

OptiFacts 318



Optimatics

Water System Optimization

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"Most companies are quick to praise the capabilities of their products and services, but it is hard to know if they are really as good as they claim. I recently participated in the training and used Optimatics' software myself; I can see that the Optimatics Genetic Algorithm is a very useful tool in optimising the potable water supply network leading to a significant reduction in infrastructure cost..."

Project Referee:

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Gold Coast training workshop

Understanding how to use optimization technology

INTRODUCTION Optimatics recently held an intensive workshop for members of Gold Coast Water on using the Optimizer software. The workshop follows on the back of other training courses at Yarra Valley Water and Lower Murray Water.

The Gold Coast training workshops

A total of 4 three day training workshops were recently undertaken to instruct Gold Coast Water staff in the use of the award winning Optimatics optimization suite of software.

Training was undertaken in parallel with an ongoing optimization study into the Gold Coast North system and attendees were able to use the actual model of this system

Background

Training is offered to clients in the use of Optimizer software to provide a more detailed understanding of how the optimization process works and to gain experience in the use of the software.

The training can be undertaken as either:

- 2-day introductory workshop or
- 6-day intensive software training workshop.



from the study as part of the training material. This made the course not only interesting and personal but also very useful as solutions could be used practically.

Participants felt rewarded by the experience and the attendees, realising how flexible these search techniques are, proposed new and different areas within their business where they felt the application of GA optimization could also bring benefit.

The optimization training is the first step for clients, who intend to progressively develop their in-house optimization capabilities.

As with Gold Coast Water, the training can be provided in parallel with ongoing optimization studies to make the training more hands on and tailored to the needs of the water authority. Training notes and GA user instructions are provided as part of the course.

KEY POINTS

- 2 day and 6 day courses offered
- Use Optimatics core technology
- Training notes supplied
- Use client models for training where possible

Items covered in the 2 day introductory course

Theory

A short lesson in genetic algorithm theory. Where it came from, how it works and examples of use in the real world.

Optimization in the water industry:

Discussion of applications of genetic algorithms including:

- Urban water planning
- Rural water planning
- Waste water planning
- Operations
- Pump scheduling
- Pipe flushing
- Water quality

Working with Optimizer

Attendees spend the majority of their time on the computer actively learning how to use the Optimizer software and are given sample problems to work on and compete with each other to find the best solutions.

There is also time for the many inevitable questions that arise as part of the work shop.

"I found the "hands-on" Optimatics training course to be exceptionally useful in providing me with the confidence and understanding to utilise Optimizer. I am very excited about this software and our relationship with Optimatics, as I know that future projects will experience huge financial savings and network improvements as a result. We would be unable to achieve this using conventional network modelling programs."

Mr Josh May, Gold Coast Water