I.E.I NEWS

ANDHRA PRADESH

April - June 2024

Andhra Pradesh State Centre

SIR ARTHUR COTTON BIRTHDAY

Prof.(Dr.)M L S Deva Kumar, FIE Hon. Secretary of IEI AP SC, Er. Ramesh Kumar Committee Member of IEI APSC in Civil Engineering, other Corporate and Non Corporate members are also presented. Those are Dr. S.Prasad, V. Radhakrishna, Y.D. Prasad, P. Sivanarayana, A. Ram Babuji, K. BhanuPrasad ,T.S.Nageswara Rao, A.V.K.Sinha, T.S.Nageswara Rao. Presented members are discussed about the greatness of Sir Arthur Cotton, Prof.(Dr.) M L S Deva Kumar, FIE Hon. Secretary of IEI AP SC gave video presentation about Sir Arthur Cotton,

Arthur Cotton was born on 15 May 1803 at Combermere, the tenth son of Henry Calvely Cotton, uncle of the noted Field Marshal Lord Combermere, and one of eleven brothers. In 1818, aged 15, he became a cadet at the East India Company's military seminary at Addiscombe, Surrey. Cotton entered the Madras engineers in 1820, served in the First Anglo-Burmese War (1824–26), and began his irrigation work in 1828. He constructed works on the Kaveri (Cauvery), Kollidam (Coleroon), and Godavari rivers. His dams on the Kollidam (1836)

Sir Arthur Cotton, the unmatched and towering personality in the world of engineering had played a crucial role to provide assured irrigation to lakhs of farmers who were haunted by famine and floods in the Godavari and Krishna delta region by constructing barrages across the two rivers. He succeeded in completing the magnificent project on Godavari river at Dowleswaram in 1852. After completing the Godavari Anicut Cotton shifted his attention to the construction of the Aqueduct on Krishna River. The project was sanctioned in 1851 and completed by 1855.

Er. MEDARAMETLA LINGESWARA RAO 14TH ENDOWMENT LECTURE

Dr. C V Sriram, FIE Chairman of IEI AP SC, Prof.(Dr.)M L S Deva Kumar, FIE Hon. Secretary of IEI AP SC, Committee Members of IEI APSC, other Corporate and Non Corporate members are also presented. Speaker – V Ramudu, Director, Town and Country Planning (Rtd), Govt of AP, he gave detailed information about Town Planning Schemes - The AP Town Planning Act, 1920 provides for the preparation of General Town-Planning Schemes (GTPS) and Detailed Town-Planning Schemes (DTPS) in respect of all lands within the municipal area. Under Section 8 of the APTP Act, every Municipal Council, within 4 years of its constitution shall prepare, publish and submit a General Town-Planning Scheme to the Government for its approval. Under Section 9 of the Act, the Municipal Council is required to declare its intention to make a GTPS. Under Section 10, the resolution under Section 9 shall be published by notification by the Chairman of the Municipal Council. Under Section 11 the Municipal Council is required to prepare the GTP within 12 months of publication of the notification under Section 10 in consultation with all stakeholders. The content of the draft scheme is laid down under Section 13 of the

Act. The process for preparation of the General and Detailed Town-Planning Schemes is further detailed in the Rules under Town Planning Act, 1920. Rules under the APTP Act prescribe for the following mandatory elements under a General Town-Planning Scheme to secure a settled policy and plan for the improvement and development of the town generally and control both municipal and private activities connected therewith:

(a) The construction, diversion, extension, alteration, improvement or closure of streets, roads and communications, to the extent required for the needs of the public generally;

(b) The reservations of land for streets, roads, open spaces, recreation grounds and sites for public buildings;

(c) The determination of what shall be residential, commercial, industrial and hutting areas;

(d) The preservation of objects and buildings of archaeological or historic interest or of natural beauty or which are actually used for religious purposes or regarded by the public with special religious veneration;

(e) The prescription of building lines and street alignments;

(f) The imposition of house density restrictions in different parts of the area included in the general town-planning scheme;

