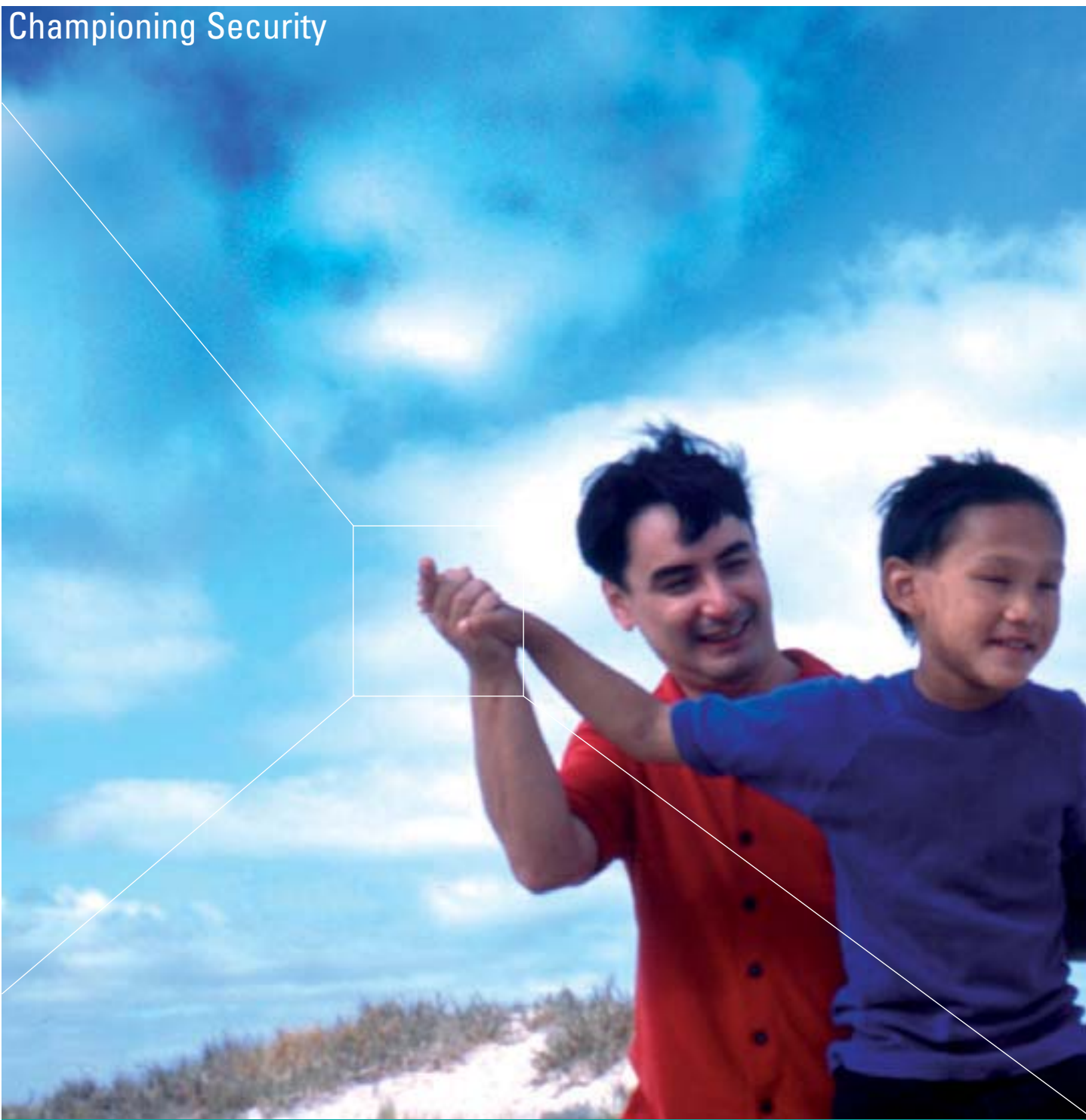


Championing Security



SES Systems



**Singapore Technologies
Electronics**
A company of Singapore Technologies Engineering

In these uncertain times, security is a global priority that has no price. At SES, we are dedicated to preserving peace of mind using state-of-the-art technology and intricate integration networks. Whether for commercial, industrial or defence applications, our software systems and services champion security above all.

