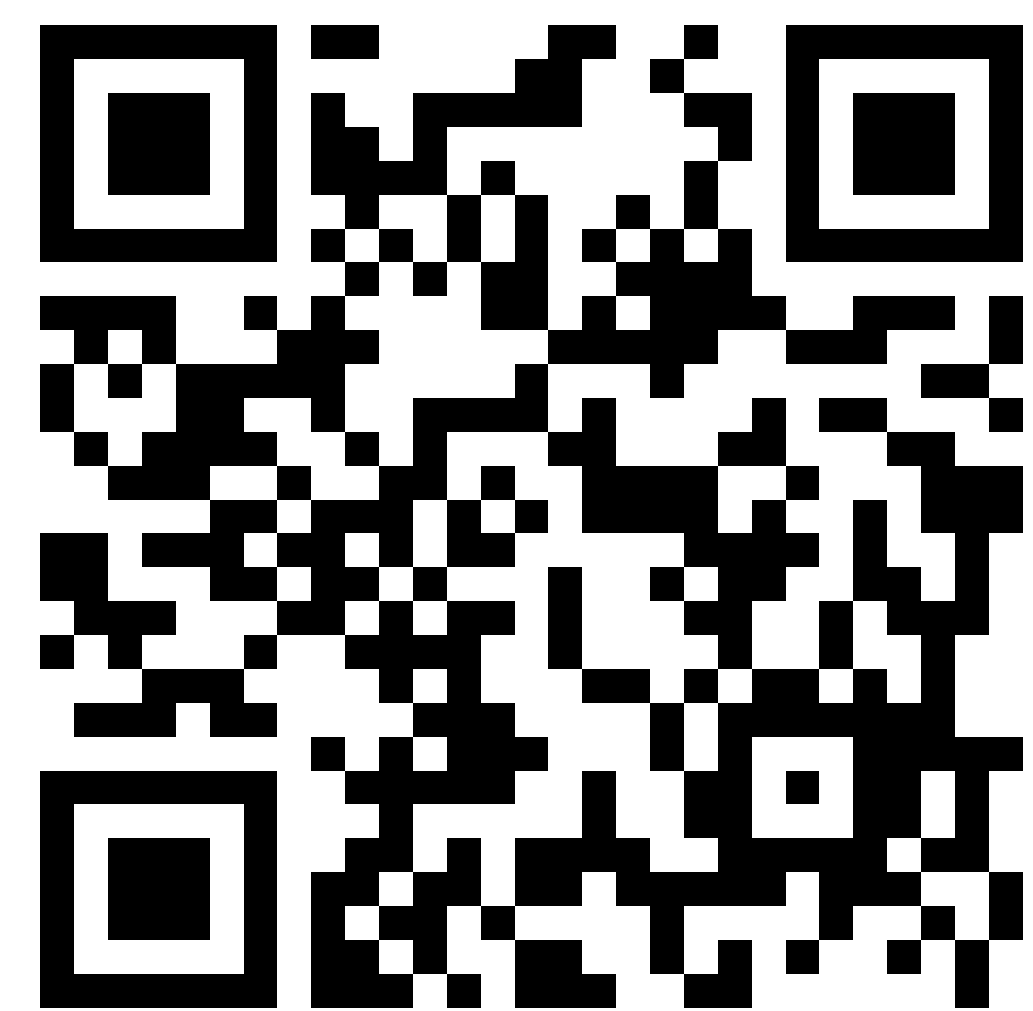


Online Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities"



May 30, 2021 (Sunday)

Organized by
ASCE SVEC Student Chapter
Department of Civil Engineering



Last Date of Registration: 29-05-2021

Registration Link:

<https://forms.gle/Fs2u6KNWdBt914jPA>

Eligibility:

- All the students of B.Tech Civil Engineering from SVEC are eligible to participate in the event.

E-Certificates will be provided for all participants and Prize Winners

Contact us:

ASCE SVEC Office Bearers - 2021
asce@vidyanikethan.edu

Event Platform:



Rules to follow:

- The poster entry must have an impact on the topic.
- Each participant should submit one entry only.
- File Format: Save your file as a PDF for quick and easy upload.
- All Poster should be original work of participant and follow the given format.
- The following headings are suggested to structure your abstract, but you can amend as necessary – Introduction/Background, Methods, Findings, Conclusions.
- During the event, the maximum two participants in each team are given 7 minutes to present their poster and 3 minutes for queries.

Chief Patrons



Dr. M. Mohan Babu
Chairman, SVET



Sri. Vishnu Manchu
CEO, SVET

Patron



Dr. B. M. Satish
Principal, SVEC

Convener



Dr. O. Eswara Reddy
Faculty Advisor, ASCE SVEC Student Chapter
HoD and Chairman-BoS, Dept. of Civil Engg.

Coordinator



Mr. D. V. Purushotham
Coordinator
ASCE SVEC Student Chapter

Department: CIVIL ENGINEERING | Date: 30th May 2021

Online Poster Presentation on
"Civil Engineering Infrastructure for the Development of Smart Cities"
30th May 2021

The Department of Civil Engineering of Sree Vidyanikethan Engineering College has organized a Online Poster Presentation on **"Civil Engineering Infrastructure for the Development of Smart Cities"** under ASCE SVEC Student Chapter on 30th May 2021. The objective of the program is to motive and nurture the Poster Presentation skills and impart knowledge on Civil Engineering Infrastructure for the Development of Smart Cities.

A total of 18 students (04 individuals and 7 teams of each 2) from II, III and IV B.Tech. Civil Engineering I Semester has participated in the event. The whole event was conducted with great zeal and enthusiasm. The competition was conducted through **Zoom Platform** from 02:00 pm to 4:30 pm on 30th May 2021.

Dr. O. Eswara Reddy, Professor, Head, BOS Chairman, and Faculty Advisor - ASCE SVEC Student Chapter, Department of Civil Engineering, SVEC and Convener of the event addressed the gathering and motivated the participants; Mr. D. V. Purushotham, Assistant Professor, Coordinator-ASCE SVEC Student Chapter and Coordinator of the event are judged the participants on different criteria such as knowledge, presentation, demonstration, creativity and content. Office barriers of ASCE SVEC Student Chapter were the organizers of this program.

On the whole, the event has proved successful. The prize winners were judged purely based on subject knowledge and presentation skills. The **First Prize** to **Ms. Pallavi Nallaturu** of III B. Tech. CE-A; **Second Prize** to **Ms. Anupala Navya** of III B. Tech. CE-A and **Ms. Dasari Tejaswini** of II B. Tech. CE-B and **Third Prize** to **Ms. Shaik Arkat Mahamuda** and **Ms. Shaik Mahaboob Gouse Anisha** were awarded in poster presentation on "Civil Engineering Infrastructure for the Development of Smart Cities". Participation certificates were distributed to all the participants.

