

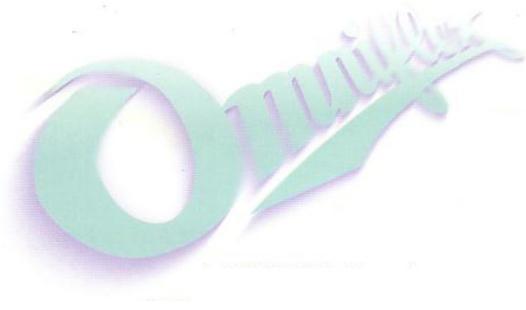
Omniflex

Remote Monitoring Specialists

*An Overview of Omniflex
Cathodic Protection and
Remote Monitoring Technology*

In partnership with IEV Group :





History of Omniflex

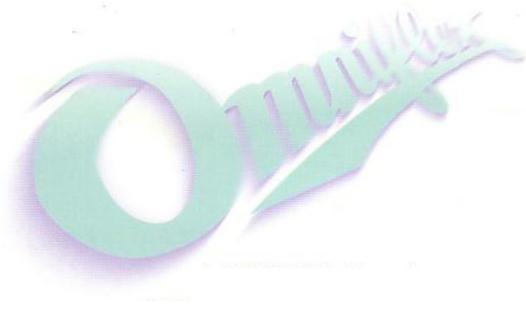


- Designing & manufacturing
- Industrial instrumentation
- for the world's best companies
- since 1965



In partnership with IEV Group :





In the Harshest Environments

EMPHASIS
on
Nuclear Safety
www.emphasis-on-safety.net



In partnership with IEV Group :





Who we serve



Port of Melbourne



REMOTE MONITORING SPECIALISTS



TOTAL Human Energy™



PetroSA

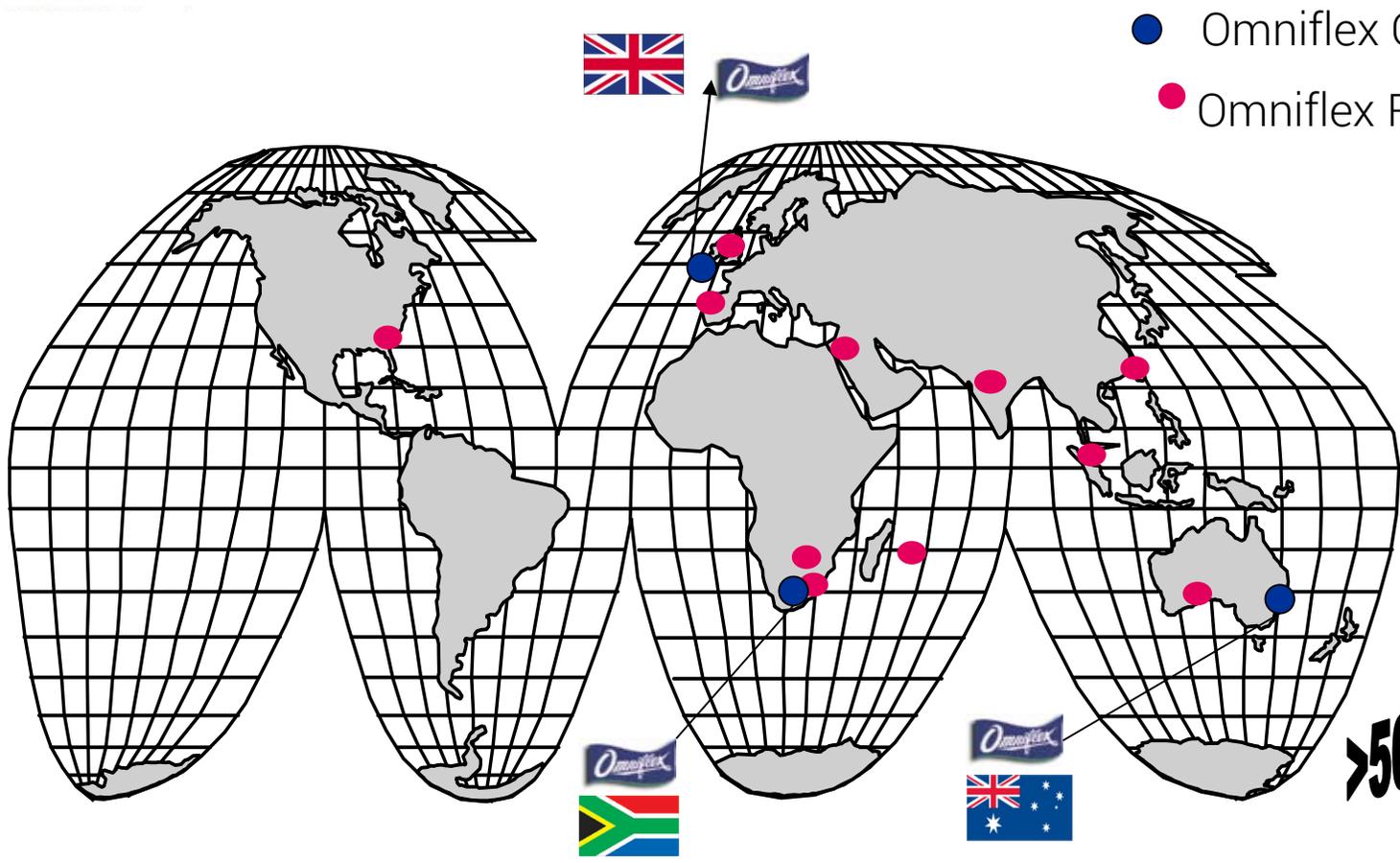


In partnership with IEV Group :





Worldwide...

