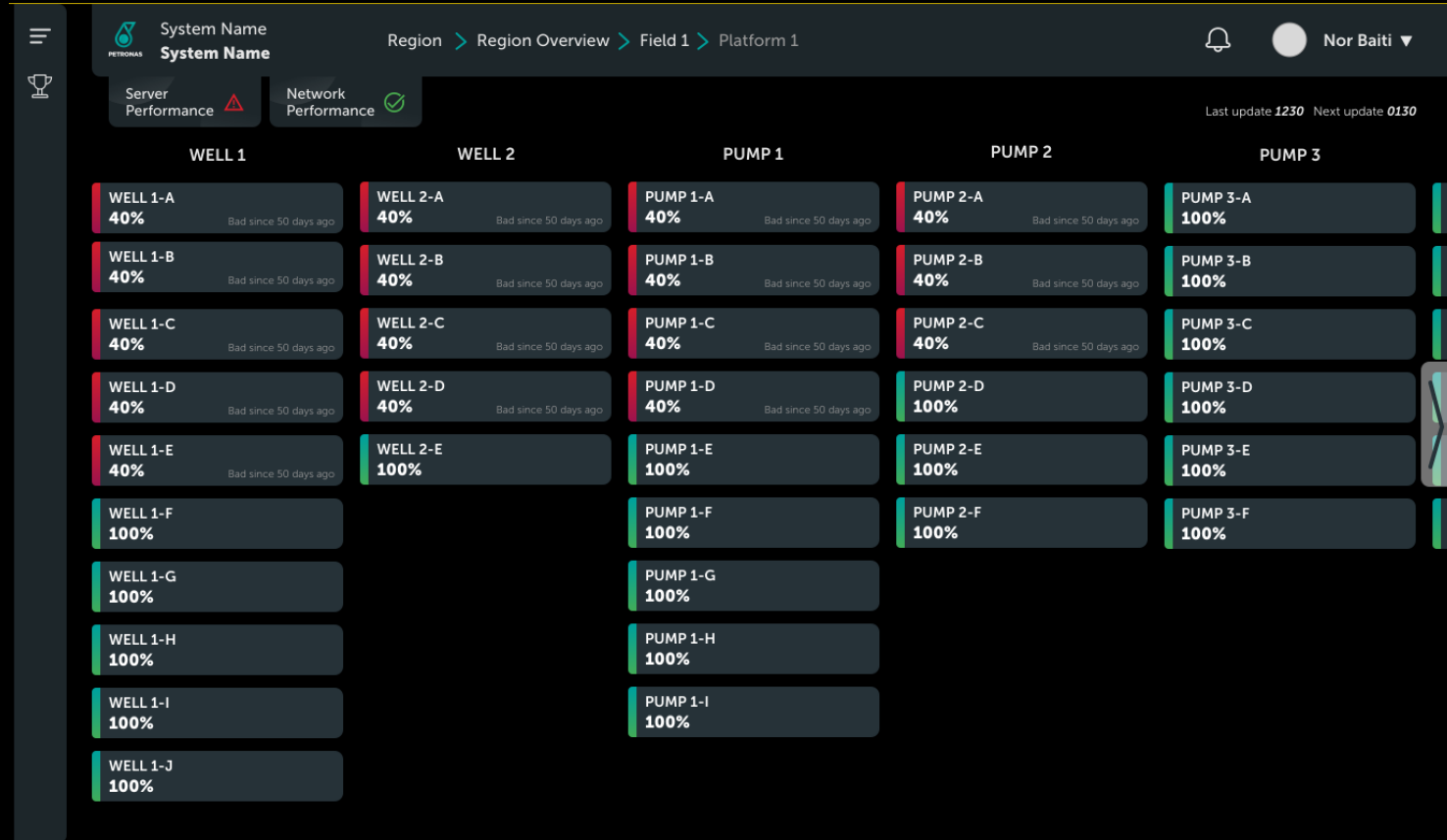
0184567034

Yuvaraj Manimuthu

Field 8 PIC

0197895673

Field Drill Down to Subsystem



Transmitter Level in Each Transmitter



System Name
System Name

Region > Region Overview > Field 1 > Platform 1 > Well 1-A



Nor Baiti ▾

Transmitters

Last update 1230 Next update 0130

Transmitter Name

Attribute Name

Bad

Department 1
since 50 days ago



Enter your comments to acknowledge

Type something

Send

Transmitter Name

Attribute Name

Bad

Transmitter Name

Attribute Name

Bad

Department 1
since 50 days ago



Transmitter Name

Attribute Name

Bad

Department 1
since 50 days ago



Transmitter Name

Attribute Name

Bad

Department 1
since 50 days ago



Transmitter Name

Attribute Name

Acknowledged

Department 2
