NEWSLETTER

INSTITUTION OF INCORPORATED ENGINEERS, SRI LANLA - UAE BRANCH

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IIESL-UAE Book Donation Drive

We have created a recyclable process for those who are having a pile of books to get rid of and a desire to make sure those books are having a positive, social and environmental impact. Our response, the most effective solution to those who want to dispose such treasure is to donate them.

The book donation project launched by the members of the Institution of Incorporated Engineers, Sri Lanka-UAE Branch (IIESL-UAE) resulted fairly and gave us the opportunity to collect a sizable lot of pre-loved books from the Sri Lankan community in the United Arab Emirates.

The Executive Committee of the IIESL-UAE has decided to donate these books to libraries of schools in Sri Lanka, where the needy children can use these books for their reference. These books are available in both English and Sinhala languages which could be accessed by lower grade students and other students. On that concept, we have decided to donate these books to the students at schools in the North Central Province of Sri Lanka.

Part Collection of the Books Received

IIESL-UAE Family Bowling Event

The 2022 version of the Annual Family Get-together of the IIESL-UAE Branch was held on 26th June 2022 at the Dubai International Bowling Center, Al Mamzar. IIESL-UAE has a practice to arrange annual events like the New Year Festival, Family Get-together and Day Outings for the members and their families to meet, chat, enjoy and play games.

It was a pity our family members could not meet for a long period due to Corona outbreak and other reasons. As the country is in somewhat a new normal, the IIESL-UAE's Leisure, Sports & Social Events Committee members had got together and organized bowing games for the family members to play and spend the day.

Below are a few pictures of the event for you to talk and make memories……

Online registration for the 44th Annual General Meeting of IIESL

This meeting required pre-registration and kindly request all the members to register in advance. Please use the following link for registration for the Annual General Meeting on the Zoom platform.

https://us02web.zoom.us/meeting/register/tZYpcOCvpzsjGdWPqIdIxl4NejhXz1yc-Jd1

After registering, you will receive a confirmation email containing information about joining the meeting. Please refer ***(1) The Technical guidelines*** attached herewith for more details.

Please note final date/ time for registration is 12th July 2022; 8.00am Sri Lankan time. Please note; all the auto generated links will be sent to you ONLY via the email address & SMART Phone number you provide at the time of this registration.