WORLD TELECOMMUNICATION AND INFORMATION SOCIETY DAY

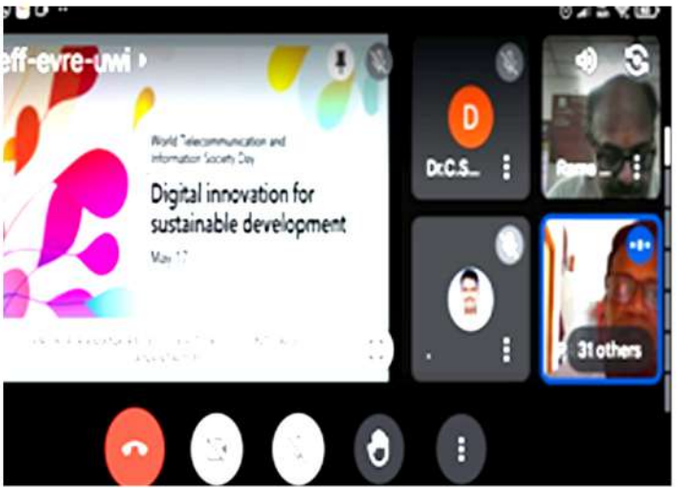
Dr. C V Sriram, FIE Chairman of IEI AP SC, Prof.(Dr.)M L S Deva Kumar, FIE Hon. Secretary of IEI AP SC, Er. Ramesh Kumar Committee Member of IEI APSC in Civil Engineering, other Corporate and Non Corporate members are also presented. Speaker – Prof. (Dr.) C. Nagaraju, Prof of CSE & Principal, YSR Engineering College of Yogi Vemana University, he gave detailed information about Digital Innovation of Sustainable Development - Despite the recognized significance of natural resources for economic development, many resource-rich nations struggle to realize their potential, creating a dichotomy in the literature. This study dissects the role of natural resources in fostering sustainable commerce in BRICS nations from 1988 to 2021, a novel exploration incorporating significant control variables such as digitalization, research and development, and GDP. By utilizing panel data from 1988 to 2021, we employ appropriate panel data econometrics techniques to explore long-term relationships.

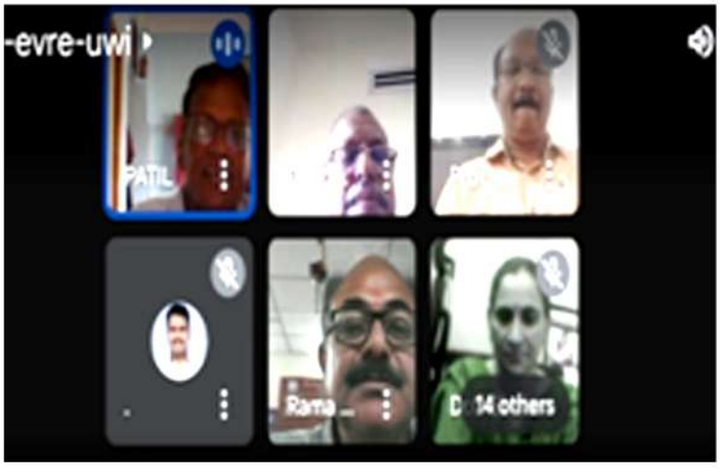
WORLD ENVIRONMENT DAY

Dr. C V Sriram, FIE Chairman of IEI AP SC, Prof.(Dr.)M L S Deva Kumar, FIE Hon. Secretary of IEI AP SC, Committee Members of IEI APSC, other Corporate and Non Corporate members are also presented. Speaker – Siva Prasad Mallela Joint Commissioner MGNREGS, Panchayat Raj & Rural Development, Govt of AP, he gave detailed information about Land Restoration, Desertification and Drought Resilience - Restoring the Earth's Vital Landscapes and Confronting Desertification World are not just environmental imperatives but global necessities for sustaining life on our planet. The degradation of fertile land and the encroaching desertification threaten the very foundation of food security, biodiversity, and community resilience. However, amidst these challenges, there is a beacon of hope in restoration efforts and multifaceted approaches to combat desertification. Governments, organizations, and communities worldwide are uniting to invest in land restoration projects, reforestation efforts, and sustainable land management practices to reverse the tide of degradation and restore the productivity of our ecosystems. Simultaneously, the urgent need to build resilience against drought looms large in the face of increasingly severe and frequent dry spells. Droughts not only jeopardize agriculture and water resources but also deepen existing inequalities and exacerbate poverty. Yet, through integrated water resource management, improved agricultural practices, and community empowerment, we can bolster our resilience against drought and ensure the sustainable development of societies worldwide. By enhancing water efficiency, promoting soil conservation, and investing in drought-resistant technologies, we pave the way for a future where communities thrive, ecosystems flourish, and our planet's landscapes are safeguarded for generations to come.

