



Chairman's Message



I am pleased and deeply honoured to be elected as the chairman of the MILES Alumni Association of The Hong Kong Polytechnic University (MILESAA) for the term 2008-2010.

After graduating from the former Hong Kong Polytechnic, I became one of the top executives of TDK, a leading multinational corporation

in the global high-tech industries, overseeing its operations in the Greater China region, which holds the very key to its overall success. Fortunate as I am to have been given great career opportunities, I am not alone. There are many other fellow alumni who have become highly successful and well recognized in their own fields. They have become not only the backbone of many industries but have also considerably contributed to the wealth and prosperity of Hong Kong. It is no wonder that over the years, MILES alumni have been the most frequent recipients of the Outstanding PolyU Alumni Awards.

Establishing a career in engineering is incredibly challenging, with all the dynamics taking place within Hong Kong and in its fellow cities in the Pearl River Delta. Therefore, I see it as a rightful mission of the MILES and ours, as we enjoy our jobs in relatively well-established organizations, to work with our

mother Department of Industrial and Systems Engineering (ISE) and to be able to help our young fellow graduates of ISE in the first stages of their careers.

For some of you who may be unaware, the MILES has a long history that started in 1994, when it was initially named The Hong Kong Polytechnic Manufacturing Engineering Association (HKPMFGAA). It was renamed Manufacturing Industrial and Engineering Alumni Association of The Hong Kong Polytechnic University (MIEAA) in 2001 and again renamed MILES Alumni Association of The Hong Kong Polytechnic University (MILESAA) in 2008. 'MILES' denotes **M**anufacturing, **I**ndustrial, **L**ogistics, **E**nterprise and **S**ystems, and it aptly represents a multitude of professional disciplines undertaken by members of the association.

Looking forward, I will work closely with the executive committee of the MILESAA to maintain strong relationships with our fellow alumni. I will also endeavour to congregate the professional knowledge and experience of our alumni to make contributions continually to the Alumni Association, the ISE, the Alma Mater, and the Hong Kong community.

We will not be able to succeed without your support. Thus, I am looking forward to seeing the active participation of the fellow alumni, staff, and students of the Department in MILESAA in the near future.

Membership Drive

Executive Committee (2008-2010) of the MILES Alumni Association of The Hong Kong Polytechnic University

The MILES Alumni Association of The Hong Kong Polytechnic University (MILESAA) held its annual general meeting cum dinner talk at staff restaurant on 9 September 2008.

Members of the executive committee of the MILESAA for 2008-2010 were elected at the annual general meeting. Dr Raymond Leung Siu-hong, chairman and CEO of TDK China Co. Ltd. and chairman of SAE Magnetics (H.K.) Ltd., was elected new chairman.

Twelve presidents and chairmen of various associations were invited to be the honorary advisors for MILESAA for 2008-2010. MILESAA was honoured to invite Dr Roy Chung, JP, Court Chairman of The Hong Kong Polytechnic University, to deliver the welcome speech for the dinner.



Members of the Executive Committee (2008-2010)

Chairman	Dr Raymond Leung	Honorary Financial Secretary	Dr Sandy To
Senior Vice-Chairman	Dr Johnny Ng	Committee Member	Mr John Chan
Senior Vice-Chairman	Mr Johnny Shing	Committee Member	Mr Dave Chong
Vice-Chairman	Dr L.C. Chan	Committee Member	Dr C.F. Luk
Vice-Chairman	Mr Aman Chan	Committee Member	Miss Kelly Wong
Vice-Chairman	Mr M.K. Lam	Committee Member	Mr T.K. Wong
Vice-Chairman	Dr Simon Shum	Committee Member	Ms Jane Wong
Honorary Secretary	Dr Benny Cheung		

Technical Talk/Visit to The Government of HKSAR Standards and Calibration Laboratory (SCL) 21 May 2009 (Thursday)

On 21 May 2009 (Thursday), a visit to and a technical talk held at the Government of HKSAR Standards and Calibration Laboratory (SCL) was successfully conducted by the MILES Alumni Association of The Hong Kong Polytechnic University.

A total of 29 visitors composed of members of the association and engineering students enjoyed a fruitful afternoon. In the first part of the programme, a technical talk on the metrology system and mass and related measurements was conducted by Mr T.K. Chan, an electrical and mechanical engineer, and his colleagues.

