

"Necessity is the Mother of Invention"

# Worldwide Growth

## Singapore

Early last year (1998) DADANCO Pty Ltd set up a joint venture company in Singapore to serve as a base for the Asian market.

Managing Director, Vladimir Petrovic, said Singapore was originally a target market for DADANCO technology, not only because of its relative proximity to Australia to begin a global growth strategy, but also because of the country's extensive building construction and re-development projects.

"Singapore is one of the world's largest commercial districts and encompasses vast multi-storey hotels, office buildings, colleges and many fine hospitals as well as a large process and manufacturing industry," he said.

"The prime air conditioning requirements for Singaporeans are energy efficiency and comfort, while their process and manufacturing industries require humidity control without re-heating the circulating air."

"DADANCO technology can meet all of those requirements at competitive prices" Mr Petrovic said.

To break into the Singaporean and Asian markets, DADANCO formed DADANCO Singapore, headed by Business Development Manager, Steven Tan.

Mr Tan was formerly employed as an engineer with a leading Singaporean air-conditioning manufacturer and supplier until 1996, and recently as regional manager of an air filtration company.

In the brief time he has been with DADANCO Singapore, Mr Tan has managed many installation projects that include The United World College of S/East Asia, Mt Elizabeth Hospital, The Club at Robertson Walk and the Colombo Hilton.

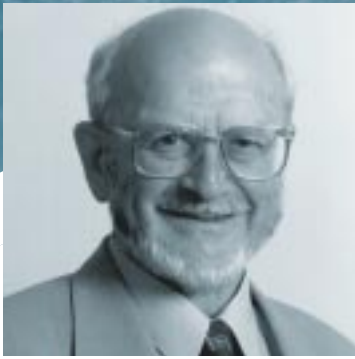
Mr Tan is currently involved in projects to install DADANCO systems in Singapore's Raffles Citi complex and the Shangri La hotel in early 1999, and is submitting tenders for a number of new system and refurbishment projects in the South East Asian region including India, Thailand and Brunei.

Demand for the product in Asia will see DADANCO set up staffed offices in Hong Kong, Malaysia and Indonesia during the next two years.



*Steven Tan,  
Business Development Manager  
DADANCO Singapore*





## Professor Sam Luxton DADANCO Profile

Professor Sam Luxton has been the Chairman of DADANCO Pty Ltd since the formation of the company in 1995.

Holding a degree in Mechanical Engineering from the University of Adelaide and a Ph.D. in Aeronautical Engineering from the University of London, Professor Luxton's professional experience includes: Research Engineer at Parsons & Marine Engineering Turbine Research & Development Association at Wallsend, Northumberland (UK); Ministry of Aviation Research Fellow at the Queen Mary College, University of London; University of Sydney and the University of Adelaide, where he is currently Adelaide Brighton Professor of Mechanical Engineering.

He has special expertise in fundamental and applied fluid mechanics and in the design of air conditioning and combustion systems and equipment. Professor Luxton is the joint inventor of several systems leading to the development of the High Driving Potential (HDP) method of air conditioning and is the co-inventor of the technology used in DADANCO air conditioning systems.

Professor Luxton is also the co-inventor of revolutionary new clean combustion technology for the process industries and is one of the chief designers of the Olympic relay torch for the Sydney 2000 games.

"The development of DADANCO technology had given induction air conditioners a new lease of life by dramatically improving thermal performance while greatly reducing noise," Professor Luxton said.

"The technology, while appearing amazingly simple, is actually firmly grounded in the sciences of aerodynamics, acoustics and noise control, psychrometrics, heat and mass transfer, refrigeration, process integration and optimisation, and computational fluid mechanics."

"The commercialising of DADANCO technology is a prime example of what can be achieved through productive partnerships between research institutions and industry."

# New Technology



## Active Chilled Beams

DADANCO's innovative technology, incorporating multi-lobe nozzles and improved internal ducting, has been used in dozens of buildings in Australia, New Zealand, Singapore and now Europe to improve existing induction air conditioning systems.

The radical nozzle design lowers noise levels typically to between NR 28 and NR 35 and vastly improves the entrainment ratio of induction units, dramatically improving comfort conditions.

