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Adacel is a leader in air traffic control simulation and training.

# **Adacel Technologies Limited**

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# **Board of Directors**

Julian Beale (Chairman) Kevin Courtney Silvio Salom David Smith Alex Waislitz Peter Landos (Alternate to Mr Waislitz)

# **Company Secretary**

Mike Woodgate

#### Bank

Royal Bank of Canada

1 Place Ville Marie 7th Floor East Wing Montreal Quebec H3C 3A9 Canada

#### **Solicitors**

Deacons

RACV Tower 485 Bourke Street Melbourne Victoria 3000

Blake Dawson Waldron

Level 39 101 Collins Street Melbourne Victoria 3000

## **Auditor**

PricewaterhouseCoopers

Freshwater Place Level 19 2 Southbank Boulevard Southbank Victoria 3006

# **Share Registry**

Computershare Investor Services

Yarra Falls 452 Johnston Street Abbotsford Victoria 3067 web.queries@computershare.com.au



Adacel is a leader in satellite-based Oceanic air traffic management systems.

# Adacel: Aviation and defence simulation and control

Adacel is a world leader in advanced simulation and control systems for aviation and defence, including air traffic control simulation, satellitebased air traffic management software and voice automated cockpit control systems. Adacel is taking its industry-leading products and technology into associated markets by leveraging its excellent reputation for innovation and quality solutions and its extensive customer base.

# Highlights of 2006

# Strong profits and cash flow

After-tax profit of \$4.94 million including a tax benefit of \$1.01 million Group operating revenues of \$52.39 million, an increase of 40% Recurring revenues account for more than 45% of operating revenues Net cash inflow from operations \$5.91 million

## Improved operating focus

Further improvements in operational focus and program management Improved sales and gross margin performance Continued efforts on operating overhead control

## Continued market leadership in key segments

Further MaxSim simulator sales to US defence forces, Federal Aviation Administration and US aviation college market Contract extension from Lockheed Martin for support of key US air traffic management programs Latest Adacel system installations makes Italian centre the world's largest civilian ATC simulation and training facility

# New products and services leverage Adacel's core technologies

First sales of MaxSim Precision Approach Radar module to US Air Force

On-site simulator support service launched with US defence contracts

Further development of voice activated cockpit system for Joint Strike Fighter and flight testing of system for general aviation

Airbus contract for additional simulation technology for aircraft cockpit and systems R&D

Development and testing of Adacel's Air Traffic Control in a Box for flight simulators

First Adacel Security Control Room simulator installed in US research facility, Sandia National Laboratories

# The Year in Review



Julian Beale Chairman



Fred Sheldon CEO North America

#### **Overview**

Adacel returned to profitability in the 2006 financial year, generating an after-tax profit of \$4,939,000 and stronger cash flows in the twelve months to 30 June 2006.

The improved performance can be attributed to the implementation of the company's strategy to establish a US-based management team and to concentrate Adacel's efforts on its core aviation and defence simulation and air traffic control operations based out of North America.

This focus has allowed the company to continue to lead its target markets, generating increased sales and higher levels of recurring revenues.

We were also encouraged by the initial revenues we generated from our moves to take our technology, products and services into new closely-associated markets.

## Financial performance

Adacel's financial performance in the 2006 year resulted from higher group revenues, improved margins and further improvements in operational focus, program performance and operating overhead control. This included a significant lift in profitability in the June half due to higher margins and some revenue growth compared with the first half.

Group operating revenues rose 40 per cent to \$52,394,000 in the 2006 year. North American operations generated an increase in sales to \$51,611,000 from \$35,224,000 previously, while sales from Australian and UK operations decreased to \$748,000 from \$2,134,000 reflecting the wind down of non-core activities in the 2005 year.

Earnings before interest, tax, depreciation and amortisation (EBITDA) were \$5,642,000, a substantial turnaround from the EBITDA loss of \$7,179,000 incurred in the previous year

After relatively steady amortisation and depreciation charges and reduced finance costs compared with the previous year, the 2006 profit before tax was \$3,932,000. The group received a tax benefit of \$1,007,000 largely as a result of tax incentives on research and development expenditures.

Net cash inflow from operations strongly rebounded to \$5,912,000 for the year compared to a cash outflow of \$3,184,000 previously.

Directors have not declared a dividend for the 2006 year.

#### Organisational changes

With Adacel's return to profitability and further progress in the group's North American strategy, Adacel's founder, Silvio Salom, stepped down from the position of Managing Director in June this year.