Contents

- 1 Vision and Mission
- 2 Our Company
- 3 Our Philosophy
- 5 SES Business Solutions
- 12 Awards and Achievements

Vision

To be a global leader in software systems and services

Mission

To enable people to have world-class mobile real-time systems

Our Company

SES Systems Pte Ltd (SES) is a wholly-owned subsidiary of Singapore Technologies Electronics Limited (ST Elect) which is one of the largest electronics system houses in the region. ST Elect specialises in the design, development and integration of advanced electronics systems for commercial, defence and industrial applications worldwide. Established in 1969, ST Elect has achieved a firm global presence covering mainly the Asia Pacific region and marketing to more than

50 countries worldwide. Its expertise spans three business groups: Communication and Sensor Systems, Software Systems and Large-Scale Systems. SES contributes to the group's capabilities under the Software Systems Group.

Since our inception in 1986, SES has grown to become the leading systems house in the region for real-time decision support systems.

As a key C2I (Command, Control and Intelligence) solutions provider,

SES focuses primarily on providing superior Defence C2I applications, Homeland Security systems and Enterprise solutions to both civil and defence customers worldwide.

Based in Singapore, with operations in Hong Kong and mainland China, SES has an excellent track record in producing best-of-breed solutions and has successful partnerships with our customers all around the world.



Command Centre

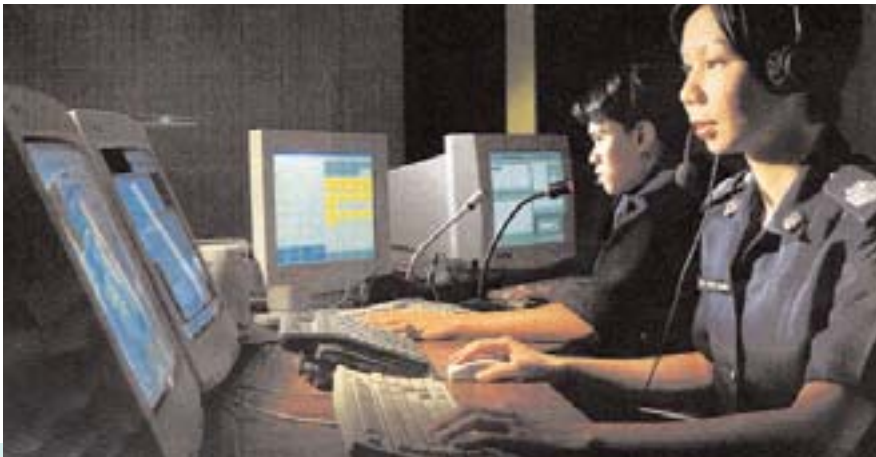


Our Philosophy

At SES, our focus is to help our customers succeed. With continuous learning and innovation as our corporate culture, our staff are motivated to transform the latest technology into world-class solutions that suit our customers' needs.

We are committed to developing integrated systems solutions that will give our customers the competitive edge to grow their businesses and meet business challenges – today and tomorrow – worldwide.