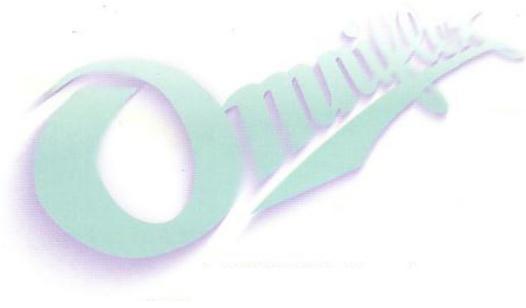


- Omniflex Office
- Omniflex Representative

>50% T.O. is Export

In partnership with IEV Group :





Omniflex Today

- Remote Monitoring Specialists with expertise in critical applications

Our Mission:

To enable anyone to monitor anything

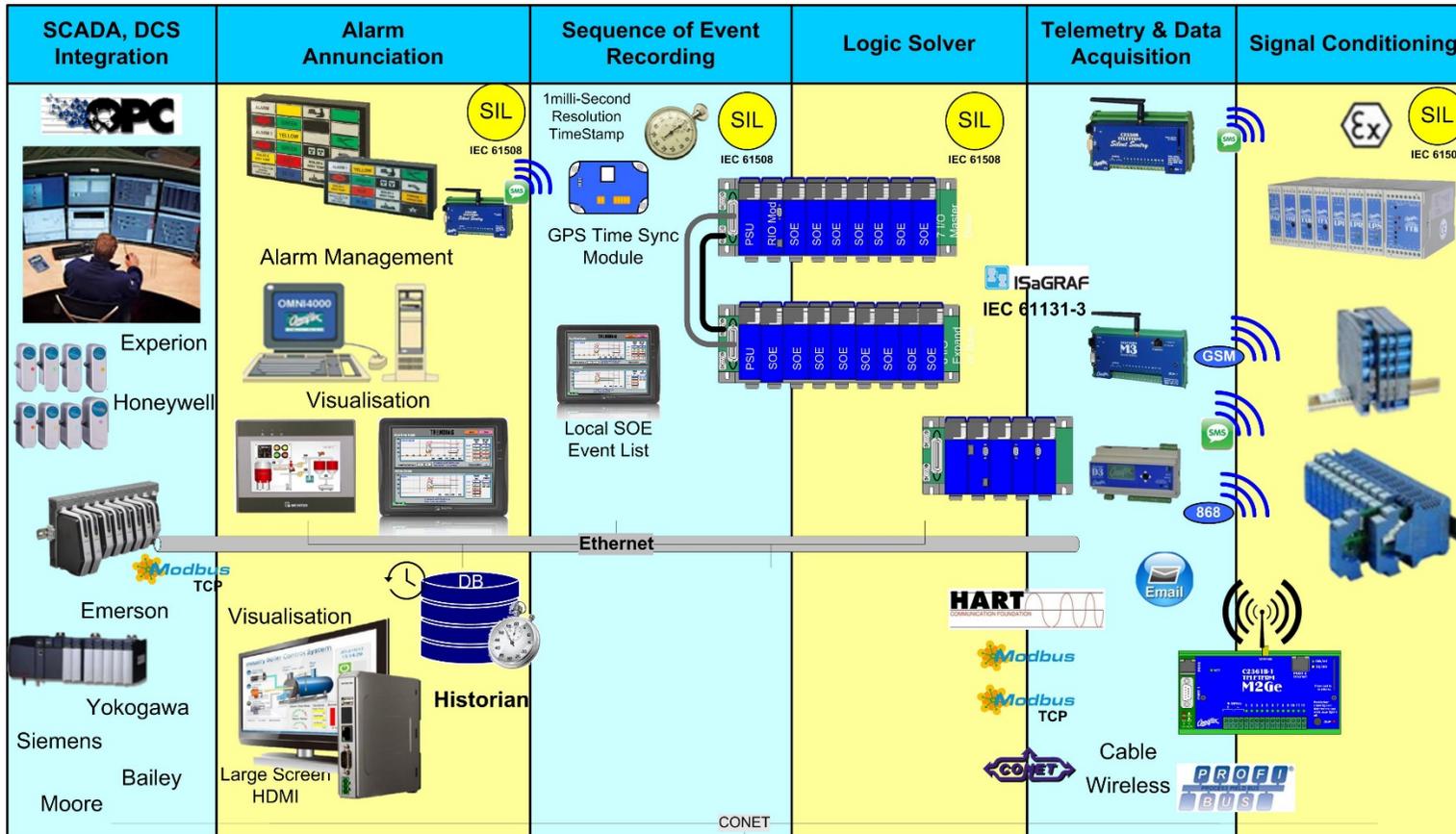


In partnership with IEV Group :



Range of Product Applications

Omniflex Scope of Supply Plant Architecture



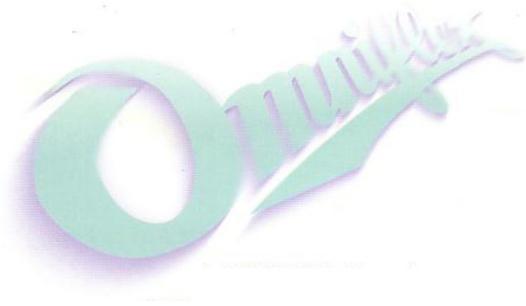
In partnership with IEV Group :



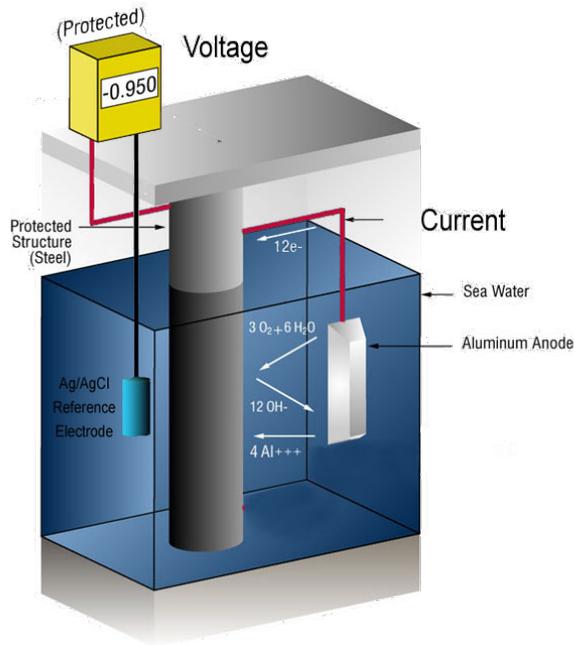
PowerView CP
Cathodic Protection
for the 21st Century

In partnership with IEV Group :

