# ECO INNOVATION

SUSTAINABLE BUSINESS





## **Eco-enabling ICT**

Solutions for Sustainability

Half of the world's population today live in towns and cities, powered by technologies and products designed to make working and living as convenient and comfortable as possible. Especially in developing nations, cities are growing larger and new cities are springing up at an unprecedented rate.

The rapid industralisation and urbanisation worldwide comes at a price, taking a toll on our planet. The global consensus is that the Earth is getting warmer as a result of urbanisation and cities are largely responsible for greenhouse gas emissions, deforestation, loss in bio-diversity and increasing pollution, all of which have been building up momentum. The situation is set to worsen with an escalating global population and demand for natural resources. Humans and business operations may be causing irreparable damage to the Earth's eco-system. Media headlines have made amply clear the disasters that climate change will bring and that if the world does not start to drastically curb carbon emissions immediately, it will soon be too late.

ST Electronics has been developing and delivering ecoenabling technologies and solutions, long before they were recognised as being "Green". As a leading Information Communications Technology (ICT) company, ST Electronics leverages technologies and our domain expertise to innovate smart products, solutions and services that enable our customers to transform their businesses to meet environmental challenges and manage their operations in a more resource-efficient manner. We call them Eco•Smart solutions, with a strong belief that smartness in technology applied for an eco cause has a powerful multiplying effect.

Eco business is a sustainable business, not only because it addresses the issues related to climate change, but more importantly, it leverages ST Electronics' wide range of systems-level and domain expertise, making it our core competency. To sustain the business, ST Electronics constantly enhances and develops next-generation Eco•Smart capabilities and solutions, extending from existing offerings.

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With global warming upon us, inaction is not an option and business-as-usual is no longer acceptable if we are to keep our planet healthy. Nations, communities and businesses are beginning to take to the prospects of a low-carbon economy and a greener lifestyle.

Inevitably, cities while providing livelihood and promises for their dwellers are faced with problems of overcrowding, traffic congestions, pollutions, water shortages and so on. The challenge for governments and city planners around the world is therefore sustainable development – that is, balancing economic, social and environmental developments all at once.

## Getting Eco · Smart

**Enabling ICT Solutions from ST Electronics** 

Through smart applications and innovative adaptations to individual cities' priorities and conditions, technology can play a central role in urban solutions for sustainable development and support a low-carbon economy and lifestyle.

### Eco · Smart

in Living and Working

The convenience that urbanites demand poses enormous challenges to the environment. Buildings account for nearly a third of man-made greenhouse gas emissions and modern, everyday amenities and ICT Infrastructure that city dwellers have become accustomed to tend to have substantial energy needs.

With good planning and foresight, urban development can be sustainable with the incorporation of green buildings, which are complexes designed, constructed and operated with minimal energy consumption and environmental impact.

Our living and working environments can all be made eco-smart through the optimisation of energy consumptions in air-conditioning, lighting, water, management systems, ICT infrastructure and so on – this helps reduce occupants' carbon footprint while still allowing them to enjoy complete comfort and convenience. ST Electronics' intelligent

building and facility management systems, as well as our green ICT technologies, provide such sustainable solutions.

Technologists worldwide are also at work to come up with smart energy and smart grid solutions that improve efficiency in energy generation, transmission, monitoring and recovery. In the emerging technology of intelligent energy systems, ST Electronics is working on areas such as advanced metering infrastructure, integration of alternative energy sources to the main grid, Green ICT infrastructure and intelligent transport systems and solutions related to electric vehicles such as charging facilities.

We aim to help customers transform to meet environmental challenges and manage their operations in a more resource-efficient manner. Through a strategic partnership with Sino-Singapore Tianjin Eco-City Investment & Development Co Ltd (SSTEC), we are working to develop eco-solutions for the Eco-City.

Another significant milestone for ST Electronics is our participation in the Energy Market Authority's (EMA) Intelligent Energy System (IES) pilot project in Singapore. In partnership with Accenture Pte Ltd, ST Electronics is designing and implementing the critical infrastructure that is necessary to enable smart grid applications for Phase 1 of the IES pilot project.

A leading supplier of Automatic Meter Reading (AMR) and Advance Metering Infrastructure solutions, we are also providing AMR radio transceivers for smart AMR meters which are used to monitor water, electricity or gas usage in China, India, Europe and the US.

Doing business globally need not always mean travelling around the world for negotiations or visiting an enterprise's disperse operations and locations around the world. With ST Electronics' satellite communications, video-conferencing and other communications solutions, long-haul air travel for face-to-face meetings can be reduced, allowing for a reduction in fuel consumption and carbon emissions.

In training and learning, ST Electronics offers an eco-friendly alternative to heavy duty air, land and sea operations. Our modelling and simulation systems provide training in realistic scenarios and life-like environments, helping companies reduce the carbon emissions that would otherwise have resulted from operating the actual energy-guzzling airplanes, sea vessels and land vehicles. Modelling and simulation systems also have the added advantage of serving as virtual showcases, eliminating the need for customers to travel on site to view the products.



#### Eco · Smart

#### in Transportation

Urban transportation accounts for a significant proportion of greenhouse gas emissions. Public transportation is undisputedly the most eco-friendly method of travel within a city with its ability to move large numbers of people within a single trip. However, in order for it to be an attractive alternative to cars, it needs to be safe, efficient and convenient.

ST Electronics has demonstrated clear expertise and experience in delivering first class rail transportation systems. The company has helped provide an infrastructure for Singapore's efficient, safe and convenient MRT system. The smooth and efficient operations of trains promote public transportation as an efficient alternative for motorists, reducing fuel consumption and pollution.

With our fleet management systems, we have been enabling fleet and taxi operators to despatch their vehicles efficiently and so avoid fuel wastage due to unproductive journeys.

ST Electronics is developing next-generation transportation solutions. Our telematics and intelligent transportation solutions will equip cars, roads and carparks with intelligence, and interconnect them through communication. This will enable in-vehicle realtime traffic information, route planning and navigation, parking guidance, electronic toll payment, emergency services and other location-based services. Transportation will be more efficient resulting in less wastage.

On the roads, our intelligent traffic management systems monitor and process road traffic conditions, automatically detect and report incidents. Transport authorities and controllers can effectively regulate traffic, despatch aid to motorists quickly and keep them informed of traffic conditions. This helps to drastically reduce road hazards, effectively expand the capacity of road networks and expressways, as well as cut down traffic delays, fuel wastage and pollutions caused by traffic snarls.

An Eco-Enabling and Eco-Responsible Company

ST Electronics believes that everyone in the community has a relevant role in preserving the environment.

As an eco-enabling ICT company, we innovate solutions that empower our customers to operate in a sustainable and resource-efficient manner.

As a committed global enterprise, we collaborate with all stakeholders, including our customers, suppliers, employees, business partners and policy authorities, to contribute towards integrated efforts for sustainable development.

As a responsible member of the community, we are committed to continually improving our emission footprint and mitigating the environmental impact of our operations through the adoption of eco-friendly practices.