

Case Study

Utilities

CAPTEC

Tried, Tested and Trusted



The customer

The customer is the UK's largest producer of electricity, generating around one quarter of the nation's requirement.

The company own and operate nine nuclear and coal-fired power stations, with a combined output of almost 12,000 Mega Watts. The power stations supply domestic, industrial and commercial clients throughout the UK, and sell their electricity in a variety of ways, including through the direct supply and wholesale power markets.

Following recent restructuring in response to the changing nature of power production and supply, the company has introduced an extensive programme of investment in new plant, processes and technologies, and increasing use of plant monitoring systems.

Power Station Monitoring & Control

Requirements and issues

- The customer had a requirement to update a 20 year old redundant system with microbox industrial PCs, for the acquisition of data from transducers and thermocouples in a new turbine vibration monitoring system, whilst maintaining utilization of legacy analyzer systems.
- The requirement was for the provision of a Commercially-off-the-Shelf (COTS), microbox platform with the latest edition EPIA 1GHz processor, and COTS Remote Data Acquisition and Control (RDA&C) modules.
- The monitoring systems are located in remote, inaccessible locations within the hostile environment of the power plant, and need to meet 'zero' maintenance construction requirements.
- Due to space constraints, the customer required a compact Microbox form factor for its IPC solution.
- In each of the customer's systems, the vibration from 24 turbine bearing transducers is broken down into its fundamental and harmonic components by a frequency analyzer system. The analyzer system is controlled by the microbox interface which uses the RDA&C analogue unit to fast scan the machine status parameters, speed, load etc. The analyzed components are transferred to the microbox PC and onto a network server.
- The RDA&C units are located remotely from the microbox but have to communicate directly with them. They therefore have to be configured to use a suitable communications method.
- The system solutions are required to be compatible with and offer full connectivity to the customer's legacy systems, operated by the Plant Conditioning Monitoring Team.



The value proposition



The design, research, development and operational capabilities, to provide a cost-effective, in-house designed, customer application specific Microbox computing platform solution.

The provision of expert consultation and analysis of the customer's requirements, and the ability to interpret and encapsulate those requirements in the resultant solution.

The provision of ready made, in-house designed, Commercially-off-the-Shelf (COTS) products, with multi-application functions.

Providing the customer with an instant response though Captec's stockholding of an extensive array of Data Acquisition products.

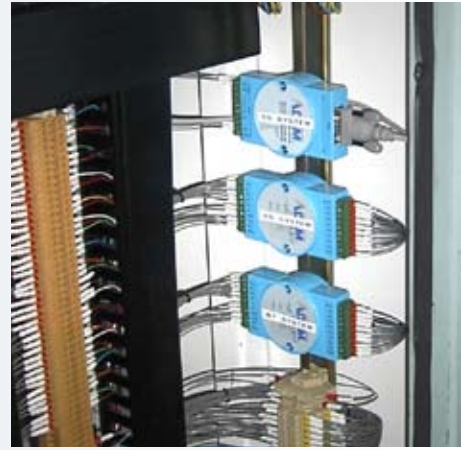
The provision of Supply Chain Management to minimize the effect of component obsolescence and address continuity of supply issues. The provision of high reliability solutions through the selection of Mean Time Between Failure (MTBF) components.

The ability to make the RDA&C units communicate with the microbox systems via the Ethernet, so that they can be located remotely.

Provision of overall project risk reduction, working with an industry leader with a proven reliability track record.

The solution

The outcome



Apollo Microbox PC, latest EPIA M Range motherboard, Onboard heatsink reducing heat and noise.

I/O SERIES - versatile and compact design interface units for reliable performance in harsh environments.

- ✓ The customer was supplied with in-house designed Microbox PCs that perfectly suited the requirements of the application, along with commercially available Remote Data Acquisition and Control (RDA&C) modules.
- ✓ The unique application, in this instance, for the Captec supplied solution, was that in each of the customer's systems, the vibration from 24 turbine bearing transducers is broken down into its fundamental and harmonic components by a frequency analyzer system. The analyzer system is controlled by the microbox interface which uses the RDA&C analogue unit to fast scan the machine status parameters, speed, load etc. The analyzed components are then transferred to the Captec microbox and onto a network server.
- ✓ Cost reductions were achieved by leveraging Captec's access to the commercial component markets.
- ✓ This project has resulted in an on-going supply of an effective solution to the customer.
- ✓ The project has established a firm relationship for future development of the customer's technology requirements.
- ✓ The provision of an overall project risk reduction, through partnering with an Industry leader with a Tried, Tested and Trusted reputation.

OUR PURPOSE - To be the recognised global leader in the design and manufacture of reliable and affordable industrial computers fit for demanding environments.

CAPTEC

Tried, tested and Trusted

UK Office

Captec Ltd,
Brunel Way, Segensworth,
Fareham,
Hampshire, PO15 5TX, UK.
www.captec.co.uk
Tel: +44 (0) 1489 866066
Fax: +44 (0) 1489 866088
Email: sales@captec.co.uk

German Office

Captec GmbH,
Karlsruher Strasse 11/1, D-70771
Leinfelden-Echterdingen,
Germany
www.captec-gmbh.de
Tel: +49 (0) 711/220630 00
Fax: +49 (0) 711/220630 25
Email: sale@captec-gmbh.de

North American Office

Captec Americas Inc.
675 Queen Street South
220 Woodside Business Centre
Kitchener, ON, N2M 1A1 Canada
www.captecamericas.com
Tel: +1 (519) 576-3336
Fax: +1 (519) 576-3992
Email: sales@captecamericas.com



INVESTORS IN PEOPLE



Strenuis Ardua Cedunt - Difficult things fall to the strong

1178-02-08 rev 1 © Captec Ltd. 2007

All Rights Reserved - All products and company names listed are trademarks or trade names of their respective companies.