since 1 hour ago



Transmitter Name

Attribute Name

Acknowledged

Department 2
since 1 hour ago



Transmitter Name

Attribute Name

Acknowledged

Department 2
since 1 hour ago



Transmitter Name

Attribute Name

Acknowledged

Department 2
since 1 hour ago



Transmitter Name

Attribute Name

Acknowledged

Department 2
since 1 hour ago



Transmitter Name

Attribute Name

Normal

Department 3
since 10 hours ago



Transmitter Name

Attribute Name

Normal

Department 3

Transmitter Name

Attribute Name

Normal

Department 3

Transmitter Name

Attribute Name

Normal

Department 3

Transmitter Name

Attribute Name

Normal

Department 3



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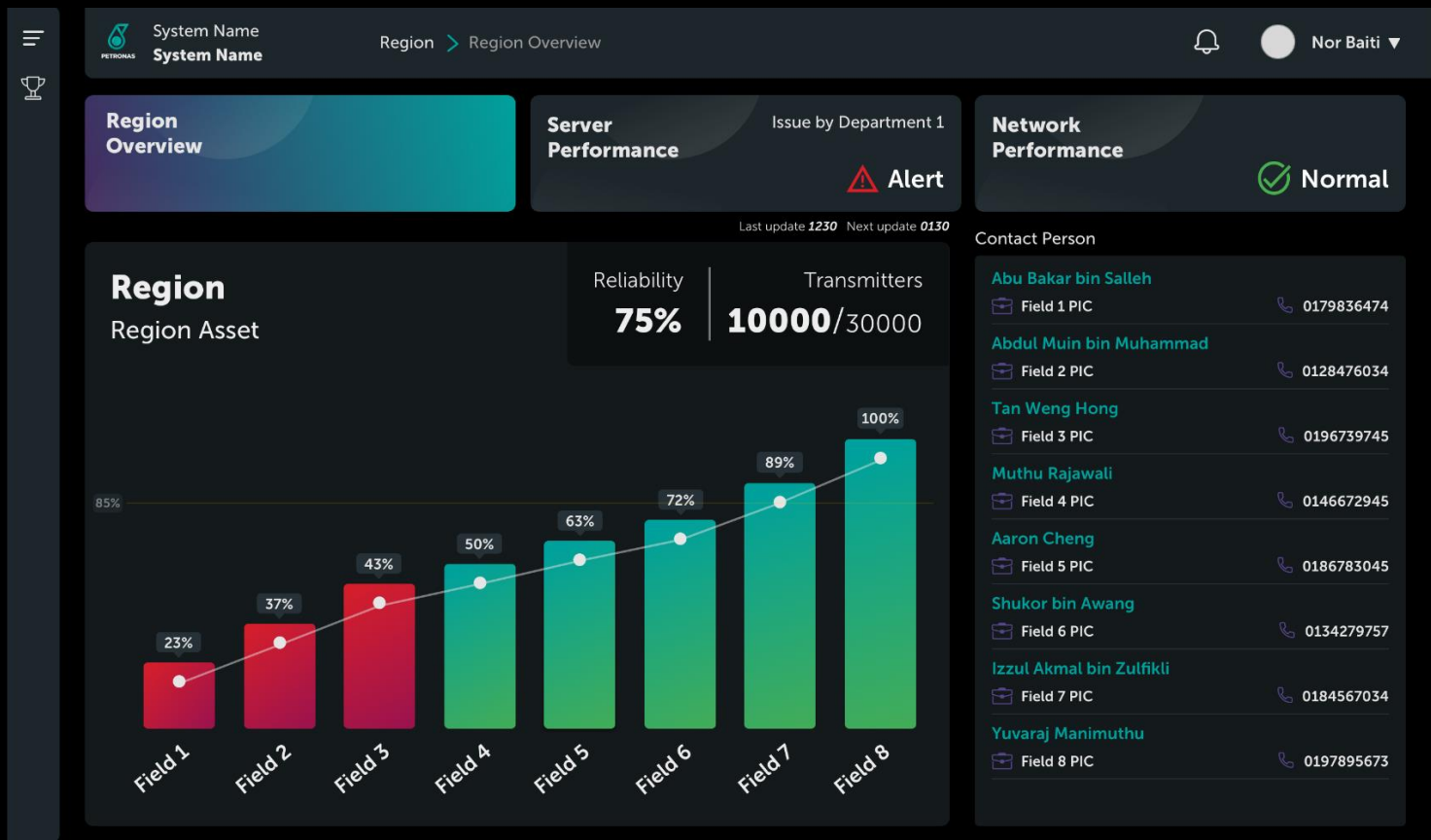
PIWorld GOTHBURG 2019

