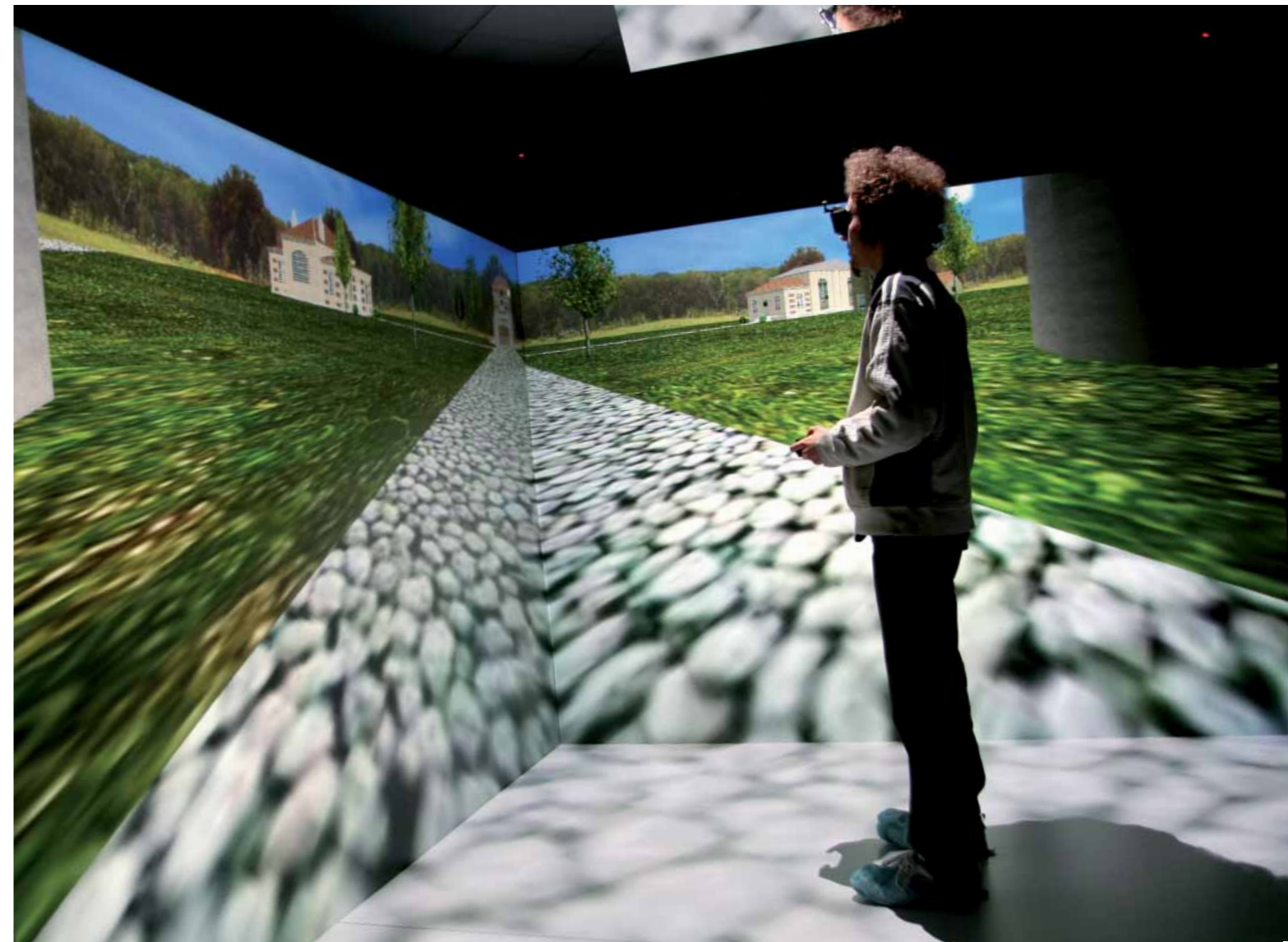


ST Electronics shares the commitment to environment sustainability. The pages of this brochure are printed on recycled paper which contains 55% recycled fibre (25% post consumer and 30% pre consumer) and 45% elemental chlorine free pulp. The stock has ISO 14001 Environment Management System (EMS) accreditation.



MODELLING, SIMULATION AND INTERACTIVE DIGITAL MEDIA

dreams today
transforming tomorrow
together, we maximise
human potential

Contents

harnessing technology for learning, work and play **1**

our systems and solutions **2**

our company **8**

harnessing technology for learning, work and play

As a recognised leader in the international modelling and simulation arena, we are a complete, one-stop provider of quality simulation and live training solutions for both commercial and defence customers for over three decades.

