EMPOWER YOUR ANALYTICS WITH OPERATIONAL DATA

How Todd Energy Approached Digital Transformation

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Todd Energy

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Todd Energy

- Leading New Zealand Onshore Supplier of Natural Gas
- Workplace of Choice for our People and Partners
- Engage in a low emissions future
- Digital and Data as a Competitive Advantage
- Improved productivity and value

Challenges for Todd Energy

Growth

- ?

↑

Multi-asset operatorship

↑

Operatorship

↑

Investment
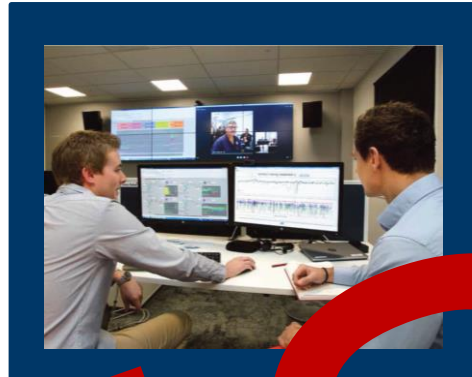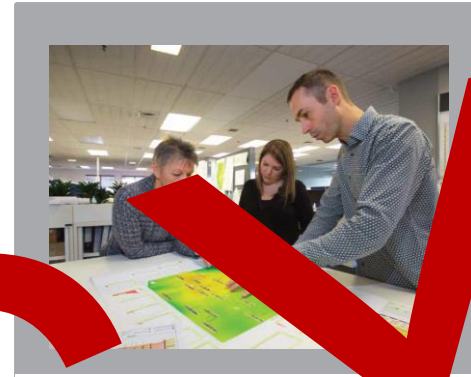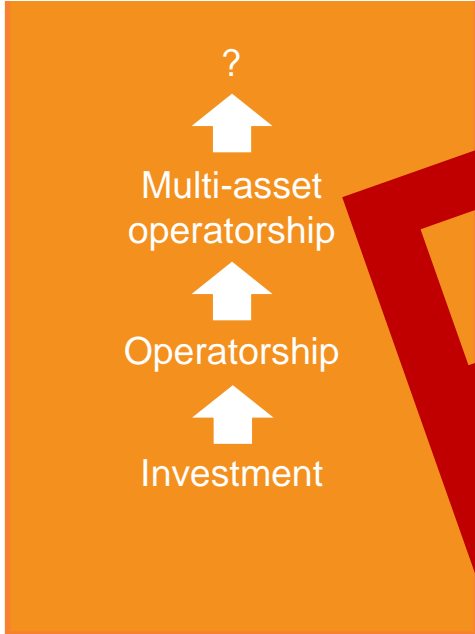
Infrastructure

- Different architectures
- ...of Life (E...) infrastructure.
- Net...ks proble... ...issues.

Resources

- Ca...city of Su... Ma... Experts (SM...)
- Geog...hically challe...d locati...
- Digita...eracy of som...ersonnel.
- ...nge culture and appetite in fast-paced digital environments.
- Digital ownership.