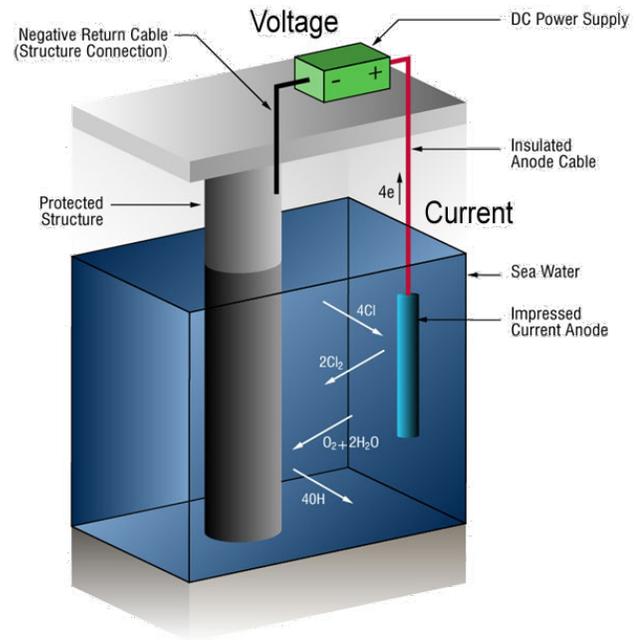




Cathodic Protection 101



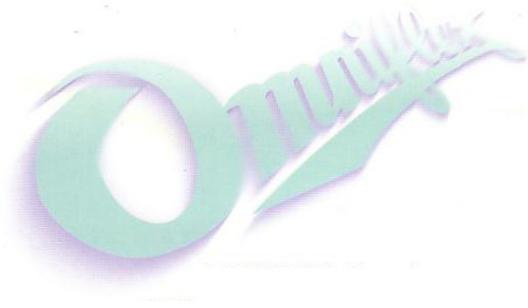
Galvanic
(Sacrificial Anodes)



Impressed Current
(Transformer Rectifiers)

In partnership with IEV Group :





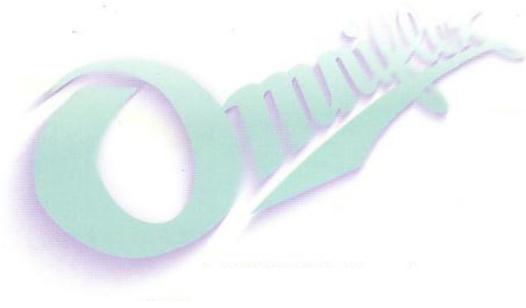
History of Cathodic Protection

- 1824 Sir Humphrey Davy's
- 1890 First CP attempts by Edison
- 1936 Cathodic Protection Society
- 1980 First commercial systems in steel
 - Used tapped transformer/rectifiers
 - Then Phase Control for better control

- Since then?

In partnership with IEV Group :





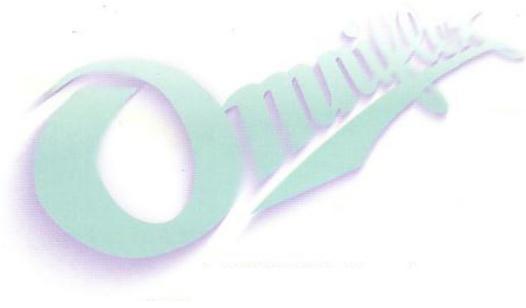
What has Changed?

- Demonstrable Compliance
- Workplace Safety
- Environmental Concerns
- Energy Costs
- Cost of skilled manpower



In partnership with IEV Group :





What has Changed?

- Embedded intelligence
- Power Supply Technology
- Communications Infrastructure
- The World Wide Web

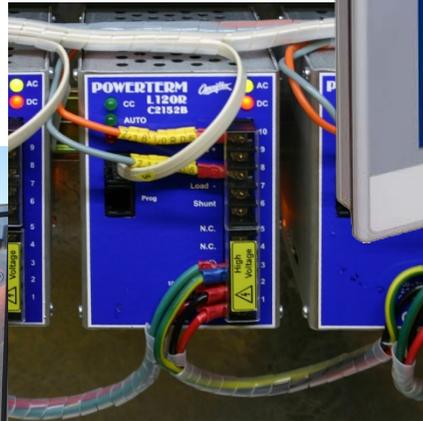


In partnership with IEV Group :





PowerView CP



In partnership with IEV Group :



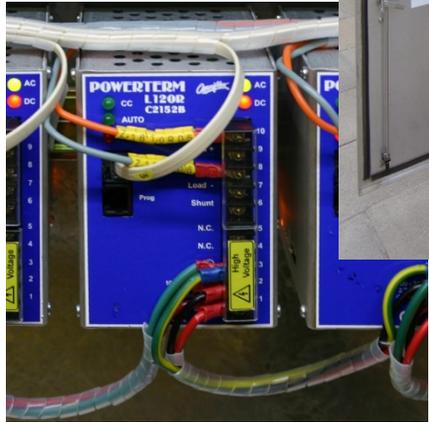


Benefits of PowerView CP

Improving life-cycle costs and efficiency of Cathodic Protection Systems



- Communications to the core
- Reliability
- Serviceability
- Efficiency
- Flexibility



