GUEST LECTURE REPORT

DATE: 12 September 2019
EVENT: Guest Lecturer
TIME: 10.00 AM
VENUE: Seminar Hall, KITS Guntur
ORGANIZED BY:SPACE, E.C.E Dept.
FACULTY INCHARGE: Mr.M.Madhusudan Reddy

EVENT DESCRIPTION:

The ECE association ***SPACE*** conducted a **"Guest Lecturer"** on **"VLSI Design and IoT"** on 12th **September, 2019** from 10.00 AM to 11.30 AM in the Seminar Hall. **Dr. Ramesh Vaddi, Professor, SRM University** is resource person for this lecture. This lecture is conducted to get the awareness among the students towards VLSI Design ,IOT.

SESSION ACTIVITIES:

The Department of E.C.E has made proper arrangements for transportation for the guest to the campus. As per the given instructions by the **Dr. Sk.Sadulla, HOD ECE dept**., the faculty in charges **Mr.P.Ashok** and **Mr. A.Sarat** made proper arrangements for this Lecturer. The program started with the opening remarks of HOD. Exactly at 10:00 AM the lecture is started by **Dr. Ramesh Vaddi, Professor, SRM University.** The Resource person given hands of experience on VLSI design and IoT.

The following topics were discussed in the guest lecture

1. Introduction to IoT
2. IoT System Design Aspects
3. Issues related IoT Communication
4. Challenges and issues in IoT System Design
5. Hardware Platforms for IoT edge node Design
6. Software/Hardware Components

The recourse person explained the future with IoT. He said that IoT devices are becoming a part of the mainstream electronics culture and people are adopting smart devices into their homes faster than ever. By 2020, it is estimated that there will be up to 21 billion connected devices to the internet. IoT devices will be a huge part of how we interact with basic everyday objects.

In just one year alone, we went from having 5 million IoT devices connected to the internet to billions. The future is happening now, and these devices are getting smarter every day through machine learning and artificial intelligence. To prove that IoT is taking off rapidly, Target opened up a store in San Francisco that exclusively sells IoT devices. There is big money in the IoT space currently, and it will only continue to grow as technology improves.

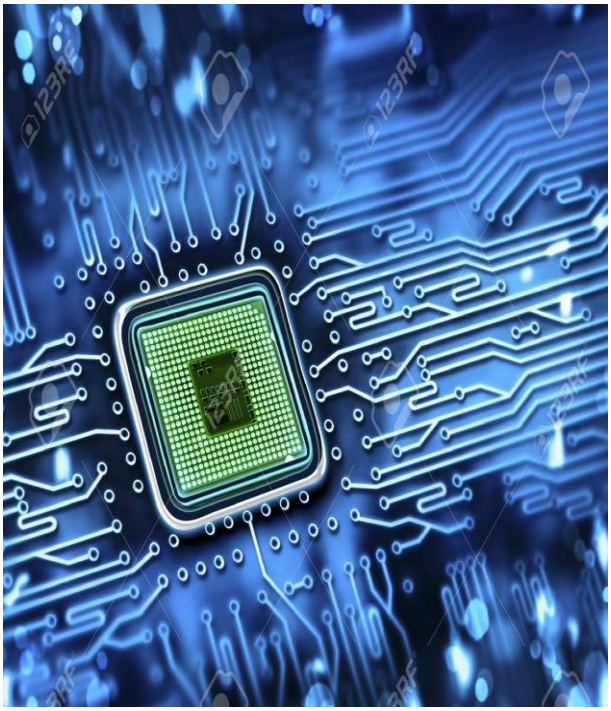
VLSI Design

Very-large-scale integration (VLSI) is a process of combining thousands of transistors into a single chip. It started in the 1970s with the development of complex semiconductor and communication technologies.A VLSI device commonly known, is the microcontroller. Before VLSI, most ICs had limited functions. An electronic circuit usually consists of a CPU, ROM, RAM and other peripherals on one board. VLSI lets IC designers add all of these into one chip.

As the size of the Transistor number is increasing, the size of the circuit is decreasing and increases the speed of the operation.

"In 1965, Gordon Moore, an industry pioneer, predicted that the number of transistors on a chip doubles every 18 to 24 months. He also predicted that semiconductor technology will double its effectiveness every 18 months and many other factors grow exponentially."

Moore's Law



In olden days during the vacuum tube era, the size of Electronic Devices were huge, required more power, dissipated more amount of heat and were not so reliable. So there was certainly a need to reduce the size of these devices and their heat dissipation. After the invention of SSD's, the size and the heat produced by devices was undoubtedly reduced drastically, but as the days passed the requirement of additional features in Electronic Devices increased which again made the devices look bulky and complex. This gave birth to the invention of technology which can fabricate more number of components onto a single chip. As the need of additional features in Electronic Devices arised,the growth of VLSI Technology has improved.

In today's world VLSI chips are widely used in various branches of Engineering like:
Voice and Data Communication networks, Digital Signal Processing, computers, Commercial Electronics, automobiles, Medicine and many more.

The Vote of Thanks was delivered by ***Dr. Sk. Sadulla, HOD-ECE***. On behalf of the department of Electronics and communication engineering, the hosting department, He extended her gratitude to the College Management and Principal. After the felicitation the program came to end with the National Anthem.