WORLD TELECOMMUNICATION AND INFORMATION SOCIETY DAY

The Institution of Engineers (India), Anantapuram Local Centre organized a technical Webinar on “World Telecommunications and Information Society Day” on 17th May 2024 that was attended by over 37 eminent engineers, faculty members and research students participated. On this occasion, the Keynote speaker of the Prof. P. Ramana Reddy, Professor of ECE Department, JNTUA College of Engineering, Ananthapuramu, emphasized the importance of communication and information technology in the economic and social development of the country. He told that in today's changing environment, when elderly people live alone in most of the houses, smart homes, speech assistants, apps, based on artificial intelligence and other subject experts, doctors can easily help people staying at home and can monitor the patients without disturbing them. Training games for dementia patients can also be developed online and can be easily done at home by the care takers of the patients. The role of a robot can also be important for the physical assistance to the elderly, which can help in various physiotherapy exercises by training with AI (Artificial Intelligence).





Healthy seniors can also stay connected with the society through social media along with their income by doing technical training. In the coming time, when the number of elderly people is increasing all over the country, we have to develop new ways to protect the family and society through Iot and to make their daily routine easy and pleasant. At the same time, we also have to educate the children in our homes to understand the importance of a joint family and listen to the experience of the elders of the house and spend their lives in a dignified manner. Due to increasing Single families in India, senior citizens who have contributed in their youth should be provided financial and medical assistance. Innovative tech can help tackle the world’s most pressing challenges, from fighting climate change to eliminating hunger and poverty. In fact, digital technologies can help achieve 70% of targets under the UN Sustainable Development Goals by 2030. Yet glaring digital gaps hinder innovation in many parts of the world. The lack of policies, investment, and digital skills leaves many countries struggling to keep up in the fast-changing digital landscape. The purpose of World Telecommunication and Information Society Day (WTISD) is to help raise awareness of the possibilities that the use of the Internet and other information and communication technologies (ICT) can bring to societies and economies, as well as of ways to bridge the digital divide. World Telecommunication and Information Society Day (WTISD), like its predecessors, focuses on a particular theme for each event.

In the beginning of the programme Dr. M. Rama Krishna Reddy Honorary Secretary welcomed all the dignitaries and participants and proposed the vote of thanks.

WORLD ENVIRONMENT DAY

The Institution of Engineers (India), Kadapa Local Centre organized a Seminar on the occasion of “World Environment Day” on 8th June, 2024. The Speaker Dr. T. Kiran Kumar, MIE, Professor of Civil Engg., KSRM College of Engineering, Kadapa had delivered a lecture on the theme of the day “Land Restoration, Desertification, and Drought Resilience”. The brief details of the presentation given are as follows. World Environment Day is celebrated annually on 5 June. World Environment Day is a global platform for inspiring positive change. This day is celebrated to create awareness and to encourage action for the protection of the environment. The theme for World Environment Day 2024 is "Land Restoration, Desertification, and Drought Resilience”. This day helps raise awareness about environmental problems and how we can take steps to tackle them. World Environment Day aims to inspire more people than ever before to take action to prevent the growing strain on planet Earth and also helps to promote awareness with regard to environmental protection.

WORLD TELECOMMUNICATION AND INFORMATION SOCIETY DAY

The Institution of Engineers (India), Kadapa Local Centre organized a Seminar on the occasion of “World Telecommunication and Information Society Day” on 28th May, 2024. The Speaker Dr. S. Farooq Anwar, Associate Professor & HoD of ECE, Global College of Engineering & Technology, Kadapa had delivered a lecture on the theme of the day “Digital Innovation for Sustainable Development”. The brief details of the presentation given are as follows.

World Telecommunication and Information Society Day (WTISD) has been celebrated annually every 17 May since 1969. It marks the signing of the first International Telegraph Convention and founding of ITU in 1865. This year the theme is “Digital Innovation for Sustainable Development”. Information and Communication Technologies (ICTs) have been transforming the way people communicate, learn, and do business. ICTs are also empowering nations to achieve sustainable development goals and improve their economies. However, many Least Developed Countries (LDCs), characterized by low levels of human development, weak institutional structures are still lagging behind in the adoption and utilization of ICTs. Therefore, it is essential to empower LDCs through ICTs to enhance their social and economic development.

The primary purpose to celebrate World Telecommunication and Information Society Day (WTISD) is to bring awareness on the possibilities that the use of the Internet and other information and communication technologies (ICT). On this auspicious day the theme for discussion is Digital technologies for older persons and healthy ageing.

SIR MOKSHAGUMDAM VISVESVARAYA VARDHANTHI

The Institution of Engineers (India), Kadapa Local Centre organized Sir Mokshagumdam Visvesvaraya Vardhanthi. M. Visvesvaraya was born on 15 September 1861 at Muddenahalli, Kingdom of Mysore (in present-day Chikkaballapura district, Karnataka) into a Telugu speaking family of Mokshagundam Srinivasa Shastry and Venkatalakshmi.His ancestors hail from Mokshagundam, a village in present-day Prakasam district of Andhra Pradesh, and had migrated to the kingdom years prior to Visvesvaraya's birth.