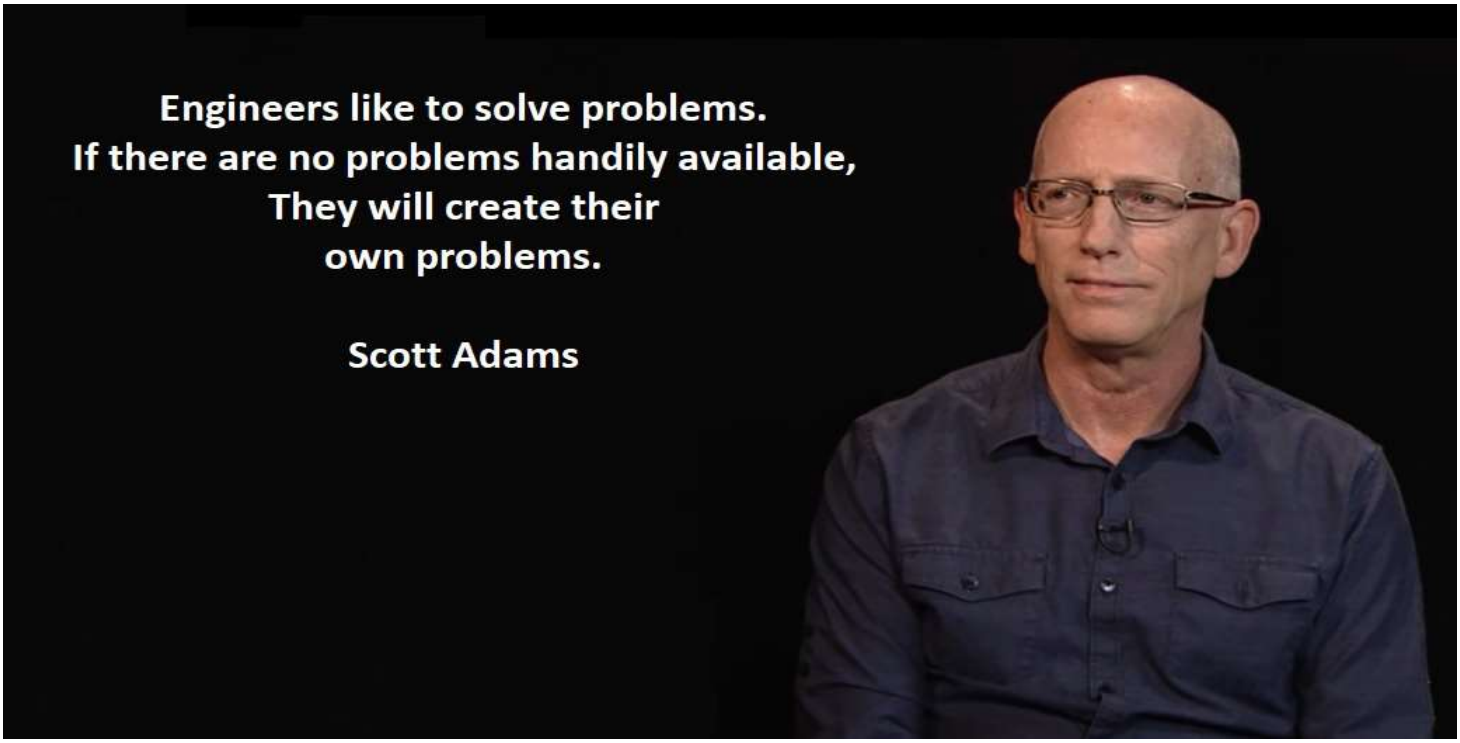
IIESL - UAE

16th AGM

Annual General Meeting of the IIESL UAE Branch for the Session 2021-2022

will be held in October 2022.

Please await for the details of the event.....



Dubai Building Code (DBC)

Ever since the construction boom in the Gulf region began in the 1980s, there was no doubt that the United Arab Emirates in general and Dubai, in particular, have been ranked among the world's leading jurisdictions for attracting foreign investment, mainly through sectors like real estate and hospitality. Naturally, this requires an enhanced focus on building safety, particularly as the use of new methods of construction and emerging technologies abound. Additionally, resiliency and sustainability in construction practices have become a greater priority throughout the country.

In order to streamline the administrative provisions within its building regulatory system and raise the standard of excellence for all stakeholders involved in the construction industry across the emirate, Dubai recently released an updated Dubai Building Code (DBC). The changes to the DBC do not impact the technical regulations so architects and engineers can continue to design buildings to be constructed in Dubai using International Building Code (IBC) criteria. The new DBC is the outcome of a project initiated by the Dubai Executive Council, headed by Dubai Crown Prince His Highness Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum. The code was officially approved in October 2020, with its publication/implementation in December 2021.

The objective of the Dubai Building Code (DBC) is to unify building design across Dubai, and to create a building code that is easy to use and clearly mandates the minimum requirements for:

a) the health, safety, welfare and convenience of people in and around buildings.

b) the health, safety, welfare and convenience of people who might be affected by buildings.

c) building design to reduce the impact on the surrounding environment; and

d) the sustainable development of buildings.

The content of the DBC is based on the following inputs:

1) existing regulations and technical requirements produced by the various Authorities and Service Providers.

2) interviews with Government Authorities, Service Providers, Master Developers, Consultants and other stakeholders to understand gaps or inconsistencies between existing regulations.

3) benchmarking to international and regional codes.

The DBC is arranged under themes to integrate all relevant elements of building design.

The regulations stipulated in the DBC are the minimum requirements for building design. Nothing in the DBC prevents a building design that achieves higher standards than the minimum set out in the DBC.

References: https://dda.gov.ae/wp-content/uploads/2021/12/Introduction-to-Dubai-Building-Code.pdf

"Dubai Executive Council issues new Dubai Building Code" by Mohamed Amer- iccsafe.Org/

Late Eng. Nalaka Kanthiarachchi
Former Secretary – IIESL UAE Branch

365 days have passed. We still cannot accept that you are not with us anymore. Nalaka gave us strength. You filled our meetings with pleasure. With your classy professionalism you inspired us and touched us even more.

Your passing was untimely and we couldn't believe that you had left us.

We know we'll all remember you even though you are no longer with us.

We will make sure Nalaka, you will never be forgotten.

We will miss you always….. until we meet again!

