



KUWAIT 3RD FLOW MEASUREMENT TECHNOLOGY CONFERENCE

19 - 21 NOVEMBER 2017
HILTON KUWAIT RESORT , AL DORRA BALLROOM

OFFICIAL SPONSOR



إحدى شركات مؤسسة البترول الكويتية
A Subsidiary of Kuwait Petroleum Corporation



BEN LEACH

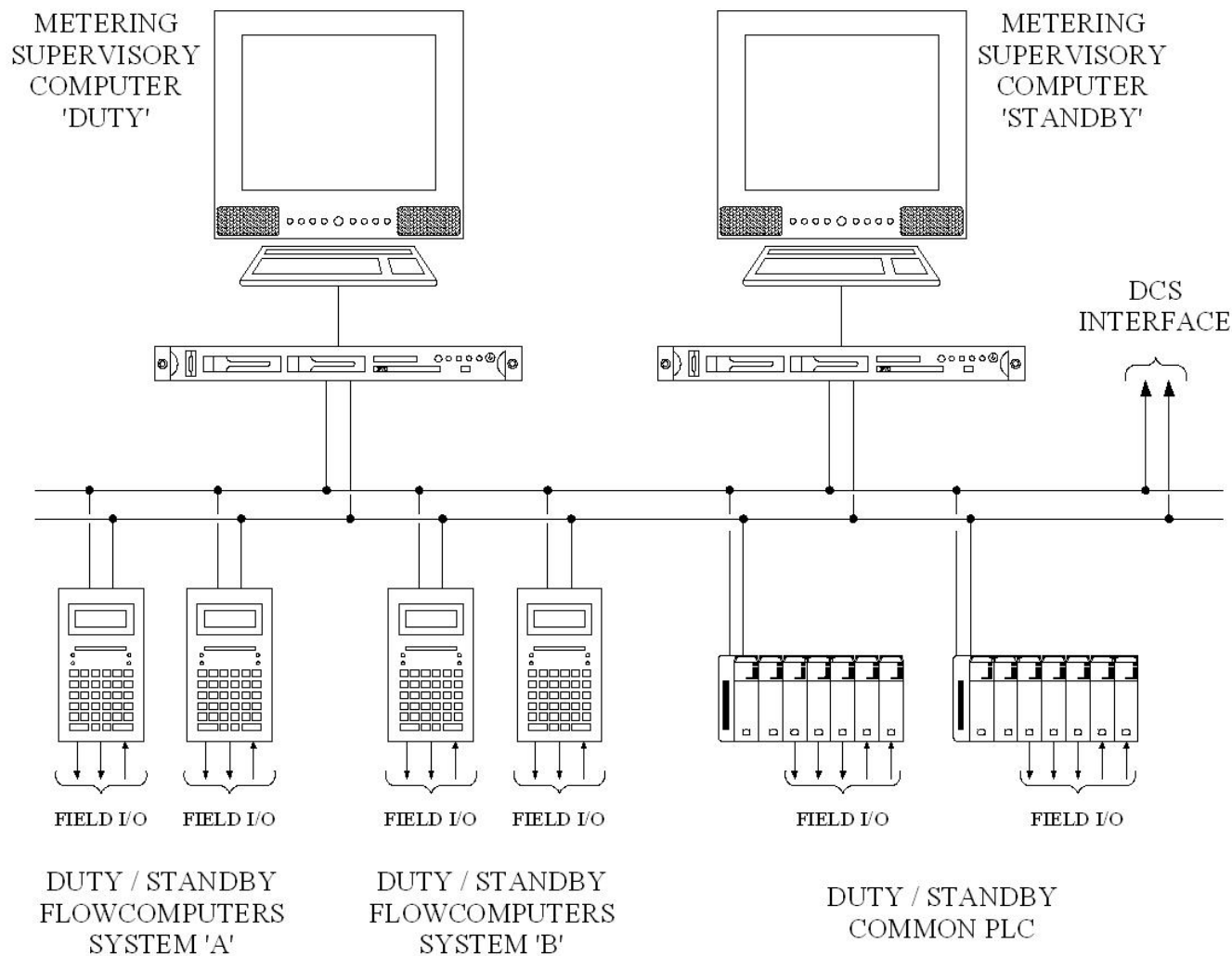
Managing Director, Swinton Technology
Measurement Enhancements through Technology