In the second part of the programme, Mr T.K. Chan and his colleagues toured the participants around the mass and related laboratory of the SCL. We were also allowed to see some demonstrations on rotational speed measurement. The programme ended with a Q&A session.

The MILES Alumni Association of The Hong Kong Polytechnic University would like to take this opportunity to thank Mr T.K. Chan and his colleagues for their valuable contributions to the success of the visit.



Photo 1: Mr T.K. Chan gave general information about the Standards and Calibration Laboratory (SCL) to the participants.



Photo 2: A total of 29 members and engineering students joined the technical talk/visit to SCL.



Photo 3: Stroboscope



Photo 4: 50 l proving tank

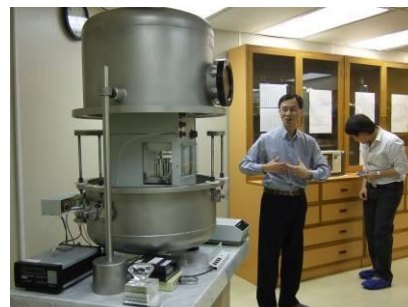


Photo 5: Mass comparator housed in constant pressure chamber



Photo 6: Standard volume measure



Photo 7: Iodine-stabilized laser for realization of metre

Technical visit to Cyberport (Energy Efficiency and IT System) 12 June 2009 (Friday)

(Co-organized by The University of Warwick and The Hong Kong Polytechnic University Manufacturing Alumni Association)

The MILES Alumni Association of The Hong Kong Polytechnic University (MILESAA) and The University of Warwick and The Hong Kong Polytechnic University Manufacturing Alumni Association (IGDS Alumni) jointly organized a technical visit to Cyberport on 12 June 2009, Friday.



Photo 1: A total of 24 members and students joined the visit and the group photo at Cyberport.

A total of 24 members and students enjoyed the visit, which started with a presentation of a 360-degree film at the Visitor Centre followed by an orientation on the building complex using the Cyberport model.

The visitors then moved to the 1,000 m² Digital Media Centre, which is equipped with state-of-the-art audio/video production centres. The motion capture studio allowed 3D scanning of movements and editing, which are widely applied in film production.

A visit to the building management system room and the chiller plant room provided the participants with knowledge on the energy efficient management of properties, which involves intelligent central control system of lighting, temperature, lifts, and escalators, among others.

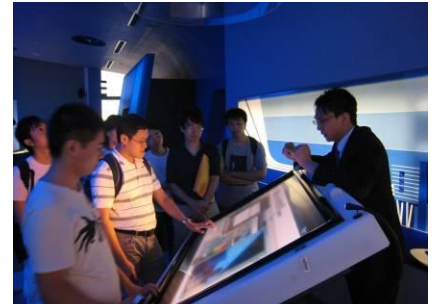


Photo 2: A representative of Cyberport explains the Cyberport model to the participants.



Photo 3: The participants viewing promotional film in the 360-degree screen.

The organization would like to take this opportunity to thank the Cyberport Facilities Management Office and our colleagues for their valuable contributions to the success of this technical visit.

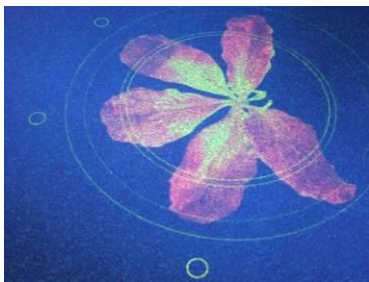


Photo 4: Blocking of light with different time intervals will activate different sound bites. You can create your own song!



Photo 5: The newsreader is reading from this script monitor when he is looking at the camera.



Photo 6: Motion capture studio.



Photo 7: Motion capture suit with sensors allows 3D scanning and storage.



Photo 8: Inside the studio with plain background.



Photo 9: Added digital background when viewing from the TV.



Photo 10: Digital production centre.

Activities



Photo 11: The Building Management System is using METASYS Network with INTELLIGENT controllers for the Central Control Monitoring of the following:

- Central chiller plant
- Lighting facility
- Electrical monitoring system
- Lift and escalator
- Security system



Photo 12: The operating parameters of the chiller can be programmed to suit different requirements at night time and during weekends and holidays.