Institution of Incorporated Engineers, Sri Lanka – UAE Branch

The Gulf Rail and the Etihad Rail

Introduction

The six Gulf Cooperation Council (GCC) members in the region jointly agreed to construct a railway system connecting the six countries. The proposed railway system is called the Gulf Railway, also known as the GCC railway. The total length of the planned railway network will be 2177km. The estimated cost of the project was US$250 billion. The railway connecting all the member states of the Gulf Cooperative Council such as Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates (UAE) has been an aspiration of the region's respective governments since at least 2008 – 2009.

A Train on the Gulf Railway

Despite planed in 2008-2009, the financial pressures initially led to a delay of the project and a further significant delay was also took place due to the drop in oil prices in 2014 and finally it was affected by the Corona pandemic. Inadequate alignment of the interests of the six member states had also contributed to the delay of the project. The expected date of completion of the project is uncertain, given the lack of clarity on the exact scale and operating model of the venture.

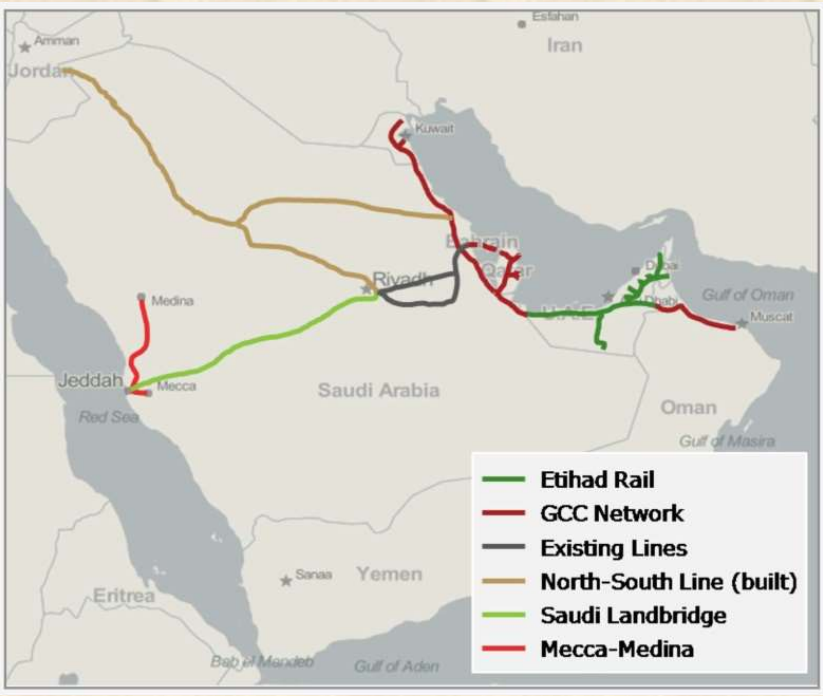
The responsibility for the construction of the part of the railway network within a member state lies with that country. The works shall include the railway lines, bridges, tunnels, branches, stations and freight terminals. The cost of the whole project will be shared by each country in proportion to the length of the railway in each country. Accordingly, the United Arab Emirates and Saudi Arabia will bear the major portion of the project's cost. Oman, Qatar and Bahrain will follow in accordance with the rail length within their territory.

Part of Railway

Following companies are developing the networks within the countries shown against:

- Saudi Railway Company – Saudi Arabia
- Etihad Rail – UAE
- Oman Rail – Oman
- Qatar Rail – Qatar