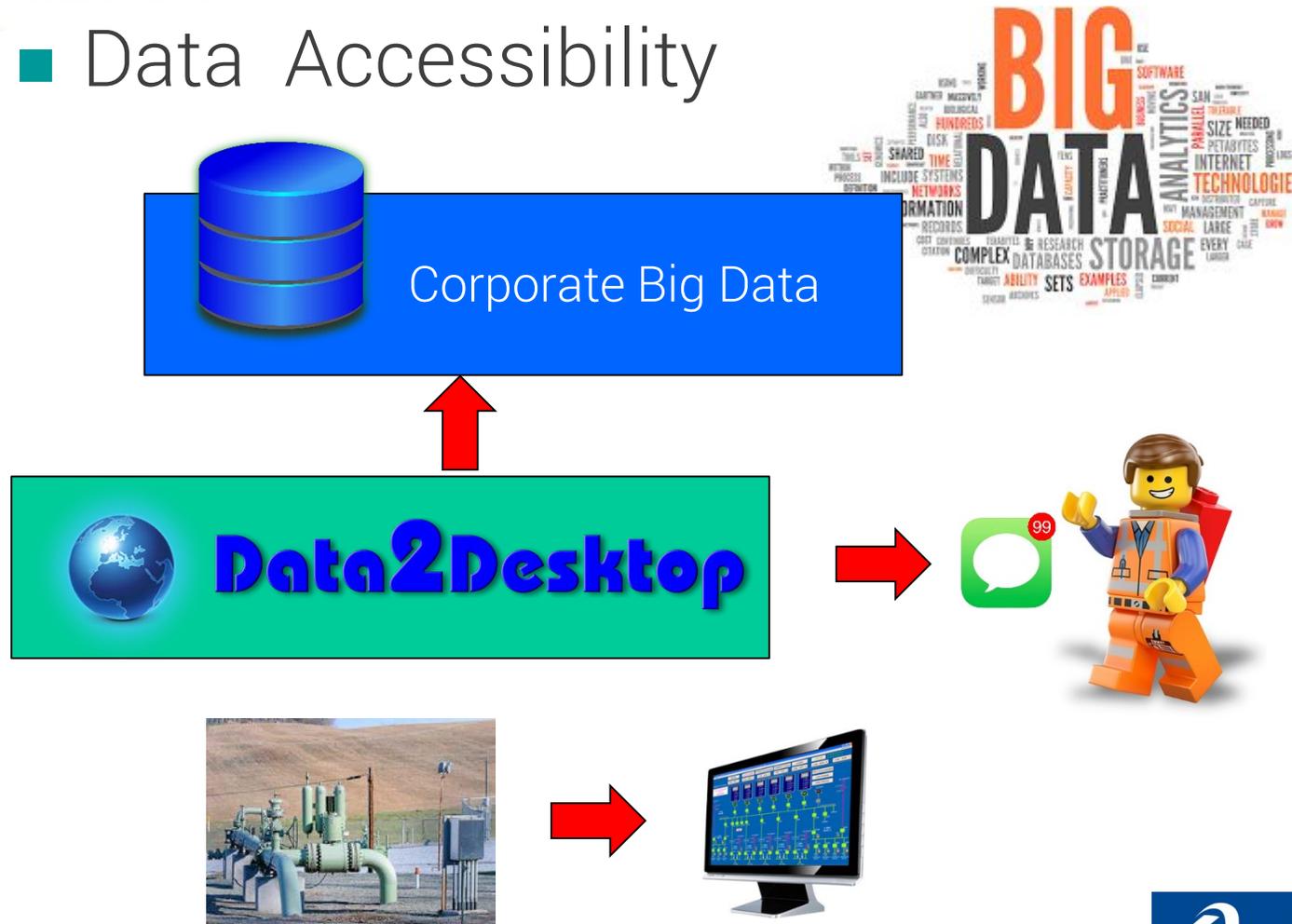
PowerView CP

In partnership with IEV Group :



Benefits of "The Cloud"

- Data Accessibility



In partnership with IEV Group :



Assessing the Risks

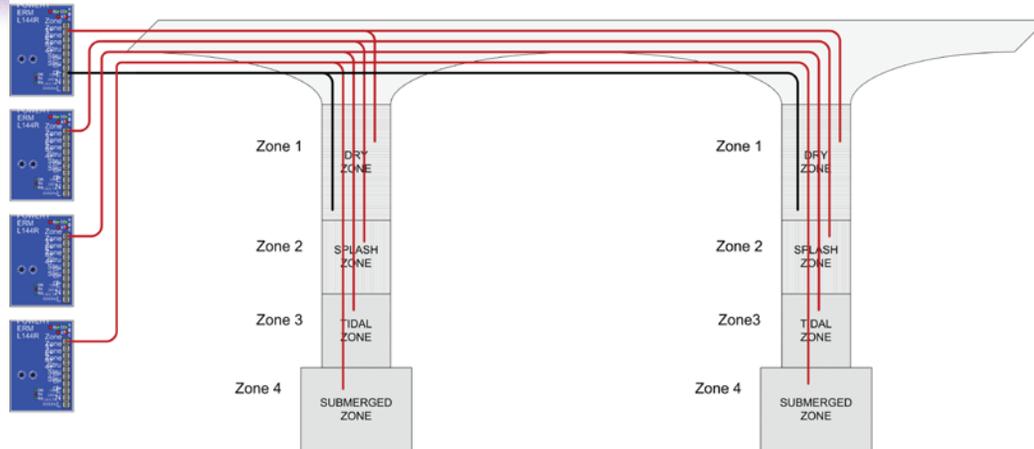
- Obsolescence
 - Don't computers become obsolete quickly?
- Reliability
 - Isn't older technology more reliable?
- Serviceability
 - Isn't simple electronics easier to service?
- Usability
 - Aren't these systems more difficult to use?

In partnership with IEV Group :



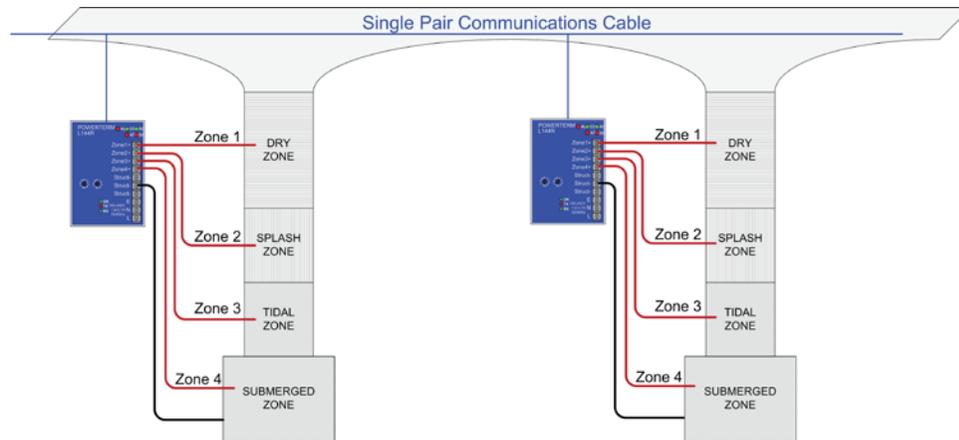


Solutions for Concrete structures



Four shared zones across piers with uncertain current splitting

Traditional CP



Four Independently adjustable zones on each pier give better protection

Distributed CP

In partnership with IEV Group :