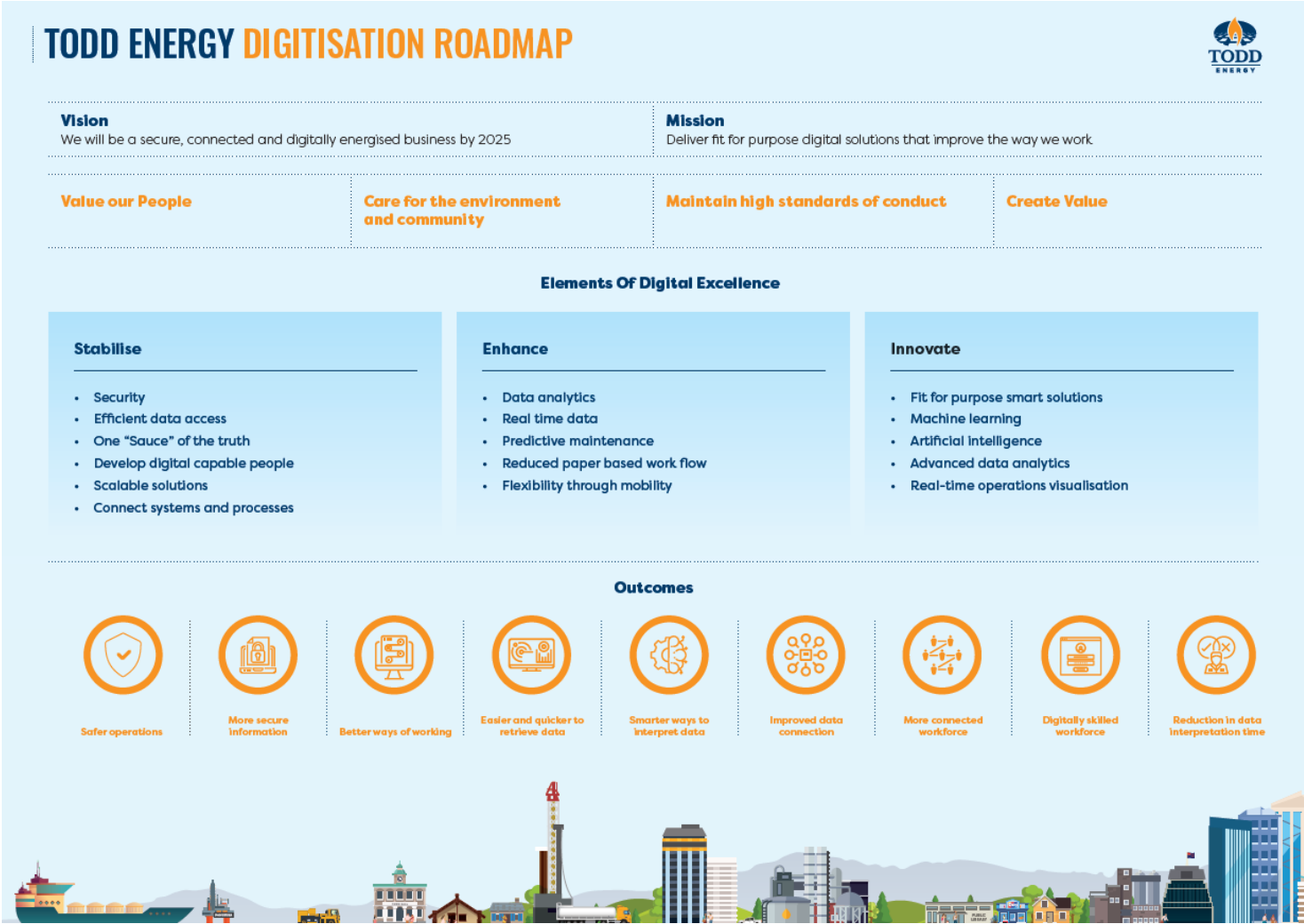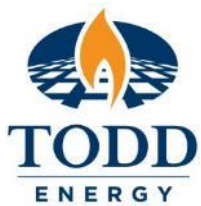**Data**

- ...e.
- Var...
- Vel...ty.
- ...urity.
- Data quality issues.
- Lack of governance.