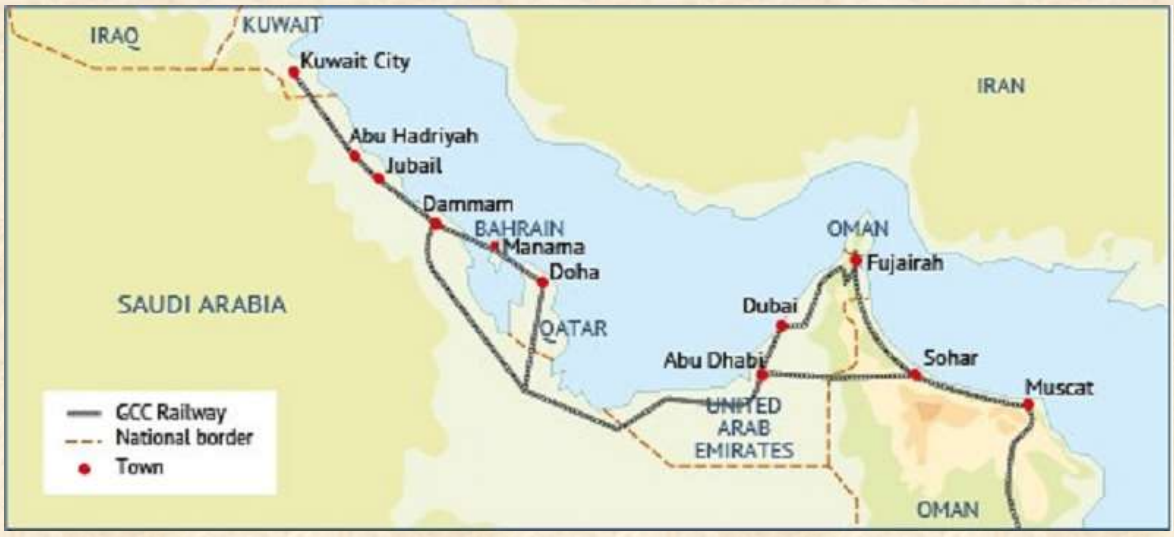
The Gulf Rail Network



Proposed Gulf Rail Network (In yellow background)

As per original plan, the rail network begins from Kuwait City. Then it passes through Dammam and Al Batha in Saudi Arabia, Abu Dhabi and Al Ain in the UAE and enter Oman through Sohar and terminates at Muscut. The connection to Bahrain starts from Dammam through King Hamad Causeway and proceeds to Qatar via Salva Port. Bahrain and Qatar would be connected by an additional route – the proposed Qatar Bahari Causeway.

There are additional rail ways proposed/ built in each state which connects cities within the state.



Proposed GCC Rail Network

The length of the rail network in each country.

Country	Line length
Kuwait	145 km (90 mi)
Bahrain	36 km (22 mi)
Qatar	283 km (176 mi)
Saudi Arabia	663 km (412 mi)
United Arab Emirates	684 km (425 mi)
Oman	306 km (190 mi)

As stated above, the countries are currently independently carrying out rail projects within their territory. Among all, Saudi Arabia has constructed a larger network of railway within their state. Saudi Arabia had already had a rail network when the GCC Rail Network was proposed in 2008-2009. UAE has also completed a part of the rail network and an internal network-Metro and tram. Metro network is currently covering major parts of the city.

Benefits of the GCC Rail Network

At the moment, most of the travelling between the states are taking place either by air or via lengthy drives through roadways through deserts. Freight between states is done by roadways if the states are nearby or by sea. The cargo deliveries by road and sea usually take more time if the states are not nearby. Long delays are also experienced sometimes due to stormy situations. The Gulf Railway will expedite the cargo deliveries between states and comfortable travelling for passengers. GCC nationals will have visa-free entry to each other's countries.

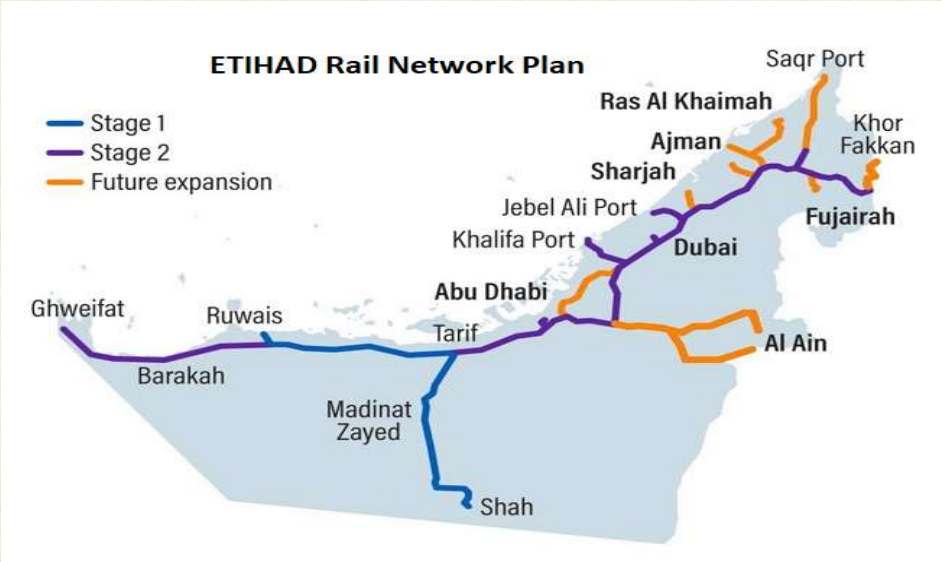
The railway is expected to boost intra-GCC trade by providing freight transport services. When the Rail network is in operation it is expected to provide a considerable number of direct and indirect jobs in all countries.