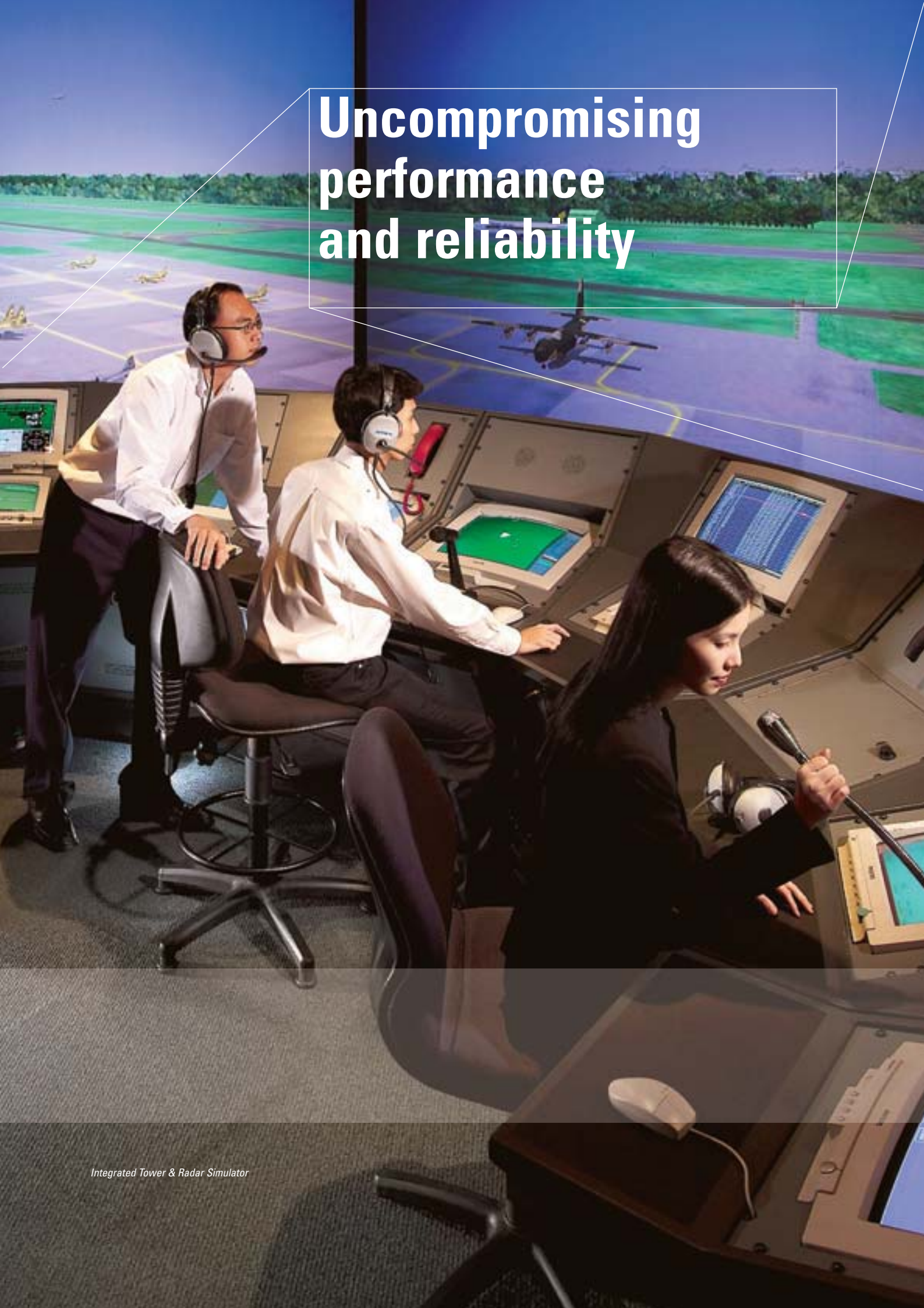
With continuous learning and innovation as our corporate culture, our staff are motivated to transform technology into world-class solutions that suit our customers' needs.



Police Command, Control & Intelligence System



Uncompromising performance and reliability



Integrated Tower & Radar Simulator

SES Business Solutions

COMMON APPLICATION PLATFORM

SES' edge in offering customised systems solutions for all Information Technology (IT) requirements lies in our in-house developed Common Application Platform (CAP) – a re-usable and scalable architecture on which our company's systems are built.

CAP consists of a well-defined process methodology and architecture framework. Its process methodology, *pCAP* improves on the best-of-breed practices of the IT industry that ensures the robustness required by large-scale turnkey projects.

CAP's architecture framework is highly scalable without compromising performance and reliability. This makes it especially suited for distributed, mobile real-time applications. The framework consists of a comprehensive suite of re-usable software components that works easily with commercial-off-the-shelf software. This presents our customers with superior performance and cost savings.