Applications

- Large portfolio.
- Point solutions.
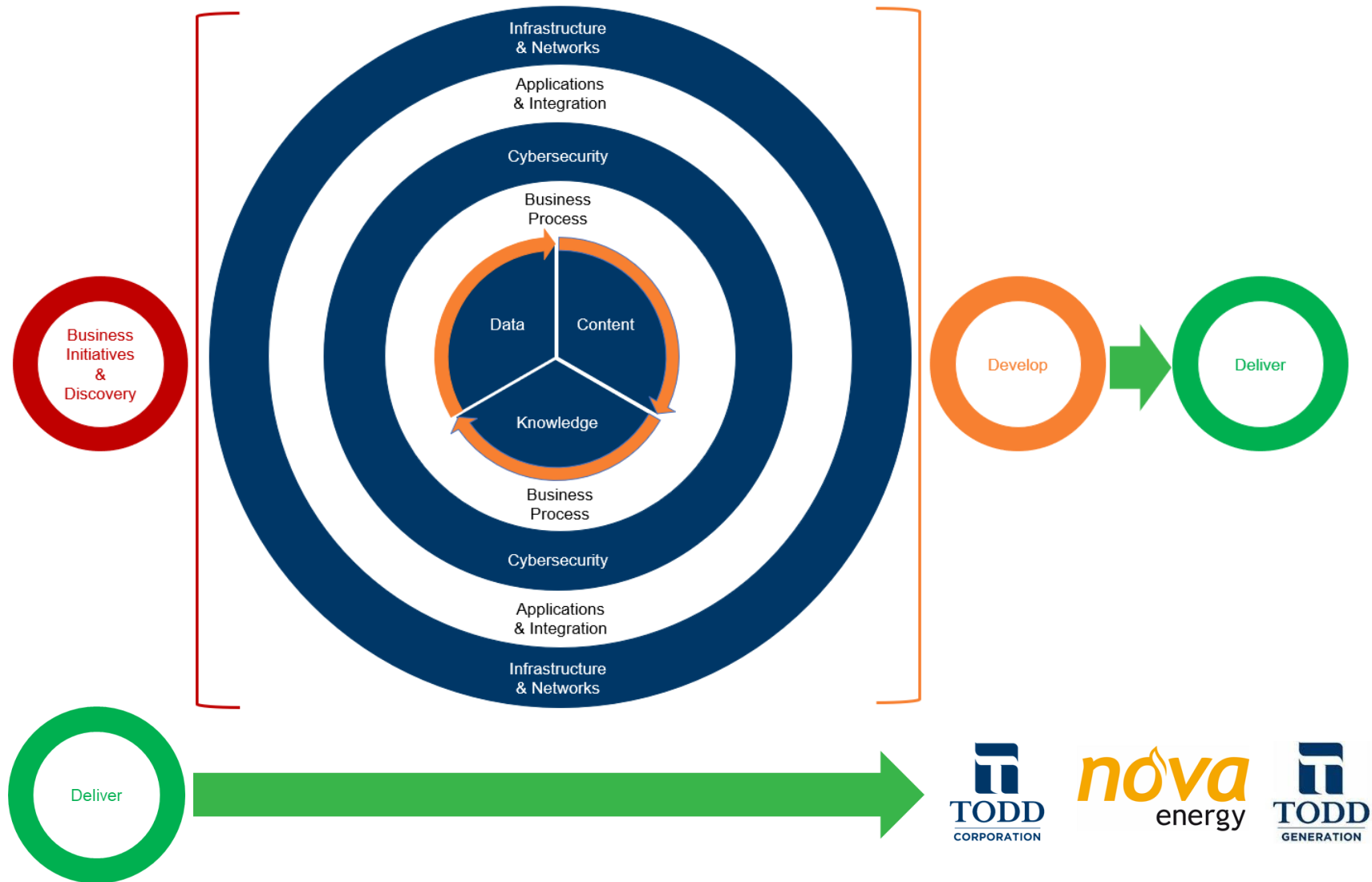- Minimal integration.
- Cloud solution growth.
- Ownership.
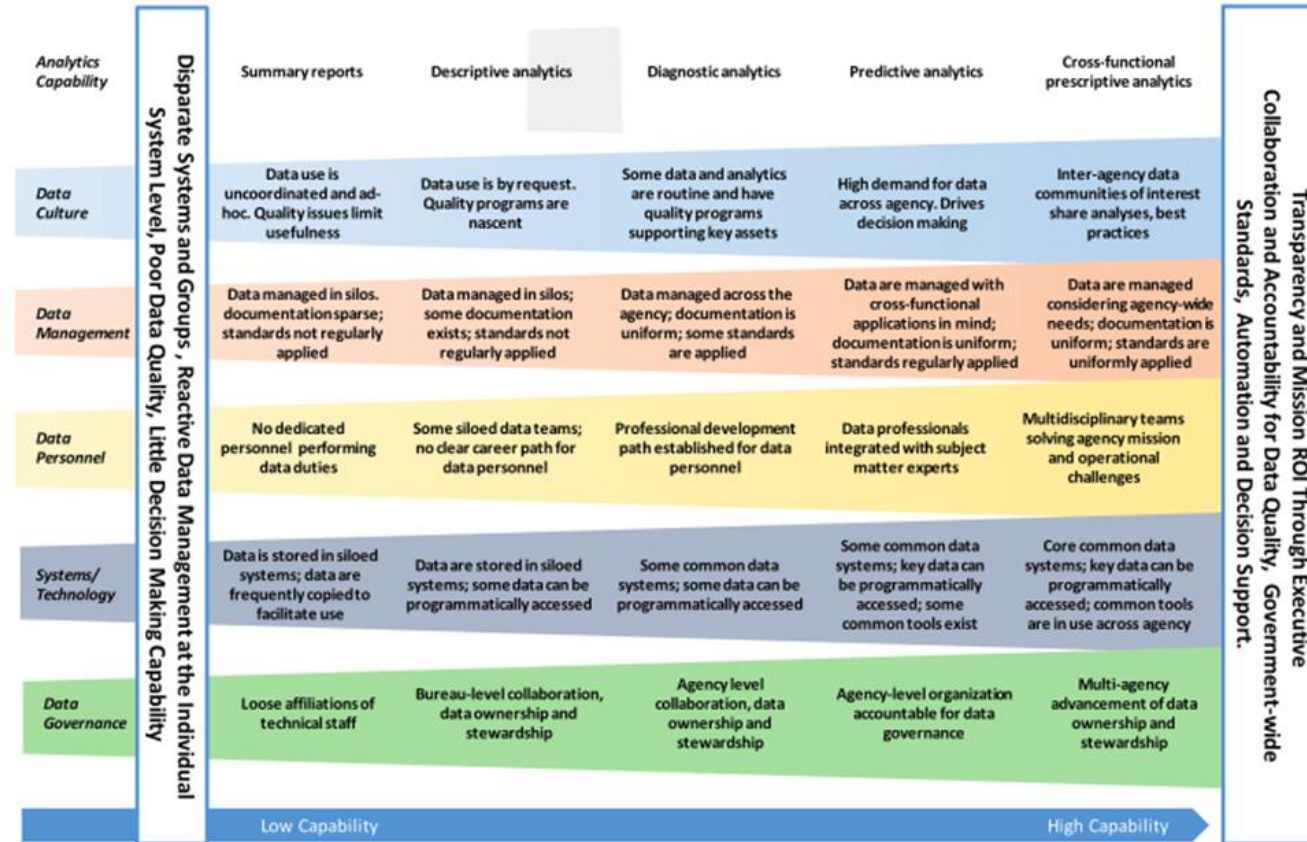
BUSY

