President’s Corner

Dear Members,

The 2017/2018 session is coming to a close, and several changes will be taking place as the new President and Council will be taking the reins after the Annual General meeting to be held on 27th October 2018. The engineer’s role in society is becoming more and more important, as the nation is moving towards rapid development, particularly in the areas of infrastructure development, information and communication technology, digitalization etc.

In 2015, all member countries of the United Nations agreed that the blueprint for achieving peace and prosperity for the people and the planet is the 2030 Agenda for Sustainable Development, in which there are 17 Sustainable Development Goals to be achieved. Sri Lanka is among the first few countries that prepared the national strategies for achieving SDG’s. This year for the Annual Sessions Seminar/FEISCA Conference we selected the theme “Engineering the Sustainable Development Goals – National Strategies and Challenges”, to discuss the role of the engineer in achieving the SDG’s, how the engineering community in the regional countries are formulating their strategies and the challenges anticipated in achieving the national targets.

Engineers are often blamed for destroying the environment, but we are also the most suitable professionals to be harnessed for the achievement of sustainable development. While some of the goals like Goal 6 – clean water and sanitation, Goal 7 – Affordable and clean energy, Goal 9 – industry, innovation and infrastructure, Goal 12 – Eng. (Prof.) Mrs. Niranjanie Ratnayake, President, Institution of Engineers, Sri Lanka 2017 / 2018

Contd. on page 2...

Techno Sri Lanka 2018 Exhibition draws record crowds!

The annual national engineering exhibition organized by the apex body for the engineering profession in the country, the Institution of Engineers, Sri Lanka (IESL), concluded on a very successful note after 3 days of heavy participation by members of the profession, public and private sector executives, students of universities and schools as well as general public.

Held this year from the 12th to 14th October, 2018 for the 33rd successive year since its inception in 1985, the exhibition has become the most preferred platform for the debut of cutting edge technology to the region and the most popular venue to witness and experience them.

This year’s event saw, as it did in the previous year, Defense Pavilion displaying Research and Development outputs of the country’s Tri forces; Army, Navy and Air force, and many new competitions targeting university undergraduates encouraging ingenuity and creativity among them.

Inventions of the Undergraduate Inventor of the Year competition drew much attention as usual. Engineering Faculties of

Contd. on page 6....
How Sri Lanka will benefit by having a Common Equipment Identity Register (CEIR)?

By Eng. Amila Saputhanthri

Telecommunication industry trends

There are over 28 million mobile connections in Sri Lanka and the population penetration of total SIM penetration is over 100%. The Table 1 below provides the exact figures relevant to mobile device penetration.

Table 1: Telecommunication data summary of Sri Lanka as of May 2018[1], [2]

<table>
<thead>
<tr>
<th>Topic</th>
<th>Value</th>
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<tbody>
<tr>
<td>Number of mobile connections</td>
<td>28.1 million</td>
</tr>
<tr>
<td>Population</td>
<td>20.9 million</td>
</tr>
<tr>
<td>SIM penetration</td>
<td>135%</td>
</tr>
</tbody>
</table>

The mobile subscriber growth in the country has now reached to a saturated level.

The statistics shown in Table 1 and Figure 1 indicate that there is very high demand for mobile devices in the country and almost every person is having a mobile device. The global mobile subscription predictions, given below in Table 3, indicate 5% worldwide mobile subscription growth and 10% smartphone subscription growth by 2021.

GSM/ EDGE only mobile subscriptions are expected to go down by 15% by 2021.

The capabilities of the mobile devices will be at very high level and to cope up with the highly advanced world, people will need to adapt to those new technologies. The quality of the telecom service depends on the telecom ecosystem. The requirement for high end mobile devices with advanced technological capabilities is increasing.

Mobile devices are one of the major contributors for the quality of the service perceived by customers. If the devices are not made by following proper standards, then the efforts of the operators to provide good service with the support of new technologies such as 4G and 5G will be in vain. Hence to provide them with the necessary QoS, it is essential to regulate the mobile devices available in the market to guarantee the quality of those devices.