The move was planned as the appropriate next phase in Adacel's strategy of focusing on the North American-based operations, which included the transfer of executive responsibilities to North American management in 2005.

The Board is pleased that Mr Salom is continuing as a non-executive Director and will continue to work with the Board on the strategic development of the company.

## Adacel's operations

Adacel's operations performed well during the year, with continued leadership in the North American market, a strengthened position in Europe and awarding of initial orders for several of the company's new products and services.

Recurring revenues are continuing to grow, and with the introduction of on-site personnel services as well as annual support and maintenance and ongoing ATM software support programs, recurring revenues accounted for more than 45% of group revenues in 2006.

At the beginning of the 2006 financial year, the North American management team made significant changes to reorganise the business unit structure and the supporting infrastructure. These changes drove additional accountability into the business units and helped strengthen a "data driven" organisation. In addition, marketing and sales budget and staff were increased by over 30% from last year with significant additions in senior staff.

#### **ATC Simulation**

During 2006, revenues from ATC Simulation operations increased substantially with increased sales of MaxSim and higher levels of recurring revenues from services contracts. In addition, gross margins improved, particularly in the second half, as some lower margin programs were completed, new programs were started at more appropriate margins, and as we took over some support programs previously delivered by a sub-contractor.

In North America, Adacel's position in the air traffic control simulation market was further consolidated during the period by contract

Adacel's MaxSim system in use at the US Army's Fort Rucker.
[Photo by Andrew Stamer – Fort Rucker Public Affairs]





Simulation from Adacel's Security Control Room simulator.

awards from the US Air Force and US Marines, the Federal Aviation Administration and the US aviation college sector.

The US Marines ordered seven MaxSim tower simulators and the US Air Force purchased our new Precision Approach Radar module to augment their 90 systems and exercised a further extension of the Tower Simulation System program for contractor logistics support.

We completed MaxSim tower system installations at three FAA airports, bringing to fourteen the total number of Adacel simulators in use by the US aviation authority.

In Europe, Adacel strengthened its market presence with contracts totalling in excess of \$12 million from Italy's air traffic authority, ENAV, for ATC training simulators. This included installation of 26 of our MiniMax tower simulators, an economical smaller version of our MaxSim targeted at the classroom environment. With these added to the 6 previously installed MaxSim simulators, ENAV's centre in Forli is now the largest civilian ATC simulation and training facility in the world. During the year, we also continued to work with the Austrian and Hungarian air traffic control providers.

Going forward, ATC Simulation will continue to be a core business for us, both in sales of simulators and increasingly - with an established base of 300 simulators through the world — in provision of regular annual support and services business.

#### **Group Financial Performance**

Year ended June 30

A\$000	2008	2005
Operating Revenue	52,394	37,294
Other Income	398	1,132
Total Revenue	52,792	38,426
EBITDA	5,642	(7,179)
Amort & Depreciation	(1,469	(1,487)
EBIT	4,173	(8,666)
Finance Costs	(24	[414]
Profit (loss) before tax	3,932	(9,080)
Tax (expense)/benefit	1,007	7 (756)
Profit (loss) after tax	4,939	(9,836)

## **Group Financial Performance**

Year ended June 30

A\$000	2006	2005
Total Current Assets	25,281	19,774
Total Non-Current Assets	3,713	4,754
Total Assets	28,994	24,528
Current Liabilities	16,428	17,155
Non-Current Liabilities	237	892
Total Liabilities	16,665	18,047
Net Assets	12,329	6,481

# The Year in Review

Air Traffic Control students using Adacel MaxSim Tower simulators.





## Air Traffic Management

Adacel's Air Traffic Management operations again continued to provide a solid base of profitable revenues, with sales in excess of \$17 million for 2006.

We were awarded a further extension to our long-standing contract from Lockheed Martin, continuing to provide software support for two key US programs, the Advanced Technologies and Oceanic Procedures (ATOP) program and the En Route Automation Modernization (ERAM) program.

Also during the year, we provided upgrades for Portugal's Oceanic air traffic management system and after recently completing this, signed a five year agreement with Nav Portugal to provide software and on-site support. Adacel also delivered specialised software support services to Airways New Zealand for their Oceanic Control System.

With our extensive experience in Oceanic and data-linked air traffic management systems, Adacel has established a strategic position to benefit from the moves to modernise air traffic systems in the US and internationally.