ABOUT SWINTON TECHNOLOGY



**Leading Provider
Oil and Gas Metering
Computer System Solutions**

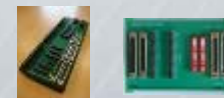
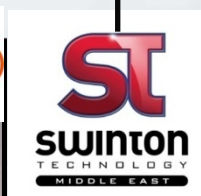
METERING COMPUTER SYSTEM



ST THROUGH THE YEARS



1975 1982 2007 2011 1998 2001 2002



CHALLENGE TO REMAIN PROFITABLE

With the decline in oil price every drop is important to an organisation to remain profitable



PROFITABILITY VS MEAS. ACCURACY

Measurement Accuracy (↑) is directly proportional to Profitability (↑)

Measurement Error (↑) is inversely proportional to Profitability (↓)

Operation & Maintenance plan with proper traceability system will improve efficiency and profitability of an organisation

Today there are Technological Tools that enable Enhanced Measurement



VS



MEASUREMENT ENHANCEMENTS



Marc Bayham



“**GCAS** has helped **reduced troubleshooting time**, great value for money and it gives the metering team **confidence** on a weekly basis that the GC are performing as they should be.”

Troubleshooting when problem arises

MEASUREMENT ENHANCEMENTS



Calum Hardie



“We use **Prognosis** as part of validation of our export orifice meters. The Prognosis historical data has been used as part of justification to reduce maintenance activities on both orifice plate inspections and DP Transmitter calibrations. This has helped to **significantly reduce the cost of maintenance** activities on the gas export metering system. We continue to use Prognosis with the help of Swinton Technology’s support to provide confidence in the orifice meter system’s performance.”