Importance of regulating mobile devices

The mobile phone has become an important item in the daily life of people. People have come to rely on mobile phones for information, communication, and entertainment. Mobile phones are essentially used for voice calls, messaging, and browsing the internet. However, the rapid growth of mobile phone subscriptions has also brought about several issues, such as mobile phone thefts, fraud, and cybercrime. Therefore, it is important to have effective regulations in place to ensure the safety and security of mobile phone users.

The mobile phone has become a part of daily life for many people, particularly in terms of the amount of information stored in it. In today’s scenario, mobile phone thefts are a significant concern. Mobile phone thefts are not just a matter of inconvenience but can also lead to serious financial losses for the victims. The cost of replacing a mobile phone is not only the cost of the device itself but also the cost of losing important data and information. Therefore, it is important to have effective regulations in place to prevent mobile phone thefts.

Mobile subscriber subscriptions, 2015-2018 (Millions of Units) [3]

<table>
<thead>
<tr>
<th>Mobile subscriber subscriptions</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worldwide mobile subscriptions</td>
<td>7.158</td>
<td>7.303</td>
<td>7.990</td>
<td>5.989</td>
</tr>
<tr>
<td>Smartphone subscriptions</td>
<td>3.550</td>
<td>3.939</td>
<td>4.390</td>
<td>4.815</td>
</tr>
<tr>
<td>Non-smartphone subscriptions</td>
<td>3.608</td>
<td>3.364</td>
<td>3.600</td>
<td>4.174</td>
</tr>
<tr>
<td>Mobile broadband &amp; PA subscriptions</td>
<td>5.350</td>
<td>5.505</td>
<td>5.715</td>
<td>5.195</td>
</tr>
<tr>
<td>Mobile broadband &amp; PA subscriptions (GSM/EDGE only)</td>
<td>4.605</td>
<td>4.530</td>
<td>4.790</td>
<td>4.575</td>
</tr>
<tr>
<td>Mobile broadband &amp; PA subscriptions (GSM/EDGE only)</td>
<td>4.000</td>
<td>4.000</td>
<td>4.000</td>
<td>4.000</td>
</tr>
<tr>
<td>Mobile broadband &amp; PA subscriptions (WCDMA/HSPA)</td>
<td>3.300</td>
<td>3.300</td>
<td>3.300</td>
<td>3.300</td>
</tr>
<tr>
<td>Mobile broadband &amp; PA subscriptions (LTE)</td>
<td>300</td>
<td>1.500</td>
<td>4.390</td>
<td>5.955</td>
</tr>
<tr>
<td>Mobile broadband &amp; PA subscriptions (LTE)</td>
<td>300</td>
<td>1.500</td>
<td>4.390</td>
<td>5.955</td>
</tr>
</tbody>
</table>

There will be a shift from a world dominated by GSM/ EDGE only subscriptions in 2015 to a world dominated by LTE and WCDMA/HSDPA.

Contd. on page 11...
FEISCA REGIONAL CONFERENCE on “Engineering the Sustainable Development Goals – National Strategies and Challenges” concludes with promise of achievement

His Excellency Maithripala Sirisena was the Chief Guest at the conference on Engineering the Sustainable Development Goals – National Strategies and Challenges, organized by the Institution of Engineers, Sri Lanka (IESL) in collaboration with the Federation of Engineering Institutions of South and Central Asia (FEISCA) held at the Hilton Residencies as part of the 112th Annual Sessions of the IESL.

FEISCA came in to being as a direct response to the need for the assistance of engineering professional bodies to the United Nations system. It provides opportunities for the non-government organizations engaged in engineering education and training to discuss the issues of improving professional collaboration to provide an effective working mechanism among the neighboring countries in the South and Central Asia region. Engineering professional organizations including those from India, Pakistan, Bangladesh, Nepal and Sri Lanka have membership in the FEISCA. The conference comes at a time when the Presidency of the FEISCA is being held by the Institution of Engineers, Sri Lanka.