In 1899, Visvesvaraya was invited to join the Indian Irrigation Commission where he implemented an intricate system of irrigation in the Deccan Plateau and designed and patented a system of automatic weir water floodgates that were first installed in 1903 at Khadakvasla Dam near Pune. These gates raised the storage level in the reservoir to the highest level likely to be attained without causing any damage to the dam. Based on the success of these gates,

RECENT ACCIDENT SCENARIO IN INDIA

The Institution of Engineers (India), Kadapa Local Centre organized a Technical Seminar on “Recent Accident Scenario in India" on 21st April, 2024. This event was inaugurated and delivered key note address by Dr. V. Adinarayana Reddy, Chairman, IEI, Kadapa Local Centre. After the inauguration the Speaker Er. G. Krishna Kishore, M. Tech., AMIE, Associate Professor & HoD, Mechanical Engineering, Global College of Engineering & Technology, Kadapa has delivered a lecture on the theme of the day.

This study applies both parametric models (Heteroscedastic Ordered Logit (HOL)) and non-parametric models (Random Forest, Classification and Regression Tree (CART), and boosted Regression Tree (BRT) to analysis of driver’s injury severity in single-vehicle and two-vehicle crashes on highways. The HOL model not only estimates quantitative effects of significant explanatory variables, but also captures hetero scedasticity (i.e. variation in the unobserved effects among observations) of the variables such as head-on collision, abnormal conditions and female drivers.

On the other hand, the BRT model effectively captures nonlinear vehicle age on severe injury. It was found that the BRT model effectively captures nonlinear effects of continuous variables including truck percentage, AADT, driver’s age and vehicle age on severity more accurately than the HOL and CART models for both single-vehicle and two-vehicle crashes. Based on the model results, some remedial treatments are discussed to reduce driver’s injury severity in crashes on highways. It is recommended that both HOL and BRT models are used for more accurate prediction of crash injury severity.

ADVANCED 5G TECHNOLOGY

The Institution of Engineers (India), Kadapa Local Centre organized a Technical Seminar on "Advanced 5G Technology" on 8th June, 2024. The Speaker Er. G. Krishna Kishore, M. Tech., Associate Professor & HoD of Mechanical Engineering, Global College of Engineering & Technolgy, Kadapa had delivered a lecture on the theme of the day "Advanced 5G Technology". The brief details of the presentation given are as follows. The development of 5G technology is very important in today's technological World. These technologies are bringing about significant changes in the way we Interact with the digital world and are changing the way we use technology. The Speed offered by 5G technology makes it possible to carry out data transfers very quickly, opening up opportunities for new applications and services in various Sectors. The implications of the development of 5G technology on industry are Huge and can affect various aspects, such as productivity, efficiency, and Innovation. In the production sector, 5G technology makes it possible to speed up the production process and increase efficiency by using industrial technology 4.0. Within the service sector, 5G technology makes it possible to provide faster and high-quality services, such as more stable and faster video streaming services. On the other hand, the development of 5G technology also carries implications that Must be considered, such as security and privacy issues.

The speed offered by 5G Technology makes it easier to carry out attacks and access personal data. Therefore, it is important for the industry to ensure that the 5G technology used meets the Established security standards. The development of 5G. technology brings Significant changes in the industry and opens up new opportunities in various Sectors. The implications of the development of 5G technologies are huge and affect Productivity, efficiency, and innovation. However, it is important for the industry to ensure that the 5G technology used meets established security standards to avoid Security and privacy concerns.

5G technologies will change the way most high-bandwidth users access their phones. With 5G pushed over a VOIP-enabled device, people will experience a level of call volume and data transmission never experienced before.5G technology is offering the services in Product Engineering, Documentation, supporting electronic transactions (e-Payments, e-transactions) etc. As the customer becomes more and more aware of the mobile phone technology, he or she will look for a decent package all together, including all the advanced features a cellular phone can have. Hence the search for new technology is always the main motive of the leading cell phone giant sot out innovate their competitors. Recently apple has produced shivers all around the electronic world by launching its new handset, the I-phone. Features that are getting embedded in such a small piece of electronics are huge. The 5g design is based on user-centric mobile environment with many wireless and mobile technologies on the ground. In heterogeneous wireless environment hangs in all, either new or older wireless technologies, is not possible, so each solution towards the next generation mobile and wireless networks should be implemented in the service stratum, while the radio access technologies belong to the transport stratum regarding the Next Generation Networks approach.