The students were enriched with knowledge on latest technologies used in the poster presentation. Further, it is believed that this event has ignited the young minds to learn and participate and to participate and learn.

The photographs of the event are as follows.



SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)

Sree Sainath Nagar, Tirupati – 517102
(Affiliated to JNTUA Anantapuramu, Approved by AICTE, Accredited by NBA; NAAC with 'A' Grade)



Online Poster Presentation on

"Civil Engineering Infrastructure for the Development of Smart Cities"

May 30, 2021 (Sunday)

Organized by

ASCE SVEC Student Chapter
Department of Civil Engineering





Last Date of Registration: 29-05-2021

Registration Link:
<https://forms.gle/Fs2u6KNWdBt914jPA>

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Event Platform:



Chief Patrons



Dr. M. Mohan Babu
Chairman, SVET

Patron



Sri. Vishnu Manchu
CEO, SVET

Convener



Dr. B. M. Satish
Principal, SVEC

Coordinator



Dr. O. Eswara Reddy
Faculty Advisor, ASCE SVEC Student Chapter
HOD and Chairman-BUS, Dept. of Civil Engg.

Coordinator



Mr. D. V. Purushotham
Coordinator
ASCE SVEC Student Chapter

Event Brochure



SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)

Sree Sainath Nagar, Tirupati – 517102
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Online Poster Presentation

on

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May 30, 2021 (Sunday)

Organized by

ASCE SVEC Student Chapter
Department of Civil Engineering





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Coordinator



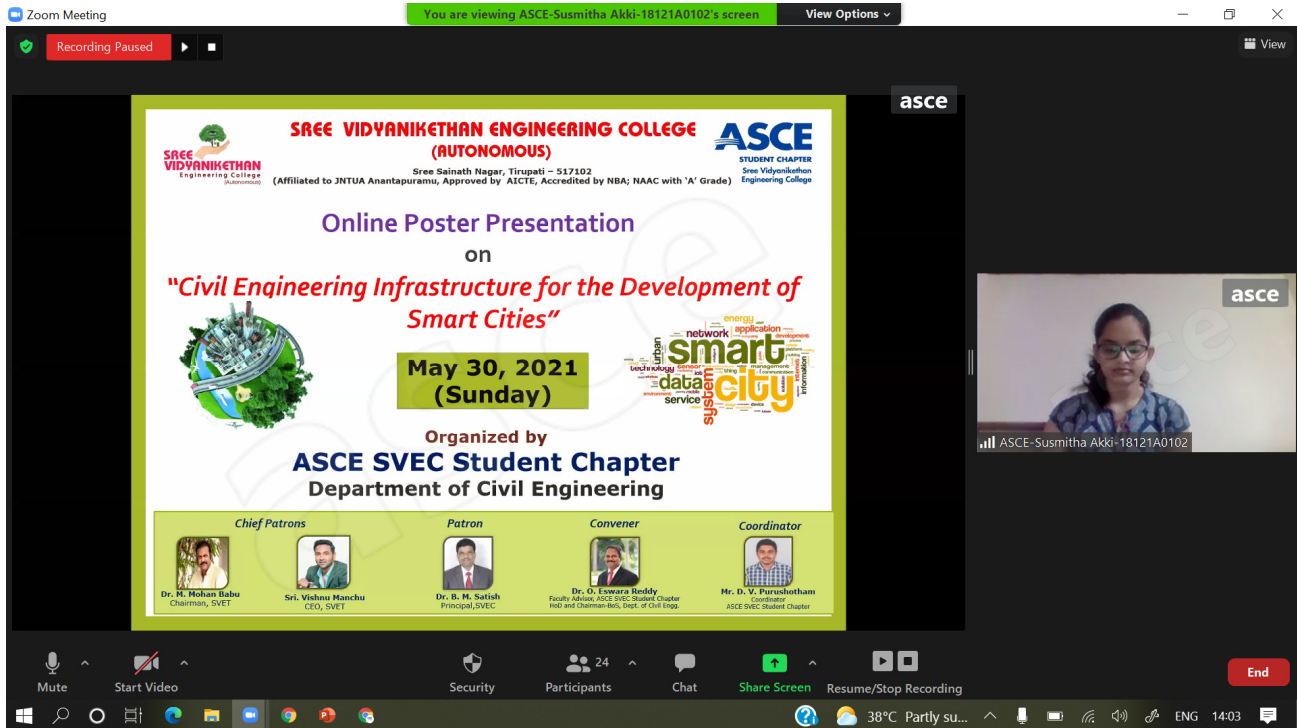
Dr. O. Eswara Reddy
Faculty Advisor, ASCE SVEC Student Chapter
HOD and Chairman-BUS, Dept. of Civil Engg.

Coordinator



Mr. D. V. Purushotham
Coordinator
ASCE SVEC Student Chapter

Event Banner



Zoom Meeting | You are viewing ASCE-Susmitha Akki-18121A0102's screen | View Options

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Sree Sainath Nagar, Tirupati – 517102
(Affiliated to JNTUA Anantapuramu, Approved by AICTE, Accredited by NBA; NAAC with 'A' Grade)

