



Newsletter published by
Computer Society of India
— Lucknow Chapter —

TechWings@CsiLko

Wishes a Very Happy, Healthy & Prosperous New Year 2022

Editor-in-Chief : Mr. Harish C Gupta
Editor : Mr. Vinay Kumar Johri

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Address of the Office : CSI Lucknow Chapter, 231-233, 2nd Floor, Tej Kumar Plaza, Hazratganj, Lucknow

http://www.csi-lko.org

e-mail: csi.lkochap@gmail.com

Message from Regional Vice-president (Region-1)



Arvind Sharma
Regional Vice-President (Region-1),
Computer Society of India, Mumbai.

Incharge,
Dept. of Computer Science,
Lucknow Christian (Degree) College,
Lucknow.

It really is very encouraging that the process of publishing news letter which was initiated approximately 2 years back is continuing with constant efforts of the Chairman and Hon. Secretary. On behalf of the Chapter members I express my gratitude and send sincere good wishes for this.

Once again we are in a New Year, I express my greetings and best wishes to the members of CSI, Lucknow Chapter and their families. May God grant peace, happiness and good health to all of us.

With the beginning of New Year I will request all the members to kindly think for the betterment of CSI and introspect. The CSI needs you to spare some of your valuable time for its activities. Becoming a member of Management Committee or any Organizing Committee may satisfy one's personal feelings but it does not ensure the active contribution to the Society until one really wish to spare his time. The CSI needs your active participation in order to function productively.

With all the best wishes and greetings.

(Arvind Sharma)

Message from Chairman



H.C. GUPTA
Chairman
CSI, Lucknow Chapter
Sr. Manager (Systems)
UPDESCO Ltd.
E: gupta_hc@yahoo.com
M: 9335075944

Chief Editor & Chairman's Message

Dear Readers,

On the occasion of New Year-2022, I am delighted to welcome all the Patrons and members of Computer Society of India.

Rapid advances in Information and Communication Technologies have made the information in voice, text, video, etc accessible through a single communication channel with the use of appropriate access devices such as Smartphones, Tablet PCs, Laptops and Personal Computers. This has opened up a new realm of possibilities for provision of e-Governance, entertainment, education, telemedicines, e-commerce, info-services etc.

Social media is one of the most talked about phenomenon in the recent times. From what merely started as a "fun-platform" used among friends, its widespread adoption has now caused a matter of curiosity and exploration amongst researchers. The Governments including large public enterprises and political parties have adopted the social media platform as a Governance and promotion tool.

I wish a happy and prosperous New Year to all the readers.

With warm regards

Yours sincerely,

(H . C . G u p t a)
Chairman
CSI, Lucknow Chapter

Message from Immediate Past Chairman



Dr. Pankaj K. Goswami
Immediate Past Chairman,
CSI-Lucknow Chapter.

Greetings

Folks,

Welcome to year 2022, A new year marks a new beginning, new possibilities, new adventures, and new research opportunities.

I would like to express my deepest appreciation to you, our valuable authors, reviewers, and readers, for your contributions, service, and interest. You have made last year, an excellent year as your contribution towards CSI Lucknow Chapter and the newsletter TechWings@CsiLko.

Your strong inclination reflects the collective work by the editorial board members, reviewers, authors, and CSI members.

A new year is not just about changing the calendar; it is also about commitment. We, the editorial team of TechWings@CsiLko, will continuously work hard to better serve our authors and readers. We wish everyone a rewarding, joyous new year and look forward to working with you in 2022.

We wish that new year marks a milestone in the history of the newsletter because it comes with some important challenges and enhancements in indigenous computing technologies.

I would like to thank the sincere efforts of editorial board, and reviewers for all their support. Together we would work towards making the newsletter a truly influential publication. Comments, suggestions, and special issue proposals are always welcome.

With best wishes of New Year-2022,

Dr. Pankaj K. Goswami

Immediate Past Chairman
CSI-Lucknow Chapter (2020-2021)
goswamipankaj2k1@yahoo.com

Message from Vice Chairman cum Chairman Elect



Anil Kumar Srivastava
Vice-Chairman
CSI, Lucknow Chapter

Every end marks a new beginning. Keep your spirits and determination unshaken, and you shall always walk the glory road.

The past year has been a rollercoaster ride. Amidst the Pandemic, Computer Society of India, Lucknow Chapter, continued to thrive and conduct various events and conference. With courage, faith and great effort, everything is possible. Wishing you all a very Happy New Year.