1.

Digital Context

Strategy drives digital change

TODD ENERGY DIGITISATION ROADMAP

Vision
We will be a secure, connected and digitally energised business by 2025

Mission
Deliver fit for purpose digital solutions that improve the way we work

Value our People	Care for the environment and community	Maintain high standards of conduct	Create Value

Elements Of Digital Excellence

Stabilise
- Security
- Efficient data access
- One "Sauce" of the truth
- Develop digital capable people
- Scalable solutions
- Connect systems and processes

Enhance
- Data analytics
- Real time data
- Predictive maintenance
- Reduced paper based work flow
- Flexibility through mobility

Innovate
- Fit for purpose smart solutions
- Machine learning
- Artificial intelligence
- Advanced data analytics
- Real-time operations visualisation

Outcomes

Safer operations | More secure information | Better ways of working | Easier and quicker to retrieve data | Smarter ways to interpret data | Improved data connection | More connected workforce | Digitally skilled workforce | Reduction in data interpretation time

What do we do?

Data maturity is hard work

Models

Analytics Capability		Summary reports	Descriptive analytics	Diagnostic analytics	Predictive analytics	Cross-functional prescriptive analytics	
Data Culture	Disparate Systems and Groups , Reactive Data Management at the Individual System Level, Poor Data Quality, Little Decision Making Capability	Data use is uncoordinated and ad-hoc. Quality issues limit usefulness	Data use is by request. Quality programs are nascent	Some data and analytics are routine and have quality programs supporting key assets	High demand for data across agency. Drives decision making	Inter-agency data communities of interest share analyses, best practices	Transparency and Mission ROI Through Executive Collaboration and Accountability for Data Quality, Government-wide Standards, Automation and Decision Support.
Data Management		Data managed in silos. documentation sparse; standards not regularly applied	Data managed in silos; some documentation exists; standards not regularly applied	Data managed across the agency; documentation is uniform; some standards are applied	Data are managed with cross-functional applications in mind; documentation is uniform; standards regularly applied	Data are managed considering agency-wide needs; documentation is uniform; standards are uniformly applied	
Data Personnel		No dedicated personnel performing data duties	Some siloed data teams; no clear career path for data personnel	Professional development path established for data personnel	Data professionals integrated with subject matter experts	Multidisciplinary teams solving agency mission and operational challenges	
Systems/ Technology		Data is stored in siloed systems; data are frequently copied to facilitate use	Data are stored in siloed systems; some data can be programmatically accessed	Some common data systems; some data can be programmatically accessed	Some common data systems; key data can be programmatically accessed; some common tools exist	Core common data systems; key data can be programmatically accessed; common tools are in use across agency	
Data Governance		Loose affiliations of technical staff	Bureau-level collaboration, data ownership and stewardship	Agency level collaboration, data ownership and stewardship	Agency-level organization accountable for data governance	Multi-agency advancement of data ownership and stewardship	