New technologies have transformed the way people learn, work and play in an unprecedented manner. These technologies have and will continue to pave the way for infinite possibilities in the domains of Simulation, Animation, Games and Edutainment (SAGE).

The multi-billion dollar SAGE sector is one of the key focus areas of Singapore Technologies Electronics (ST Electronics). ST Electronics has benefited from the advancement of these technologies, which not only enable an enlarged scope of solutions, but also increase the reliability and cost-effectiveness of new applications that are better able to meet today's highly specific needs.

As a recognised leader in the international modelling and simulation arena, we have already garnered a firm foothold in the market as a complete, one-stop provider of quality simulation and live training solutions for both commercial and defence customers for over three decades.

Since our launch into the Interactive Digital Media (IDM) industry in 1999, we have won international acclaim and attention for our digital animation productions, thanks to our solidly entrenched technological expertise. This sets the course for our vision to be a major player in the global IDM market.

ST Electronics' modelling and simulation solutions are provided through our various subsidiaries, ST Electronics (Training & Simulation Systems) Pte Ltd, ST Education & Training Pte Ltd, ST Electronics (Info-Software Systems) Pte Ltd, as well as VT MÄK in the US, Antycip Simulation Ltd in the UK and Brightspot Interactive Learning Pte Ltd in China. Our animation projects are delivered through our subsidiary ST Electronics (Digital Media) Pte Ltd.



3D visualisation solution for modelling and simulation

our systems and solutions

Quality is the hallmark of our modelling and simulation solutions. From design and consultancy to maintenance, upgrades and after-sales service, ST Electronics provides unparalleled customer support.

Simulation

Simulation plays an invaluable part of modern-day training solutions, providing realistic scenarios and terrains where training in real-life situations and locations may be costly, unfeasible or impractical.

Quality is the hallmark of our modelling and simulation solutions. From design and consultancy to maintenance, upgrades and after-sales services, ST Electronics provides unparalleled customer support.

We specialise in six core technology areas:

- **Terrain Modelling:** Our terrain database provides a good basis for analysis, acquisition and training. We understand that generating terrain database is expensive and we help to minimise costs by re-using existing database whenever possible.
- **Architecture and Technology:** Our simulation system architecture provides standardised interfaces for the seamless integration of models, services and other simulation-logistical functions, as well as quick implementation of efficient and effective decision support capability, especially during system conceptualisation and field exercises.
- **Platform Modelling:** Our platform modelling software allows engineers to develop products easily through quick validation of system functionality and architecture.

- **Campaign/Aggregation Modelling:** We are adept at modelling for analysis, especially of models involving large joint exercises.
- **Computer-Generated Forces/Artificial Intelligence (CGFs/AI):** CGFs are a cost-effective method of providing extra players in a synthetic environment containing human participants. Together with developments in AI technologies, the incorporation of CGFs creates real-time, highly realistic scenarios for human participants to interact with the virtual environment.
- **System Integration:** We are able to integrate existing simulations with new systems, sub-systems and Commercial-Off-The-Shelf (COTS) products to develop adaptable and comprehensive simulation solutions. This enhances operational performance, increases productivity and reduces costs. We manage and carry out all activities required to identify, acquire, install, test and validate the simulation system-related items.

Our cutting-edge technologies translate into cost-effective simulation solutions with short time-to-product cycles and a scalable and future-proof architecture. Whether for air, land or sea, our systems are deliberately designed to reduce initial operational training cycle time, improve trainees' skills and minimise equipment obsolescence.



Air Traffic Control Aerodrome Simulator
(Image courtesy of Civil Aviation Authority of Singapore)

Air

ST Electronics designs highly realistic flight simulators for military applications, having delivered many firsts in this arena. These include the Air Distributed Mission Trainer which is the first locally designed simulator with six domes to give pilots the same all-round view as in a real warplane.

Another critical area of flight operations where we play a central role is in the design and implementation of the Air Traffic Control (ATC) simulators. By providing realistic simulation of the air traffic environment, ATC controllers can be trained to manage aircraft operations and handle emergency situations safely and expeditiously.

Our aerodrome simulator features high-end project imagery and an integrated voice communications network to enable trainees to hone highly specialised skills in ATC operations and procedures. The radar simulators facilitate realistic full spectrum training in radar operations – from the en route phase of flight to the aerodrome.

At ST Electronics, we have unrivalled experience in delivering and implementing ATC simulators in Singapore and abroad. This includes one of the world's largest integrated ATC Tower and Radar Simulator.