Solution for Steel structures



High Efficiency
 "Blade" TR's
 minimises space

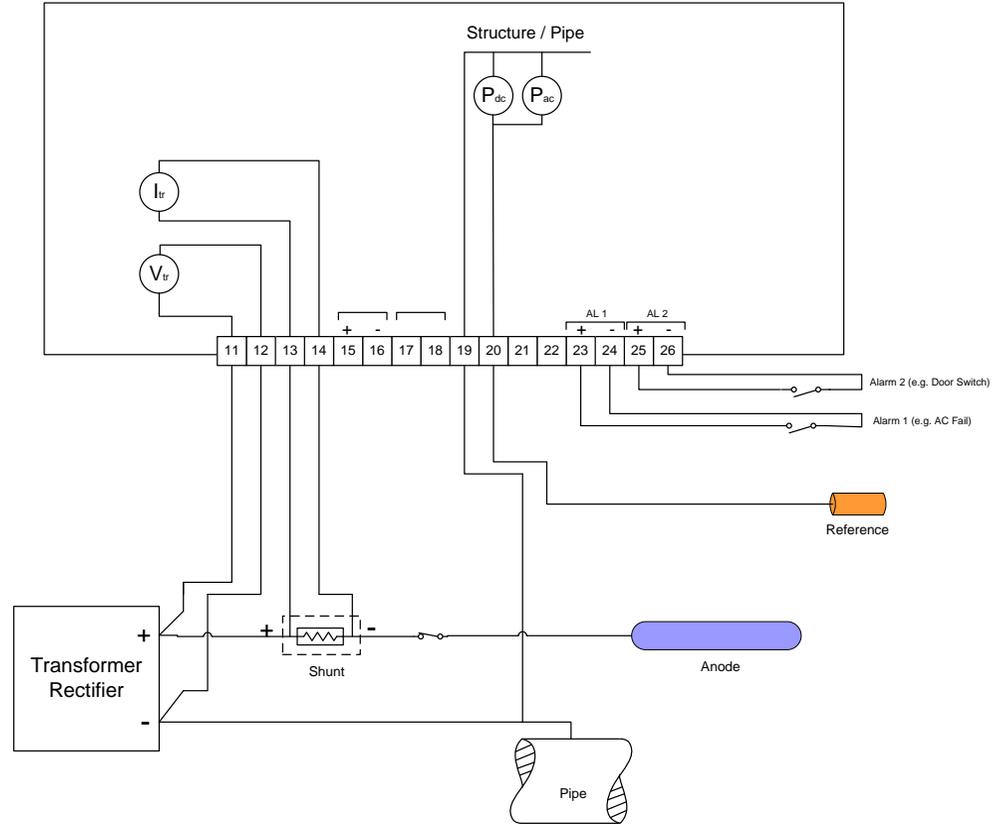
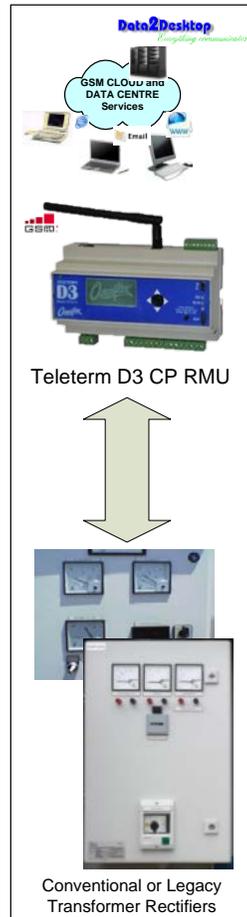
| Model | Power | *-15 | *-24 | *-48 | *-60 |
|------------|-------|----------|----------|---------|---------|
| A800R-xx* | 800W | 15V 50A | 24V 30A | 48V 15A | 60V 12A |
| A1500R-xx* | 1500W | 15V 100A | 24V 60A | 48V 30A | 60V 25A |
| A3000R-xx* | 3000W | 15V 150A | 24V 120A | 48V 60A | 60V 50A |

In partnership with IEV Group :



Adding Remote Monitoring to existing CP

Data2Desktop
Everything communicates



Telemeter D3 - Cathodic Protection Remote Monitoring unit for Legacy and conventional Transformer Rectifiers

In partnership with IEV Group :