The conference, better known as the Annual Regional Conference of the FEISCA, this year had its theme aligned with the His Excellency President Maithripala Sirisena’s pledge at the recently held 73rd Session of the United Nations General Assembly to provide leadership for Sri Lanka to take the strategic decisions essential to achieve the Sustainable Development Goals (SDGs) by the year 2030. Hon. Aith Mannaperuma, Deputy Minister of Environment and Dr. Suren Batagoda, Secretary to the Ministry of Power and Renewable Energy were among the distinguished invitees at the conference.

The lighting of the traditional oil lamp and national anthem was followed by the Welcome address by Eng. (Prof.) Mrs. Niranjanie Ratnayake, President of the Institution of Engineers, Sri Lanka. This was followed by the address of the President of FEISCA, Eng. Jayavilal Meegoda, who is also the Immediate Past President of the IESL.

HE President in his speech while highlighting the importance of achieving Sustainable Development Goals also laid equal stress on finding solutions to consequences of climate change with vagaries of the weather, alternately subjecting our people to devastating floods and severe droughts taking its toll on livelihoods pushing them towards further poverty. He suggested, as solutions to consequences of Climate Change, diverting flood waters from Ratnapura and Kalutara areas towards flood waters from Ratnapura and Kalutara areas towards drought stricken areas of the north through pipelines akin to principles used in the conveying petroleum across deserts of the Middle eastern countries He said that elimination of corruption is as important for achievement of SDG’s.

The keynote address on “Role of Engineers in achieving the Sustainable Sri Lanka 2030” was delivered by Eng. Mohan Munasinghe, Chairman of the Presidents Expert Commission on Sustainable Sri Lanka 2030 Vision.

The conference ended with the presentation sessions, panel discussion sessions, and sessions which commenced after Lunch Break being chaired by Eng. (Prof.) T.M. Pallewatte, President Elect of the IESL.

Special time was allocated for panel discussion after presentation sessions concluded and the question and answers added further value for participants to carry back with them.

The seminar ended with a Vole of Thanks proposed by Eng. (Prof.) T.M. Pallewatte, President Elect for the 2017 / 2018 Session and who will be taking over the presidency of the IESL for the 2018 / 2019 session.

Presenters from Sri Lanka, India, Pakistan, Bangladesh and Myanmar did presentations on their experiences along their respective country journeys towards achieving 17 sustainable development goals according to the agenda adopted at the 70th Session of the United Nations General Assembly in year 2015;

‘Engineering the Sustainable Development Goals – National Strategies and Challenges’ by Eng. (Prof.) T.M. Pallewatte, President of the IESL.

‘Sustainable Transportation Development of Bangladesh National Strategies and Challenges’ by Prof. Dr. Engr. Md. Mizanur Rahman – Bangladesh.

‘Role of Engineers in achieving the Sustainable Sri Lanka 2030’ was delivered by Eng. Mohan Munasinghe, Chairman of the Presidents Expert Commission on Sustainable Sri Lanka 2030 Vision.

‘Engineering the Sustainable Development Goals – National Strategies and Challenges; The Indian Scenario’ by Engr P. Ramarajan – India.

‘Sustainable Development Goal 12’ by Eng. Gamini Ratnasiri – India.

Senanyake, Chairman of Regional Industry Service Committee (RISC) North Western Province under the Ministry of Industry & Commerce of the Central Government.


The morning session was chaired by Eng. (Prof.) Mrs. Niranjanie Ratnayake. The afternoon sessions which commenced after Lunch Break was chaired by Eng. (Prof.) T.M. Pallewatte, President Elect of the IESL.

Special time was allocated for panel discussion after presentation sessions concluded and the question and answers added further value for participants to carry back with them.

The seminar ended with a Vole of Thanks proposed by Eng. (Prof.) T.M. Pallewatte, President Elect for the 2017 / 2018 Session and who will be taking over the presidency of the IESL for the 2018 / 2019 session.
An Engineer-Expert or a Manager?

Recently I was having an annual performance review with one of my staff who happened to be one of the best techies in the field of IP networking. I had observed his excellent technical and managerial performance and identified him to be the manager of the division. To my surprise the person didn’t want to take up the new role, instead wanted to continue as a subject matter expert.