SIR ARTHUR COTTON BIRTHDAY

The Institution of Engineers (India), Kakinada Local Centre, JNTU Kakinada and Retired Irrigation Engineers Association, Kakinada Jointly organized a Seminar on the occasion of "221st Birth Anniversary Celebrations of General Sir Arthur Thomas Cotton" on 15th May, 2024. The Resource person Er. N. Arjuna Rao, Superintending Engineer (Retd.), Irrigation Dept., Kakinada had delivered a lecture on the theme of the day. The brief details of the presentation given are as follows. Arthur Cotton was born on 15 May 1803 at Combermere, the tenth son of Henry Calvely Cotton, uncle of the noted Field Marshal Lord Combermere, and one of eleven brothers. In 1818, aged 15, he became a cadet at the East India Company's military seminary at Addiscombe, Surrey. He passed out in December 1819 and was commissioned Second Lieutenant in the Madras Engineer Group. He entered the Madras Engineers in 1819 and fought in the First Burmese War.

He started his career with the Ordnance Survey at Bangor, North Wales, in January 1820, where he was praised for his reports. In 1821 he was appointed for service in India, where he was initially attached to the Chief Engineer to Madras. He was later appointed as an Assistant Engineer to Superintending Engineer of the Tank Department. Cotton conducted a marine survey of the Pamban passage between India and Ceylon. He was promoted to the rank of captain in 1828, and was put in charge of investigation for the Cauveri Scheme. He started working to remove the soil settling in Kallanai Dam and with the model of the dam he built the Upper Dam in Kaveri in Mukkombu, near Tiruchirapalli. He constructed the Lower Anaicut Dam in Anaikarai. The success of these projects paved the way for further important projects on the Godavari and Krishna Rivers.

Cotton recalled how, from analysing the Kallanai Dam and its foundations, his group learned how to construct foundations in a sandbed. In 1844, Cotton recommended the construction of an "anicut" (a dam made in a stream for maintaining and regulating irrigation) and prepared plans for Visakhapatnam port. In 1847, the work on the Godavari anicut was started.

In 1848 he proceeded to Australia due to ill health and handed over the charge to Captain Orr. In 1850 he returned to India and was promoted to the rank of colonel. He succeeded in completing the magnificent project on the Godavari river at Rajahmundry in 1852. After completing the Godavari anicut Cotton shifted his attention to the construction of the aqueduct on Krishna River. The project was sanctioned in 1851 and completed by 1855. After completing the Krishna and Godavari anicuts, Cotton envisaged the storage of the Krishna and Godavari river waters.

In 1858, Cotton came up with even more ambitious proposals such as connecting all major rivers of India, and interlinking of canals and rivers. He suggested drought-relief measures for Odisha. Arthur Cotton retired from service in 1860 and left India. He was knighted in 1861. He visited India in 1862 and 1863 and offered advice on some river valley projects. His work in India was much appreciated and he was honoured with KCSI (Knight Commander of the Order of the Star of India) in 1877. He became a much-revered figure in the state of Andhra Pradesh for his contribution in irrigating the area of land also known as Konaseema.

WORLD ENVIRONMENT DAY

The Institution of Engineers (India), Kakinada Local Centre organized a Seminar on the occasion of “World Environment Day” on 5th June, 2024. The Speaker Er. F. Satyanadham, Superintending Engineer (Retd.) had delivered a lecture on the theme of the day “Land Restoration, Desertification, and Drought Resilience”. The brief details of the presentation given are as follows. World Environment Day is celebrated annually on 5 June. World Environment Day is a global platform for inspiring positive change. This day is celebrated to create awareness and to encourage action for the protection of the environment. The theme for World Environment Day 2024 is "Land Restoration, Desertification, and Drought Resilience”. This day helps raise awareness about environmental problems and how we can take steps to tackle them. World Environment Day aims to inspire more people than ever before to take action to prevent the growing strain on planet Earth and also helps to promote awareness with regard to environmental protection.

1. Land is a vital resource for producing food and other ecosystem goods and services including conserving biodiversity, regulating hydrological regimes, cycling soil nutrients, and storingcarbon, among many. For those communities that rely heavily on land as their main asset, especially the rural poor, human wellbeing and sustainable livelihoods are completely dependent upon and intricately linked to the health and productivity of the land.