Data2Desktop

Everything communicates



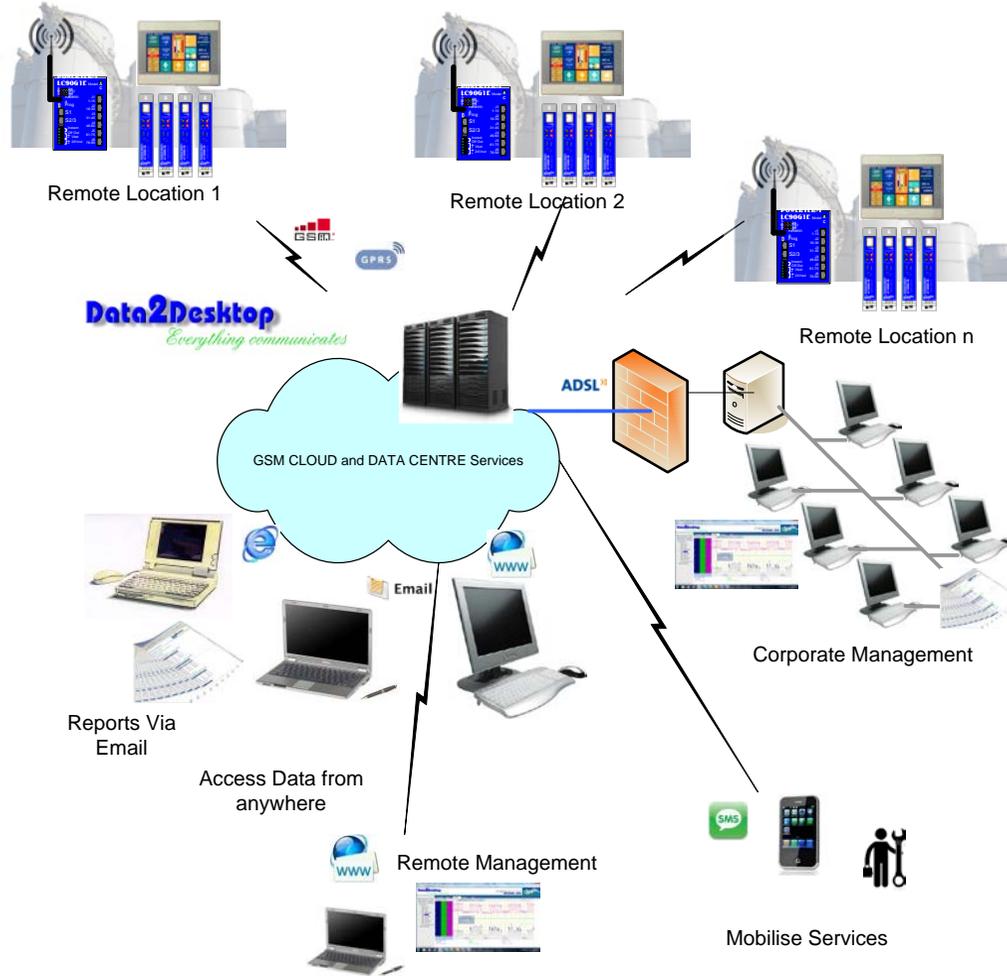
*In partnership with
IEV Group :*



Remote Monitoring Made Simple

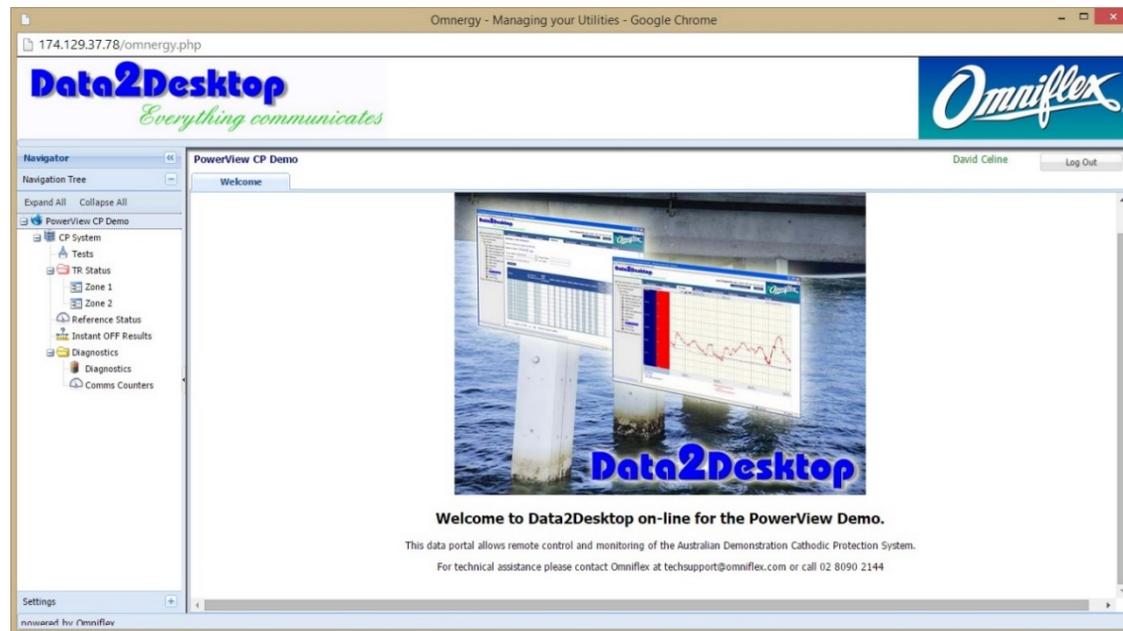


Remote Monitoring & Control Overview



Enterprise View

- Aggregate your Monitored Data
- Share your Data with CP engineering experts
- Management
- Mobilise Services
- Alerts



The screenshot shows a web browser window displaying the Data2Desktop interface. The browser title is "Omnergy - Managing your Utilities - Google Chrome" and the address bar shows "174.129.37.78/omnergy.php". The page features the Data2Desktop logo with the tagline "Everything communicates" and the Omniflex logo in the top right corner. A navigation tree on the left lists various system components. The main content area displays a "Welcome" message and a "PowerView CP Demo" section with a "Welcome" tab. Below the navigation tree, the "PowerView CP Demo" section is expanded, showing a "CP System" with sub-items: "Tests", "TR Status", "Zone 1", "Zone 2", "Reference Status", "Instant OFF Results", "Diagnostics", "Diagnostics", and "Comms Counters". The main content area features a large image of a cathodic protection system with two monitoring stations. Below the image, the text reads: "Welcome to Data2Desktop on-line for the PowerView Demo. This data portal allows remote control and monitoring of the Australian Demonstration Cathodic Protection System. For technical assistance please contact Omniflex at techsupport@omniflex.com or call 02 8090 2144".

In partnership with IEV Group :



Managing Your Assets Remotely

- TR Set-up and Status

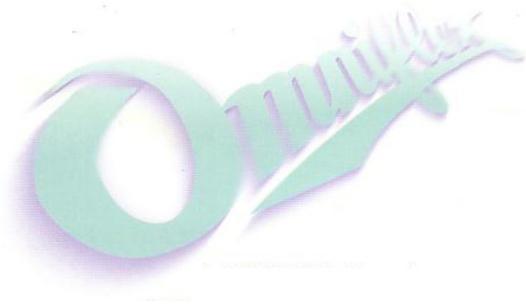
The screenshot shows the Omnergy Data2Desktop web interface. The browser address bar shows '174.129.37.78/omnergy.php'. The page title is 'Omnergy - Managing your Utilities - Google Chrome'. The interface includes a 'Data2Desktop' logo with the tagline 'Everything communicates' and the 'Omniflex' logo. A navigation tree on the left shows the hierarchy: PowerView CP Demo > CP System > TR Status > Zone 1. The main content area is titled 'TR 1 Detail' and 'History'. It contains two panels: 'TR Current Readings' and 'TR Settings'. The 'TR Current Readings' panel shows a table of current values, and the 'TR Settings' panel shows a table of configuration parameters. A 'Send Changes' button is located below the settings table. A note at the bottom of the settings panel states: 'Cells shown in yellow may be edited. Click to edit. Press "Send Changes" to write the changes to the remote system.'