This leaves the task of answering the question - what should be the professional career path for Engineers? If all engineers are going to become experts who are going to manage the engineers, engineering organizations and projects? If engineers become managers, to what extent they should retain their technical competencies? On the other hand, can non-engineering managers lead engineers and engineering projects?

We have seen instances where not only non-engineering managers miserably failed to manage technical organizations and projects, but engineers who have become managers also failed doing so. The key ingredient to manage engineers and engineering projects successfully is to understand the scope of the work, technicalities, complexities of the environment, risks, costs associated and the human interactions. Further such manager shall lead the team using good management tactics. Strong fundamental back ground and keeping up with latest developments in engineering disciplines help engineers to become successful managers.

Most of the time experts are individual contributors. They should be having very strong technical expertise and continuously upgrade their knowledge in their domain. Depending on the organization’s operations model, more or less number of experts and managers will be required. The organization should have proper carrier growth paths for both types with relevant benefits attached to their designations. This framework is successfully practiced in software industry and similar structure could be implemented at public and private engineering organizations.

When IESL is conducting the professional reviews to recognize a person as eligible to be a Chartered Engineer and then as a Professional Engineer, often it is noted that significant emphasis is given for the managerial experience. We should not forget the fact that there are experts and consultants who may not be so called as “Engineering Managers” yet world class experts. I am of the opinion that evaluation panels shall take this fact into careful consideration.

Eng. Indika Walpitage
Indika.walpitage@gmail.com

Prof. E.O.E. Pereira Memorial Lecture 2018

The IESL commemorated the 111th birth anniversary of Late Prof. E.O.E Pereira, considered as the Father of Engineering Education in Sri Lanka, on 13th September 2018 with a memorial lecture on “Water Resources and Hydrological Forecasting” delivered by Eng. Palitha Manchanayake. The lecture was preceded by the lighting of the traditional Oil Lamp and garlanding of the portrait of the late professor by Eng. (Prof.) Niranjanie Ratnayake, President of IESL. Family members of the late professor were present at the event which was also attended by Past Presidents and members of the IESL.

Dr. A N S Kulasinghe Memorial Lecture 2018

The IESL commemorated the 99th Birth anniversary of Dr. ANS Kulasinghe on Friday, 26th October, 2018. He is known not only for his contribution to engineering research and development but also for his lifetime commitment towards an indigenous approach to engineering application for national development.

The memorial oration this year was delivered by Eng. U.S. Karunarathne, CEO of Central Engineering Services (Pvt) Ltd. which is the construction arm of the Central Engineering Consultancy Bureau (CECB). The oration was on the theme “The Exceptional Engineer”. The oration was preceded by lighting of the traditional Oil Lamp and garlanding of the portrait of the late engineer by IESL President, Eng. (Prof.) TM Pallewatta.

Eng. D. J. Wimalasurendra Memorial Lecture 2018

The 144th birth anniversary of Late Eng. D J Wimalasurendra was commemorated at the IESL on 17th September 2018 with a memorial lecture on “A new Perspective for Environmentally Sustainable Buildings and Certification in Developing Countries” delivered by Eng. Mahendra Jayalath, Accredited Energy Auditor. The lecture was preceded by the lighting of the traditional Oil Lamp and garlanding of the portrait of the late professor by the Eng. (Prof.) Niranjanie Ratnayake, President of IESL. Family members of the late professor were present at the event which was also attended by Past Presidents and members of the IESL.
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<td>Regreening the built environment : Nature, green space and sustainability</td>
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<td>Andrew Packer</td>
<td>Ioannis Vayas</td>
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<td>Planning and design of engineering systems</td>
<td>Remote sensing of the environment</td>
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<td>Micro/Nano integrated fabrication technology and its applications in micro energy harvesting</td>
<td>Cognitive neuroscience robotics A : Synthetic approaches to human understanding</td>
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<td><strong>IMAGE</strong></td>
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Techno Sri Lanka 2018 Exhibition draws record crowds!

several state universities and state owned engineering education institutes made their presence felt by impressive demonstrations of modern technology in action.