Low Capability → High Capability

Frameworks

Strategic Goals & Priorities	Plans & Roadmaps	Governance & Metrics	Data & Content Structures	Skills & Talent	Foundations

2

Business Context

Understand the Problem – Scope the Project

Collaboration

Framing workshop

Operations driven

IT facilitated

Vendors included

Wide agreement

Primary Objective: Ensuring OSIsoft PI System is the single source of trusted and reliable measured production data that is able to be visualised or analysed, anywhere.

The introduction of High Availability from a Business Continuity Plan perspective.

The ability to use new functionality / tools

A rationalisation of Kapuni apps

An extension of selected Kapuni app capabilities to McKee & Mangahewa

Master Data Management and system integration principles apply

What the Project IS NOT…

Just a facelift

About creating an excessive amount of work to upgrade screens

Creating a data repository for other data sources

What is on the Fence…

Mobility

3

Partnerships & Delivery

Our Partners

Good Partners

Share your successes

Assist with challenges

Build your credibility

Mitigate risk

Give valuable feedback

Sell the solution for you

Internal – Office	Internal – Site	External
Test the Tools	Test the Tools	Define Capabilities
Define the Plan	Provide Feedback	Develop Apps
Project Management	Identify 'the Fires'	Put out 'the Fires'
Facilitate Workshops	Optimise the Process	Support & Train
		Pushback / Feedback
		Provide Solutions

No Grand Design – Eating the Elephant

Expand the Capabilities – Simplify   **6**

Embed the Solutions – Awareness   **5**

Develop the Solutions – Apps   **4**

We Are Here

Pick a Sustainable Platform – Asset Intellect   **3**

Update the Capabilities – High Availability / Asset Framework   **2**

Define the Scope - Workshop   **1**

Use Cases – Real World

Integrated Operations Centre
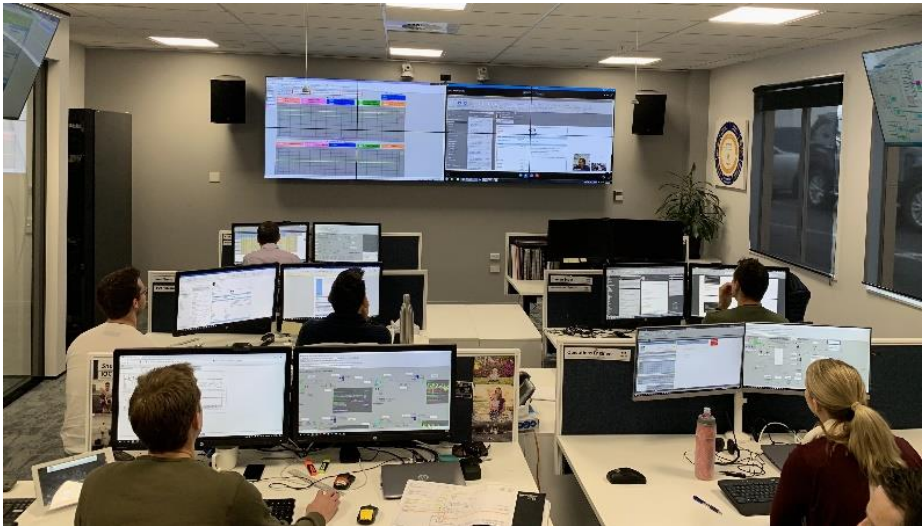
Site Operations