Rail Network of the UAE-Etihad

Etihad Rail is the developer and operator of the UAE's national railway network, connecting the UAE and GCC. Etihad Rail was established in June 2009 under Federal Law No. 2, with the mandate to manage the development, construction and operation of the UAE's national freight and passenger railway network.

Built to the very highest international standards, Etihad Rail's state-of-the-art network will act as a catalyst for economic growth and sustained social development. The railway will redefine logistics and transport in the region, providing a modern, safe, efficient and sustainable network which will connect the seven emirates of the UAE to its neighbouring GCC countries.

Etihad Rail comprises a network of 1,200 kilometers that will stretch across all seven emirates. One of the largest single railway projects to be implemented in the world, it forms the UAE component of the Gulf Cooperation Council (GCC) rail network. The railway is expected to transport 50 million tons of freight and 16 million passengers over the next two decades.



The UAE has a long and proud tradition as a trading economy, and the railway will strengthen its standing as a logistics hub, ensuring that it is well-connected to trading partners in the region and beyond.

The rail network will bring numerous benefits to a country and its surrounding regions, including job opportunities, road safety improvements, positive environmental impacts, decreased congestion and greater connectivity for both urban and peripheral communities.

Stage 1 of the Project

The Etihad Rail Stage 1 is the first railway in UAE, and it is a segment of the UAE Railway Network that will form a part of the planned Gulf Cooperation Council (GCC) connecting UAE to other GCC countries.

The railway is hauling about 7 million tons of granulated Sulphur a year from the Gas fields at Shah and Habshan for export through the port of Ruwais with two trains, each one 1.9 km long and composed by 110 wagons, carry 2x11,000 tons of Sulphur on a daily basis.

Key Facts

- 264 km - *long, design speed of 200 km/h*
- 93 million m^3- *of earthworks*
- ERTMS ETCS level 2 - *first in middle east*
- 235.000 m^3 - *of concrete*
- 11x11kV-1x33kV substations - *300km of mv cables*
- 18 buildings - *o&m depot, 18 multiservice buildings with sustainability certifications*
- 40+ - *key stakeholders*
- 20+ *nationalities - multicultural project with over 20 nationalities involved*

The Impact of the Project

- **Environmental**
  - The rail network will provide services for both freight and passengers (at a later stage), with social benefits and reduced levels of highway traffic: a single freight train can carry the load of up to 300 trucks thus reducing greenhouse gases by more than 2.2 million tons annually.
  - Consolidation of the UAE's excellence in the transport infrastructure and logistics industries, to achieve sustainable development.
  - By enhancing accessibility, the Western Region of Abu Dhabi, where the railway is located, will grow in terms of population, tourism and industrial activity also creating employment opportunities and easier access in remote communities.
- **Social**
  - The railway will connect rural areas to cities, improving connectivity and generating wider economic benefits for these areas. There will be a huge saving on the value of time saved for road users who will shift to the rail network.
  - Reduction in automotive accidents on the country roads due to passengers shifting to the rail network and the resulting fewer deaths.
- **Economic**
  - Reduced transportation costs, as well as faster transportation times, lower emission impacts, and increased tourism generation Cargo, whether intermodal, bulk or break-bulk, can often be carried on the rail at rates that are more competitive than other means of transport.
  - The increase in land value of areas around rail stations.
  - Development of tourism resulting higher revenue.
  - Reduction in road maintenance cost due fewer trips via roads.

Challenges

- Deliver fast track results in one of the most environmentally challenging climates, where summer temperatures regularly exceed 45 degrees Celsius.
- Keeping sand accumulation off the rails.
- The use of aerodynamics coupled with sand behavior modelling using Computational Fluid Dynamics (CFD) modelling within a wind tunnel resulted in combination of profiled and coated embankments.
- Manage rail operation and maintenance – with the help of an Assets Database.
- Getting more than 4,000 workers and 1,000 equipment at peak as this goes through the desert where the conditions are very extreme

Stage 2 of the Project

The first construction contract for Stage Two of the network to a joint venture of China State Construction Engineering Corp and South Korea's SK Engineering & Construction. Stage 2 will connect the major ports and cities in the UAE. The 628-kilometre rail line will link the railway to Mussafah, Khalifa and Jebel Ali ports and extend to the Saudi and Omani borders.