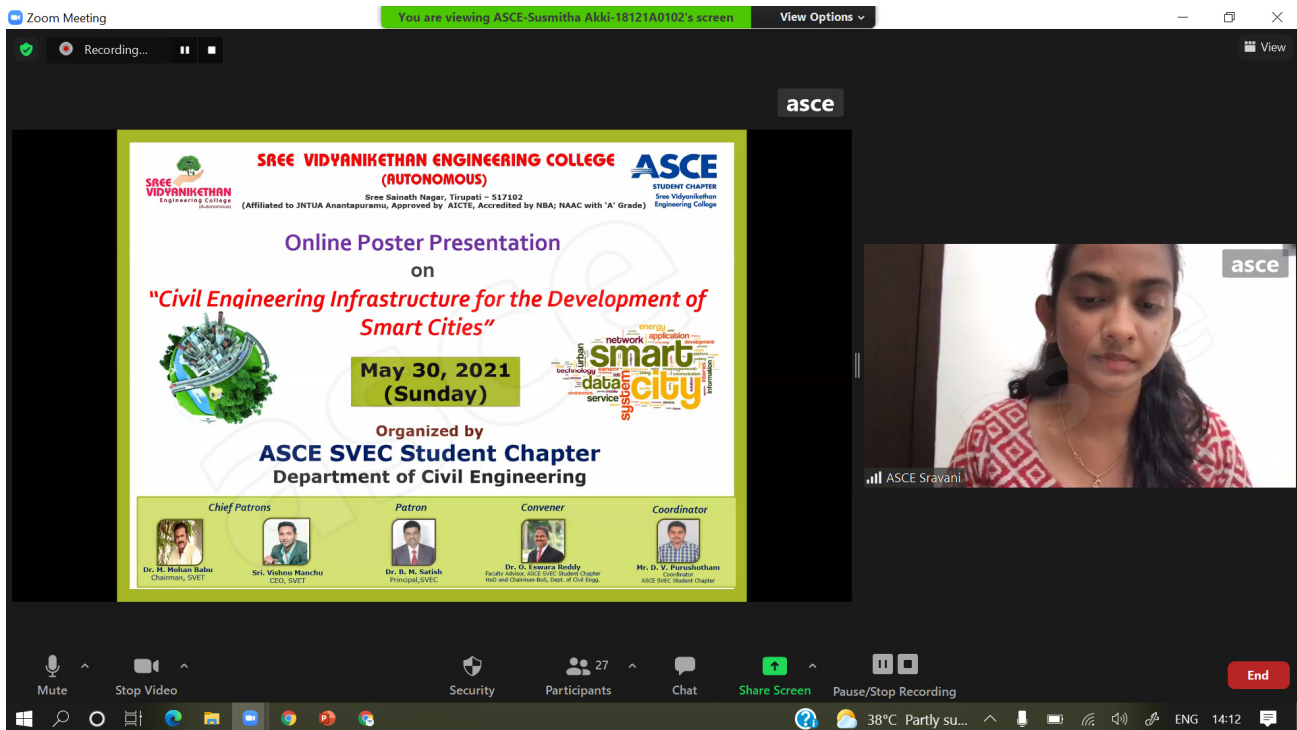
ASCE STUDENT CHAPTER
Sree Vidyanikethan Engineering College

Online Poster Presentation
on
"Civil Engineering Infrastructure for the Development of Smart Cities"
May 30, 2021 (Sunday)

Organized by
ASCE SVEC Student Chapter
Department of Civil Engineering

Chief Patrons	Patron	Convener	Coordinator
Dr. H. Mohan Babu Chairman, SVET	Sri. Vishnu Manchu CEO, SVET	Dr. B. M. Satish Principal, SVEC	Dr. O. Eswara Reddy Faculty Advisor, ASCE SVEC Student Chapter Head and Chairman, Dept. of Civil Engg.
Mr. D. V. Parasuratham Coordinator ASCE SVEC Student Chapter			

Ms. A. Susmitha, President of ASCE SVEC Student Chapter welcoming the Participants of Poster Presentation Competition



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Mr. D. V. Parasuratham Coordinator ASCE SVEC Student Chapter			

Ms. E. Sravani, Corresponding Secretary, ASCE SVEC Student Chapter welcoming the Dr. O. Eswara Reddy, Faculty Advisor of ASCE SVEC Student Chapter

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SREE VIDYANIKETHAN ENGINEERING COLLEGE (AUTONOMOUS)
Sree Sainath Nagar, Tirupati – 517102
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ASCE STUDENT CHAPTER
Sree VidyaniKethan Engineering College

Online Poster Presentation
on
"Civil Engineering Infrastructure for the Development of Smart Cities"
May 30, 2021 (Sunday)

Organized by
ASCE SVEC Student Chapter
Department of Civil Engineering

Chief Patrons: Dr. M. Mohan Babu (Chairman, SVET), Sri. Vishnu Manchu (CEO, SVET)
Patron: Dr. B. M. Saritha (Principal, SVCE)
Convener: Dr. O. Eswara Reddy (Faculty Advisor, ASCE SVEC Student Chapter, HoD and Chairman, Dept. of Civil Engg.)
Coordinator: Mr. D. V. Purushotham (ASCE SVEC Student Chapter)

Dr. O. Eswara Reddy (Faculty Advisor, ASCE SVEC Student Chapter, HoD and Chairman, Dept. of Civil Engg.)

Mute | Stop Video | Security | Participants (27) | Chat | Share Screen | Pause/Stop Recording | End

Dr. O. Eswara Reddy, Professor, HoD and BOS Chairman & Faculty Advisor of ASCE SVEC Student Chapter addressing the Students

Zoom Meeting | You are viewing ASCE_Y V Vinod Reddy's screen | View Options

Recording Paused | asce

19121A0116, 19121A0178 | ASCE SVEC Student Chapter | Date: 30.05.2021

ASCE Civil Engineering Infrastructure for the Development of Smart Cities
The Smart City : Challenges and their Solutions.
O.Monisha and C.Jyostina

Introduction: The application of Civil Engineering in the construction of smart infrastructure is the foundation for all the other key elements in a smart city like smart property, smart economy, smart living, smart governance and smart environment. Smart cities optimize the use of technology in the design and operation of infrastructure in a way which saves the cost and future needs of their citizens. Through smart cities, there are many advantages, we face few major challenges while designing and constructing them.

Challenges in Developing Smart Cities:

- 1. Infrastructure:** The infrastructure involved in smart cities is very complex and costly. Many supporting services are already distributed with existing fixed-line infrastructure, such as underground wiring, mass power and transportation tunnels.
- 2. Waste Management:** Smart cities require long conditions and opportunities which can lead to growth of population. This results in excess use of water and eventually leads to shortage of water resources.
- 3. Storage and Waste Management:** As the population increases, waste and sewage problems also increase. Lack of proper waste management can cause major problems in the smart city development.
- 4. Traffic and Transportation systems:** As smart cities develop and population increases, traffic and transportation problems start to arise. If the transportation technologies are not considered, it can become a major problem to development.

