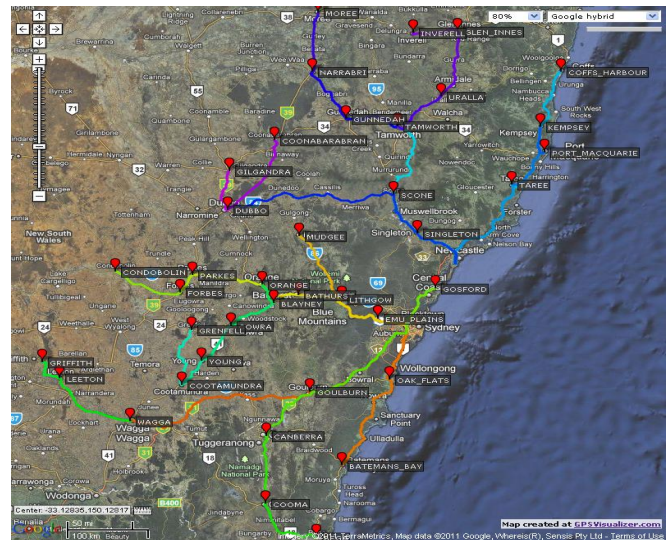
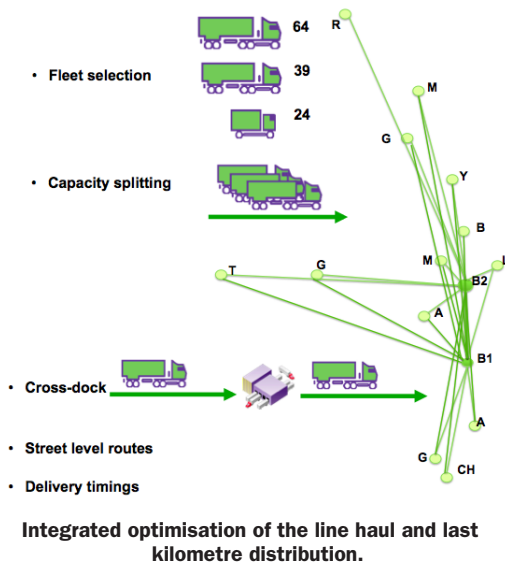




Improving Asset Utilisation



The Challenge

Line-Haul Network Optimisation for Tip Top Bakeries

- George Weston Foods – Tip Top bakeries have an extreme logistics challenge delivering fresh bread daily
- 11 bakeries, 100 distribution centres, >1 million loaves to 20,000 stores
- Transportation spend >A\$100M p.a.

NICTA's Approach

- NICTA developed a new optimisation algorithm, modelling the distribution problem more accurately
- NICTA's constraint programming approaches achieve best solutions to 180 of 300 vehicle routing benchmarks
- Saved 10.4% of operational costs through a better asset and resources plan
- Developed a "Cost To Serve" tool that:
 - Determines the optimal fleet configuration
 - Distributes 'more-than-truck-load' volumes
 - Optimises cross-docking
 - Calculates street level routes
 - Adheres to all business constraints.

Impact

- More efficient use of assets is key to reducing cost and CO₂ emissions
- Fewer journeys, leads to less congestion
- NICTA's optimisation algorithms extend the scope of planning across the supply chain.



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This project is part of NICTA's Infrastructure, Transport and Logistics Business Team, which delivers innovative ICT solutions that transform the efficiency, safety and sustainability of transportation systems and infrastructure networks.

Research Excellence in ICT
Wealth Creation for Australia



Leading the Way

NICTA is Australia's Information and Communications Technology (ICT) Research Centre of Excellence, driving innovation through high quality research, research training, commercialisation and contract research.

NICTA has the largest concentration of ICT researchers in Australia. Our research focuses on use-inspired basic research that benefits industry, the community and the national interest.

Since NICTA's inception in 2002, NICTA has built strong research capability in:

- Software Systems
- Networks
- Machine Learning
- Computer Vision
- Optimisation.

Our Business Teams are the market focus of our research capabilities:

- Broadband and the Digital Economy
- Infrastructure, Transport and Logistics
- Security and Environment.

NICTA researchers work on Business Team projects supported by:

- An Engineering and Technology Development Team
- IP, Legal and other professional support.

Our work as a world-class research institute and Centre of Excellence in science and innovation brings together many of Australia's and the world's top ICT researchers. NICTA provides them with the facilities and support they require, making imagination to impact a reality.

NICTA's unique approach fosters and develops ICT research. We work closely with both industry and other research institutions to solve problems and make breakthroughs in ICT with real impact. NICTA's focus on use-inspired research means our projects have direct relevance to the challenges faced by business, government and individuals around the world. The result is breakthrough technologies that provide commercial opportunities and have a positive impact on Australia's export earnings.

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