Anil Kumar Srivastava
Vice-Chairman
CSI, Lucknow Chapter

Message from Hon. Secretary



Vinay Kumar Johri
Hon, Secretary
CSI, Lucknow Chapter

Dear CSI Members and all,

I extend my Best wishes to you, your family and everyone on the occasion of New Year and hope that New Year will bring Happiness, Health and Prosperity to Human Beings and other Creatures on this earth.

2. Despite of all odds and evens in the past two years during pandemic, Lucknow Chapter of Computer society of India maintained its continuous and regular connect with the Members and Society as a whole by organizing approx. 30-35 Webinars including International Webinars and other events. Chapter also organized National Conference on Digital Nation : Delivery of Citizen Centric e-Services on 18th December 2021 at Fairfield Hall of Lucknow Christian College. The Webinars included a variety of Technical events, Fun Events for CSI Members and their Families, Wellness Series, Yoga and Spiritual Events. All the Events were successfully organized with the help of the Management Committee, Organizing Committee, support of CSI Members and their families, Distinguished Speakers and active participation of participants.

3. We are pleased to release the 11th Volume of Newsletter by CSI Lucknow Chapter **TechWings@CsiLko** which could only be possible because of Help, Guidance and support from many Senior Colleagues at the Chapter, Editor-in-Chief and the Editorial Board of the Newsletter. I extend thanks to all friends from the core of my heart who walked the whole Journey and were kind enough to extend their unconditional support in making and shaping the Newsletter.

Stay Connected and Keep Yourself and Others Safe, Healthy and Happy !!!!!

With Warm Regards,

Vinay Kumar Johri

Mob : 8795824318 / 6307663524

E-Mail : vinay090413@gmail.com / vinay030207@yahoo.co.in

Webinar on How Does the Internet Work? - “Undersea Optical Fiber Network”

Organized by Computer Society of India Lucknow Chapter on 26th October 2021

Reported by : Mr. Harish Chandra Gupta, Ms. Shivanshi Puri & Mr. Vinay Kumar Johri

A Webinar on How Does the Internet Work? - “Undersea Optical Fiber Network” was organized by Computer Society of India, Lucknow Chapter on 26th October 2021. The Guest Speaker of the webinar was Mr. Rakesh Puri, C.E.O, Infotech Business Machines, Lucknow.

Dr. Ranjana Rajnish moderated the whole event. She called upon Ms. Kamakshi Puri for delivering the Welcome Address. Ms. Kamakshi Puri, one of the Youngest Member of CSI Lucknow Chapter delivered the welcome address. Dr. Ranjana Rajnish invited the Guest Speaker Mr. Rakesh Puri to deliver the session on the relevant Topic of the Webinar.

Speaker of the session Mr. Rakesh Puri discussed about Internet Architecture which looks like a River System Small Rivers feed Medium and they feed Large Rivers. Local Internet Service Providers are connected to medium-sized Regional Networks which connect to Large National Networks and further connected to very large bandwidth networks. Most Internet Service Providers have several redundant network cross-connections to other providers to ensure continuous availability. He talked about Fixed Broadband Internet Speeds, Mobile Internet Speeds. The Internet backbone operates at very high bandwidth. The technical Infrastructure includes global connections through underwater submarine cables and satellite links to enable communication between countries. More than 99% International Telecommunication Traffic is carried over submarine cables with speed upto 8 times faster than the satellite network. More than 13 lakh km Cables deployed.

He also talked about Current Status & Trends viz. OTT (Over-The-Top) Service Providers are giving good mileage to the submarine OFC business. Cloud Storage and Cloud Computing increases the need of submarine OFC. Smartphone penetration across the Globe is increasing the demand.

He discussed about the Movers & Shakers of the Industry viz. Content Providers like FaceBook, Microsoft and Amazon are moving from capacity purchaser to cable owners. Data Centres like Amazon Web Service and Microsoft Azure are the major Users.

He also discussed about laying the Submarine Optical Fibre Cables to their Maintenance and 3 layers of the Internet Architecture, Tier-1 Backbone of the Internet, Tier-2 National & Regional Networks and Tier-3 Internet Service Providers. The various Tiered Networks intersect at Digital Junctions called Internet Exchange Points (IXPs). The Internet is very real and part of our everyday lives and yet it does not exist as a single location or place. It is cloud of all clouds when it comes to Digital Communications. The Internet never breaks, never stops and is always there. He also apprised the Audience about various Facts related to Submarine OFC. He also talked about Tetrapods etc. The session was very informative, and all the topics were discussed in detail. The session concluded with an interactive Question Answer session. Mr. Rakesh Puri answered all the queries raised by the participants.