Solutions to Overcome the Challenges:

- 1. Smart Infrastructure:** Developers use smart technologies by considering infrastructure problems at the very early stage of development. By integrating with the end user - which is the final implementation of the solution - developers can speed up the process of making our cities smarter by non-traditional methods.
- 2. Smart Waste Management:** Smart waste management uses Information and Communication Technology (ICT) and real-time data and responses in an integral part of the solution. For waste management challenges, the potential application of smart systems in waste management is wide and includes solutions for waste quality, waste quantity, efficient collection, bins, trucks, recycling, etc.
- 3. Smart Waste Management:** The smartest waste collection methods use highly sensitive sensors. With the usage of internet of things (IoT), they can be monitored and data-driven maintenance programs. A city collection service will have a predefined route on a regular basis and collect waste by following an optimized route through IoT.
- 4. Smart Waste Management:** We can use smart waste management systems that reduce, recycle, reuse and separate waste from it. Smart waste management systems ensure which generate severe issues for any damages that may require attention.
- 5. Intelligent Transport Systems (ITS):** By analyzing the collection, transmission and analysis of the travel data, Traffic Management Centre (TMC) is the vital part of ITS. Well organized and proficient implementation of TMC depends on real-time data collection and effective location information. Data analysis of that data to generate accurate information and transmitting it back to drivers.
- 6. Teaching the next role of Engineers:** Training the students in critical thinking and supporting them in developing an understanding of their role in global when challenges in our part of their engineering education. Employing problem-based learning approaches can be a great help.

Role of the Indian Government: The Indian government has started many schemes for construction and development of smart cities like ASCEIT (Asia Infrastructure for Transportation and Urban Development), Smarting for All (National Smart City Development and Implementation Scheme (NSCIDM)), Smart Cities Mission etc. The Smart Cities Mission was launched by PM Narendra Modi on 25 June 2015.

Year	Smart Cities	Smart Projects
2015	100	1000 Projects / 1.10,00,00,00,000
2016	100	4000 Projects / 1.10,00,00,00,000
2017	100	4000 Projects / 1.10,00,00,00,000
2018	100	4000 Projects / 1.10,00,00,00,000
2019	100	4000 Projects / 1.10,00,00,00,000
2020	100	4000 Projects / 1.10,00,00,00,000

Fig 1: Key Data Progress of Smart Cities Mission

Conclusion:

Mute | Stop Video | Security | Participants (28) | Chat | Share Screen | Resume/Stop Recording | End

Mr. D. V. Purushotham, Coordinator of ASCE SVEC Student Chapter explaining the Instructions to Participants in Poster Presentation

Zoom Meeting | You are viewing ASCE_Y V Vinod Reddy's screen | View Options

Recording... | 19121A0116,19121A0178 | ASCE SVEC Student Chapter | Date: 30.05.2021

Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities" The Smart City - Challenges and their Solutions. O.Monisha and C.Jyosha

Introduction
The application of Civil Engineering in the construction of smart infrastructure in the 21st century is a major challenge. Smart cities are designed to be more sustainable, more efficient, and more secure. Smart cities optimize the use of technology in the design and operation of infrastructure in a way which saves the cost and time of the city.

Challenges in Developing Smart Cities

1. Suburbanization: The suburbanization in smart cities is very complicated and costly. Major infrastructure areas are heavily challenged with replacing outdated infrastructure, such as water supply, waste management, and transportation.
2. Water Management: Smart cities require better conditions and opportunities which can lead to growth of population. This leads to excess use of water and eventually leads to shortage of water.
3. Storage and Waste Management: As the population increases, water and sewage problems also increase. Lack of proper waste management can cause major problems in the smart city's development.
4. Traffic and Transportation Issues: As smart cities develop, traffic congestion, waste, and transportation problems start to arise. If the transportation infrastructure is not considered, it can become a major problem in development.

Solutions to Overcome the Challenges

1. Smart Infrastructure: Smart cities can use smart technology by installing infrastructure problems at the very early stage of development. By beginning with the end in mind - which is the full implementation of the vision - developers can speed up the process of making out cost plans by zero-to-sixty hardware.
2. Smart Waste Management: Smart waste management uses Information and Communication Technology (ICT) and real-time data and response as a integral part of the solution for more sustainable solutions. The potential application of smart cities in waste management is to collect and analyze data to improve waste quality, waste quantity, efficient collection, and disposal.
3. Smart Water Management: The current smart water collection systems are not very effective. With the help of sensors of SmartCity, they can be implemented into data-driven collection process. A collection system will have a predefined rate as a regular basis and adjust water by checking in real-time using sensors.
4. Smart Urban Management: Smart cities can use smart water management systems that reduce, recycle, and reuse water. A smart water management system consists of water which is used for any purpose that may require attention.
5. Intelligent Transport System (ITS): ITS involves the collection, transmission and analysis of the traffic data. Traffic Management Center (TMC) is the main part of ITS. TMC segment and process the operation of TMC, collect an operational data collection with various features. Additionally, data analysis of the data to generate accurate information and controlling it back to the driver.

Role of the Indian Government
The Indian government has started smart cities for construction and development of smart cities like Smart City (Smart Cities for Sustainable and Smart Transformation), Smart for All (Smart Storage City Development and Augmentation Vision (S2CA2AV)), Smart Cities Mission, etc. 100 Smart Cities Mission was launched by PM Narendra Modi on 25 June 2015.

Conclusion
Smart technology has the power to make our lives much simpler, especially in highly populated urban areas. Implementing this technology should be done in a carefully planned and highly secured manner. Rather than just focusing on the solutions for the challenges, engineers should also consider how it will affect people. When technology, city governance and communities of people come together to improve the quality of life for everyone involved, that's when a city truly becomes "smart".

ASCE-Susmitha... | ASCE Sravani

Mute | Stop Video | Security | Participants | Chat | Share Screen | Pause/Stop Recording | End

Participation by Ms. C. Jyosha and Ms. O. Monisha of II B.Tech. CE II Semester

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Recording... | 18121A0105 | ASCE SVEC Student Chapter | Date: 16.04.2021

Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities" KINETIC FOOTBALL

Kinetic football is a sustainable energy source for generating electricity without consuming any natural resources. The purpose of smart football is to generate electrical energy using complex principles of conduct and non-conduct of insulator.

Mechanism
There are five types of four mechanism:
Piezoelectric effect | Magnetoelectric | Magnetostrictive | Smart Capacitor

Piezoelectric effect is the necessary-need technology. Piezoelectric element like PZT, PVDF, etc., is used in football to convert the kinetic energy into electrical energy upon stepping on the floor. Kinetic football can be explained as:

Advantages:
- These can be used indoors or outdoors in high traffic areas, and generate electricity for smart football.
- We equipped this technology, we can supply the power to grid such as piezoelectric system.
- Use an completely framework a flow friendly technology.
- It can reduce greenhouse gas (CO2) use of greenhouse CO2 every day activities by this use technology in using piezoelectric.
- To reduce the global warming caused while using traditional carbon fuels.
- Can be implemented in using piezoelectric.
- It is waterproof and cheap product.

Applications in civil engineering:
- This idea can be implemented in the form of crowded places as airports, railway stations, etc.
- This can be used for the production of energy by using walking.
- It can be used for various purposes such as: (i) street lights, (ii) low street, (iii) signposts, (iv) job boards.