The exhibition was declared open on the first day by Chief Guest, Hon. Champika Ranawaka, Minister of Megapolis and Western Development. Hon Ajith Mannapperuma, Deputy Minister of Agriculture opened the exhibition on the third and final day.

As always the Members’ Lounge and its special facilitations for fellowship was a big draw among members of the IESL visiting the exhibition to relax and socialize with colleagues and renewing long lost connections.

Features like the Building Clinic providing free advice to homebuilders and Mini Seminars on highly relevant topics were also big draws and so were stalls of the various engineering sectional committees and provincial chapters. The loyal following the exhibition has among some of the global brand names in engineering products and services had their presence as they do every year at this event.

IESL Technical Paper Presentations for 112th Annual Sessions

The presentation of Technical Papers for 112th Annual Sessions was held at the IESL headquarters on 18th Thursday and 19th Friday, October, 2018 from 9.00 am both days. Response to this year’s Call for Papers saw an unprecedented number of abstracts and full papers being submitted, and the 95 papers that were finally accepted were published by the IESL as Technical Paper Transactions (Part B) of the institution and they were presented by the authors in parallel session. As in the previous year, participation in the presentation during the morning sessions of the two days were very strong at the Wimalasurendra auditorium.
Techno Sri Lanka Awards Ceremony 2018 – the glamour and glitter

The grand finale to the Techno Sri Lanka 2018 exhibition, the ‘Techno Awards’ ceremony, was held on Wednesday, 02nd November 2018, from 7.00 PM onwards at the Galle Face Hotel. Representatives of stallholders and sponsors from among both private and public sector organizations, universities and other higher education institutions, IESL sectional committees and provincial chapters, Past Presidents and IESL Council members were all in their best attire and spirit adding enthusiasm and colour to the glamorous event.

Eng. Kamal Amaraweera, Director General, Road Development Authority of Sri Lanka graced the occasion as Chief Guest while Maj. Gen K R P Rovel was the Guest of Honour.

Eng. (Prof.) Mrs. Niranjanie Ratnayake, President of IESL for the Session 2017 / 2018 and Eng. (Prof.) T.M. Pallewatta, who has taken over the reins of presidency of the IESL for the new Sessions 2018 / 2019 and who is also the chairperson of the organizing committee of the Techno Sri Lanka 2018 combined forces in doing the formalities.

It should be mentioned that, as in the previous years, the loyal following the Techno has built up through the years among the private and public sector stallholders, had all made their unfailing and much welcome presence displaying and demonstrating their latest technological products.

Contd. on page 10......
The 9th International Conference on Sustainable Built Environment 2018 (ICSBE) will be held at Earl’s Regency Hotel, Kandy, Sri Lanka, as the next in line of a highly successful series of conferences held since December 2010. The Conference will run, over for four days including presentations by authors of all accepted papers, as well as keynote lectures. General and plenary sessions will be accompanied by workshops and technical sessions. Accepted papers will be published in a special volume of proceedings with an international standard book number (ISBN).

Registration for Participation Prof. Ranjith Diasanayake, ranjith@fulbrightmail.org | Conference Secretary, icsbe2018@gmail.com, +94 71 7650170

For abstract submission guidelines and further details, please visit www.icsbe.org
For the first time in Sri Lanka, an anonymous survey was carried out to gather information on the status quo of the woman engineer living and working in Sri Lanka. This article is the second part of a series published in the newsletter of the Institution of Engineers Sri Lanka (IESL) to share the results obtained in the survey which were initially announced to the audience of the AGM of the WEF (Women Engineers Forum) of IESL in March 2018. Part 1 can be found on the page 7 of http://www.iesl.lk/resources/Paper-ILEN-NEWSLETTER-April-May-2018-webfile.pdf which covered the findings of the Section 1 and 2 of the survey that comprised of:

Section 1 – Identifying the status

Section 2 – Perception of engineering as a profession and the place of women in engineering

Section 3 – Identifying inhibitors

Section 4 – Engineering education

Section 5 – Identifying work place issues and barriers

Section 6 – Identifying a wish list

This article covers the findings of Sections 3 and 4 of the survey.