Reliability
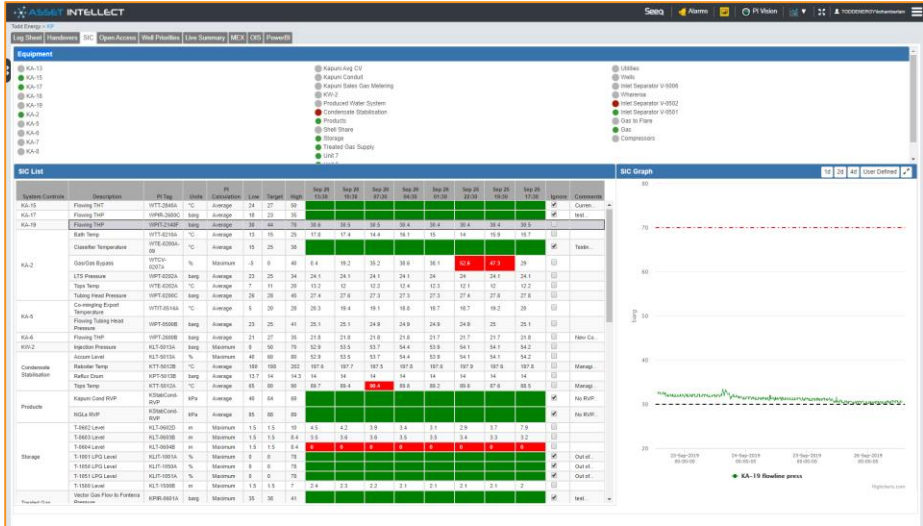
Wells – External Operations
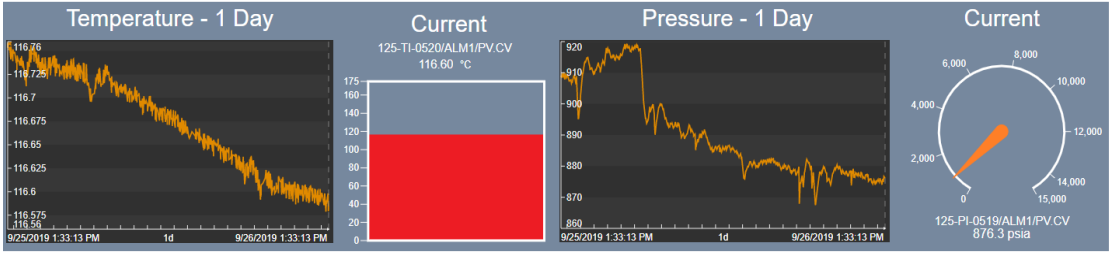
4

Enhance & Expand

Positive Results – Higher Expectations

What's On Offer

Modern User Interface

Better User Experience

Simpler Design

Quick Learning Curve

High Availability

- Faster build times.

- Less hardware.

- Less software.

- 3rd party access.