Conclusion:
- Generating energy resources is an integral part of this project.
- There can be many options for generating energy.
- They are particularly suitable for implementation in crowded areas.
- Energy generation resources can be generating energy equipment.
- It is a future energy renewable resource using kinetic energy.

"Showcasing alternative energy sources, such as piezoelectric football, is just one of many steps we're taking towards supporting a positive, sustainable future for our communities"

ANUPALA NAVYA

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Participation by Ms. Anupala Navya of III B.Tech. CE II Semester

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18121A0169 | ASCE SVEC Student Chapter | Date: 30.05.2021

Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities"
SMART INFRASTRUCTURE FOR SMART CITIES
PALLAVI NALLATURU

The poster is divided into several sections:

- Introduction:** Defines a smart city and lists its basic infrastructure and services.
- Smart Transportation:** Discusses the importance of smart transportation systems and lists smart solutions like smart roads and smart parking.
- Smart Sewerage Management:** Explains the need for smart sewerage systems and lists smart solutions like smart pipes and smart pumps.
- Smart Buildings:** Discusses the role of smart buildings in smart cities and lists smart solutions like smart lighting and smart security.
- Smart Water and Irrigation Systems:** Discusses the need for smart water and irrigation systems and lists smart solutions like smart irrigation and smart water meters.
- Role of a civil engineer:** Lists the responsibilities of a civil engineer in smart cities.

18121A0169 Pallavi

Participation by Ms. N. Pallavi of III B.Tech. CE II Semester

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Recording... | Mute | Stop Video | Security | Participants (25) | Chat | Share Screen | Pause/Stop Recording | End

18121a0101 | ASCE SVEC Student Chapter | Date: 29.05.2021

18121a0123 | Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities"
INTELLIGENT BUILDING

The poster is divided into several sections:

- WHAT IS AN INTELLIGENT BUILDING:** Defines an intelligent building and lists its key features.
- THREE DIMENSIONS OF IB:** Lists the three dimensions of an intelligent building: Building Automation System, Office Automation System, and Local Area Network.
- INTELLIGENT BUILDING IN INDIA:** Discusses the need for intelligent buildings in India and lists the features of intelligent buildings.
- HISTORY OF INTELLIGENT BUILDING:** Discusses the history of intelligent buildings and lists the major aspects of intelligent buildings.
- MAJOR ASPECTS OF IB:** Lists the major aspects of intelligent buildings: Security, Safety, Comfort, and Energy Management.
- USES OF IB:** Lists the uses of intelligent buildings: Reduce energy consumption, Improve building efficiency, Predictive maintenance, Increase productivity, and Better use of resources.
- CONCLUSION:** Discusses the future of intelligent buildings and lists the benefits of intelligent buildings.

ASCE -Susmitha... | ASCE_Y V Vino... | 18121a0101, Moha... | 18121A0123, Chirut...

Participation by Mr. Achakarla Mohammed Zahid and Ms. Chirutani Thejaswi of III B.Tech. CE II Semester

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20125A0115 20125A0112 ASCE SVEC Student Chapter Date: 30.05.2021
Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities"
SMART CITIES – SMART SOLUTION FOR DEVELOPMENT
A.YUGANDHAR AND K.REDDAJAH

18121a0101 M...
18121A0123-Ch...

Mute Stop Video Security Participants 25 Chat Share Screen Pause/Stop Recording End

Participation by Ms. N. Pallavi of II B.Tech. CE II Semester

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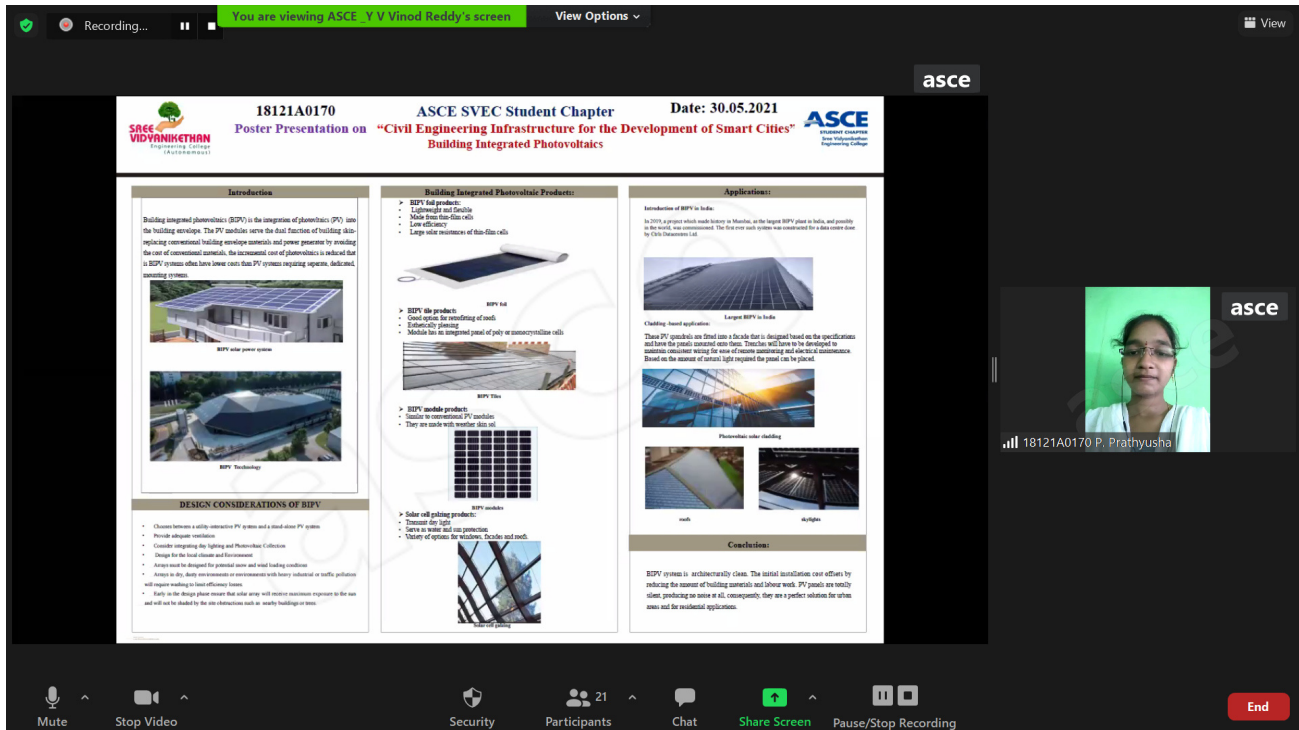
19121A0142,19121A0129 ASCE SVEC Student Chapter Date: 16.04.2021
Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities"
Smart cities:Development Challenges and their solutions
K.Likitha sree G.Harshitha

19121a0142_likhitha
ASCE Vidyankethan
19121a0129_Harsh...