Photo 13: Centrifugal-type water-cooled chillers.



Photo 14: Central chiller plant.



Photo 15: Eleven sets of chiller are installed.

Cross-border Technical Visit to ATL and SAE Magnetics (H.K.) Ltd. Dongguan Plants 8 August 2009 (Saturday)

(Co-organized by the Institution of Engineering and Technology, Hong Kong – Manufacturing and Industrial Engineering Section)

Seventeen MILES alumni and ISE students participated in the industrial visits, which were successfully completed and elicited positive responses.

On 8 August 2009 at around 11 a.m., the team arrived at the Amperex Technology Limited (ATL), SongShan Lake plant. ATL is a manufacturer of the latest li-polymer battery products. Mr Daniel Fong, ATL sales manager, delivered a presentation of the company profile, products, and manufacturing processes before the team. Following his talk, the group was divided into two teams before they headed for the factory line tour. All members showed keen interest in the li-polymer battery technology, its cost, and market potentials, among other details.



Photo 1: Group photo taken at the front lobby of the ATL SongShan Lake Plant.

At 1 p.m., the team arrived at SAE Magnetics (H.K.) Ltd. D2 plant. The SAE management was kind enough to provide a complimentary lunch to the visiting team.

At 2 p.m., Mr Wang Yu, SAE Administration Manager, delivered a short talk about the history of SAE and a 10-minute video presentation about the SAE head manufacturing competencies and related technologies. Afterwards, the team visited the Material Science Laboratory and witnessed the production workshops. All the team members were impressed by the cleanliness, the housekeeping system, and the advanced technologies of SAE. The tour ended at around 4 p.m.



Photo 2: Group photo taken at the front lobby of the SAE Magnetics (H.K.) Ltd. D2 plant.

Prepared by C.F. Luk

MILES Alumni Association of The Hong Kong Polytechnic University

EF625, Department of Industrial and Systems Engineering
The Hong Kong Polytechnic University
Hung Hom, Kowloon
Hong Kong

Tel: 3400 3185 Fax: 2362 5267 Email: miles.aa@inet.polyu.edu.hk

For membership application, please visit: www.ise.polyu.edu.hk/milesaa

Seminar on Sustainable Engineering with Financial Benefits 29 August 2009 (Saturday)

(Co-organized by The University of Warwick and The Hong Kong Polytechnic University Manufacturing Alumni Association)

The objective of the event was to obtain an overview of how sustainable engineering could result in financial benefits while enhancing quality of life.



Photo 1: All the speakers and VIPs took a group photo before the seminar began. (From left to right: Ms Shirley Chau, Mr Jeffrey Yung, Prof. Edmund Chuk, Mr Peter Chak, Mr Lucien Gambarota, Ir Sham Man-fai, Dr Raymond Leung, Ms Jane Wong, Dr Shelley Zhou, Mr Y.K. Ralph But, Mr Charles Chan and Prof. H.C. Man).

The programme began with welcome speech by Dr Raymond Leung, chairman of MILESAA. It was followed by a series of presentations by environmental professionals on the following:



Photo 2: Dr Raymond Leung, chairman of MILESAA, delivered a welcome speech before the participants of the seminar.

- **Carbon Audit and Measurement**
By Dr Shelley Zhou, Consultant, Carbon Care Asia
- **EcoHome and Green Living**
By Mr Y.K. Ralph But, EcoHome Manager, CLP Holdings Ltd.
- **Heat Pump and Electronic Water Heater**
By Mr Charles Chan, Operation Director, Hotpool Ind. Ltd.
- **Energy for a Cleaner and Sustainable Future**
By Ir Sham Man-fai, Head-Strategy Development, Hong Kong & China Gas Co. Ltd.
- **Motorwind and Green Building**
By Mr Lucien Gambarota, President, Motorwave Group

The seminar was supported by the following:

- The Hong Kong Institution of Engineers - Manufacturing and Industrial Division
- The Hong Kong Polytechnic University - Department of Industrial and Systems Engineering
- The Society of Operations Engineers (HK Region)
- Warwick Graduates' Association (Hong Kong)

There were 150 attendees including VIPs and guests from different sectors of the engineering field in Hong Kong.

