

# Monitoring Animal Behaviour

automated DAQ and control

test & measurement

custom electronics

engineering software

data management



defence & aerospace

consumer goods

environment

mining

ICT

energy

agriculture

biotechnology

transport & automotive

## Challenge

CPE Systems was commissioned to develop an automated system for monitoring the behaviour of the animals in a controlled environment. The system was required to simultaneously monitor and control several different experiments from one computer while accepting signals from a variety of sensors that detect animal presence, movements or actions.

Another key system requirement was the ability to monitor a mobile gate inside each test enclosure, through variable speed motor controllers and quadrature encoders. Control of several actuators to trigger the desired behavior from the experiment subjects was also a necessity

All of this while allowing the researcher to completely configure the sequence of steps in the test procedure and to define the configuration parameters for each test step through the user interface.

## Solution

CPE Systems provided a solution:

- Using a data acquisition and control system based on the NI Compact FieldPoint architecture.
- That utilises modules for analogue and digital input and output, as well as quadrature encoder signals;
- Uses a LabVIEW application that interacts with the Compact FieldPoint system and the electric motor drives and executes the specified experiment procedures.

## Benefits

- The customer can carry out experiments following various sequences and using different settings without any changes to the software source code.
- New sequence steps, sensors or actuators can be added to the system without any changes to the existing software source code.
- The hardware configuration and software application can be expanded for use at a large number of experimental stations.

For more CPE user solutions, visit our website.

[www.cpesys.com.au](http://www.cpesys.com.au)