Users of our aerodrome simulators include the Singapore Aviation Academy, the training arm of the Civil Aviation Authority of Singapore and the Civil Aviation Department of Hong Kong.

Land

ST Electronics develops a myriad of land simulators for defence, homeland security and commercial customers. From military tank simulators to train cab, driving and crane simulators, our systems provide realistic applications to hone the skills of trainees.

Our Armoured Gunnery and Tactical Simulator (AGTS) is the first High Level Architecture (HLA) compliant simulation system in Singapore. It features re-configurable 'plug-and-play' crew stations that provide gunnery training for a variety of platform/ weapon systems.

Similarly, our Virtual Reality Infantry Training System (VRITS) is one of the first in the world to integrate infantry gunnery with tactical training. It is a holistic infantry battalion training system that revolutionises the way infantry commanders and troops train.

Sea

ST Electronics has equipped the Republic of Singapore Navy and the Singapore Police Coast Guard with full-scale naval trainers and other training solutions.

We are the first manufacturer in Asia to be awarded a Letter of Compliance from Det Norske Veritas (DNV) for our Trident Full Mission Ship Handling Simulator (FMSS). The Trident FMSS has also been certified to comply with DNV Class 'A' Bridge Operation standard (the highest attainable grade). This is a testament to our expertise in designing and building simulators that stand up to international standards.



C130 Flight Simulator



Armoured Gunnery and Tactical Simulator



Trident Full Mission Ship Handling Simulator

The Future is Wild is Singapore's first locally co-produced 3D animation project aired in the US, Germany and Singapore



With a talented pool of technologists, software designers, graphics and animation specialists, we combine high-end technologies with creativity to develop futuristic computer graphics products as well as sophisticated virtual reality and real-time visualisation solutions for movies, television, animation and games.

ST Electronics also provides maritime training and consultancy services to strengthen the competencies of seafarers and help them keep pace with the challenges of the maritime environment.

Animation and Games

Animation and games are one of the newer arenas that ST Electronics has ventured into. With a talented pool of technologists, software designers, graphics and animation specialists, we combine high-end technologies with creativity to develop futuristic computer graphics products as well as sophisticated virtual reality and real-time visualisation solutions for movies, television, animation and games.

In the early years, ST Electronics had developed several online projects for the Singapore Science Centre and the Singapore Ministry of Education. Since our modest beginnings, we have grown rapidly from strength to strength. Today, we are taking on end-to-end animation productions for movies, television and DVD animation. We have successfully marketed our works to Asia, Canada, the US, Europe and New Zealand.

Our first movie – *The Ten Commandments* was undertaken in 2005, jointly with Promenade Pictures (a production company with its roots in Hollywood) and Huhu Studios (an animation studio in New Zealand). *The Ten Commandments* was launched in 830 cinemas in the US in October 2007 and subsequently in Singapore.

ST Electronics has also entered into project collaborations with Weta Workshop, the sister company of Weta Digital (known for its Oscar-winning work on the *Lord of the Rings* trilogy), as well as Corus Entertainment's Nelvana Studios, a global producer and distributor of children's animated programming and related consumer products.

These partnerships led to the production of *Jane and the Dragon*, a series in which ST Electronics was solely responsible for the special effects. *Jane and the Dragon* won a BANFF award in 2006 and received several nominations for international awards.

In 2006, ST Electronics partnered with Nelvana Studios and the Media Development Authority of Singapore to co-produce *The Future is Wild* – a 26-episode half-hour television series aired on Discovery Kids in the US (2007), RTL II in Germany (2008) and *okto* in Singapore (2009).

ST Electronics was also selected by the Infocomm Development Authority (IDA) of Singapore to create and operate the first Virtual World for the inaugural Singapore 2010 Youth Olympic Games. This is the first time a Virtual World is used for an Olympic event, allowing anyone from anywhere in the world to access and play the exciting interactive games in the Virtual World via the Internet.



Animation specialist at work

Edutainment

Information Communications Technology (ICT), coupled with multimedia, has opened up vast opportunities for edutainment, allowing for remote and interactive learning that is customised for the individual learner.

ST Electronics has developed the Multimedia Education Resource Interactive Teacher System (MERiTS) for the teaching professionals of today. By integrating the requirements of self-paced learning and teacher-led sessions into a single system, MERiTS optimises interaction and enables teachers to conduct lessons more effectively. Robust, scalable and cost effective, this new age interactive classroom and learning management system features the latest in multimedia applications and an extremely user-friendly interface for easy navigation.