57% reduction in meter maintenance

MEASUREMENT ENHANCEMENTS



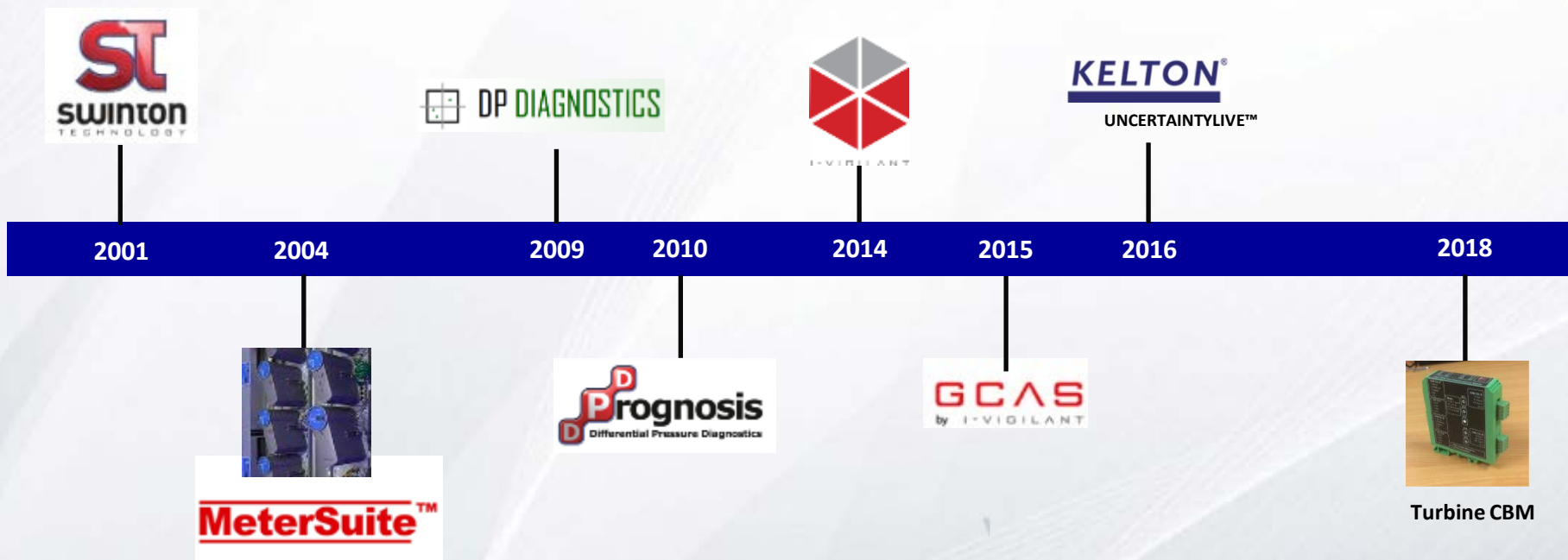
Steve Peterson

GUSM

“**53 calibrations** have been performed on the 5 meters spanning **10 years** with **no in-service shift exceeding 0.3%**, the current trigger level for processing a mis- measurement investigation.”

No significant shift in 10 years

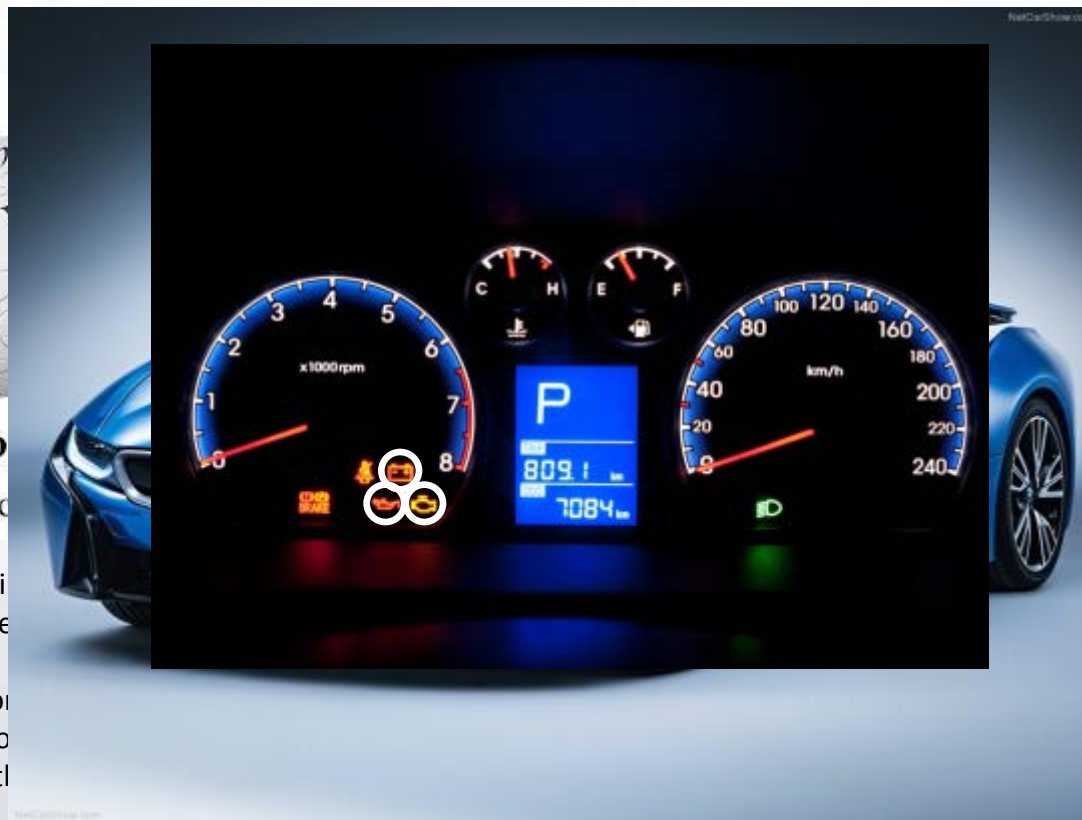
METERING TECHNOLOGY EVOLUTION



WHAT IS CBM?



Observing
equipment's he
allowed extensive
maintenance person
on some piece o
only tl



aintenance
(wikipedia)

aintenance
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equipment
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resources.

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years have
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aintenance
nnel to do
aintenance.

likes cars (and good coffee)

WHY USE CBM?