The 1·5bn dirham Package A includes design and construction of civil and track works for the 139 km double-track route running west to connect Ruwais with Ghuweifat on the border with Saudi Arabia. This will require 1·3 million tons of ballast, more than 400 000 concrete sleepers and 33 000 tons of rail.

Stage 3 of the Project

The third phase will cover the track connecting the UAE network to the Northern Emirates. The venture's extent of work includes the broadening the 250 kilometers Etihad railroad organize from Dubai toward the northern locales of Fujairah, Ras Al Khaimah, Sharjah and Abu Dhabi. The task will encourage the transport of individuals and merchandise from these northern locales to different regions in the UAE.

The cargo system will associate Ruwais Industrial Area in Abu Dhabi to Ras Al Khaimah. The task will serve the northern emirates, achieving Dubai focal, Port Saqr and Khor Fakkan. When finished, The Etihad Rail network is a combination of freight and passenger lines which extends across 1,000km and has nearly 40 railway facilities, including logistics sites for freight, passenger stations, stabling and maintenance depots.

Europe and Asia Links

GCC railway might plan to integrate and connect beyond the GCC region linking into other countries in the Middle East. This includes specific plans for connecting to the Yemen border. Other planned connections include reaching Jordan via the North-South Railway in Saudi Arabia and Iraq via Kuwait.

Syria and Turkey are also target destinations representing an important step towards a European connection. In the long term, this will include exploring the possibility of extending a link via Central Asia and China, as well as other dynamic Asian economies. Similarly, linking with Turkey's rail through Jordan will give GCC member states access to the European rail grid.

Etihad Rail will help the UAE achieve its target for net-zero carbon emissions by 2050 as it provides an alternative to vehicles to move goods.

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- https://www.saipem.com/en/projects/etihad-rail-stage-1
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- https://www.meed.com/etihad-rail-plans-to-tender-phase-3-in-second-half-of-2014/
- https://metenders.com/project_cms/project/etihad-railway-project-phase-3
- https://en.wikipedia.org/wiki/Etihad_Rail

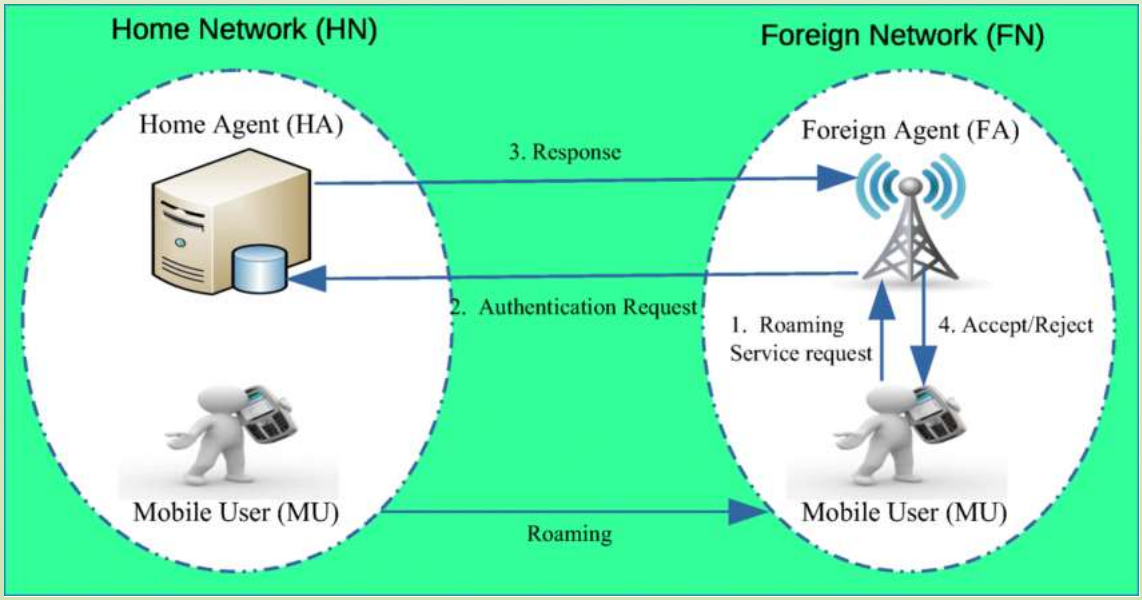
Economical Use of Mobile Roaming Service

By Eng. Praneeth Wickramasekara

What is mobile roaming service?