#### **Advanced Programs**

We continued to achieve progress in our strategy of taking our existing products and technologies into closely associated market segments, further building initial revenues from these efforts. We continued to build a strong reputation for our advanced technology, particularly in relation to intelligent speech control of simulator and operational systems.

Our contract with Lockheed Martin to develop the voice activated cockpit for the Joint Strike Fighter was extended during the year, and our system has continued to demonstrate excellent operational performance. The work on the JSF has brought Adacel significant credibility and industry visibility, and during 2006 we undertook the first flight test of a cockpit voice system for general aviation.

We delivered the first air traffic generator — based on our MaxSim technology — to Airbus and received a follow-on contract for additional simulation technology to be used in aircraft cockpit and systems development.

During the year we further developed our ATCiB (Air Traffic Control in a Box) product, installing a beta system in an evaluation site and undertaking joint evaluation and market planning with several industry participants.

Overall, we made good progress in developing these new markets during the year and are quickly establishing a reputation as a leader in the application of these technologies to established areas. With initial revenues already being generated from these products, we are in a good position as these markets grow.

## Outlook

In the 2007 financial year, we expect a continuation of improved margins and will continue to focus on costs and profitability. On the basis of this and the current opportunities, we expect earnings in the current December half to exceed those in the first half of the 2006 year, with the full 2007 financial year result a further improvement on the 2006 profit. The

final 2007 result will be dependent on timing of contracts and deliveries, which we will closely monitor and manage.

In the following years, we expect further growth in our markets.

In ATC Simulation we expect market growth to be driven in the US by the requirement for a significant increase in new controllers to replace a large number due to retire, and internationally by emerging markets such as China, India and the Middle East.

In ATM, with the FAA ATOP system now in the initial phase of operation in both the Atlantic and Pacific Oceanic flight regions, we see further opportunities to upgrade the ATM systems of those countries managing adjacent Oceanic airspace.

In our Advanced Programs, our voice activated cockpit technology has significant potential in both military and civil aviation markets, while the market for our Air Traffic Control in a Box could grow quickly, driven by new standards being introduced for pilot training.

For the future, Adacel is strategically well placed, with excellent market position and a growing reputation for producing leading edge products and services that meet a real market need

## Julian Beale

Chairman

# **Fred Sheldon**CEO North America

# Corporate Profile

With its world-leading expertise in three converging areas of technology – real time software, simulation and support and voice control technology – Adacel has created innovative products and services that have established it as a leader in its industry.

Adacel is a leading developer of advanced simulation and control systems for aviation and defence. The company operates in the global aerospace systems market including operational air traffic management, airport and air traffic control training, and airborne vehicle systems.

The company is a world leader in air traffic control simulation, providing simulators for training air traffic controllers in both civil and defence environments and for research, planning and modelling of air traffic procedures.

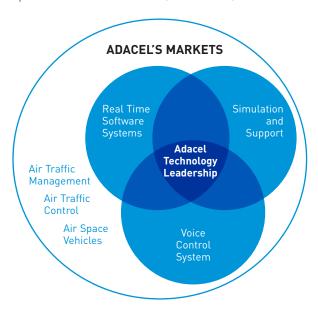
Adacel is also a world leader in real-time mission critical satellite-based air traffic management automation software for Oceanic airspace.

Adacel holds a leadership position in the emerging markets of intelligent speech-driven systems for cockpit and simulator automation, including developing the cockpit voice control for the international Joint Strike Fighter program.

Through its technological leadership and customer commitment, Adacel has built an international reputation for its products and services and has been awarded some of the industry's most prestigious programs.

Adacel systems are in civil and military operation in more than 30 countries throughout the Americas, Europe, Asia and the Pacific and its customers include civil and military organisations, aeronautical universities and large international aviation and defence suppliers.

Adacel was established in 1987 in Melbourne, Australia, and through an IPO became publicly-listed on the Australian Stock Exchange in 1998 (ASX code: ADA). With international success in aviation simulation and control, Adacel's main operating base is in North America. Adacel has operations in Melbourne, Montreal, and Orlando.