As the number of attendees exceeded the full capacity of the seminar room, video broadcasting and model demonstrations were arranged not only inside the seminar room but at the reception area as well.

Photo 3: Five industrialists were invited to give a talk in the seminar.



Dr Shelley Zhou
Consultant, Carbon Care Asia



Mr Y.K. Ralph But
EcoHome Manager, CLP Holdings Ltd.



Mr Charles Chan
Operation Director, Hotpool Ind. Ltd.



Ir Sham Man-fai
Head-Strategy Development, Hong Kong & China Gas Co. Ltd.



Mr Lucien Gambarota
President, Motorwave Group

The success of the event was credited to the efforts of the organizing and supporting organizations, speakers, participants, as well as the conglomerated efforts of the Organizing Committee.



Photo 4: There were 150 attendees including VIPs and guests from different sectors of the engineering field in Hong Kong.



Photo 5: The operation of motorwind was demonstrated to the participants during tea break.

Prepared by Christine Chu

2009 Annual General Meeting of The MILES Alumni Association of The Hong Kong Polytechnic University 19 September 2009 (Saturday)

The 2009 Annual General Meeting (AGM) of the MILES Alumni Association of The Hong Kong Polytechnic University (MILESAA) was successfully held on 19 September 2009, Saturday, at 12 noon at Hang Heung's Kitchen, New World Centre, Tsim Sha Tsui, Kowloon. The chairman and honorary financial secretary presented the annual report and the financial report, respectively, at the meeting. The proposed amendment to the constitution was adopted by the attending members.

The chairman reported that the important task of the executive committee last year had been to restructure the operation of the executive committee to increase its effectiveness and efficiency. Given the efforts of the executive committee members, five working groups had been formed, and these were (i) Members promotion, (ii) Newsletter/Publication, (iii) Activities/Seminars/Visits, (iv) Webmaster/Database, and (v) Formation of seven sub-groups.

The honorary secretary reported the following achievements of each working group last year:

- The 'Members promotion' working group recruited 45 new ordinary members and 147 new student members.
- The 'Newsletter/Publication' working group worked on the first issue of the MILESAA Newsletter.
- The 'Activities/Seminars/Visits' working group set the procedures and regulations on organizing alumni activities. The group organized and supported seven activities last year.

- The 'Webmaster/Database' working group reorganized the MILESAA website by incorporating a new function – the MILESAA Database.
- The 'Formation of the seven sub-groups' working group stated the procedures for appointing the representatives of the sub-groups.

The chairman gladly informed the members that Mr Wong Tit-shing, who is the recipient of the 2009 Outstanding PolyU Alumni Award, accepted the invitation to be the permanent honorary chairman of the MILESAA. So far, the association has seven permanent honorary chairmen.

The chairman concluded the meeting by saying that the MILESAA would encourage graduates and current students to join the association. The working group (membership promotion) would come up with more schemes or promotional activities that would help attract more graduates and students to become members. The MILESAA would endeavour to develop a close network and relationship with alumni and students of the department. In line with this, the executive committee planned the publication of the MILESAA Newsletter and to make the MILESAA database operational by the end of December 2009.

The chairman expressed his sincere gratitude and appreciation to the members of the executive committee for their concerted efforts and enthusiasm in running the association. Special thanks were also given to the head of the Department of Industrial and Systems Engineering, Prof. H.C. Man, and all the staff of the department for their invaluable support to the association throughout the year.

Outstanding PolyU Alumni Awards

Many graduates of the Department of Industrial and Systems Engineering have made remarkable achievements in different fields. Some of them are professors in reputable universities, industrialists, and pioneers in electronic engineering. They have also made great contributions to the community over the years.

Since the first Outstanding PolyU Alumni Award was held in 1997, a number of graduates of the department have received various awards for their accomplishments.

Year	Name of Recipients	Current Position
1997	Dr NG Tat-lun, JP	Chairman and CEO of Talent Solutions Inc.
1999	Dr Lily Cchiang	Founder of E1 Media Technology Limited
2001	Mr NG Wai-hung	Honorary Advisor of SAE Magnetics (H.K.) Ltd.
2007	Prof. Bernard HON Kwok-keung	Professor of Manufacturing Systems of University of Liverpool
2007	Dr Samson TAM Wai-ho, JP	Chairman of Group Sense (International) Limited
2009	Dr Raymond LEUNG Siu-hong	Chairman of SAE Magnetics (H.K.) Ltd. Chairman and CEO of TDK China Co. Ltd.
2009	Mr WONG Tit-shing	Managing Director of Jetta Company Ltd.