Generally Mobile SIM (Subscriber Identity Module or Subscriber Identification Module) is issued to a customer to use in the home country network only for mobile services.

Due to customer requirements such as travelling abroad, business trips and visiting home country, International roaming service is an essential service, provided for mobile users to use the SIM for roaming use.



Benefits of mobile roaming service.

Same mobile number can be used while roaming, to receive calls, to receive SMS and to receive OTP (One Time passwords) or log in to different services such as banking applications. Therefore, the same mobile number is required to benefit above services.

Mobile roaming customers also can use the mobile in roaming network to have the following services.

- Voice: Making and receiving calls to or from home country, visited country or a third country, while abroad. Toll free numbers, short code numbers may not function properly while roaming.
- SMS: Sending and receiving text messages to or from home country, visited country or a third country, while abroad.

- Email: Reading and replying to emails while abroad.
- Mobile broadband: Using mobile devices or dongles to access the internet, including downloading images, MP3s, films and software, while abroad.
- Applications: Using mobile applications while abroad, that require mobile data, such as location-based services and language translator.

Roaming charges and packages.

Generally due to following reasons roaming voice calls and data charges are a bit higher.

- For mobile termination (receive) calls; call should route from home country (SIM issued country) to the visited country via IDD (International direct dialing) route. This means International call charges should be charged for all the receiving calls.
- Visited country operator's cost for the call is also included in the total call charge and data usage charges. This means revenue of the calls should be shared between the home country operator and the visited country operator, according to the agreement between operators.
- To manage roaming packages and provide roaming services for pre-paid SIM's usage during roaming period, all the voice and data should be monitored by the SIM owned operator. To provide this service, up to date technology should be implemented in both the networks.

Due to high call and data charges while roaming, customers nowadays use a local (visited country mobile operator) SIM for local usage while roaming. With the availability of dual SIM facility device, customers can alternatively use both SIM's.

Economical use

Customers need to have rough estimation of roaming period, amount of data and voice minutes required during roaming period for the selection of a suitable roaming package.

Following table contains data volume required for various services which can be used for approximate estimation of data to select a suitable data package.

Activity	Data traffic use
One hour of instant messaging	0.25 – 1 MB
One hour of web browsing	1.5 – 25 MB
Download 100 emails	1 – 10 MB
100 minutes talk on VoIP video calling	Around 50 MB
Download one photo	0.05 – 2 MB
Download one MP3	3 – 8 MB
One software download	70 – 800 MB
Download one film	700 – 1500 MB
Streaming one hour of video	250 – 500 MB
Streaming one hour of audio	50 – 150 MB

With the rough estimation of the required data and voice during roaming period, customers can select suitable roaming packages.

Followings are the points to consider for selecting a roaming package economically.

- Check with your operator weather the mobile operator allows the use of the package in visited country.
- Check the mobile coverage of allowed operators for the package and confirm this coverage is included in area / province you visit. (Some operators provide coverage in particular provinces in some countries).
- Obtain the excess usage charges in case of usage after the completion of the package to avoid high spikes of extra usage charges.
- Most of the customers nowadays are subscribed with yearly combine (data, national, international, flexible minutes) packages. Irrespective of the usage, customer need to pay the rental of the yearly packages. Currently most of the Operators provide a service named (Roam like Home); by subscribing and paying a small rental charge for the use of the already subscribed yearly minutes and data to be used while roaming. This will be helpful to minimize the roaming charges. These services allow to use some call time and data of the yearly subscribed package to be used while roaming.

References:

https://www.gsma.com/

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Renewal of the Registration of ECSL

If any registered Member who has not renewed his registration for the year 2022, please contact IIESL or send a letter Click here for the specimen to the IIESL with the registration fee.

Please be informed that, according to the section 14(1) of Engineering Council Sri Lanka Act no. 4 of 2017, no engineering practitioner shall engage in the practice of engineering profession without being registered in ECSL.