| TR Current Readings | |
|----------------------|------------------|
| Description | Value |
| Alarms | No Alarms |
| Voltage | 0.279 V |
| Current | 0.55 A |
| Loop Resistance | 0.5 ohms |
| Mode | Constant Current |
| Current Limit Active | On |
| TR1 Temp | 38.7 |

| TR Settings | |
|----------------------|------------------|
| Name | Value |
| Mode | Constant Current |
| Ref Setpoint | 1 V |
| Current Setpoint | 0.55 A |
| Voltage Setpoint | 3.8 V |
| Current Limit | 1 A |
| Voltage Limit | 7 V |
| Low I Alarm Setpoint | 0.25 A |
| Ref Dev. Setpoint | 0 V |
| Area of Steel | 2 m2 |

In partnership with IEV Group :





Data Logging of Data

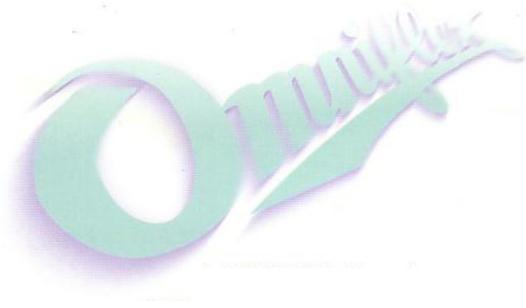
- Log Data at user define intervals

The screenshot displays the Omnergy Data2Desktop web interface. The browser address bar shows '174.129.37.78/omnergy.php'. The page title is 'Data2Desktop Everything communicates' and the Omnergy logo is in the top right. The navigation tree on the left shows the current path: PowerView CP Demo > CP System > TR Status > Zone 1. The main content area shows the 'History' tab for 'TR 1 Detail'. It includes filters for 'From Date', 'From Time', 'To Date', and 'To Time', along with 'CSV' and 'Refresh' buttons. The data table below has the following columns: Update Time, Alarms, Voltage, Current, Loop Resistan, Mode, Current Limit A, and TR1 Temp. The table contains 15 rows of data.

| Update Time | Alarms | Voltage | Current | Loop Resistan | Mode | Current Limit A | TR1 Temp |
|---------------------|--------|---------|---------|---------------|------|-----------------|----------|
| 2014-10-27 12:28:23 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 38.6 |
| 2014-10-27 12:24:26 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 38.6 |
| 2014-10-27 12:20:39 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 38.5 |
| 2014-10-27 12:15:38 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 38.4 |
| 2014-10-27 12:10:31 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 38.2 |
| 2014-10-27 12:05:32 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 38.1 |
| 2014-10-27 11:55:31 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 37.8 |
| 2014-10-27 11:50:36 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 37.4 |
| 2014-10-27 11:45:29 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 37.1 |
| 2014-10-27 11:40:35 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 36.7 |
| 2014-10-27 08:55:29 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 37.4 |
| 2014-10-27 08:50:33 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 37.1 |
| 2014-10-27 08:45:33 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 36.5 |
| 2014-10-27 08:40:38 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 36 |
| 2014-10-27 08:35:32 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 35.2 |
| 2014-10-27 08:25:28 | 0 | 0.172 | 0.35 | 0.4 | 2 | 1 | 33 |

In partnership with IEV Group :





Comprehensive CP testing

- Instant Off
- Reference Status
- Depolarisation
- Interference

The screenshot shows the Omniflex Data2Desktop web interface. The browser address bar shows "174.129.37.78/omnergy.php". The page title is "Data2Desktop" with the tagline "Everything communicates". The Omniflex logo is in the top right corner. The user is logged in as "David Calina".

The main content area is titled "PowerView CP Demo > CP System > Tests". It contains several sections:

- CP Tests:** A table with columns "Name" and "Value". The "Start Date+Time" is "2013-07-09 22:50" and "Off Duration (s)" is "3932160". A note states: "Cells shown in yellow may be edited. Click to edit. Press 'Start' to write the changes to the remote system and Start the test."
- Periodic Reference Readings (only runs when no other tests are running):** A section with a "Settings" table and "Start" and "Stop" buttons. The "Settings" table has columns "Name" and "Value". The "Duration" is "30 s". A note states: "Cells shown in yellow may be edited. Click to edit. Press 'Start' to write the changes to the remote system and Start the test."
- Remote Updates:** A section with three buttons: "Update Reference Readings", "Update all TR Current Readings", and "Update all TR Settings".

The Windows taskbar at the bottom shows the time as 07:46 on 30/10/2014.

In partnership with IEV Group :



Comprehensive CP testing

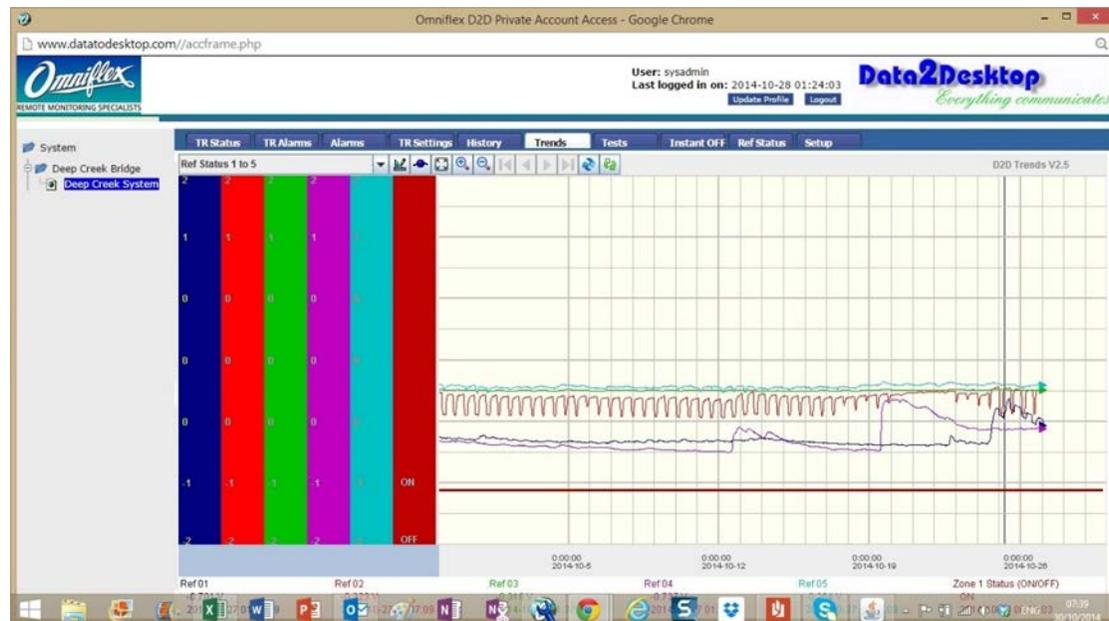
- Select a Test and Run it Remotely!
- Results are Logged