2. Land degradation refers to any diminishment of biodiversity and ecosystem functioning that negatively impacts the provisioning of ecosystem services and ultimately impedes poverty eradication and sustainable development. Land degradation is caused by human activities and natural processes, which are closely linked to the adverse impact of climate change and biodiversity loss. In addition to unsustainable agricultural and livestock management practices, other sectoral activities contribute to land degradation thereby reducing socio-ecological resilience and food/water security. When degradation occurs in arid, semi-arid and dry sub- humid areas where productivity is constrained by water availability, it is called desertification.

3. Ecological and economic systems are also disrupted by drought. Drought, like land degradation, occurs in most parts of the world, including humid regions. From the 1970s to the early 2000s, the percentage of the Earth’s land area afflicted by serious drought has more than doubled. While the world’s drylands continue to be the most vulnerable and threatened by DLDD, land degradation is a global phenomenon with 78% of the total land degraded occurring in terrestrial ecosystems other than drylands. Global assessments indicate that the percentage of total land area that is degraded or being degraded has increased from 15% in 1991 to 24% in 2008: with more than 20% of all cultivated areas, 30% of natural forests, and 25% of grasslands undergoing some degree of degradation.

4. Indeed, the most significant geo-resource or natural capital asset is productive land and fertile Soil. Nevertheless, DLDD processes have accelerated in the last century and each year an estimated 24 billion tons of fertile soil are lost due to erosion in the world's croplands.

NATIONAL SURVEY DAY

The Institution of Engineers (India), Visakhapatnam Local Centre had organized a technical activity on 10th April, 2024 at 06.00 PM at Seminar Hall, IEI, VLC. Speaker, Sri Dr. Monangi Murali, Head & Dean (R&D), Professor & HOD, Dept. of Civil Engineering, Raghu Engineering College, Visakhapatnam while delivering lecture. 10th April is celebrated as 'Survey Day' throughout India. This day has a special significance in the History of Surveying as it is on this day that Major William Lambton started the GTS (Great Trigonometrical Survey) and the work of measurement of Great Arc from the Cape Comorin to Bangalore, on 10th April, 1802. In 1856, Everest's height was first calculated to be 8,840 meters (29,002 feet) above sea level by a team led by British surveyor Sir George Everest, the man whom the mountain was named after. Later, in 1955, the figure was adjusted by eight meters to 8,848 (29,028 feet), which has remained the official height to date

WORLD EARTH DAY

The Institution of Engineers (India), Visakhapatnam Local Centre had organized a technical activity on 22nd April, 2024 at 06.30 PM through virtual mode.

Speaker Sri Dr. V.S.R.K. Prasad, FIE, Emeritus Professor, Dept. of Environment Engg Science and Management, Andhra University, Visakhapatnam while delivering lecture on “Planet vs Plastic”. œSo far only one identified planet in the Universe, for the life to exist, that is our EARTH

œWhile on the subject of single-use plastics, which account for half of the plastic we use each year, they have an average useful life of 12 to 15 minutes and yet can take up to 500 years to disappear, according to Life Out Of Plastic (LOOP). Plastics outlive us and will outlive our children. The good news is that it is in our hands, as consumers, to turn this situation around. We have the power to make manufacturers change the way they produce. How? By changing the way we consume, the way the plastic is collected, the way the plastic waste is used for other purposes making it to disappear with other applications is quite possible. If properly handled by perfect collection of the plastic waste from various sources including domestic, industrial and commercial sectors, the several applications make it user friendly, economically viable, pollution reducing material and above all exchequer saving material. The applications include the use in the roads laying, cement industry kilns, pharma industry, manufacturing of oil apart from the recycling which will be the major beneficiary among all the applications. If still one feels that the plastic usage is to be banned, the manufacturing can be banned instead of usage by the consumer as the ban on manufacturing requires lesser monitoring compared to the ban on usage by the consumer.

NATIONAL TECHNOLOGY DAY

The Institution of Engineers (India), Visakhapatnam Local Centre had organized a technical activity on 11th May, 2024 at 06.30 PM through virtual mode. Speaker Sri Dr. Bijay Kumar Sahu, Senior Regional Manager & Project Head (East), NRDC, Gov of India while delivering lecture on "Clean & Green Technologies for a Sustainable Future". The Event was attended by around 42 members of Executive Committee, IEI VLC & Other Corporate Members, 140 students from Government Polytechnic for Women, Bheemunipatnam,

The surge in global IP filings highlights the critical role of IP in safeguarding innovation and driving progress towards the UN SDGs. By protecting the rights of inventors, IP systems encourage R&D that addresses global challenges like health (SDG 3), hunger (SDG 2), clean energy (SDG 7), and climate change (SDG 13). In 2022, global patent filings raised by 1.7%, reaching nearly 3.5 million applications—an all-time high, India experienced a remarkable 25% increase in patent filings, the fastest growth since 2005.