Section 3 – Identifying inhibitors

Based on anecdotal evidence some inhibitors hinder the advancement of women engineers’ careers. Comprised of six questions based on such inhibiting statements, this section aimed to find which of them apply to the woman engineer working in Sri Lanka.

Table 8 summarises the responses with the most significant percentage of the response in bold digits underlined. According to these results a very high 71% of the participants believe that women engineers have to face more opposition than males in leadership positions. Also a significantly high 77% feel that some men are not assertive, there is nearly as much agreement (48%),

Women engineers’ Survey - Part 2

Women face more opposition in leadership roles than men.

Some men do not feel comfortable with having to report to women.

Female engineers have to work harder to get ahead in the work place.

Women engineers are smart people; but they still have to put in more time, deliver better quality to earn the status/reputation/appreciation a man gets by doing less.

There is no pay parity between women and men in engineering for similar work.

An assertive woman is perceived to be strong-willed while a man is expected to be assertive.

Solutions to this problem are considerably low for this sector and as such the survey was carried out by the respective institution. The transparency of the pay scales in the government, semi-government, and academic sectors in Sri Lanka could be the reason for the participants’ impression that women do not get paid less for the same work. However, in surveys carried out elsewhere it has been found that, although the participants felt that way, the reality was actually different.

Comprehensive confidential remuneration surveys carried out in the respective Engineering professional societies showed that there is no pay disparity between men and women in engineering. Amongst all other sectors, engineers are at the top of the pay scale.

Table 8: Responses to prevalence of inhibitors to career progression

<table>
<thead>
<tr>
<th>Inhibitor/Obstacle</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women face more opposition in leadership roles than men.</td>
<td>11%</td>
<td>16%</td>
<td>73%</td>
</tr>
<tr>
<td>Some men do not feel comfortable with having to report to women.</td>
<td>9%</td>
<td>14%</td>
<td>77%</td>
</tr>
<tr>
<td>Female engineers have to work harder to get ahead in the work place.</td>
<td>21%</td>
<td>19%</td>
<td>53%</td>
</tr>
<tr>
<td>Women engineers are smart people; but they still have to put in more time, deliver better quality to earn the status/reputation/appreciation a man gets by doing less.</td>
<td>22%</td>
<td>20%</td>
<td>58%</td>
</tr>
<tr>
<td>There is no pay parity between women and men in engineering for similar work. Women get paid less.</td>
<td>56%</td>
<td>19%</td>
<td>25%</td>
</tr>
<tr>
<td>An assertive woman is perceived to be strong-willed while a man is expected to be assertive.</td>
<td>6%</td>
<td>46%</td>
<td>48%</td>
</tr>
</tbody>
</table>

According to these results, it is imperative that the women engineers’ salaries are lower than that of their male counterparts of the similar rank. It will be helpful for women engineers if such discrepancies prevail in Sri Lanka too by analysing the remuneration packages in their respective sectors. In the women engineering population decision is taken through negotiations between the employee and the employer.

Given that all engineers have to be assertive in leadership roles, it is imperative that the women engineers too need to project that characteristic. In an environment where assertive women are seen as bossy or aggressive, they can be held back from pay and career progression. Solutions to this problem cannot be found if the negative treatment of assertive women is accepted simply as a result of deep-rooted stereotypes. Instead, through proper mentoring of women in leadership positions, juniors can be trained to adapt their actions based on the situation and presenting themselves dominant and self-confident while at the same time displaying their qualities of communal characteristics, thereby allowing them to get the best of both worlds. Mentors exercising such self-monitoring elsewhere have shown to progress in their careers faster than assertive men! Mentoring process can also help look into common cultural issues and ask the question: “Are some women who act assertively in fact abrasive?”

There is opportunity for women engineers to overcome many inhibitors through the right interventions such as training, mentoring, and timely guidance; the change of some of the seemingly hard-wired negative conventional attitudes, stereotypical outlooks, and archaic thinking of the engineering community at large.