Hong Kong needs a new breed of engineers and technology managers who understand the operation of modern enterprises and the design of physical, information, and management systems in the production of goods and delivery of services. These activities require specialists who are familiar with the combined techniques of industrial engineering, IT tools, and best business practices, and who have expertise that cannot be learned from traditional engineering school alone.

The Department of Industrial and Systems Engineering offers unique academic programmes that cut across the boundaries of engineering and business. This is reflected in the range of the interdisciplinary and collaborative academic programmes that it offers, such as BEng(Hons) in Industrial and Systems Engineering, BSc(Hons) in Enterprise Engineering with Management, BSc(Hons) in Logistics Engineering and Management, BEng(Hons) in Product Engineering with Marketing, MSc in Engineering Business Management, MSc in Manufacturing Systems Engineering, MSc in Knowledge Management, MSc in Technology Management and MSc in Industrial Logistics Systems.

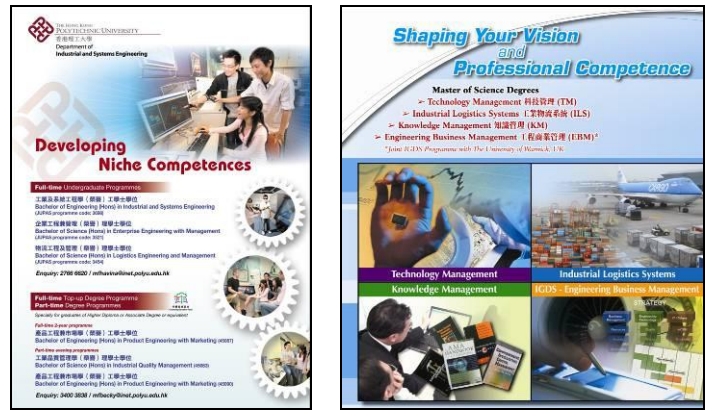


Photo 1: Undergraduate and postgraduate programmes offered by the Department of Industrial and Systems Engineering.

The facilities available in this academic institution are unparalleled in Hong Kong and the region. These include the Advanced Manufacturing Technology Research Centre, the PolyU Microsoft Enterprise Systems Centre, the Knowledge Management Research Centre, and the Digital Factory.

These facilities contain state-of-the-art hardware and software for manufacturing technologies, logistics simulation, systems development tools for e-business, computer-aided design and virtual product development. Total funding for these facilities is valued at more than HK\$100 million.



Photo 2: Advanced Manufacturing Technology Research Centre



Photo 3: PolyU Microsoft Enterprise Systems Centre



Photo 4: Knowledge Management Research Centre



Photo 5: Digital Factory

In the field of research, the academic staff members have outstanding achievements and have received numerous international awards.

PolyU Scientist Honoured for Outstanding Contribution to Scholarship and Research in 'Engineering and Technology' in the 2008 ASAIHL-Scopus Young Scientist Awards

Dr Benny Cheung, an associate professor at the Department of Industrial and Systems Engineering of The Hong Kong Polytechnic University (PolyU), was named first runner-up among a large number of highly competitive young scientists and researchers in the category of 'Engineering and Technology' in the 2008 ASAIHL-Scopus Young Scientist Awards. The award was bestowed by Elsevier, the world's leading research publisher of scientific information, and the Association of Southeast Asian Institutions for Higher Learning (ASIHIL).

The award is intended to recognize outstanding young scientists and researchers in the Asia-Pacific region who have made significant contributions to scholarship and research. One hundred and eighty scientists and researchers under the age of 40 from Southeast Asia, South Asia, and Hong Kong submitted their works under four categories: life science, medicine, agricultural science, and engineering and technology. The finalists were selected by judges composed of experts in the fields based on three key criteria: number of citations and h-index, number of publications and patents based on Scopus data, and documented social impact. The award ceremony was held at Universiti Sains Malaysia (USM) in Penang, Malaysia on 13 December 2008.



Photo 1: Dr Benny Cheung (right) received the certificate from the organizer.