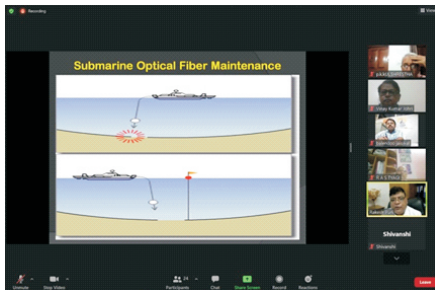
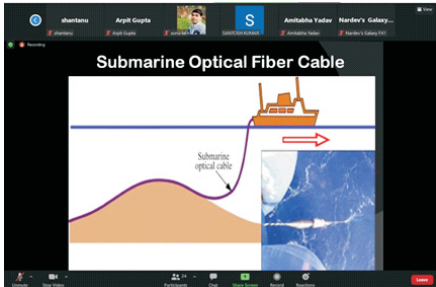
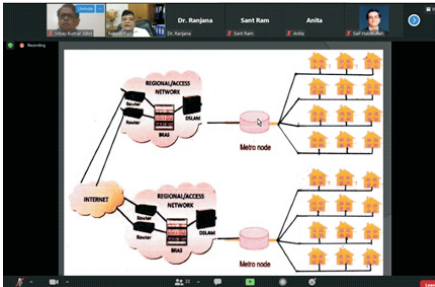
Vote of Thanks was presented by Dr. Ranjana Rajnish, member of Management Committee of the Chapter.

How Does Internet Work?

"Undersea Optical Fiber Network"

Internet Architecture

Local Internet service providers are connected to medium-sized regional networks which connect to large national networks and further connected to very large bandwidth networks



Tier 1 ISPs in India

No.	Tier 1 ISP	Landing Stations
1	Tata Communications	Chennai (1), Cochin (1), Mumbai (3)
2	Bharti Airtel	Chennai (2), Mumbai (1)
3	Reliance Jio	Chennai (1), Mumbai (2)
4	Global Cloud Exchange	Mumbai (1), Trivandrum (1)
5	Vodafone	Mumbai (1)
6	Sify Technologies	Mumbai (1)
7	BSNL	Tuticorin (1), Digha (1)
8	IOX (Indian Ocean Exch.)	Pondicherry (1)

Tier 1 - Internet Backbone

Chennai (Tamil Nadu) Landing Station

<https://www.submarinecablemap.com>

Submarine Cable Consortium

- Most Submarine cables are international connecting several countries involving multiple owner.
- Regulatory requirements in most countries requires local license to own and operate the system including cable laying and landing station.
- The investment required is very high.
- Standardize cable design & connectivity.
- Maintenance & repair support.

Island Submarine Cable Project India

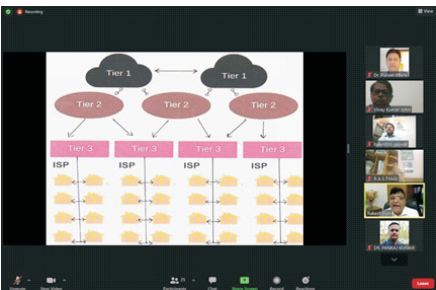
- Hon'ble Prime Minister Inaugurated Chennai to Andaman & Nicobar Submarine OFC on 10.08.2020 and Kochi to Lakshadweep project on 15.08.2020.
- Project awarded to BSNL & TCIL.
- Chennai connected to Port Blair and 7 other Islands of Andaman & Nicobar.
- Total submarine cable laid 2313 Kms.
- Kochi connected to Kavaratti and 10 other Islands of Lakshadweep.

Tier 2 Companies

Tier-2 companies have a Regional Networks and are connected to one or more Tier-1 networks. They have to pay a fee to access the Tier-1 company's network.

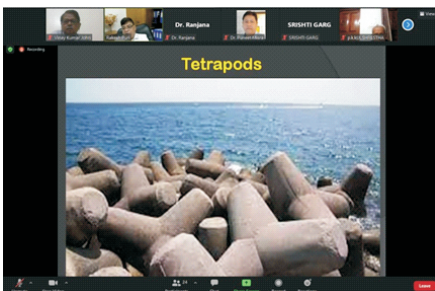
Tier 3 Companies

Tier-3 companies are the Internet Service Providers (ISPs) from whom we buy our



Where it all comes together

- The various tiered networks intersect at digital junctions called Internet Exchange Points (IXP).
- Many networks can connect at one IXP, which itself can be a local network that serves as an interface between the member networks.
- Participating Tier 1 ISPs help fund the IXPs, but don't charge each other for transporting traffic from the other Tier 1 ISPs in a relationship known as settlement-free peering.
- Such agreements eliminate potential financial disputes that may effect internet performance.