20125A0122 - K...
18121a0101 M...

Mute Stop Video Security Participants 22 Chat Share Screen Pause/Stop Recording End

Participation by Ms. N. Pallavi of II B.Tech. CE II Semester



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18121A0170 ASCE SVEC Student Chapter Date: 30.05.2021
Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities" Building Integrated Photovoltaics

Introduction
Building integrated photovoltaics (BIPV) is the integration of photovoltaic (PV) into the building envelope. The PV modules serve the dual function of building skin-application and generating electricity. The use of BIPV reduces the cost of conventional materials, the increased cost of photovoltaics is reduced but is BIPV systems often have lower costs than PV systems requiring separate, dedicated, mounting systems.

Building Integrated Photovoltaic Products:

- BIPV full products:**
 - Lifetime and durable
 - Made from thin-film cells
 - Low efficiency
 - Large solar resistance of thin-film cells
- BIPV thin products:**
 - Good option for retrofitting of roofs
 - Electrically grounded
 - Module has an integrated panel of poly or monocrystalline cells
- BIPV module products:**
 - Similar to conventional PV modules
 - They are made with monocrystalline cells
- Solar cell glazing products:**
 - Transmit day light
 - Save in steel and seal penetration
 - Variety of options for windows, facades and roofs

Applications:
Introduction of BIPV in India:
In 2019, a project which made history in Mumbai, in the largest BIPV plant in India, and possibly in the world, was commissioned. The first-time such project was commissioned for a three-story office building in Mumbai.

Checking, bonded applications:
Larger BIPV in India
These PV products are fitted into a facade that is designed based on the specifications and have the panels connected over them. Structures will have to be developed to maintain consistency toward the view of structure aesthetics and aesthetic consistency. Based on the amount of natural light required the panel can be placed.

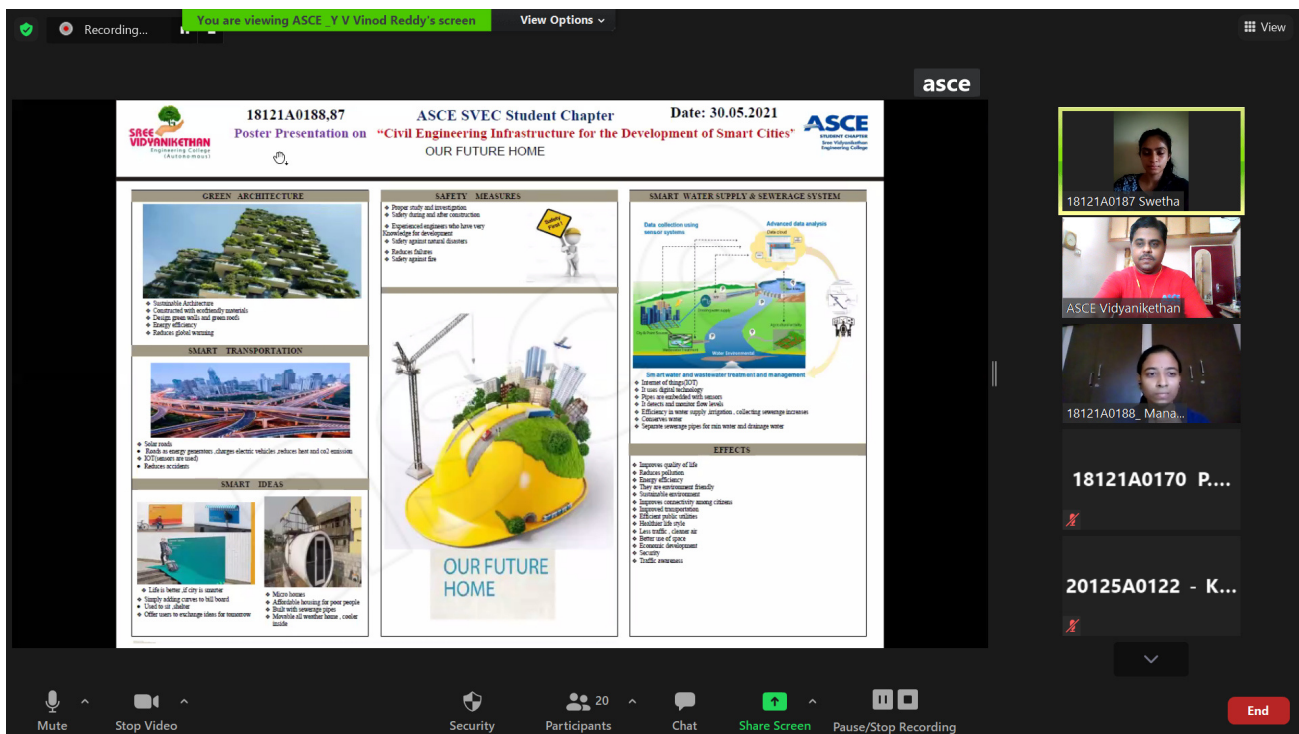
Prevention with shading:
roofs balconies

CONCLUSIONS:
BIPV systems is architecturally clean. The initial installation cost offsets by reducing the amount of building materials and labor work. PV panels are readily added, providing no noise at all, consequently, they are a perfect solution for urban areas and the residential applications.

18121A0170 P. Prathyusha

Mute Stop Video Security Participants 21 Chat Share Screen Pause/Stop Recording End

Participation by Ms. Pathikonda Prathyusha of III B.Tech. CE II Semester



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18121A0188.87 ASCE SVEC Student Chapter Date: 30.05.2021
Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities" OUR FUTURE HOME

GREEN ARCHITECTURE

- Green roofs and vertical gardens
- Safety during and after construction
- Employment engineers who have very knowledge for development
- Safety against natural disasters
- Reduce failures
- Safety against fire

SMART TRANSPORTATION

- Smart roads
- Switch to energy generation, charges electric vehicles, reduces heat and cool emissions
- CO2 emissions are saved
- Reduce accidents

SMART IDEAS

- Life in homes of city is smart
- Tempo adding comes to hill board
- Use of all planet
- Other users to encourage ideas for resource
- Micro houses
- Adaptable housing for poor people
- Build with sewerage pipes
- Materials of waste like, color, brick

SMART WATER SUPPLY & SEWERAGE SYSTEM

- Data collection using smart systems
- Advanced data analysis
- Smart water and wastewater treatment and management
- Control of energy (CO2)
- It uses digital technology
- Open an exclusive water network
- It detects and measure flow levels
- Efficiency to save supply, improve, collecting sewerage increases
- Collectors water
- Support energy pipes for raw water and drainage water

EFFECTS

- Supports quality of life
- Reduce pollution
- They are environment friendly
- Intelligent environment
- Supports connectivity among citizens
- Supports transportation
- Reduce public utilities
- Reduction life cycle
- Less traffic, cleaner air
- Better use of space
- Economic development
- Security
- Traffic reduction

18121A0187 Swetha
ASCE Vidyanikethan
18121A0188_Mana...