Photo 2: Group photo of the awardees taken during the award ceremony. (Source: Association of Southeast Asian Institutions for Higher Learning (ASIHIL))

International Exhibition of Inventions, New Techniques, and Products 2008 - International Press Prize, Gold Medal, and Special Prize: A High-power LED Street Lighting System with a Modular Lamp Holder

Inventors: Prof. LEE Wing-bun, Chair Professor, and Dr Sandy To, Assistant Professor

The high-power LED road lighting system developed in this project makes use of the novel freeform optical surface with non-rotational symmetry, which results in uniform light distribution and enhancement of lighting efficiency. The energy required is only one-half of that required for traditional LED road lighting. With the modular design, the system is adaptable to various road lighting standards and helps reduce the development cost. The modular design also enables better dissipation of heat and facilitates the replacement of defective individual LED without the need to dismantle the whole lamp holder. This can significantly save on repair and maintenance cost. The product may also be used for other purposes such as outdoor advertising, decorative lighting, and indoor illumination.

This development garnered three international awards during the '36th Geneva International Exhibition Inventions, New Techniques, and Products (2008)'. The three awards were the Grand International Press Prize, a Gold Medal, and the Award of High Scientific and Technological Level of Invention. The project has attracted a number of industrial companies and government departments, whose representatives approached the members of the project team to enquire about the development of LED products.



Photo 3: Professor W.B. Lee, Chair Professor, (3rd from left, front row) and Dr Sandy To, Assistant Professor, (3rd from right, front row) with the other team members.

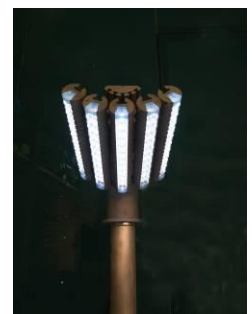


Photo 4: The high-power LED road lighting system

International Exhibition of Inventions, New Techniques, and Products 2007 – Gold Medal: An Innovative Micro Injection Moulding Machine

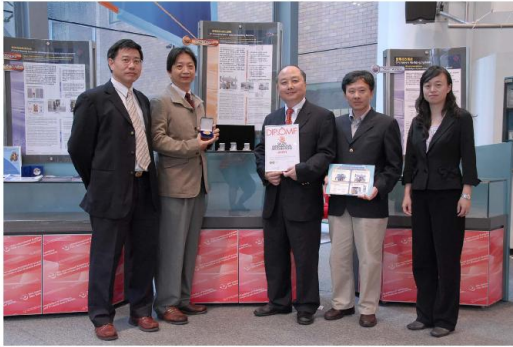
Principal Investigator: Prof. Yung Kai-leung, Associate Head

The first bottom-up, high-precision plastic micro injection moulding machine that helps the miniaturization of products for production of high-precision micro plastic parts, such as micro bio-mechanisms, micro-pumps, micro nozzle, medical

parts, micro lenses, and optical connectors, was developed. Plastic micro injection moulding, being the most cost-effective method of producing high-accuracy micro features, inherits the challenges in the precision conveying and injection of very small amounts of material at high accuracy to mould the part with high dimensional stability and stiff thin structures. Current machines only attempt to reduce the size of conventional designs, but the PolyU-designed machine adopts a revolutionary upward injection design with only simple mechanical devices for high-speed precision melt injection and mechatronic control to feature performance optimization through software upgrades.

There are four servos each at the four corners of the mould that automatically adjust clamping pressure to assure effective mould closure. Two linear motors are used to propel the plastic into the mould, giving unmatched acceleration and precision well below the milligram level. Upward injection with high acceleration/deceleration of injection speed not only avoids air entrapment but also allows precision melt flow and volume controls. The precision is further enhanced by real-time pressure signature analysis to prevent any variations.

The state-of-the-art technology was developed at PolyU's Microsystems Technology Centre, which was established in 2005 with substantial funding from the government's Innovation and Technology Fund.



*Photo 5: Prof. Yung Kai-leung, Associate Head (3rd from right) with the other team members.
(From left to right: Prof. H.C. Man, Professor and Head of the Department, Dr K.H. Lau, Lecturer, Prof. K.L. Yung, Associate Head, Dr C.Y. Chan, Lecturer, and Dr Sandy To, Assistant Professor)*



Photo 6: The first bottom-up high-precision plastic micro injection moulding machine.