National Research Development Corporation, GoI, New-Delhi Transferred "Lutein Production from Marine Micro Algae" Technology developed by National Institute of Ocean Technology, Chennai to M/s. Vectrogen Biologicals Private Limited, Hyderabad.

Infant Food – Innovation Promotion & Management through Academia & Industries Collaboration:

• This development happened over six decades ago and brought a new dimension to the nation's nutrition security. Prior to 1960, the supply of infant foods meant a heavy burden on our foreign exchange reserves. Today it is common for parents to rely on commercially sold infant foods, due to the scientific innovation that has been key to manufacturing these foods in India.

• Amul, a baby food based on CSIR technology has been a household name in India for decades. The genesis of this tasty and nutritious infant formulation was done earlier to the development of CSIR-CFTRI's baby food formulation, buffalo's milk, was considered unsuitable for easy digestion by a baby. However, CSIR technology proved that buffalo's milk could be turned into a nourishing infant food. This achievement gave a significant boost to the Indian dairy industry, while fulfilling the country's requirement of having indigenous technology to manufacture infant foods. The addition of DL-methionine to the product helped enhance its nutrition profile for optimum growth and development of the infant.

• NRDC transferred this technology to The Kaira District Milk Producers Union, producing 20,000 tonnes/annum infant food under the "Amul Spray" brand name which became very popular and has been in use in almost all the houses in the country.
NRDC has issued licence to more than 12 MSMEs for commercial production. The commercial production of user-friendly PPE named NavRakshak begin. The concept of the breath-easy equipment with no mend or lamination was developed by a Dr. Arnab Ghosh at Indian Navy. The PPE fabric does not require lamination with polymer or plastic.

SIR ARTHUR COTTON BIRTHDAY CELEBRATIONS

Visakhapatnam Local Centre, The Institution of Engineers India (IEI) celebrated 222nd Birthday.

Chairman, Committee Members and Corporate Members garlanded the Portrait of Sir Arthur Thomas Cotton and paid homage to the Great Visonary Engineer.

Er. Pakki V S Ganesh Kumar, FIE, Chairman, IEI, VLC highlighted about Life and Achievments of Sir Arthur Thomas Cotton.

Sir Arthur Thomas Cotton was born on 15 May 1803 as tenth son to Mr. and Mrs. Henry Calvely Cotton.

At the age of 15 i.e., in 1818 Cotton joined as a cadet for Military at Addiscombe where cadets for Artillery and Engineering Service of East India Company received training. He was appointed to the Royal Engineers as Second Lieutenant in 1819.

Major Contributions:

Sir Arthur Cotton is renowned for his pioneering work in the field of civil engineering, particularly for his contributions to irrigation and water management in India.

His most significant work was in the Madras Presidency (now Tamil Nadu and Andhra Pradesh), where he designed and supervised the construction of numerous irrigation and navigation canals, dams, and reservoirs.

Notable projects include the construction of the Godavari and Krishna Barrages, which transformed the agriculture and economy of the regions by providing reliable water sources and flood control.

Legacy:

Cotton's engineering marvels greatly boosted agricultural productivity and helped alleviate famine conditions in parts of India.

He is often referred to as the "Father of Irrigation" in India due to his lasting impact on the country's irrigation infrastructure.

In recognition of his contributions, several places and institutions in India are named after him, and his legacy is celebrated in the regions he helped develop.

Honors:

Knighted as a Knight Commander of the Order of the Bath (KCB) for his outstanding service. Remembered as a visionary whose work laid the foundation for modern irrigation systems in India, greatly influencing the region's prosperity.

Personality and Work Ethic:
Known for his dedication, foresight, and innovative approach to engineering challenges. Cotton's commitment to improving the lives of local populations through sustainable water management is a hallmark of his career.