CAP's distinct capabilities in *iCAP* – the integrated Internet/Windows component of CAP – and *pCAP* give us a competitive advantage in the international arena against other world-class systems integrators. These capabilities were instrumental in winning SES the US\$56 million Hong Kong Fire Services Department programme in March 2001.

DEFENCE COMMAND, CONTROL & INTELLIGENCE APPLICATIONS

SES plays an integral role in the defence industry through our provision of turnkey designs and implementation of both mobile and stationary Command and Control (C2) centres. We develop and integrate the sophisticated decision-support function, the intelligence information collection and collation functions, and the wireless communications function of the C2 system in the centres.

Each centre performs the essential role of collecting data and information from sensors or external systems linked to it. The data is validated and further processed

through the intricate decision-support functions of the system. The system also provides communication links for scheduled and ad-hoc commands to operatives in the field. These dynamics are synchronised in the system, with the field situation presented in real-time to commanders at the C2 centre, assisting them in making operational decisions.

Other defence applications offered by SES are COMBAT, a battlefield management system equipped with an automatic position reporting capability; FireCon, an accurate and timely artillery fire support system; and G-Stat, a strategic and tactical UAV monitoring system.



*Ruggedised Standard
Operating Common Console*



Constructive/Command & Control Simulation

SES constructs state-of-the-art simulation systems to address the realistic training needs in both defence and commercial sectors.

Using CAP as the backbone, we developed simCAP – the foundation layer on which other constructive simulation systems are spawned. This approach cuts down development time that translates to cost-savings for our customers. Our simulation systems are C2-centric and offer two-dimensional or three-dimensional visualisation which can be used for virtual reconnaissance before executing the mission. One such system is our Land Warrior System that is designed to support up to division level exercise in training military commanders in realistic battlefield scenarios with more than 20,000 objects simultaneously. All our systems are HLA (High Level Architecture) compliant and are ready to be linked to other virtual or instrumented simulators.

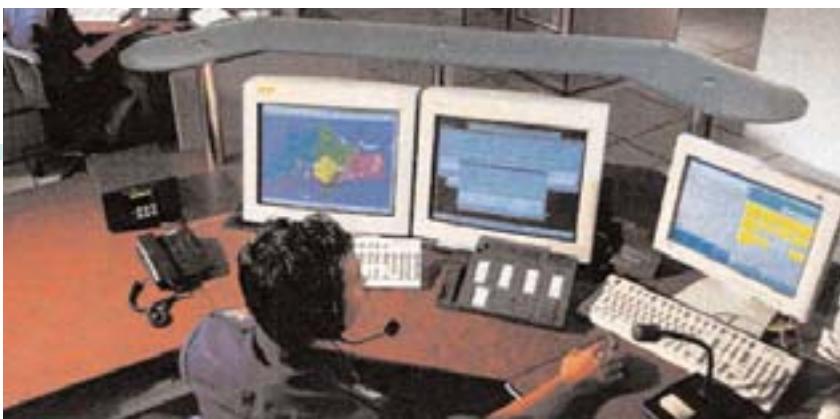
SES' Aerodrome Tower and Radar Simulator is Asia's first integrated 360-degree air traffic control (ATC) and radar simulator, specially designed for real-time ATC training. This state-of-the-art training facility provides both air traffic and radar controllers a realistic training environment, effectively preparing them for actual situations.

Ruggedised Systems

Recognising the harsh conditions for operating mobile systems in the field, SES offers ruggedised systems that can perform well under demanding conditions. One such

product is the Standard Operating Common Console (SOCC). The SOCC is meticulously designed for operation in severe surface-ship and submarine environments for a wide range of sophisticated C2 applications. Stylish, rugged and modular, the new generation SOCC is also suited for use in the engine room as well as for bridge monitoring and control functions. It provides a superhighway network for weapon and sensor systems in the military platform to achieve operational survivability and redundancy. It gathers and distributes information with complete software support through object-oriented tools.

Through our 'system of systems' integration, SES empowers government agencies with centralised command and control, optimised resource tracking and despatch on a real-time basis for key essential services.