#PIWorld

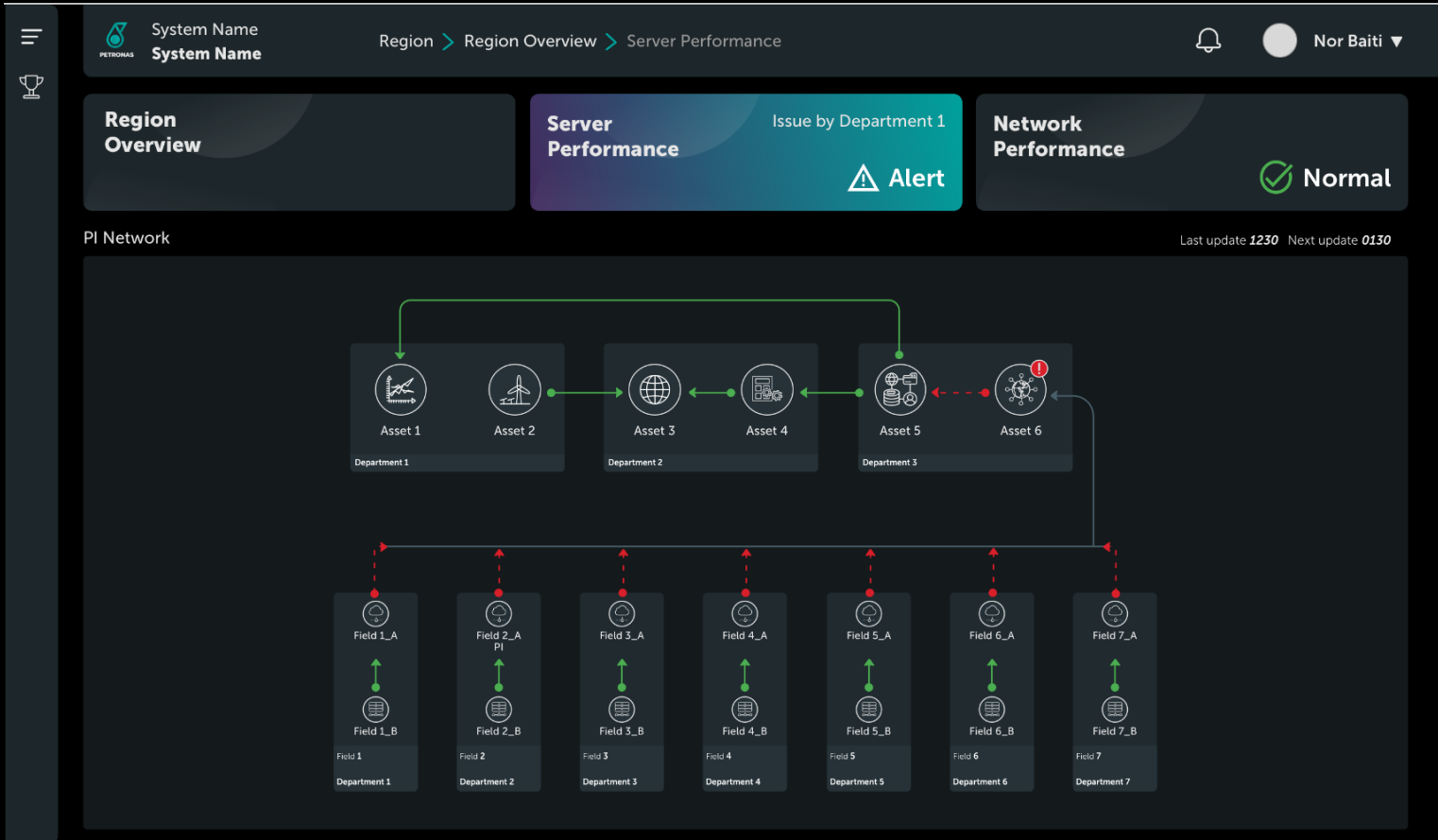
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