Authors:

Dr. Achela Fernando (Adjunct senior lecturer, Griffith Engineering, Griffith University, Brisbane, Australia);

Eng. Mrs. Mangala Wickramanayake (Coast Conservation Department, Sri Lanka);

Prof. Niranjanie Ratnayake (Emeritus professor, Faculty of Engineering, University of Moratuwa).

Comments and feedback on this article will be entertained until 31st December 2018. Please send them to Please send them to a.fernando@griffith.edu.au.
IESL Deshamanya Vidyajyothi (Dr.) Ray Wijewardene Memorial Lecture 2018

The annual Ray Wijewardene Memorial Lecture for the year 2018 was held at the Wimalasurendra Auditorium of the Institution of Engineers, Sri Lanka (IESL) on Monday, 29th October, 2018. Mr. Kris Canekeratne – Co-founder Chairman / CEO of Vitusa Corporation headquartered in US delivered this year’s lecture on the topic ‘Creating a Culture of Innovation’ which dealt with how to integrate the culture of innovation in to wider society making innovation relevant not only to business and education but also to life itself.

The memorial lecture was organized jointly by the Institution of Engineers, Sri Lanka and Ray Wijewardene Charitable Trust, a charitable organization established for the promotion of the vision and ideas of Late Dr. Ray Wijewardene. The lecture was preceded by the traditional lighting of the Oil Lamp and garlanding of the portrait of Late Dr Ray Wijewardene by the President of the IESL, Eng. (Prof.) T.M. Pallewatta. The Late Dr. Ray Wijewardene Memorial Lecture was first held in 2011 and this is the 8th lecture of its kind to held. Welcoming the capacity audience that attended Eng. (Prof.) T.M. Pallewatta described the Late Dr. Ray Wijewardene as a person who excelled in many human endeavors. Prof. Malik Ranasinghe, Chairman of the Ray Wijewardene Charitable Trust briefed the audience about the work that the Trust is involved in promoting the vision and ideas of Late Dr. Ray Wijewardene.

Engineers’ Night 2018

Members and spouses were in their best of spirits at yet another enjoyable and successful Engineers’ Night held at Citrus Hotel, Waskaduwa on Sunday, 20th October, 2018. Held for the first time in 2001, this event has now become a much looked forward to annual social gathering of IESL members and spouses, with each year’s event outdoing the previous one’s level of fellowship, entertainment and cuisine.

This year’s event had more than 300 participants toe tapping to the gyrating music of the ‘Legends’ and tantalizing dance performance by the ‘Channa Upuli’ performing arts foundation troupe. The partymen were welcomed by Eng. (Prof.) Mrs. Niranjanie Ratnayake, President of IESL, under whose guidance this year’s event was held. The Organizing Committee under the Chairmanship of Eng. P.W. Sarath had this year chosen the Citrus Waskaduwa venue for its ideal setting and cuisine to suit the occasion.

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Losses for right's holders

2. For industry
• due to not regulating mobile services perceived by this very serious issue. The operators are also affected due to the low counterfeit and substandard industry is also high. The security. The negative im-
• and it is a threat to national

vity of the device will be low. There can be health hazards as the manufacturing is not done as per the standards.

So, it is beneficial for the country to ensure the usage of tested and quality approved mobile devices and prevention of illegal device usage. The government loses a considerable amount of revenue due to the illegal devices are imported relevant taxes. The stolen mobile devices are used for crimes and it is a threat to national security. The negative impact to the mobile phones industry is also high. The counterfeit and substandard devices are low in cost and it has created an unfair competition. The brand value is also affected due to the low quality of the devices. The operators are also facing many challenges due to this very serious issue. The Quality of Service (QoS) of the services perceived by the customers will also be low. Below given is a sum-
• of negative impacts due to not regulating mobile devices properly [4] [5]

1. For government
• Loss of revenue due to non-payment of customs duties and sales taxes
• Need of additional measures to ensure a compliance with national reg-

ulations (import, sale, certification, changing the IMEI etc.)
• Danger to public security (phones with invalid IMEI or "no IMEI" number are potentially attractive for criminal activity and ter-

rorism)
2. For industry
• Losses for right's holders (unfair competition, loss of sales, price may be affected, copyright and trademark infringement, adverse effect on brand value and reputation)