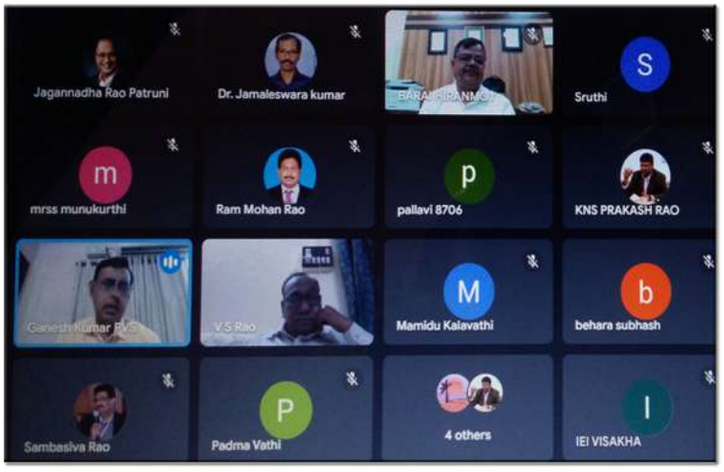
WORLD TELECOMMUNICATION & INFORMATION SOCIETY DAY

The Institution of Engineers (India), Visakhapatnam Local Centre had organized a technical activity on 17th May, 2024 at 06.30 PM at Seminar Hall, IEI, VLC.

Speaker Sri Dr. M. Satya Prasad, Deputy General Manager, BSNL while delivering lecture on “Digital Innovation for Sustainable Development”. The Event was attended by around 41 members of Executive Committee, IEI VLC & Other Corporate Members

5G will be USED in INDIA to enable the DIGITAL India, SMART Cities & SMART Village missions for India. Leveraging the MAKE in INDIA and Start-Up India missions, India will emerge as a global player actively engaged in the Design, Development and Manufacturing of 5G based technology and products. To accelerate deployment of next generation ubiquitous ultra-high broadband infrastructure with 100% coverage of 10 Gbps across urban India and 1 Gbps across Rural India

INDUSTRIAL SAFETY DAY



The Institution of Engineers (India), Visakhapatnam Local Centre had organized a technical activity on 11th June, 2024 at 06.00 PM through virtual mode.

Speaker Sri Hiranmoy Barai, GM – Safety (Process & Operations), HPCL, Visakh Refinery while delivering lecture on the event.

The Event was attended by around 30 members of Executive Committee, IEI VLC & Other Corporate Members, Students from polytechnic colleges.

Early leak and fire detection systems are critical for ensuring the safety & operational integrity of industries. Given the highly flammable and hazardous materials involved in in industrial processes, prompt detection and response to leaks and fires can prevent catastrophic accidents and environmental damage.

Some advanced early leak and fire detection systems commonly used in oil refineries:

1. Gas Detection System: Fixed Gas detectors / Portable Gas Detectors

2. Flame/Smoke Detectors

3. Heat Detectors

4. Automatic Fire Suppression systems: Deluge Sprinkler system /Foam system / Rim seal protection / CO2 flooding

5. Emergency Shutdown Systems

WORLD ENVIRONMENT DAY

The Institution of Engineers (India), Visakhapatnam Local Centre had organized a technical activity on 21st February, 2024 at 03.00 PM at Government Polytechnic, Kancharapalem, Visakhapatnam.

Speaker, Cmde D Chandra Sekhar, Technology Director, Quality & Reliability, NSTL, Visakhapatnam while delivering lecture on “Regional Languages promotion Day”. In my view language is not a name for some group of words.

It is a ready-made power that a man gets from birth. No one can describe the transcendental joy he gets when he speaks his mother tongue while being able to put his feelings into words and express himself to others, if he has to speak his language.Mother tongue is not only the language from the mother, but it is the language that gave us the first expression of our feelings, at that young age when we were not affected by hypocrisy. The feelings of that day are the real mother feelings in our life. It was the mother tongue of those days.

The Institution of Engineers (India), Visakhapatnam Local Centre had organized a technical activity on 28th February, 2024 at 06.30 PM at Seminar Hall, IEI.

Speaker, Sri Dr A Srinivas Kumar, FIE, Outstanding Scientist & Technology Director (Retd), Naval Science & Technological Laboratory (NSTL), Visakhapatnam while delivering lecture on “Indigenous Technology for Viksit Bharat”.

E-mobility, short for electric mobility, refers to the use of electric vehicles (EVs) for transportation purposes. It encompasses a range of electric-powered vehicles, including electric cars, electric buses, electric scooters, and electric bicycles. E-mobility is gaining momentum globally as a sustainable alternative to conventional internal combustion engine vehicles, primarily due to its potential to reduce greenhouse gas emissions and dependence on fossil fuels. Here are key aspects and considerations related to e-mobility:

1. Environmental Benefits: E-mobility helps reduce air pollution and greenhouse gas emissions, contributing to efforts to combat climate change and improve air quality in urban areas. Electric vehicles produce zero tailpipe emissions, especially when powered by renewable energy sources such as solar or wind.

2. Energy Efficiency: Electric vehicles are generally more energy-efficient than internal combustion engine vehicles, converting a higher percentage of energy from the grid to power the vehicle.