The screenshot shows the Data2Desktop web interface for CP testing. The interface includes a navigation tree on the left, a main content area with a 'CP Tests' section, and a 'Settings' section for 'Depolarisation Test' and 'Interference Test'. The 'CP Tests' section shows 'Off Time' (2 s) and 'Sample Delay' (0.1 s). The 'Settings' section for 'Depolarisation Test' shows 'Name', 'Duration' (5.0 h), and 'Ref Reading Interval' (0.5 h). The 'Settings' section for 'Interference Test' shows 'Name', 'Start Date+Time' (2013-07-09 22:50), and 'Off Duration (s)' (3932160). The interface also includes a 'Start' button and a 'Stop' button for each test.

In partnership with IEV Group :

Trending System Parameters

- System Parameters can be visualised graphically



In partnership with IEV Group :

Case Study - CP

- 5 distributed CP cabinets
- 85 Zones
- 195 references
- Harsh cramped conditions

All interconnected as a single system with remote monitoring and control.

The Omniflex engineers did a great job, and the system has performed flawlessly



In partnership with IEV Group :



Case Study – Cathodic Protection 1

Port of Melbourne
Corporation

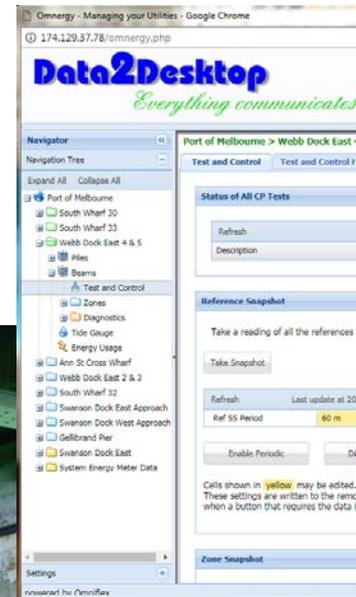


The savings would not have been possible without the Omniflex technology.

Ian Godson
CP Consultant – Webb Dock

- 17 CP Systems across 12 Sites
- Concrete and Steel Systems
- 6 Legacy systems
- 1084 Remotely Controllable Zones
- 2062 remotely readable references
- 287 kWatts of power

All remotely monitored, controlled and tested from a web browser.



In partnership with IEV Group :



Sunrise Energy Saldanha



Sunrise Energy Saldanha – PowerView CP Automatic Control for Cathodic Protection

Sunrise Energy LPG Gas Bullets needed an ICCP system for a Classified Hazardous Area with Remote Monitoring and status notifications.



Control Room CP System connects to DCS

“The end client is extremely satisfied with the equipment provided. We have not had a single defect in the first two years of service”

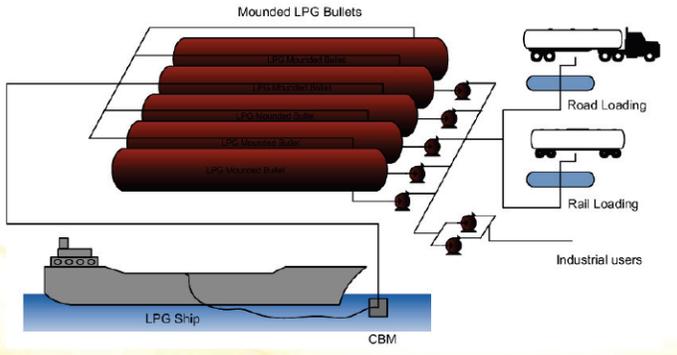
Neil Webb Isinyithi Cathodic Protection Consulting Engineer.



- 5 LPG Gas Bullets
- 6 Zones
- 43 Coupons
- 27 References



PowerView CP Control Room Panel



Before Sand Covering

After



In partnership with IEV Group :



Engen Refinery Tank Farm

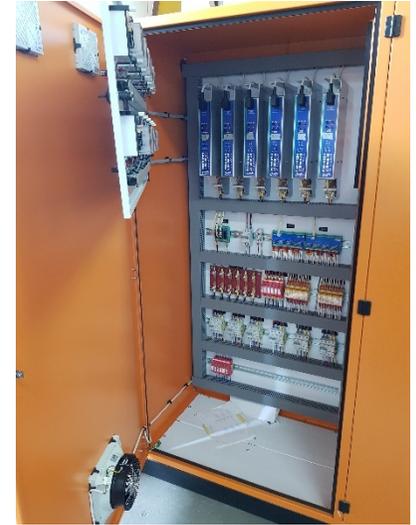


Engen Refinery Tank Farm – PowerView CP Automatic Control for Cathodic Protection

When Engen Refinery Tank Farm needed an ICCP system with Remote Monitoring to upgrade their Large Tank Farm.



Marshalling Panel with 12 TRUs



Internal View showing 6x 1500W TRUs

“Omniflex delivers an excellent product helping to ensure an extremely satisfied client.”

Robyn Hulley
Technical Director - Electrical Manufacturing

- 3 Systems of 12 Tanks per Panel
- 12 x 1500W TRUs per Panel
- PowerView CP Controller and HMI for in Plant Monitoring and Control

In partnership with IEV Group :



“COMBINING DISRUPTIVE TECHNOLOGIES AND PROVEN ENGINEERING CAPABILITIES”

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In Partnership with :