3. For user
• Low quality (performance degradation, high % of dropped calls, access failures, handover prob-

lems)
• Low reliability
• Failed warranty and technical support
• Potential hazard to health (use of hazardous sub-

stances, higher SAR, batteries explosion etc.)
• Security and privacy is-

sues (in cases of theft or stolen phone, it is difficult to track the phone with invalid IMEI or "no IMEI" number)

2. For operator
• Lowering QoS of mo-

bile telecommunication services (loss in voice and data capacities, data transmit speeds, reduced coverage)
• Potential interference and EMC problems
• Need of expensive and unnecessary technical measures (more antena-

n installations, base stations and the need of more spectrum)

Equipment Identity Register (EIR)

Generally, the mobile opera-

tors use EIR to validate the mobile devices and allow authenticated devices to use the operator’s network. The methodology used to acquire device details for EIR functionality is to obtain check IMEI requests from the Mobile Switching Center (MSC) or information avail-

able in Call Data Record (CDR). That information contains MSISDN, IMEI and IMSI of each device. A check IMEI is generated from MSC during IMSI attached process. IMSI attach process includes following scenarios.

1. Turn off and on a mobile device
2. Turning on a new device for the first time (new device detection)
3. Changing the mobile de-

vice that has been used.

The EIR Data Base (DB) update parameters are as follows.

1. MSISDN - Mobile Station International Subscriber Directory Number
2. IMEI - International Mobile Equipment Identity
3. IMSI - International Mobile Subscriber Identity

Importance of having a Common Equipment Identity Register (CEIR)

A CEIR is a central data-

base which is connected to the EIRs of all operators in the country. Since, it’s a common database, the infor-

mation regarding the mobile devices of all operators will be available from one place which will make tracking and reporting very efficient. Gen-

eral practice is to establish a CEIR maintained by an

independent party such as the telecommunication regu-

latory body. By having such a CEIR we can identify and take necessary measures to resolve below observed issues in the country.

1. Availability of grey market mobile de-

vices
A device is recognized as a grey market handset, if its IMEI is not listed in GSM Association (GSMA) IMEI database.

2. Availability of reprogrammed and multi-

ple same IMEIs
The IMEI is a unique identi-

fier of each device. Hence, it is not possible to have more than two records of the same IMEI in device databases of the operators.

3. Operator depen-

dency to identify the availability of a De-

vice
Once operators are informed of a lost device, they check the availability of the device in the network. But at that instance device might not be available in the network. Hence, continuous monitor-

ing of the IMEI should be done. There should be a convenient methodology to identify the availability of a given IMEI without depend-

ing on operator feedback.

4. Manual process of acquiring informa-

tion regarding lost Devices
If a mobile device is lost, the user must go to police and then to Telecommunications Regulatory Commission of Sri Lanka (TRCSL). This is a time-consuming process. Once a complaint is made at police, the process can be automated that the details will be sent to TRCSL and then the availability of lost device in a mobile network will be informed to police, the process will be very efficient. If a CEIR is established in Sri Lanka, the availability of a device can easily be tracked irrespective of the mobile network which the device is latched onto. So, a CEIR will provide below advantages for government, industry and mobile device users in Sri Lanka.

I. Ensures the quality of telecommunication and allow customers to get the maximum value for the money
II. Ensures the prevention of health hazards due to nonstandard power and frequency levels
III. Guarantees the proper functionality of all fea-

tures of the devices
IV. Prevents mobile device thefts and allows users to find their lost devices more conveniently
V. Discourages illegal de-

vice manufacturers
VI. Allows government to have a clear picture regarding the country’s device trends to define policies and regulations.

Hence, it is recommended to introduce a CEIR in Sri Lanka which is maintained by an independent party such as Telecommunications Regu-

latory Commission of Sri Lanka (TRCSL) with the help of all mobile operators including Dialog, Mobitel, Etisalat, Hutch and Airtel.

References


alyzing Central Equipment Identity Register (CEIR) Model for Mobile Hand-

[5] Telecom Regulatory Au-


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