18121A0170 P...
20125A0122 - K...

Mute Stop Video Security Participants 20 Chat Share Screen Pause/Stop Recording End

Participation by Ms. Swetha Priya Gadikota and Ms. T. Manasa of III B.Tech. CE II Semester

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20125A0103 ASCE SVEC Student Chapter Date: 30.05.2021
Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities"
SMART BUILDINGS INFRASTRUCTURE IN SMART CITIES
D. TEJASWINI

INTRODUCTION

- Major urbanization is among the biggest megatrends transforming the modern scenario. To accommodate this increase, present urban populations, which needs to develop smart cities and use energy wisely to improve the quality of life for residents.
- Smart buildings are designed for long-term sustainability and minimal environmental impact through the selection of green and sustainable materials, construction, maintenance and operation procedures.
- Providing the ability to manage building controls, optimize operation, and integrate in the management results in a significant advancement in energy efficiency, lowering both cost and energy usage compared to non-optimized projects.

ENVIRONMENTAL BENEFITS OF SMART BUILDINGS

- As an intelligent building starts with an environmentally friendly design, it comes a great fit for an increasingly strictly and energy-efficient use in closely with many of the big global structures.
- Smart buildings are designed for long-term sustainability and minimal environmental impact through the selection of green and sustainable materials, construction, maintenance and operation procedures.
- Providing the ability to manage building controls, optimize operation, and integrate in the management results in a significant advancement in energy efficiency, lowering both cost and energy usage compared to non-optimized projects.

ADVANTAGES AND DISADVANTAGES OF SMART BUILDINGS

ADVANTAGES OF SMART BUILDINGS

- Higher level of energy and water
- Simple and efficient for even and automation
- Energy and building
- Reduced maintenance costs
- Increased safety and security and risk reduction
- Reduced risk of natural disasters
- Energy consumption data and energy system
- Information can be delivered to the intended parties in the manner that need increased safety and cost in a special workstation. Training is essential, but needed to operate as effectively.

DISADVANTAGES OF SMART BUILDINGS

- Very high initial cost
- Normal building but longer than intelligent buildings and SMART BUILDINGS

DIFFERENCE BETWEEN ORDINARY BUILDINGS AND SMART BUILDINGS

- SMART BUILDINGS:** Intelligent building system that inside structural aspects such as lighting, ventilation, fire fighting, air conditioning, etc. automated with the changes in environmental conditions controlled by computer.
- The security system, communication system, etc. are coordinated and managed locally controlled by computer work station.
- ORDINARY BUILDINGS:** Ordinary building there will be different rooms or address depending on the change in the environmental conditions.
- The security system, communication system, etc. are not coordinated and managed manually controlled by computer work station.

CONCLUSION:

The smart building is the use of the most important systems in a building management platform that ensure all disciplines interact optimally smart infrastructure of low systems intelligence concepts smart building it involves to adopt and evolve the way we live it work.

- Smart building contributes to the effective management of urban areas, improving conservation, sustainability & livability.
- The smart building is clearly the building of the future.
- The benefits of these buildings include cost savings from reduced energy use or all ways lower operations and maintenance cost. Transition the energy consumption to a greener side. It increases the equipment efficiency and the objectives of these buildings.

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Participation by Ms. Dasari Tejaswini of II B.Tech. CE II Semester

Recording... You are viewing ASCE_Y V Vinod Reddy's screen View Options

20125A0105, 20125A0121 ASCE SVEC Student Chapter Date: 30.05.2021
Poster Presentation on "Civil Engineering Infrastructure for the Development of Smart Cities"
SMART GRID
AMERICAN SOCIETY OF CIVIL ENGINEERING

INTRODUCTION

Smart Grid is an electrical grid with Automation, communication and IT system that can monitor the power flow from the point of power plant to the point of consumers and control the power flow to match the generation at real time.

- A smart grid with improve efficiency and two way communication.
- Smart grid is a network created through IT, Communication Technology and Electrical power system.

SMART METER

- Smart meter is the meter which supply and control the flow of electricity resource.
- Smart meter will collect the all data such as billing, service, monitor and planning of electricity flow.
- It will reduce the fluctuations and provide the constant supply of electricity.
- Smart meter divides a day in 3 types based on supply: 1. OFF PEAK, 2. PARTIALLY PEAK, 3. PEAK.
- Smart meter try to reduce the consumption in peak hours.

SMART APPLICATIONS

- SMART Grid consist of various applications which helps to monitor, communicate and control the flow of electricity.
- Different IoT devices like sensors, detectors are provided at various places in smart grid.
- These applications will increase the quality and efficiency of supply.

RENEWABLE ENERGY RESOURCE

- AMR (Automated Meter Supply) is the present supply system where the supply of the electricity in one way direction.
- AMI is the supply applied to the smart grid system where the supply of the electricity in two way direction.
- By installing the Renewable energy resources like solar system or the tidal system, the excess amount of electricity after the utilization can be supply to the grid.
- By the two way system the loads on grid to be reduced.
- The AMI system is more economical and environmental.

COMPARISON

Existing Grid	Smart Grid
Electromechanical	Digital
One-way communication	Two-way communication
Centralized generation	Distributed generation
Few sensors	Sensors throughout
Manual monitoring	Self-monitoring
Manual restoration	Self-healing
Failures and blackouts	Adaptive and islanding
Limited control	Pervasive control
Few customer choices	Many customer choices

CONCLUSIONS:

- Smart Grid is the smart way to transmit the power in controlled manner from generation unit to consumers point using modernized infrastructure that helps to improve efficiency, reliability, quality, and safety.
- Smart grid is also more economical when compare to the normal grid.
- Smart is also more eco-friendly too.