As a testimony to our capabilities, ST Electronics has been awarded the Future Schools at Singapore project by the iDA to provide cutting-edge interactive i-Learning solutions for Beacon Primary School and Hwa Chong Institution. A borderless learning environment that transcends subjects, classrooms, schools and cultures will be designed for Hwa Chong Institution, to develop learners with a global perspective. Known as the HCnX, the

learning environment will be equipped with state-of-the-art, student-centric Learning Management Systems.

We have also been actively involved in education projects outside of Singapore. A case in point is the installation of over 1,200 multimedia laboratories throughout schools in Kazakhstan. We trained over 1,600 teachers to use software and content which are tailored to the requirements of the Kazakh, Russian and English languages.

We have also been awarded the first Intellectual School project in Kazakhstan. This is a significant milestone as it represents the start of a deliberate effort to modernise schools and education in Kazakhstan. The school is the prototype of 20 such institutions to be built across the nation.

Our China-based subsidiary, Brightspot Interactive, provides total Human Resource capital solutions for corporations, academic institutions and individuals. These solutions include consultancy, customised courseware, development of in-house e-training content and Learning Management Systems. Our leading Just-To-Match Software provides competency profile matching analysis between the defined job scopes and individual candidate abilities.



i-Learning Solutions for Schools

In addition to learning solutions, our simulation capabilities also extend to the development of content and technologies for Location-Based Entertainment (LBE) applications, tapping on our capabilities in AI, 3D computer graphics, hi-fidelity realism technologies and complex multi-system architectures. These applications enhance the realism and thrill of high-end multiplayer interaction computer games, largely found in themed entertainment attractions, amusement parks and large-scale arcades.

Expanding Our Global Presence

To grow globally is a key strategy of ST Electronics. In the realm of modelling and simulation, our presence in the US and in Europe has grown steadily through our subsidiaries – VT MÄK and Antycip Simulation, both in terms of scale and reputation.

In the US, over 400 customers, including the world's ten largest defence contractors, use our COTS tools and toolkits for distributed simulation. In Europe, we are a recognised leader in the delivery of market leading simulation software, hardware and integrated solutions.



Antycip Simulation's YView Solutions

With our robust COTS tools as the foundation of our simulation products, ST Electronics is able to customise cost-effective and integrated solutions for both defence and commercial customers. Our extensive end-to-end service covers training and consultancy services, product features and enhancements, on-site support, and project implementation.

An active research and development programme enables the creation of ground-breaking applications and the development of technologies in the area of SAGE. Our investment in research and development supports our strategy to maintain a leadership position in the provision of tailor-made solutions for simulation and computer-based training.

our company

Our solutions are strategically targeted at the e-Government, Satellite Communications, rail and highway intelligent transportation and Interactive Digital Media markets.

Headquartered in Singapore, ST Electronics has over 40 years of experience in providing electronics, communications and Information Communications Technologies (ICT) solutions to governments and commercial enterprises worldwide.

Our strength lies in our ability to harness leading-edge technologies into products and solutions, which are both innovative and cost-effective. Our solutions are strategically targeted at the e-Government, Satellite Communications, rail and highway intelligent transportation and Interactive Digital Media markets.

A truly global company, ST Electronics has established an international presence in more than 30 cities in 20 countries. We have offices in Bangladesh, Botswana, China (including Hong Kong), Europe, India, Kazakhstan, Malaysia, Mexico, the Gulf States, South Africa, Taiwan, Thailand and the US, serving a customer base that spreads over more than 80 countries.

ST Electronics is a wholly-owned subsidiary of Singapore Technologies Engineering Ltd – one of the largest public-listed companies on the Singapore Stock Exchange.

Awards and Patents

Our values and work attitude have earned us extensive industry approval and recognition, as demonstrated by some of our accolades. ST Electronics strives to build and strengthen its strong innovative spirit. We continually invest in research and development and have been granted numerous patents for our innovations.

Awards

- Nominated for Epiphany Prize at Hollywood's 16th Annual Faith & Values Awards for *The Ten Commandments* (2008)
- Nominated for Annie Award (Best Animated Television Production category) for *Jane and the Dragon* (2008)
- Nominated for Gemini Award (Best Animated Program or Series, Best Writing in a Children's or Youth Program or Series and Best Original Music Score for an Animated Program or Series categories) for *Jane and the Dragon* (2007)
- BANFF World TV Award (Animation Program category) for *Jane and the Dragon*, Episode: "Shall We Dance" (2006)
- First Manufacturer in Asia, Letter of Compliance from Det Norske Veritas (DNV) for the Trident Full Mission Ship Handling Simulator (2006)
- The Trident FMSS Certified to Comply with DNV Class 'A' Bridge Operation Standard (the Highest Attainable Grade) (2006)

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