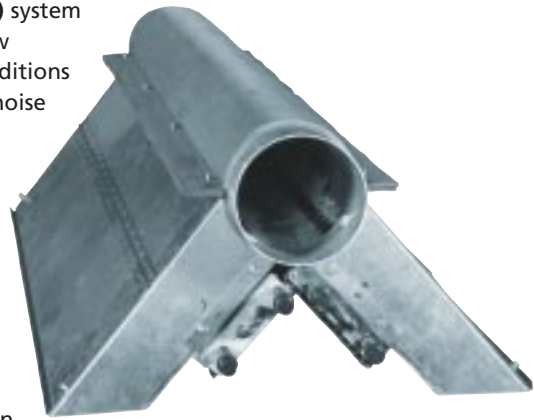
Extending the application of this technology, DADANCO recently developed an **Active Chilled Beam (ACB)** system that greatly improves air-flow distribution and comfort conditions while significantly reducing noise and operating costs.

DADANCO **ACB** system reduces the typical energy consumption of the primary air fan by approximately 65 - 80% of the energy consumed by a fan operating with an all-air system. High-efficiency DADANCO nozzles installed in **ACB** systems lower the total ducted conditioned air requirements to between 20 - 35%.

Combined with the HDP (High Driving Potential) method of air conditioning, **ACBs** will maintain the air in the conditioned space at a prescribed set point - for example 23°C and 50% relative humidity, and are suitable for conditioning air in all types of buildings, in all climatic regions in the world. DADANCO recently installed an ACB system at the Club Robertson Walk, Singapore.

**ACB** systems are low-profile and require smaller air ducts allowing ceiling space to be as low as 350mm in new buildings. This space saving, extrapolated over a number of floors in a new construction, means that 11 floors can be created for every 10 conventional floors, without increasing the height of the building.

### The ACTIVE CHILLED BEAM Unit



Case Study: York Street, Sydney.



# Case study

## York Street, Sydney

### New air conditioning technology pumps up rent prospects

DADANCO's revolutionary air conditioning technology has provided a Sydney construction company with the solution to a problem that threatened to stall a new building project.

Building development company Toga Group was faced with a "no-go" prospect when local building height restrictions limited the proposed 117 York Street building to 12 floors, making it marginally unprofitable as a rental investment.

Conventional architecture and air conditioning systems meant that only 12 floors could be built within the given height restrictions on the site. Thirteen floors were needed to produce a viable rental return.

Toga Group's services consultants, **Adamus Consulting Practice**, referred Toga to DADANCO after learning about DADANCO technology and the **Starline induction units** that required less ceiling space.

One of the key benefits of DADANCO nozzle and chamber technology is that it allows for a reduction in primary air pressure and flow from the main plant. This means that smaller ducting can be used to achieve the same, or in some cases, even better results with induction systems as can be achieved with other air conditioning systems.

Vladimir Petrovic, DADANCO Managing Director, said this meant that the ceiling space in the York Street building could be reduced to 350mm, lowering the slab-to-slab height without reducing floor-to-ceiling height, thereby creating a space gain that would add the extra floor to make the project viable.

"This valuable gain of floor space produced by DADANCO technology has significant profitability implications in the property management market where rent return has to offset enormous construction costs," Mr Petrovic said.

Adamus produced new plans for the building, incorporating a **DADANCO Starline system**, and construction is currently under way.

# Case study: United World College

### High humidity - no problem to DADANCO technology

When the United World College of South East Asia, Singapore, embarked on an expansion program to increase its student population from 1,500 to 2,200 by building new boarding facilities, it incorporated DADANCO air conditioning technology to cope with regional climatic conditions and integrate with the architectural design.

The results, according to the College Board, have been highly satisfactory, as their following letter explains:

"The College is pleased to share the benefits of our experience with others.

The educational areas have turned out well; the comfort level in each of the classrooms is excellent, low noise, low humidity, good temperature and no draughts. This has been achieved by concentrating on the airside of the Air-conditioning System as a primary point of focus.

The use of conventional Variable Air Volume units in each of the educational areas is successful, but these units are only as good as the air they receive; the quality of the air comes from the Air Handling Unit installed. The Air Handling Units have used the 'HDP' process, whereby fresh air is conditioned independent of the circulating air. This has brought about an overall reduction in humidity, which improves comfort conditions.