Isolation of flow



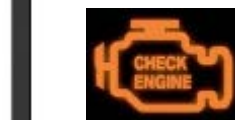
Depressurisation



Removal of meter



Meter inspection



operating with



METER VERIFICATION

- Combination of CBMs e.g. compare GC data with USM data
- High precision flow calculation validation



WHAT IS UNCERTAINTY?



Uncertainty

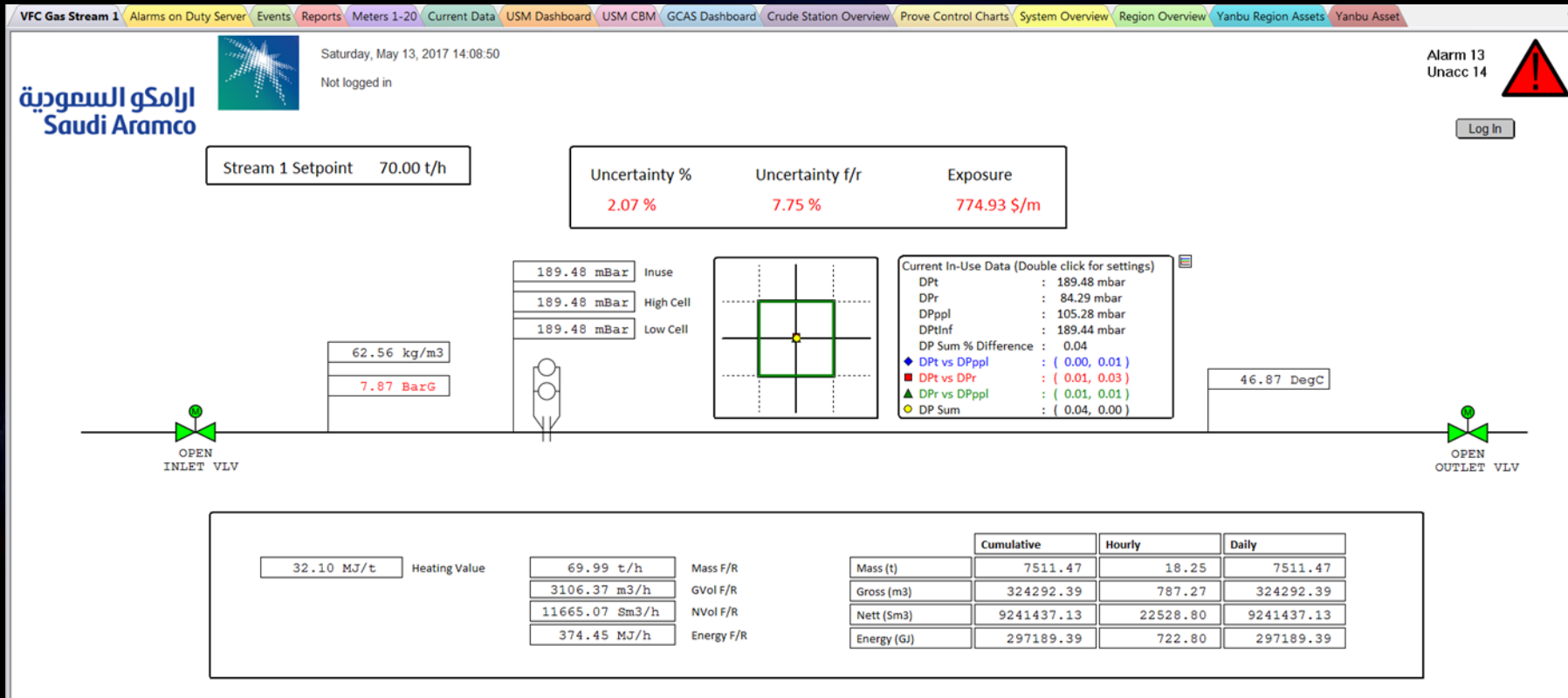


Quality

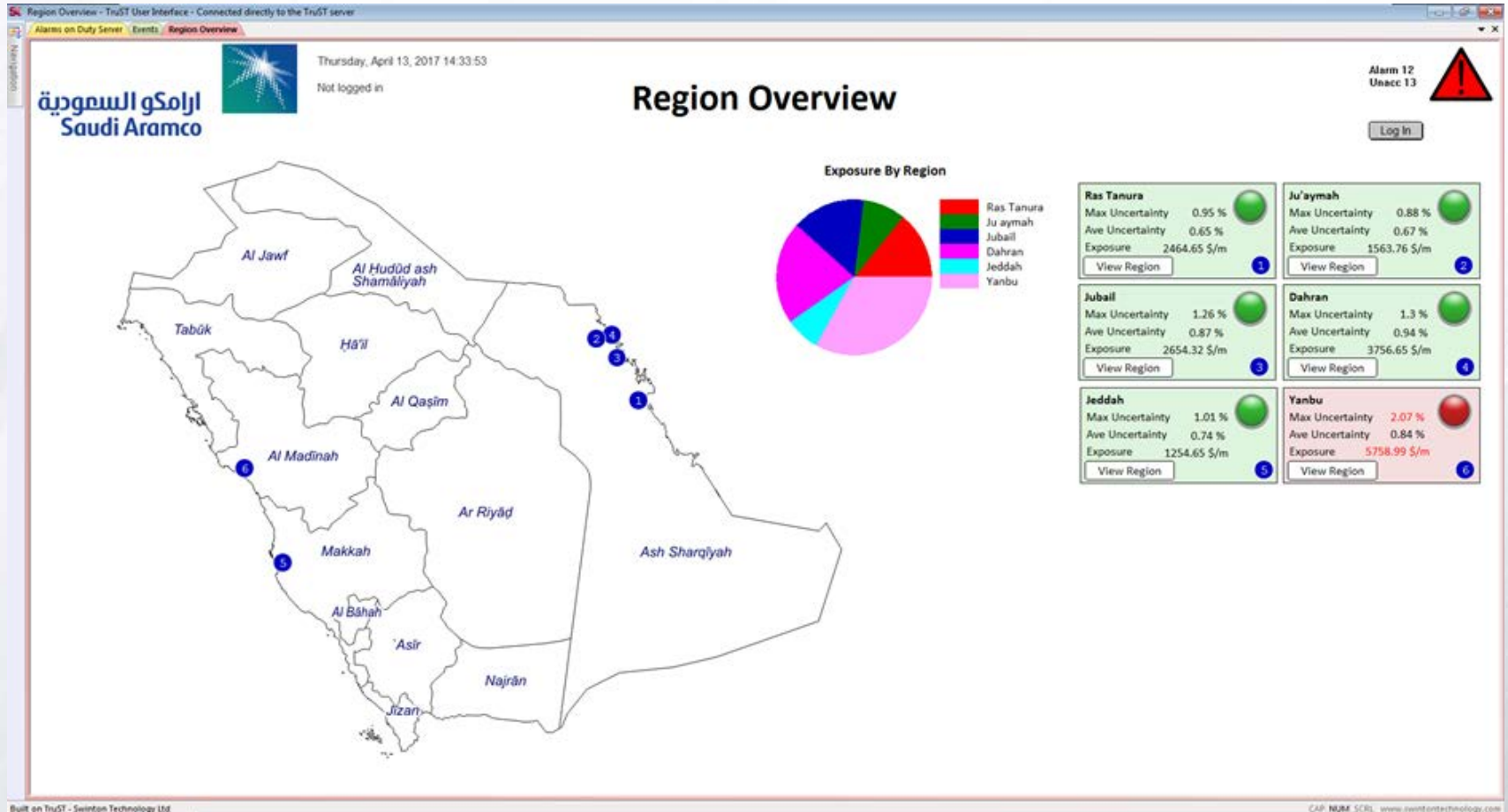


Uncertainty is performance indicator

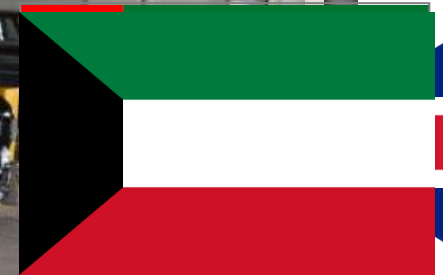
You don't have to be a mechanic to drive a car ...



COMPANY-WIDE PERFORMANCE VIEW



IN SUMMARY



Or more



Thanks for Attention