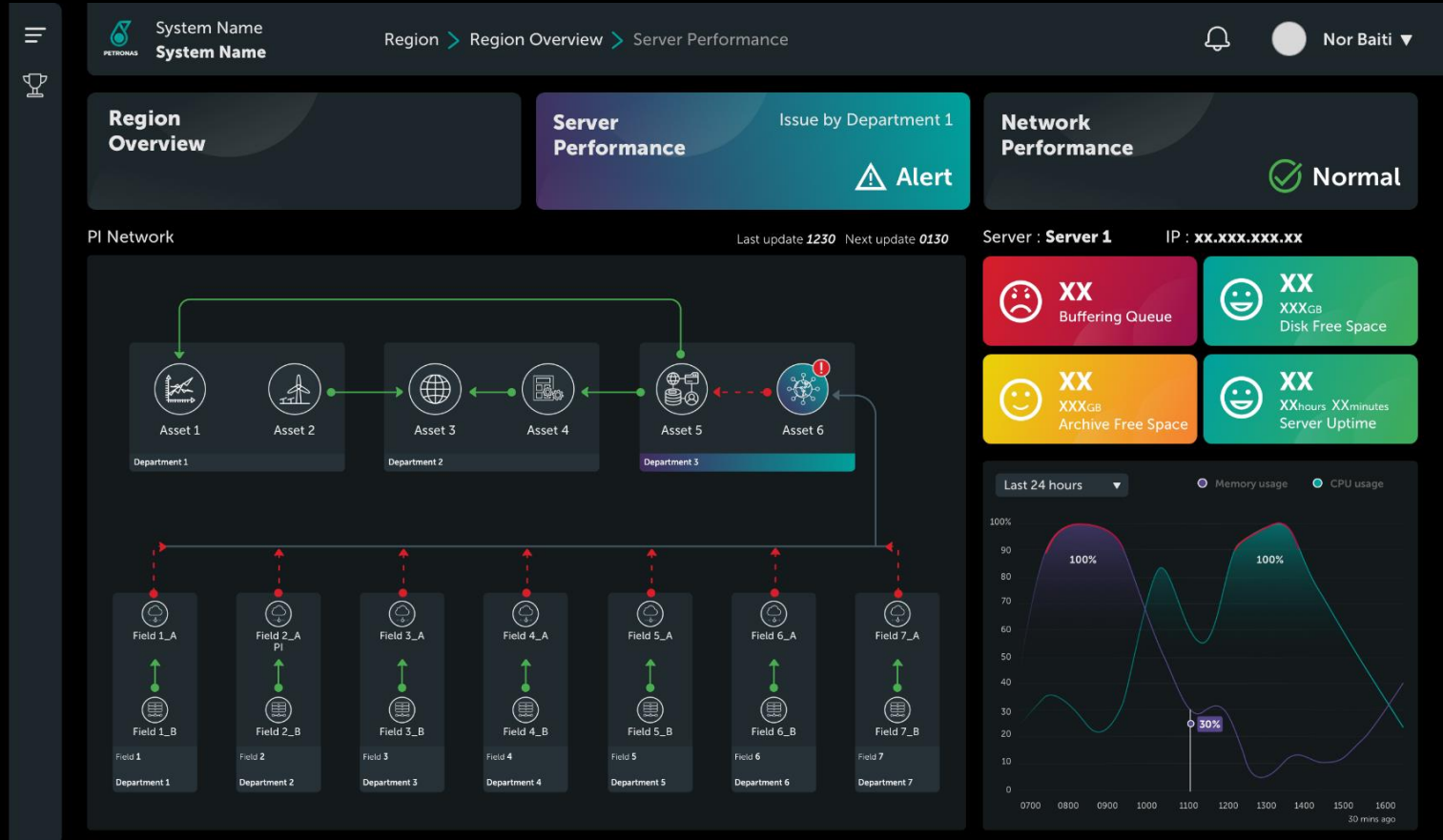
Asset Landing Page