There was also a need for improved conditions in a large educational block, and here we used the STARLINE High Induction Ratio System. The results, under a difficult layout, have been excellent - comfort, low noise, low humidity and no draughts. The induction process adopted here has demonstrated its ability to perform in a tropical environment where typically, the previous fan coil system failed.

The College has additional work in the coming years; we will continue to adopt a similar philosophy, concentrating on the air conditions, where comfort is the primary concern. We would look closely at the DADANCO range of products again, considering STARLINE, and the DADANCO Active Chilled Beams for the education and boarding areas.

The additional spin-off in this exercise is that the cost of operating the air-conditioning plant has reduced considerably.

Chairman

United World College of South East Asia"

Mr Michael Tan, Estate Manager of the United World College of South East Asia.

# Table of benefits.

# Three years from start-up business to "Entrepreneur of the Year"

## DADANCO Provides:

- Research
  - Development
  - Product design
  - Modern manufacturing methods
  - Engineering solutions
  - Best products
- Spanning the disciplines of:
- Aerodynamics
  - Acoustics and noise control
  - Psychrometrics
  - Heat and mass transfer
  - Refrigeration
  - Process integration and optimisation
  - Computational fluid dynamics
  - System simulation
  - System analysis and control
  - Testing to international standards

## For the worldwide air conditioning market involving:

- Consulting engineers
- Architects
- Property owners
- Property developers
- Hotel owners
- Facility managers
- Plant engineers
- Contractors

## in the design of air conditioning for:

- Office buildings
- Hotels
- Hospitals
- Schools
- Airport lounges
- Public areas

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

DADANCO PTY LTD  
2/49 Holland Street, Thebarton  
South Australia 5031  
Telephone +61 8 8351 9734  
Facsimile +61 8 8351 9735

DADANCO SINGAPORE PTE LTD  
15 Scotts Road #09-04  
Thong Teck Building  
Singapore 228218  
Telephone +65 735 4795  
Facsimile +65 735 5420

DADANCO (EUROPE) CO LTD  
30 Townmead Business Centre  
William Morris Way,  
London SW6 2SZ, United Kingdom  
Telephone +44 171 610 6693  
Facsimile +44 171 736 3525



Vladimir Petrovic, Winner of 1998  
Telstra Small Business Award

Vladimir Petrovic,  
DADANCO  
Managing Director,  
won the Ernst &  
Young South  
Australian  
Entrepreneur of  
the year award  
included in the  
1998 Telstra South  
Australian Small  
Business Awards.

Announced at a gala ceremony at the Adelaide Hilton, the Ernst & Young award acknowledged Mr Petrovic's ability to innovate and convert his vision for his company, DADANCO Pty Ltd, into a reality.

"The awards showcase the innovation, enterprise and outstanding contribution small businesses make to our State. They foster a culture of quality and entrepreneurial spirit that is of benefit to South Australia and the businesses themselves," said Minister for Industry and Trade, Mr. Ian Evans at the awards ceremony.

## [www.dadanco.com.au](http://www.dadanco.com.au)

A quick return from a modest Internet investment has sparked further development of the DADANCO website:  
[www.DADANCO.com.au](http://www.DADANCO.com.au)

Following business expansion generated by a website inquiry from the UK, DADANCO is now developing its Internet site to link all of its offices, agents and distributors, as well as to provide unique services to clients worldwide.

"The response from our site has been quite amazing considering

it has only been up since November 1997 and was created on a comparatively small budget," Chief Information Officer, Milos Novakovic said.

"Last year our site had more than 3,500 hits per month and a substantial proportion of them led to actual enquiries."

The success of the site has prompted a serious upgrade and a new DADANCO site is currently under construction.

"The kinds of services we are now making available on our website include on-line design, selection of equipment, ordering and despatching," Mr Novakovic said.

The DADANCO site currently carries information from corporate, technical and sales brochures, with photographs, technical data and reference lists.

"It's important to have reference lists with technical information on the site," Mr Novakovic said.

"Customers want to know not only what you say you can do, but they want to know what you have done and to be able to follow it up!"

The current expansion into Asia and Europe will see DADANCO instigate an Intranet service to maintain contact with satellite offices and improve day to day business.

"The Intranet will be the most immediate way to communicate unwieldy tendering information like building plans, service schematics and extensive lists of data relative to any proposed installation." Mr Novakovic said.



Milos Novakovic, DADANCO  
Chief Information Officer