Online registration for the 44th Annual General Meeting of IIESL

This meeting required pre-registration and kindly request all the members to register in advance. Please use the following link for registration for the Annual General Meeting on the Zoom platform;

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Institution of Incorporated Engineers, Sri Lanka

IIESL TECHNICAL SESSIONS 2022

"Sustainable development opportunities and challenges for reawakening Sri Lanka"

SESSION 01

"Reawakening Sri Lanka using crisis as an opportunity with special attention to Engineering Education"

DR. SUNIL NAWARATNE

BSc (Business Administration) , MA (Economics), PhD (Management)
Director General – National Institute of Education Maharagama

SESSION 02

"Sustainable Energy for reawakening Sri Lanka"

MR. NIMAL PERERA

B.Sc, PG Dip (PC Eng), PG Dip (Ind. Eng), PG Dip (B&F Admin), CM Env P(IEPSL), Past President (SLEMA), Senior Vice President (SCP Forum Sri Lanka), Consultant – Sustainable Development

SESSION 03

"Inventions/Innovations towards a sustainable future"

PROF. RANGIKA HALWATURA

Ph.D., B.Sc. (Moratuwa), C.Eng, MIESL
Professor, Department of Civil Engineering,
University of Moratuwa

zoom

Free Live Webinar on 15th July 2022 at 9.30 AM - 12.30 PM

Registration on or before 12th July 2022

MODERATOR

ENG. PADMAJITH JINADASA

Contact for more informations :
Tel : +94 11 2887734, +94 76 8776642, +94 71 7666642, Email info@iiesl.lk

Follow the link for Registration:

https://us02web.zoom.us/meeting/register/tZAkce2tqT0tE9VDGzcubekXTAfXmqI25qqU

IIESL UAE - Events and Webinar Log 2021/2022					
#	Date	Topic	Conducted by	Presenter	Venue
1	17/04/2021	Technical and Economical Challenges to Integrate more Renewable Energy to National Grid of Sri Lanka	IIESL-UAE	Dr. Tilak Siyambalapitiya	Webinar on Zoom
2	02/05/2021	The Monthly progress Report & Updated Programmes	CICES/IIESL-UAE/IQSSL	Mr. Gary Beamish and Mr. Mohamed Salah Mohamed	Webinar on Zoom
3	April/May 2021	APC Winter Session- Mock Interviews for RICS Candidates	IIESL-UAE		Zoom App
4	29/05/2021	Efficient Procurement Techniques (Selection by Two Stage Tendering and EPC Approach)	IIESL-UAE	Mr. Lokitha Karawita	Webinar on Zoom
5	05/07/2021	Dispute Management in Construction	CICES/IIESL-UAE/IQSSL	Eng. Dhammika Gamage	Webinar on Zoom
6	17/12/2021	Membership Induction Workshop	IIESL-UAE	Eng. Anura Jagodage	Webinar on Zoom
7	18/12/2021	Contractual Letter Writing	IIESL-UAE	Eng. Dhammika Gamage	Webinar on Zoom
8	29/03/2022	Unforeseen Ground Conditions in Construction Projects	CICES/IIESL-UAE/IQSSL	Mr. Michael Davies	Webinar on Zoom
9	29/03/2022	Payment Issues in Construction Projects	CICES/IIESL-UAE/IQSSL	Mr. Michael Davies	Webinar on Zoom

Academic / Professional Achievements of Members Year 2021/2022

#	Name of the Member	Academic/Professional Achievements	Designation/ Title	Awarding Body, Institution or University
1	Eng. Chathurika Gunawardane	Coporate Member	MIIESL	Institution of Incoporated Engineers, Sri Lanka
2	Eng. Dharma Pathiraja Fernando	Coporate Member	MIIESL	Institution of Incoporated Engineers, Sri Lanka
3	Eng. Arisanan Ramanathan	Coporate Member	MIIESL	Institution of Incoporated Engineers, Sri Lanka
4	Eng. Ranjan Dommanige	Coporate Member	MIIESL	Institution of Incoporated Engineers, Sri Lanka
5	Eng. Sanjaya Rohana Kodithuwakku	Coporate Member	MIIESL	Institution of Incoporated Engineers, Sri Lanka
6	Eng. Tharanga Dilruksha Perera	Coporate Member	MIIESL	Institution of Incoporated Engineers, Sri Lanka
7	Eng. Ranil Wijesinghe	Coporate Member	MRICS	Royal Institution of Chartered Surveyors, UK.
8	Eng. Kingsley Devendra	Construction Project Management	MSc	University of Birmingham City
9	Eng. Dhammika Gamage	President's Medal award for the "Outstanding Contribution to the Institution, Profession and to the Construction Industry at large"	-	Chartered Institution of Civil Engineering Surveyors, UK

Quotes and Inspiration