# **Board and Management Team**



Julian Beale Chairman

# Kevin Courtney



Silvio Salom Director

#### David Smith Director



Alex Waislitz

# **Board of Directors**

#### Julian Beale

BE (Syd), MBA (Harvard)

#### Non-Executive Chairman

Appointed as an independent non-executive Director in June 2003, Mr Beale has extensive international business and capital markets experience and a background in private and public companies at both Board and management level. Mr Beale held senior positions in a range of Australian companies including English Electric and Esso Australia (now Exxon) and was Managing Director of a resources group with interests in petroleum production, pipelines and minerals. He also established a plastics processing company in Melbourne and was a key participant in the successful transition of Moldflow, a developer of software for injection moulding machines, to the United States NASDAQ capital market. Mr Beale was also a member of the Federal Parliament for 11 years from 1984 as the Member for Deakin and later Bruce. During this time he held many Shadow Ministerial portfolios.

## **Kevin Courtney**

FCA FAICD

#### Non-Executive Director

Independent non-executive Director since October 1998. Mr Courtney is a chartered accountant and a former regional managing partner of Ernst & Young. He is a Director of National Markets Group Limited a member of the National Australia Bank group of companies. He is Chairman of Adacel's audit committee. Mr Courtney has been a Commissioner of the City of Melbourne and a Director of Connect.com. au, the internet service provider sold to AAPT Telecommunications Ltd. He has been Chair of the audit committees of the Victorian Workcover Authority, the Sunraysia Rural Water Authority and the National Competition Council. Mr Courtney is a Director of the DOXA Social Club assisting underprivileged youth. Mr Courtney was a director of Melbourne IT Limited from October 1999 until his retirement in April 2003 and a director of MLC Nominees Pty Ltd. and National Australia Superannuation Pty Ltd from 2003 to 2006.

#### Silvio Salom

BEng (Electrical)

## Non-Executive Director

Mr Salom founded the Adacel business in 1987. He was Managing Director of the predecessor Adacel Pty Ltd from its establishment in 1987 and Managing Director of Adacel Technologies Limited from incorporation in October 1997 until June 2006. Mr Salom has extensive experience in the strategic and operational management of hi-tech companies with particular expertise in information technology related to the manufacturing, environmental, defence, transport, multimedia and telecommunications industry sectors.

## **David Smith**

BE (Electronics)

#### Non-Executive Director

Non-executive Director since July 2000 and prior to that date an executive Director from incorporation in October 1997. Mr Smith was a senior executive of the company and has extensive experience in software development, project and operations management in the military, aviation and transport domains.

#### **Alex Waislitz**

BEc (Mon), LLB (Mon)

## Non-Executive Director

Non-executive Director since August 2003. Mr Waislitz is Executive Chairman of the Thorney Investment Group. He has extensive business experience, and is a director of various Pratt Group and Visy Board companies. Mr Waislitz is a Director of McPhersons Limited and Vice President of the Collingwood Football Club.

#### **Peter Landos**

BEco (ANU)

# Alternate to Mr Waislitz

Non-executive Director alternate to Mr Waislitz since August 2003. Mr Landos is an Investment Manager with the Thorney Investment Group. He joined Thorney in 2000 after five years at Macquarie Bank Limited. Mr Landos is an alternate Director to Mr Waislitz on the McPhersons Limited Board. Mr Landos is also a Director of Biological Wool Harvesting Holding Company Limited, an unlisted public company, and Rattoon Holdings Limited, an investment company listed on the Stock Exchange of Newcastle.





Fred Sheldon CEO North America



Seth Brown Chief Financial





**Gary Pearson** VP Advanced Programs

Dr. Mark Creasap



Georges Ata and Operations

# George Watts





# Senior Management Team

#### Fred Sheldon

BS (Eng) Cleveland

#### CEO North America

Appointed July 2004. Mr Sheldon has an extensive background in managing aviation and defence technology businesses and programs and has held senior positions with Electro-Optical Systems Group and Sensors & Targeting Systems, both part of DRS Technologies Inc., Litton Industries Inc, Rockwell, Boeing Company and Avco Corporation. In the Air Force his positions included deputy of the Air Force Systems Command Liaison Office in Canada, and member of staff of the Under Secretary of Defense for Research and Engineering.

#### Steve Piller

MEME (Stevens) BEME (Cooper Union) MBA (Wright State)

## Senior VP Business Development North America

Appointed September 2005. Mr Piller has extensive experience in multinational aerospace, airline, electronics, software and turbine engine businesses including senior positions at Rockwell Collins in the Commercial Systems, Air Transport Systems and Boeing Programs business units. He has held management positions at Rockwell Tactical Systems Division, General Electric Aircraft Engine Group, Pratt and Whitney Aircraft and Avco Everett Research Laboratory.