HOMELAND SECURITY SOLUTIONS

Homeland Security is paramount for national interest. To government authorities, being equipped with the latest decision-support systems ensures not only optimal but timely response to emergencies and crises. Through our 'system of systems' integration, SES empowers government agencies with centralised command and control, optimised resource tracking and despatch on a real-time basis for key essential services.

PRIMES, or Police Resource Incident Management Executive System, is a total solution created to enhance the efficiency and effectiveness of the Police Force's response to situations. This state-of-the-art system enhances police operations in areas such as crisis contingency planning, special incidents planning, resource despatch and real-time incident orders and reports. It permits distribution of processes and coordination of operations, whether from a central control or from district or divisional offices. PRIMES supports the extensive coverage of

police operatives and activities in the field by integrating the concepts of remote sites, mobile command centres, data terminals and hand-held terminals.

FLAMES, or Fire Services Location & Management Emergency System, is a crisis management system devised for Fire Safety agencies. It has, among its many distinctive features, computer-aided despatch, incident command and control, allocation of vehicles and planning of routes, general fire-services operations support, and systems and security administration. FLAMES also has a built-in training and exercise feature suitable for simulated training of firemen recruits. Committed to preserving peace of mind, SES also equips public safety agencies with the latest BCR (Biological, Chemical & Radiological) monitoring solutions.

ISCAN, or Integrated Surveillance Command Network, allows a Coastal Police Force to possess integrated and effective command and control of activities in coastal waters and

borders. *i*SCAN features an integration of multiple electronic sensors such as radar, electro-optics and GPS capabilities to facilitate 24-hour monitoring in coastal waters and borders. Through its target tracking prediction function, *i*SCAN provides mobile surveillance for high activity areas while aiding quick decision support when responding to suspicious activities. Like FLAMES, *i*SCAN is designed with impeccable reliability and a built-in training feature. Powered by CAP, it is fully upgradeable and expandable.

EMMAS, or Emergency Management System, offers a complete solution for medical organisations to despatch ambulances to specific locations in the shortest possible time. EMMAS provides support for a full range of activities, including operational messaging, resource supervision and management, geographical situation picture management, call taking and despatch, incident management, query and information support, mobile services, as well as scheduling and roster management.



*In-Vehicle Mobile
Data Terminal*



*Biological, Chemical
and Radiological
Monitoring Solutions*

SES also offers sophisticated systems – *i2s* and *BIDS* – to Intelligence Agencies, augmenting their efficiency in ‘crime-busting’.

i2s, or Intelligent Integrated System, supports all phases of work processes for Intelligence Agencies’ through management, presentation, and control of intelligence data. This facilitates further investigations, data collection, operations, research, and analysis – eliminating the time-consuming manual method of processing bulk intelligence data, within and across cases.

BIDS, or Biometric IDentification System, is an automated multi-modal biometric system that allows law enforcement and other security agencies to accurately and seamlessly capture, store, search and verify fingerprints, faces, palms, irises and voices for identification of persons and to help solve crimes. It is user-friendly and flexible, allowing searches to be performed on multiple criteria. Its advanced database and algorithms also enable searching at high speeds. Built on standards-based architecture and hardware platform, *BIDS* is scalable, cost-effective and allows for easy integration to other

systems such as criminal intelligence and surveillance systems.

Capitalising on its forte in C2 systems, SES offers prisons worldwide state-of-the-art ***Prison C2I*** (Command, Control & Intelligence) system to enhance prison security. This intricate system boasts key features like record and replay, CCTV integration, mustering, situation alerts and geographical situation picture with personnel tracking. These features give prison managers a full picture of inmates’ movements and the prison’s overall security. *Prison C2I* also equips the manager with computer-aided decision-support tools in the daily prison administrative tasks and the management of crises and other contingencies.

ENTERPRISE SOLUTIONS

SES offers a comprehensive range of products for enterprises, covering aviation systems, mobile computing systems, e-business solutions and financial systems.