National Conference Digital Nation: Delivery Of Citizen Centric e-Services Organized By Computer Society Of India , Lucknow Chapter On 18th December 2021 At Fairfield Hall, Lucknow Christian College, Lucknow

Compiled by Mr. Harish Chandra Gupta & Mr. Arvind Sharma

The National Conference , Digital Nation : Delivery of Citizen Centric e-Services was organized by Computer Society of India Lucknow Chapter on 18th December 2021 at Fairfield Hall, Lucknow Christian College, Lucknow. Hon'ble Defence Minister Government of India, Respected Shri Rajnath Singh ji was the Chief Guest of the National Conference.

The Conference started with welcoming of the distinguished Guests and the lighting of Lamp by Deputy Director General NIC HQ, New Delhi Mr. D.C. Mishra, Director IIM Raipur Prof. Mr. Bharat Bhaskar, Advisor IIBM Group Patna and Past President Computer Society of India Prof. (Dr.) A. K. Nayak, Co-founder Zoho Corporation Mr. Kumar Vembu, Principal Lucknow Christian College Mr. Baiju Abraham, Chairman CSI Lucknow Chapter Mr. Harish Chandra Gupta, Hon. Secretary CSI Lucknow Chapter Mr. Vinay Kumar Johri.

The lighting of lamp ceremony was followed by unveiling the Souvenir on the occasion of the National Conference. Apart from all the dignitaries mentioned above, the distinguished guest Mr. Diwakar Tripathi IAS, Pratinidhi Saansad Rajnath Singh ji was also present on the DIAS. The senior CSI Members and other Members viz. Mr. RAS Tyagi, Mr. Ashesh Agarwal, Mr. Anil Kumar Srivastava, Dr. Puneet Misra, Dr. Nilu Singh, Dr. Ranjana Rajnish, Mr. Nafis Hasan Kidwai, Mr. Gulab Chandra, Ms. Shivanshi Puri, Ms. Kamakshi Puri, Ms. Swati Singh were also present on the occasion. Mr. Harish Chandra Gupta, Chairman Computer Society of India Lucknow Chapter welcomed all the guests and participants present in the Conference.

Mr. Arvind Sharma, Convener of the National Conference advised that Chief Guest has blessed us through a Video Message. Chief Guest, Hon'ble Defence Minister Shri Rajnath Singh ji blessed the Computer Society of India Lucknow Chapter and other distinguished Guests and Participants through His Video Message and shared the Vision and Mission of the Government regarding Digital India and appreciated that the Theme of the National Conference Digital Nation organized by the Computer Society of India Lucknow Chapter is relevant and expressed his hopes that CSI will keep on contributing for Digital India in the future also.

Prof. Bharat Bhaskar delivered the key note address, followed by the Guest of Honour address by Mr. D.C. Mishra, Mr. Kumar Vembu, Mr. Diwakar Tripathi and Presidential Address by Prof. (Dr.) A.K. Nayak. Mr. Vinay Kumar Johri delivered Vote of Thanks by extending Thanks to the Chief Guest Hon'ble Defence Minister Govt. of India Respected Rajnath Singh ji, Dignitaries present on the DIAS, Lucknow Christian College, Sponsors of the Conference, Advertisers, CSI Members and all the Participants present in the Inaugural Session for their Speech and active participation. He also thanked Mr. K. P. Singh, OSD Delhi to Hon'ble Defence Minister and Dr. Raghvendra Shukla, Incharge Office & PRO Lucknow to Hon'ble Defence Minister.

Various technical sessions were held during the one day conference and distinguished speakers viz. Mr. Rahul Mishra, Ms. Shubhra Srivastava, Mr. Kuldeep Srivastava, Mr. Ajay K. Singh, Mr. Milind Raj, Mr. Tarandeep, Mr. Ram Nath Rastogi on behalf of Mr. Tula Srinivas Dy. General Manager State Bank of India Local Head Office Lucknow, Prof. A.K. Nayak, Prof. S.S. Agarwal shared their views with the audience. Question Answer session was also held during each session and the questions put up by the participants were answered by the Knowledgeable Guests to the fullest satisfaction of the participants. The Vote of Thanks was delivered by Mr. Arvind Sharma, Regional Vice President Region -1, Computer Society of India (2019-2021) and Convener of the Conference. The Conference was anchored by a dynamic and young anchor, Ms. Kamakshi Puri.

Some Glimpses of the National Conference :





— This marker is the beginning of the next newsletter, rather than the end. —