# Seth Brown CPA

BS Mathematics and Economics MS Accounting (Georgetown University)

## Chief Financial Officer North America

Appointed January 2005. Mr Brown has extensive financial management experience in aerospace and defence companies including senior positions with Smith's Aerospace - Electronic Systems, Fairchild Defense, Matra Defense Company, Fairchild Space & Defense Corporation. He was also previously a senior auditor with Arthur Anderson & Co.

#### Bill Lang

MBA (McGill) and BA Economics (Concordia University)

#### **VP ATM**

Appointed October 2000. Mr Lang has an extensive background as a senior manager in the marketing of air traffic management systems, military flight simulators and marine control systems. Prior to joining Adacel he held marketing and business development positions with CAE Electronics Ltd. of Montreal and Oerlikon Aerospace and in the shipping Industry. Bill was a Lieutenant (N)in the Canadian Armed Forces (Naval Reserve).

#### **Gary Pearson**

#### VP Advanced Programs

Joined Adacel in 2001. Mr Pearson has extensive experience in product development and testing in the ATC simulation industry including leading Adacel's development team responsible for the functional content of the US Air Force MaxSim TSS system. Prior to holding senior positions in the ATC simulation industry, Mr Pearson was a Flight Lieutenant, air traffic control officer and qualified ATC examining officer in the Royal Air Force and a flight manager with a European air cargo company.

#### Dr. Mark Creasap

MS and BS in Aerospace Operations (Embry-Riddle Aeronautical University) and Ed.D in Adult Education (Nova Southeastern University)

## GM Adacel Systems Inc.

Joined Adacel in October, 2002. Dr Creasap has in-depth experience in operations management, air traffic control operations and training, instructional systems and human factor applications. Prior to joining Adacel, he was a Senior Development Engineer for the Center for Advanced Aviation System Development at the MITRE Corporation, focusing on the establishment of the MITRE Aviation Institute. Dr. Creasap served as Chief, Air Traffic Control

Training for Headquarters, United States Air Force after 16 years as an Air Force air traffic controller.

#### Georges Ata

MBA (Ecole des Hautes Etudes Commerciales) and BS Software (Ecole Polytechnique)

#### VP Engineering and Operations

Joined Adacel in 2001. Mr Ata has extensive experience in managing engineering and technical teams, including managing multiple engineering teams developing various Adacel ATM software products. He previously held senior management positions at Eicon Networks as Director of the ISDN Business Unit, and in other companies such as Zeroknowledge Systems and Rational Software. In 2006, HEC of Montreal, one of Canada's leading business schools, awarded Mr. Ata the "Prix Relève d'Excellence" in the category of Small-Medium Size Businesses for his career accomplishments to date and his role as Adacel's VP of Operations and Engineering. Mr. Ata has also held technical and management positions at SR Telecom, Bell Northern Research and CAE's ATM division.

## **George Watts**

BEng (Elec) UNSW

## GM Australian Operations & Business Development

Joined Adacel in 1992. Mr Watts has an extensive background in marketing and sales in the aviation, defence and telecommunications sectors. He has held senior positions within Adacel and was involved in establishing Adacel's North American operations. He previously held senior positions with Fujitsu, AeroSpace Technologies Australia and a start-up telecommunications company. Mr Watts served in the Australian defence forces for 12 years after graduating from Royal Military College Duntroon.

# **Products and Markets**

# Adacel's Products and Services

Adacel is a global leader in advanced simulation and control systems and services for aviation and defence. Our core products and services are:

#### **ATC Simulation**

- MaxSim: Market leading advanced air traffic control tower and radar simulators for training and research that range from desk top through to fully-immersive 360 degree airport tower replicas, and includes tower cab training, en route and terminal area radar training, Precision Approach Radar and voice control automation systems
- MiniMax: An economical, smaller footprint version of Adacel's MaxSim system aimed specifically at the classroom setting to give students hands-on practice prior to training on full-sized MaxSim simulators.

#### Global simulator support services

- Support and maintenance: "Whole of life" support services for simulation systems to help customers maximise the value of their investment
- Onsite support personnel: A turn-key service providing on-site personnel for ATC simulation operations

## Air Traffic Management

- Aurora: Adacel's world-class advanced automation system available for datalinkbased Oceanic and continental air traffic control
- Support services: Adacel provides upgrades and onsite support in the US to the FAA and in the Azores to Nav Portugal.