Radio Frequency Identification (RFID) Project Aims to Drive Automation in the Logistics Industry

In April 2008, the Department of Industrial and Systems Engineering received funding from the Innovation and Technology Fund (ITF) of the Government of the Hong Kong Special Administrative Region for a project entitled 'Development and implementation of an RFID-based solution and an intelligent eSecurity device for physical asset, container, and fleet management'.

RFID and electronic seal (e-seal) technologies are currently used in logistics operations, but they are not mature enough to support total automation and to achieve supply chain visibility.

This project aims to develop an intelligent eSecurity device and related software modules and middleware through the integration of different logistics enabling technologies such as RFID and sensors. This device can be used in different applications including e-seal, cargo control, and physical asset management. Once completed, intelligent eSecurity device and its management system will be made available to the industry to improve logistics automation and achieve real-time event reporting, management, analysis, and resource optimization. For project details, please visit <http://www.rfid.ise.polyu.edu.hk/e seal/>.

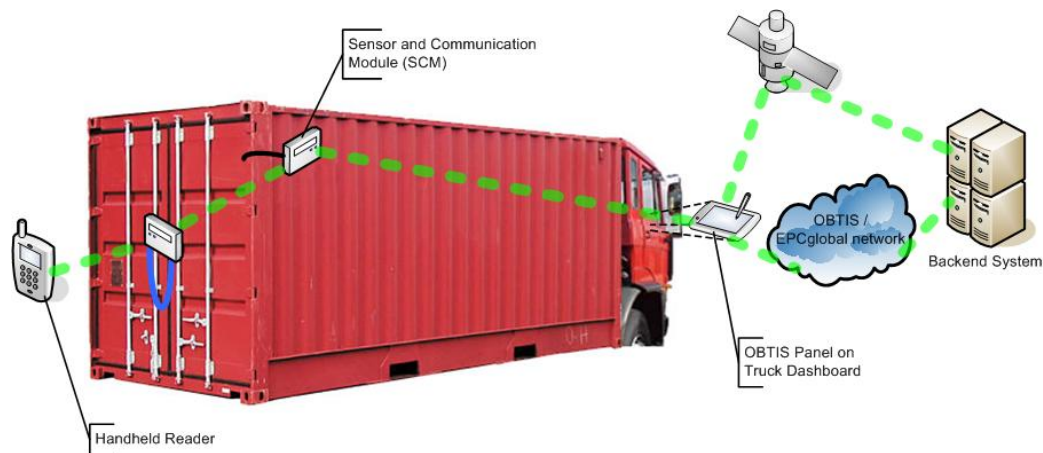


Photo 1: Conceptual framework of an Intelligent eSecurity Device



Photo 2: Site visit with industrial partners

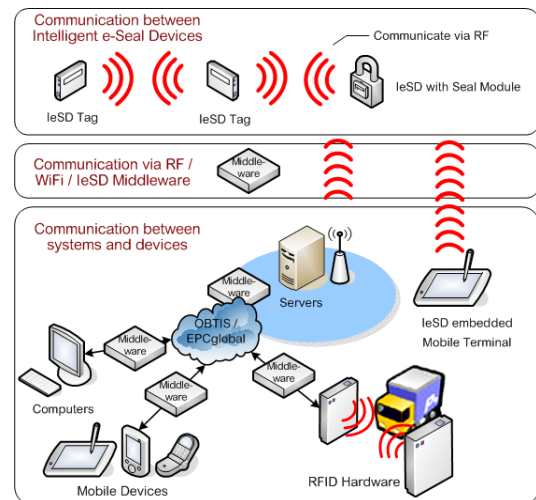


Photo 3: System architecture of an eSecurity management system

Call for technical articles

We aim to share the latest industrial technology in the engineering field with all of our alumni and students. If you are interested in providing us with technical article(s), you are welcome to contribute them. Articles should be **no more than 500 words** with a **minimum of 3 pictures in JPG format**. **Articles for submission** should be sent to us by e-mail (miles.aa@inet.polyu.edu.hk) on or before 31 January 2010.

For enquiries, please contact Ms Carrie Cheung by phone at 3400 3185 or by e-mail at miles.aa@inet.polyu.edu.hk.