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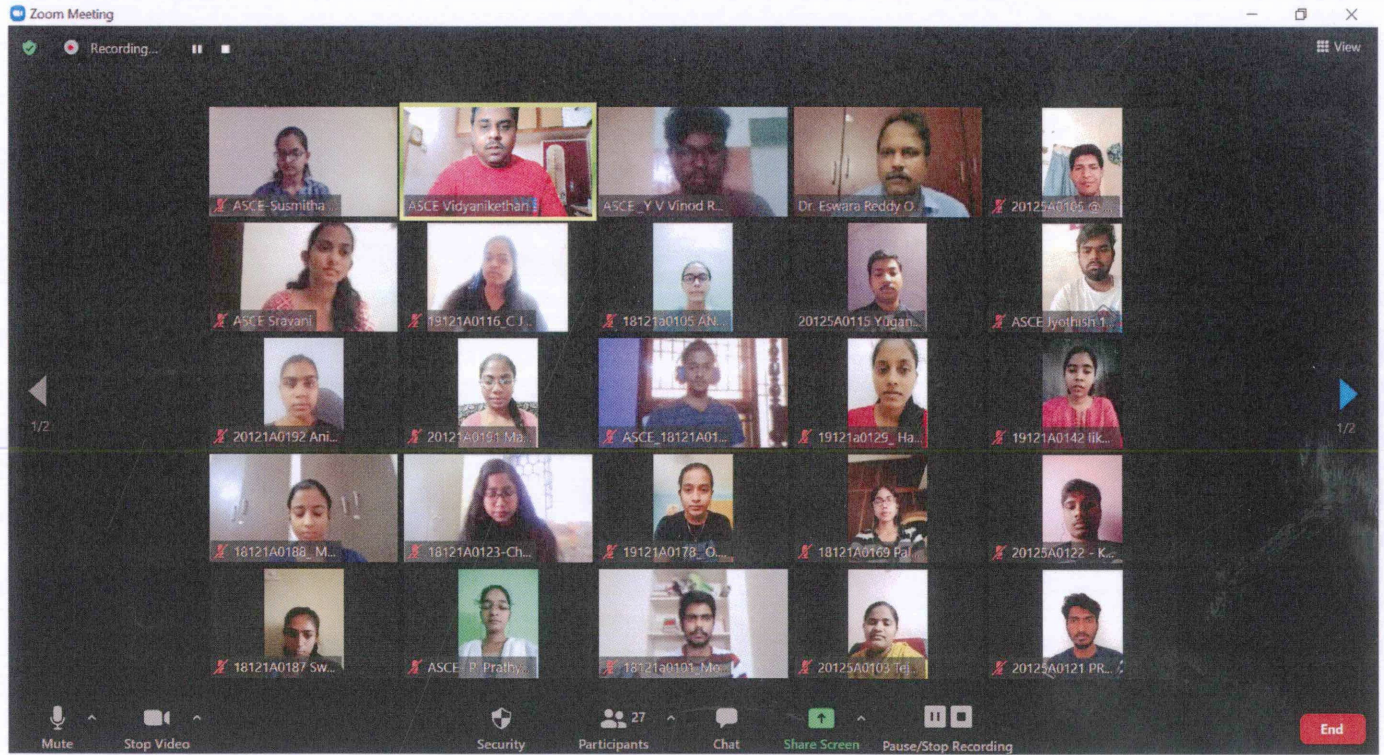
Participation by Mr. Gurram Ranganatha Teja and Kalluri Praneeth Kumar Reddy of II B.Tech. CE II Semester

This screenshot shows a Zoom meeting in progress. The main window displays a poster presentation titled "Civil Engineering Infrastructure for the Development of Smart Cities" by the ASCE SVEC Student Chapter. The poster includes sections on Introduction, Importance of Transportation, Smart Water Irrigation System, Smart Building, and Smart Coverage Management. The meeting interface shows participants: 20121A0191 Mah..., ASCE Vidyaniethan..., 20121A0192 Anis..., ASCE_Y V Vino..., and ASCE-Susmitha... The meeting controls at the bottom include Mute, Stop Video, Security, Participants (13), Chat, Share Screen, and Pause/Stop Recording.

Participation by Ms. Shaik Arkat Mahamuda and Ms. Shaik Mahaboob Gouse Anisha of I B.Tech. CE II Semester

This screenshot shows a Zoom meeting with a poster presentation for the ASCE SVEC Student Chapter. The poster is titled "Online Poster Presentation on 'Civil Engineering Infrastructure for the Development of Smart Cities'" and is dated May 30, 2021 (Sunday). It lists the organizers and a list of Chief Patrons, Patrons, Convener, and Coordinator. The meeting interface shows participants: ASCE-Susmitha Akki-181..., ASCE Vidyaniethan..., ASCE Sravani, 18121a0146--Charan..., ASCE-Shashanka, ASCE SHAIK RAISUAL..., ASCE P. Prathyusha, and ASCE_Y V Vinod Reddy. The meeting controls at the bottom include Mute, Stop Video, Security, Participants (8), Chat, Share Screen, and Pause/Stop Recording.

Mr. D.V. Purushotham, Coordinator of ASCE SVEC Student Chapter announcing the Prize Winners of Poster Presentation



A Group Photograph with all Participants in Poster Presentation Competition

2/06/2021

(Dr. O. ESWARA REDDY)
Faculty Advisor
ASCE SVEC Student Chapter
Professor, HoD and Chairman-BOS

No. SVEC/CE/ASCE SVEC Student Chapter/Circulars/2020-21/10

21 June 2021

CIRCULAR

The Department of Civil Engineering "**Congratulates**" the following students on winning the online **Poster Presentation** on "**Civil Engineering Infrastructure for the Development of Smart Cities**" under **ASCE SVEC Student Chapter** on **30-05-2021**.

S.No.	Roll No.	Name of the Student	Class & Section	Prize
1	18121A0169	Ms. PALLAVI NALLATURU	III B.Tech. II-Sem A-section	First Prize
2	18121A0105	Ms. ANUPALA NAVYA	III B.Tech. II-Sem A-section	Second Prize
3	20125A0103	Ms. DASARI TEJASWINI	II B.Tech. II-Sem B-section	Second Prize
4	20121A0191	Ms. SHAIK ARKAT MAHAMUDA	I B.Tech. II-Sem B-section	Third Prize
5	20121A0192	Ms. SHAIK MAHABOOB GOUSE NISHA	I B.Tech. II-Sem B-section	



(Dr. O. Eswara Reddy)
Faculty Advisor
ASCE SVEC Student Chapter
Professor, HoD and Chairman-BOS

Copy to: Head, Dept. of Civil Engg.
Notice Board
Circulation to students
ASCE SVEC Student Chapter File