## Innovative new products

- Voice Activated Cockpit systems: Intelligent speech recognition-driven technology for aircraft cockpit and mission systems control
- Air Traffic Control in a Box: Simulated ATC environments for flight simulation and aircraft systems research and development
- Intelligent speech-recognition applications for the replacement of human in the loop simulation role players
- Airport Driver simulator: for training airport ground crews
- Security Control Room simulator: for operator training, evaluation of security procedures and assessment and planning of operational security equipment installations in critical national infrastructure.

# MaxSim Locations in the United States



Adacel has supplied MaxSim ATC simulators to Italy's air traffic authority, Ente Nazionale de Assistenza Al Volo. (Photo: ENAV)





Adacel MaxSim simulator system for the US Air Force.

# Adacel's Markets

Adacel has more than 300 systems installed in around 30 countries spread throughout the world. These global aerospace systems markets are serviced from Adacel's operations in North America and Australia. Customers include defence forces, air traffic authorities, aircraft manufacturers, major aerospace program prime contractors and training colleges and universities.

# **United States customer base**

Adacel derives around half of its revenue from the United States. Our customers during 2006 included US Government organisations such as the US Air Force, Army and Marines, NASA and the Federal Aviation Administration, as well as commercial customers such as major aerospace prime contractor Lockheed Martin. The aviation colleges and universities sector has also continued to grow as these expand their programs to meet the critical needs of air traffic controller training.

# Australia and international customer base

Globally during 2006, Adacel provided products and services to central and Eastern Europe, the Middle East, Canada and Australia. Our largest simulation customer outside the US Government was the Italian air service provider, ENAV. Additional simulation customers included Airbus, air traffic authorities and users of our training products in Austria, Hungary, the United Arab Emirates, Saudi Arabia, and Canada. We provided Nav Portugal with onsite support and a major hardware upgrade to their ATM system in the Azores.

# Office & Customer Locations

OFFICE LOCATION

SAMPLE OF CUSTOMERS AND SYSTEMS IN USE

NORWAY
UNITED
KINGOD
K

# **Review of Operations**

# ATC Simulation highlights of 2006

- MaxSim tower simulators and enhancements installed at US FAA Airports at Chicago, Miami and Ontario (California)
- Completed installation of 90 tower simulators at US Air Force bases under its Tower Simulation
   System program

Assumed full responsibility for the support of these installations Integrated a new product line, Precision Approach Radar, into program

- Seven tower simulators ordered for the US Marine Corps
- Installation of 26 MiniMax tower simulators at Italy's Forli ATC training facility
- Launch of on-site support service with contracts with US Army and FAA

# **ATC Simulation**

Adacel continues to be the international leader in simulation systems for training civil and military air traffic controllers and for research on airport traffic procedures and processes.

Civil and military aviation bodies in the United States continued to be key customers for Adacel during the 2006 financial year. Adacel added another US Department of Defence customer, the US Marine Corps, to its ever growing simulator base. The US Marines purchased seven MaxSim tower simulator systems. The US Air Force exercised a further extension of the Tower Simulation System (TSS) program for contractor logistics support, with revenues and profits steadily increasing. This included Adacel assuming responsibility for work previously conducted by a major subcontractor. Adacel continues to provide a comprehensive global support program to all its customers through its Orlando Support Centre in Florida. Adacel's Support Centre is a fully equipped facility providing 24 hour, seven days a week support for over 300 simulation systems worldwide.

We continued to expand our sales of product and services to the US military market. The US Air Force augmented their 90 systems with a contract to add a Precision Approach Radar (PAR) capability into the MaxSim software. As a direct result, Midwest Aviation also purchased a stand alone version of the PAR capability. The US Army upgraded their seven Enhanced Tower Operational Systems (ETOS) with advanced voice and visual technology and added on-site subject matter expert support at Fort Rucker, Alabama.

The Federal Aviation Administration (FAA) and the National Aeronautics and Space Administration (NASA) continue to be important customers for Adacel. During the year we

completed tower simulator installations at three of the busiest FAA operational centres - Chicago, Miami and Ontario, California. Adacel added FAA-unique capabilities to our tower simulator, additional visual channels, pseudo pilots and provided an Adacel person at each location. In June, The FAA William J. Hughes Technical Center announced a contract to upgrade their 360 degree simulator. Adacel provided NASA with a complete upgrade of their visual image generation system to assist in their research and development efforts on future expansion of the National Airspace System.