Aviation Systems

Tapping on our expertise in advanced mobile real-time information

systems, we have developed the ***ARMS*** (Airport Resources and Activities Monitoring System) for airport operators worldwide. The system performs a broad spectrum of C2 functions, including situation picture and resource tracking, resource despatch, report generation, web-based query, integrated flight information and much more. It empowers the service-oriented airport operators with relevant information at their fingertips.

SES also offers ***Multi-Lateration Systems*** to airport authorities in the Asia-Pacific and the Middle East. Our unique multi-lateration systems increase the level of safety and efficiency in airports and air traffic management. They provide accurate surveillance and identification of all transponder-equipped aircraft in the air as well as on airport surfaces. They use multiple receivers to capture aircraft transponder pulses and compute the aircraft positions and identification. At larger airports, they complement the existing surface movement radar systems, providing considerably improved and more reliable data than from a single surveillance sensor.



State-of-the-art Biometric IDentification System



Airport Resources & Activities Monitoring System

Security in every sense



Integrated Homeland Security Solution

For smaller airports that rely on visual surveillance, it provides a cost-effective surveillance system to enhance safety. This makes the multi-lateration system an ideal solution for airport surface surveillance across airport types.

The multi-lateration system also serves as a platform for **ADS-B** (Automatic Dependent Surveillance – Broadcast) another important aviation technology offered by SES to aviation authorities worldwide. ADS-B is a highly accurate GPS-based system that provides pilots and air traffic controllers with a common surface and air situational awareness. This improves pilots' capabilities for landing in low-visibility conditions and enhances their ability to 'see and avoid' adjacent traffic. ADS-B also facilitates fleet tracking for airlines.

Mobile Computing Systems

For field officers on the move, the **MIRS** (Mobile Inspection Records System) heightens their productivity in the field. A configurable solution, MIRS extends the use of mobile

computing technology, allowing field officers to record, process and update work order information by simply using their palmtop computers. In addition to better capturing and organisation of data, traditional paperwork and cumbersome administration processes are eliminated. SES has effectively applied this mobile computing system for various key agencies in Singapore – for the Bishan-Toa Payoh Town Council in its estate management, and for the Ministry of Health in its monitoring of health standards and requirements in hospitals and clinics throughout the island.

Financial Systems

SES forms strategic partnerships with the world's leading software companies to provide quality e-business solutions to our clients, covering financial systems for security audit, risk management and equities order management trading. Through a centralised terminal using our Equity Order Management System, traders and brokers are equipped with real-time information

of multiple markets as well as research news that provide in-depth market analysis. With instant access to customer records and the ability to carry out real-time data feeds, better management of customer relationships is made possible. Our system has state-of-the-art features that allow traders and brokers to perform trading, queries and charting, as well as the ability to programme trades and manage risks. In view of the structural changes in Singapore's brokerage industry, these advanced features give today's stock broker/trader a competitive edge in his role as an investment consultant.

To strengthen our foray into the financial services sector, SES delivers end-to-end payment solutions and e-banking solutions to financial institutions in Singapore. These solutions range from the traditional card-based online systems to mobile secured payment systems. In addition, we are able to provide the new secured Visa-3D credit card authentication system. With our success in this field, we have since



ADS-B (Automatic Dependent Surveillance – Broadcast) ground station



extended our product offerings to include an extensive range of mobile and wireless applications and other payment solutions such as Electronic Bill Presentment & Payment (EBPP) and loyalty and rewards programmes.

Linux Knowledge Centre

The SES Linux Knowledge Centre helps large enterprises face the challenge of rapidly expanding data by offering affordable and reliable storage and backup consolidation

SYSTEMS INTEGRATION & SUPPORT SERVICES

Working closely with leading IT and electronics OEMs, SES develops quality solutions to integrate different systems tailored to our customers' specific requirements. We have a proven track record in managing large and complex projects, such as defence C4I projects and the Third Generation Mobilising System project with the Hong Kong Fire Services Department.

operational needs. These include:

- Radar Control Systems
- Data Communication Links
- Land-based, ship-borne and airborne C2 Systems
- Vehicle Monitoring Systems
- Mission Planning Systems
- C2 Simulation Systems

Over the years, we have gained a reputation for delivering high quality solutions tailored to meet our customers' needs.