- Mobile capable.
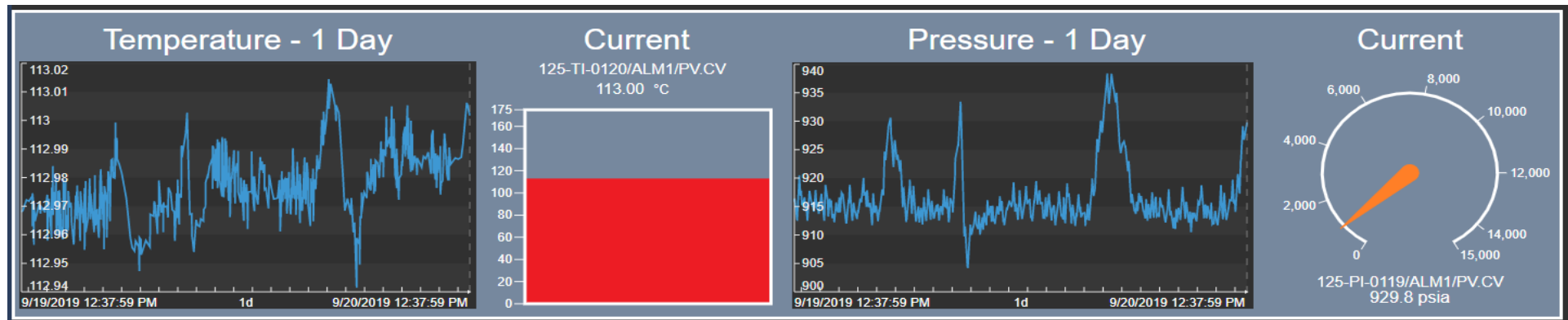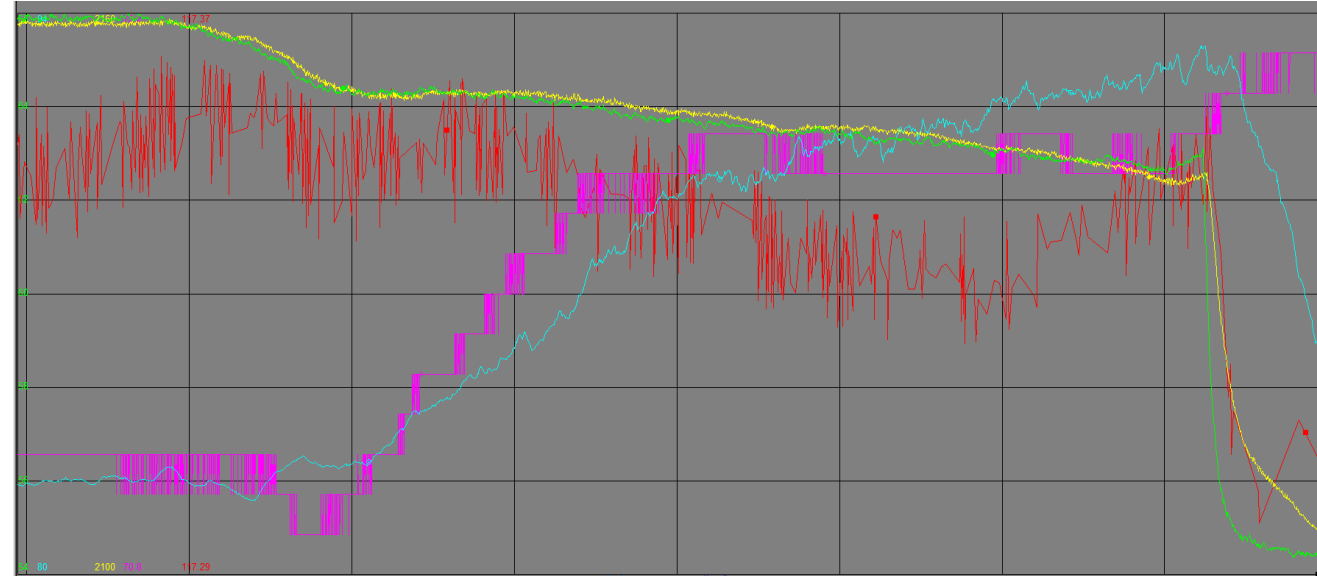
Organic Growth – The New Challenge

Integration/Connectivity

Integrated Ops Centre

Reliability & Integrity

Engineering

Maintenance

Well Operations

3rd Parties

Data

- Pi Archive
- Pi Asset Framework
- Primavera
- Issues & Opportunities
- PDMS
- Frontline
- SQL
- Mex
- WellMonitoring

Reporting / Analytics / Visualisation

MS Excel	MS PowerBI
Pi ProcessBook	Pi Vision
DOF	WIMS

PETROLEUM EXPERTS — DOF

POWERED BY WELLMASTER — WIMS

Integration Portal

ASSET INTELLECT

Our Biggest Achievements To Date

Alignment and Standardisation
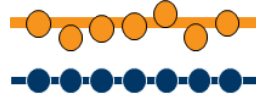
PI System's ability to show real-time plant status and bring business critical production data to our remote sites has been key to getting the whole of production operations in alignment.

Dimension Software have supported us throughout the project providing us guidance and delivery on HA, applications development, and key support when we have requested more functionality and/or troubleshooting.

Challenges	Solution	Results
Acquiring a 50 year old plant.	Bring PI System Data to where it provides the most value to the business.	Transferable processes to each site.
Acquiring legacy processes.		Updated, sustainable ways of working.
Acquiring bespoke applications.	Provide solutions for input, visualisation, and enhancements.	Business is asking for Digital Solutions.
Trying to align a single business.		
Data quality concerns.		

5

Lessons Learnt

Lessons Learnt

1. Strategy drives digital change.

2. Successful digital deliverables require clarity, urgency and planning.

3. Partner for success.

4. The business has to own the solution.

5. Digital requires new skills sets.

6. Data maturity requires more than a new system.

7. Digital transformation does not happen quickly.

Questions?

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