The Italian air traffic authority Ente Nazionale de Assistenza Al Volo (ENAV) maintains the second largest network of MaxSim ATC tower simulators. In 2006 they purchased and installed 26 MiniMax Classroom tower simulators at their state-of-the-art facility in Forli, Italy. Including the previous 6 full-sized MaxSim 270 degree towers, this makes a total of 32 Adacel air traffic control simulation systems now in use by ENAV.

The new MiniMax tower is an affordable, smaller footprint version of Adacel's MaxSim system aimed specifically at the classroom setting. It comes with an "out-the-window" 3D visual channel that can utilize the same visual databases employed in the full-sized MaxSim. MiniMax is also fully compatible with scenarios designed for its parent system. This makes the MiniMax an economical complement to MaxSim, enabling students to receive hands-on classroom instruction and practice prior to training on the full-sized MaxSim simulators.

The aviation university and college client base continues to grow with the addition of Georgia Aviation Technical College's purchase of a 270 degree tower simulator. Additional products and services were delivered to Embry Riddle

Aeronautical University, University of Alaska and the Community College of Beaver County in Pennsylvania.

#### **Services and Support**

Adacel provides a full range of support and maintenance services including a state-of-the-art, 24 hour, seven day a week on-line customer service program, system upgrade programs, on-site support, initial skill and refresher training programs, e-learning and, instructor utilization training. Adacel's SimCare Program is designed to assist its customers in maximising the value of their systems throughout the life of the product.

## **Market Opportunities**

We expect to see continued market demand for ATC simulators in the defence forces, aviation authority training centres and aerospace universities and colleges worldwide. In the US, the FAA has identified a need for a significant increase in new controllers to replace a large number due for retirement over the medium term and has indicated a likely role for simulators in its training programs. In addition, the US Navy has indicated that it will look to more advanced training technology in air traffic control for land and sea based operators. These drivers are expected to lead to higher demand for ATC simulators over the coming years.

We also expect to see growth in our support and services business. With an extensive presence in North America and over 300 Adacel ATC simulation systems now in use throughout the world, this services business provides the potential for increasing levels of additional, recurring revenue through support contracts, advanced training and the placement of Adacel personnel at customer locations.

# ATM highlights of 2006

- Continued progress in US Oceanic air traffic management modernization program US ATOP system operational in Oakland and New York control centres Extension of Adacel contract with Lockheed Martin for ATOP
- Adacel continues work with Lockheed Martin on the US En Route Automation Modernization program
- Adacel completes upgrade of Portugal Oceanic ATM system and signs agreement for long term software support and upgrades

# Air Traffic Management

Adacel continues to be a leader in air traffic management systems, providing software and software development services in the US and internationally.

In the 2006 financial year, Adacel's Air Traffic Management operations continued the solid performance of previous years, working with Lockheed Martin on key US air traffic management programs and providing upgrades and support for Portugal's Oceanic system.

For the past several years, Adacel has worked with Lockheed Martin on the US Federal Aviation Administration's Advanced Technologies and Oceanic Procedures (ATOP) program. The largest program of its kind, ATOP is modernising the US Oceanic Air Traffic Management system and Adacel's software is at the core of the system. Further extensions to the contract during the year have maintained the level of work with Lockheed Martin.

The ATOP program reached another milestone in October 2005 when the system became operational at the FAA's Oakland Oceanic control centre. The system has been in full operation in the New York centre since June 2005 and is now in initial operations at the

Adacel continued to work with Lockheed Martin on another FAA program, the En Route Automation Modernization program. The ERAM program will replace the existing US en route air traffic control automation systems and selected en route infrastructure with a modernized automation environment.

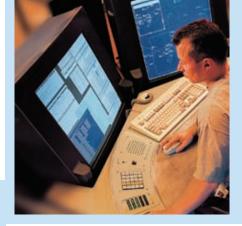
Outside the US, Adacel successfully completed a contract from NAV Portugal to upgrade their Oceanic system's computer hardware, operating systems and real time controller displays and signed a five year agreement with Nav Portugal to provide software support and upgrades to the system. Adacel also delivered specialised software support services to Airways New Zealand for their Oceanic Control System.

## Market opportunities

The successes of the US ATOP system offer further opportunities for Adacel internationally. With the ATOP system now in the initial phase of operation in both the Atlantic and Pacific Oceanic flight regions, the productivity and airspace capacity gains will be maximised when adjacent airspace is managed by compatible systems. Adacel is in a strong position as the adjacent Oceanic systems of neighbouring countries are upgraded.