Being a total solutions provider, SES does not stop at developing quality systems. We also provide dedicated life cycle systems support services to sustain our customers' daily operational needs.

solutions. Its Information Security Laboratory provides security solutions with a proactive approach, focusing primarily on the intrusion detection domain.

Being a total solutions provider, SES does not stop at developing quality systems. We also provide dedicated life-cycle systems support services to sustain our customers' daily



Mobile Inspection Records System

Awards and Achievements

SES was one of the first companies in Singapore to be certified with the ISO 9001 international quality standard for software development. Since then, we have also attained the Singapore Quality Class Award in recognition of our distinct benchmarks in customer service and systems integration.

An active player in the Information Technology field, SES is a strong advocate of bringing IT to the workplace. In 2001, we won the inaugural Intelligent20 Award for our strategic use of IT and the Internet to improve business and operations.

SES is a subsidiary of Singapore Technologies Electronics which is part of the Singapore Technologies Engineering Group, that achieved the Singapore Quality Award in 2002 – the most prestigious award in Singapore for business excellence.

MILESTONES

1993 – Certified ISO 9001

1995 – Awarded Coastal Surveillance project by a public safety agency

1997 – Formation of SES as the C2I arm of the Singapore Technologies Group
– Awarded Ministry of Home Affairs' C2 system contract, Singapore

1998 – Commissioning of War-game system by the Ministry of Defence (MINDEF), Singapore
– Commissioning of ATC Simulator by the Singapore Arm Forces (SAF)

1999 – Awarded Singapore Quality Class
– Attained People Developer Standard
– Launch of MIRS in Bishan-Toa Payoh Town Council, Singapore

2000 – Awarded Singapore Press Holdings' CAD System contract
– Attained Gold Award for SHARE, a charity programme

2001 – Awarded US\$56m Third Generation Mobilising System contract by Hong Kong Fire Services Department
– Awarded Automated Fingerprint Identification System II contract by the Ministry of Home Affairs, Singapore
– Awarded the inaugural Intelligent20 Award for innovative IT processes at work by Intelligent Enterprise Asia
– Established the Linux Knowledge Centre, first-ever in Asia-Pacific

2002 – Attained the Defence Technology Prize (DTP) Team Award for joint development of "Air Command and Control Hub" project by Defence Science & Technology Agency, Republic of Singapore Air Forces, DSO National Laboratories and SES



Cert No: 2000-1-0213
SS ISO 9001 : 2000

SES SYSTEMS PTE LTD

Head Office

24 Ang Mo Kio Street 65
Singapore 569061
Tel (65) 6481 8888
Fax (65) 6481 0693
Email mktg@ses.st.com.sg

www.stee.st.com.sg/
www.ses.st.com.sg

Branch Office

5 Ang Mo Kio Street 62
Block C, Level 8
NCS Hub
Singapore 569141
Tel (65) 6481 8888
Fax (65) 6349 1730
Email mktg@ses.st.com.sg

Shenzhen Branch Office

ST Electronics (Shanghai) Co., Ltd


China State Construction Building
25th Floor, 2503-2509
2105 Shennan East Road
518005 Shenzhen
China
Tel (86) 755 8228 8468
Fax (86) 755 8228 8428
Email mktg-sz@stelect.com.cn

Hong Kong Office

**Singapore Technologies
Electronics Limited**

40th Floor, AIA Tower
183 Electric Road
North Point
Hong Kong
Tel (852) 2577 1230
Fax (852) 2577 1121
Email mktg@stelect.com.hk

For details of our global presence,
please visit our website at
www.stee.st.com.sg



SES Systems Pte Ltd
24 Ang Mo Kio Street 65
Block D, Level 5
Singapore 569061

www.stee.st.com.sg /
www.ses.st.com.sg



**Singapore Technologies
Electronics**
A company of Singapore Technologies Engineering