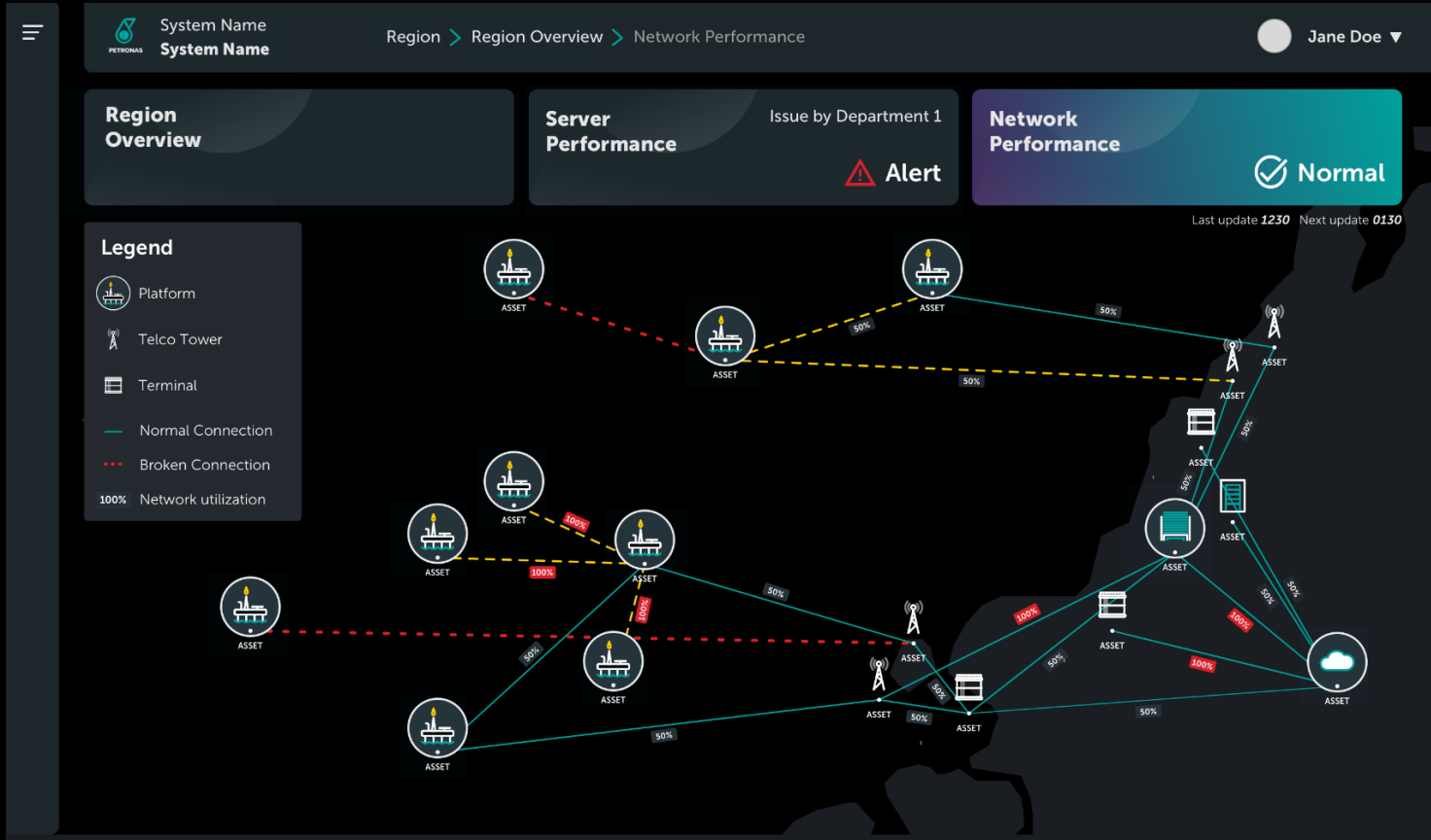
Server Monitoring Page



Drill Down on Server X



Network Monitoring



Customer Story / Summary

Challenges

Legacy Assets

NOT designed for today's
operating philosophy
(Data Driven Organization)

Solution

Provides Visibility & Insights

that cuts across departments
and **embedding**
accountability information

Benefits

Arrest **Value Leakage**

Criteria for Digital
Investment

Core Team Members:

1. Farisha Ahmad
2. Tee Kuan Sin
3. M Sani Johari
4. Kalai Veinthan
5. Che NurJulaikha
6. Aissaini Abdel Madjid
7. M Azri Aizat
8. Ahmed Ghallab
9. Ari Firmansyah
10. Azhar Ahmad
11. Nicholas Gnanapragasam
12. Vivege Rajah
13. Ronald Andreas
14. Nabila Atiqah Sadon
15. M Amiruddin Fadzli
16. M Syahrul Ridhwan B Zailani
17. M Elham B M Lokman



11. M Hafiz Suleiman
12. A Halim Mat Noh
13. William Wong Wai Lim
20. Justin See Ken Jie
21. Cornelius George
22. Mazlin M Maun
23. M Nizam Shamsudin
24. Mow Siang Chan
25. Abi Dzar Jaafar
26. A Hilmi M Sarnudin
27. Abd Aziz Zainuddin
28. Maryam Madzi
29. M Azhaziq M Azlan Goh
30. Aaron Cheng
31. Raisah Ahmad Samawe
32. Janice Sim
33. Siti Zainah Mapak

Questions?

Please wait for
the **microphone**

State your
name & company



Please remember to...

Complete Survey!

Navigate to this session in
mobile agenda for survey