With Adacel's extensive experience in datalinked Oceanic air traffic systems and our international reputation for our ATM capabilities and software, we are in a strong position to address opportunities in this market for new installations, upgrades and support, as well as in other areas of air traffic management.

FAA's other Oceanic centre in Anchorage, Alaska.



Adacel's technology in operation at Airways New Zealand's Oceanic Centre in Auckland.

# **Review of Operations**

# Advanced Programs highlights of 2006

- Airbus
  - Successful delivery of the first air traffic generator to Airbus
    Follow-on contract for enhanced simulation technology for aircraft cockpit and systems R&D
- ATCiB: "Air Traffic Control in a Box"
  - First ATCiB beta test / evaluation site installation
  - Enhanced market awareness of ATCiB technology and participation in advanced flight training standards planning with regulatory authorities
  - Participation with key industry partners in joint evaluation and market planning for ATCiB
- Joint Strike Fighter
  - Excellent continuing operational performance of JSF Voice Activated Cockpit System Contract extension awarded
- First flight test of cockpit voice system for general aviation
- Successful demonstration of voice activated cockpit system at international F18 Hornet user symposium

# **Advanced Programs**

During 2006, Adacel's Advanced Programs continued to build a strong reputation for advanced technology development, particularly in relation to intelligent speech recognition. Additional contracts from key customers such as Airbus for the MaxSim target Generator and Lockheed Martin for the Joint Strike Fighter have brought Adacel significant credibility and industry visibility in our new markets of flight training products and voice activated cockpits and mission systems.

Speech recognition is now gaining mainstream acceptance for aviation-based safety critical applications, with a number of military and civil avionics and aircraft manufacturers actively seeking out Adacel for potential participation in their respective R&D activities.

During the year we continued work on the development of our ATCiB (Air Traffic Control in a Box) product, which is ideally positioned to capitalise on a new pilot training course being introduced at the end of 2006 to meet the needs of the new Multi-crew Pilot Licence (MPL). This course is designed to take a new student through a single course to qualification as a co-pilot in a multi-crew aircraft, with the regulatory authorities calling for simulation of air traffic communications as a requirement in the simulation phase of training.

Adacel has agreements in place to install beta versions of ATCiB at four locations in North America and Europe. The first installation with a major flight simulator manufacturer is complete, with the three remaining beta systems to be completed over the next few months. The beta installations will give Adacel valuable feedback from the airline users and simulator manufacturers ensuring that the product meets the market needs.

Our relationship with Airbus remains strong, with phase two of the target generator contract nearing completion. Follow on development phases are being discussed and include expanding the target generator capability with ATCiB speech recognition.

The Joint Strike Fighter Voice Activated Cockpit (VAC) program is progressing well, with interim test results indicating the system development is on track to easily meet the performance requirements of this program. Flight testing of the voice activated cockpit technology in a general aviation aircraft provided Adacel with valuable data with respect to human factors issues and dealing with voice commands in a very noisy environment. The flight testing data is now being used to enhance the capabilities of the VAC system in preparation for further flight tests towards the end of calendar 2006.

There are also opportunities for this voice technology in control of Unmanned Aerial Vehicles (UAVs), particularly to address potential control issues where UAVs operate in the same airspace as manned aircraft.

Following the introduction of the Adacel's Security Control Room Simulator, we are marketing the product through a program to demonstrate the value of security operator training and critical infrastructure security procedures assessment. Our product demonstrations are always well received, and we will focus our efforts to further educate and develop this market through 2007. Sandia National Laboratories continues to support the product, and we delivered functional upgrades to their system during 2006.

## **Market Opportunities**

With the impending introduction of the MPL course, the market potential for ATCiB in 2007 looks strong. Adacel's visibility within this sector is growing we are ideally positioned to establish a market leading position for this emerging flight training product.

A number of military aircraft programs are actively pursuing cockpit voice technology and it is anticipated that at least one or two new aircraft programs will evaluate voice activated cockpit capabilities in the 2007 financial year. Adacel's position as the supplier of the Joint Strike Fighter system gives us a strong competitive advantage. A number of civil aircraft manufacturers have started R&D programs expected to lead to deployment of voice technology in business and commercial aircraft over the next three to five years. This is another emerging market in which Adacel has a significant lead over the competition.





Simulations from Adacel's MaxSim ATC Tower simulation system

Adacel is developing a speech-enabled cockpit control system for the F-35 Joint Strike Fighter program.
(Photo: Lockheed Martin)



