

Operations Research in New Zealand Companies

IFORS OR Survey 2011

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OR in New Zealand

- Niche Software Products
 - The Optima Corporation - ambulances
 - Derceto – water distribution optimisation
- Operations Research within Companies
 - Air New Zealand
 - Norske Skog (Pulp and Paper)
 - Electricity Generators
 - Defence Sector
 - Fonterra (Milk products)

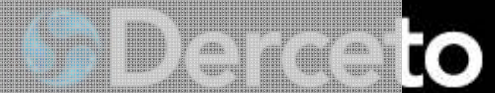


The Optima Corporation

www.theoptimacorporation.com

- University of Auckland spin-off company
 - Many graduates from Engineering Science Dept, University of Auckland, with BE(Hons), Masters, PhD
- Ambulance simulation+optimisation software
 - Used in NZ, Australia, Denmark, UK, Canada, USA
- Using bespoke software with COIN-OR solvers

Derceto



www.derceto.com

Latest

Major savings forecast from European-first Aquadant investment

Top ten UK water utilities have awarded a £10 million pound contract to Derceto via their UK partner Mouchel to implement Aquadant throughout Northern Ireland. The investment is expected to deliver significant cost savings of around £1 million p/a - and deliver other operational benefits.

[Read more >](#)

- Derceto “supply advanced scheduling optimisation [software] for water utilities to schedule production, control pumps and valves in real time, often using real-time energy prices and working with live SCADA systems to automatically control operations.”

– Used in NZ, USA, Australia (from reported case studies)

- Many graduates from Engineering Science Dept, University of Auckland, with BE (Hons) + Masters

Derceto Aquadant software helps water utilities to minimise energy spend and maximise efficiency.

As a water utility, you know your water quality standards and an aging workforce all have a major impact on your ability to constantly deliver safe, reliable water. A seasonal flow...

[Read more >](#)

The Sun Report

WHITEPAPER

Reducing the GHG footprint at water and wastewater utilities in the US and the UK.

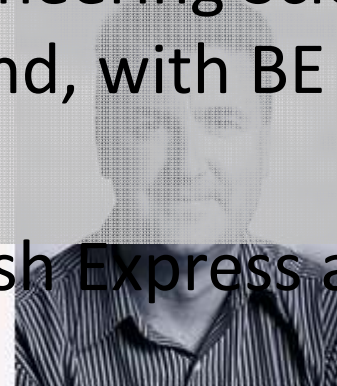
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Andrew Mason
President

Operations Research

Society of New Zealand

Demand Response opens up





AIR NEW ZEALAND

Air New Zealand

www.airnewzealand.co.nz

- Bespoke Pilot and Crew Scheduling software
 - Developed by Air NZ OR Group and Professor David Ryan, Engineering Science
 - Smaller OR group now to maintain software
 - Lead by Paul Keating BE, ME
- Bespoke 0/1 Set Partitioning ZIP solver
- Using SAS, Ilog Tools, Oracle Database, CBC, GLPK
- Edelman Finalist 2000

Norske Skog

- Norwegian-based Pulp and Paper company
 - Turnover \$101m - \$1000m, 100-1000 employees
- OR 'group' = Graham Everett, Energy Mgr (BE+MOR)
 - Collaboration with Prof. Andy Philpott, Engineering Science
 - Electricity usage optimisation
 - Strategic models
- Edelman Finalist 2009



Others

Electricity Markets

- Market cleared using an LP/IP Model
 - Major contributions from Grant Reid, Canterbury University
- Extensive modelling of markets used by...
 - Electricity generators
 - Transmission company
 - Government regulators
 - Private consulting firms

Defence Sector

- Intelligent agent simulations

Engineering Consultancies

- Transport modelling (simulation)

Fonterra

- Major milk products player
- Internal Group
- Production planning etc