

6 weeks Summer Training

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6 WEEK SUMMER INTERNSHIP PROGRAM ON INTERNET OF THINGS

Want to give your students a chance to learn a Global technology which is a 4 Trillion \$ industry?

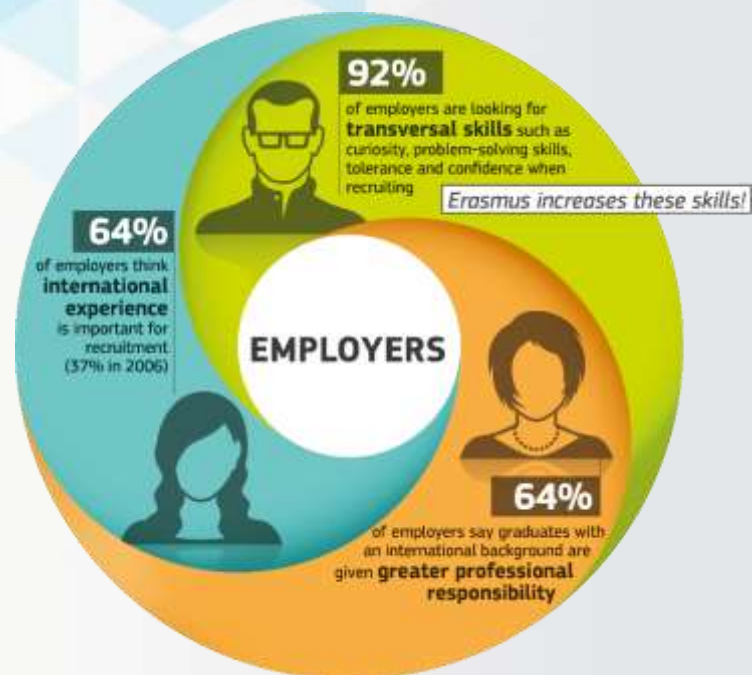
Want to learn about latest trends and technology behind smart cities, smart homes and smart devices?

Want to make your own smart devices?

If the answer to all the above questions YES, then get your hands dirty on Internet of Things followed by a great training support. This internship course is designed for engineering students to help increase job opportunities in Internet of Things market.

TOP 9 REASONS to learn Internet of things & smart devices

- 1) 4.5 Million Jobs to be generated for IOT's trained professionals in India by top companies by 2018.
- 2) Understand the concepts behind Smart Homes, Smart watches, Smart cities etc.
- 3) Get your hand dirty working with hardware, Web App development, Python programming.
- 4) Get trained by well experienced industrial Subject Matter Experts and researchers in India.
- 5) Get an insight of working with Raspberry Pi.
- 6) Only course which binds every branch of Engineering.
- 7) Become a part of \$4 trillion industry.
- 8) Study the IoT standard protocol – MQTT.
- 9) IoT is combination of different technologies. So learn and become a product engineer.



BY THE YEAR 2020, THERE WILL BE

50,000,000,000 connected devices, creating and sharing

40,000,000,000,000 GB

worth of data across the Internet of Things.

This internship is a 6-week program which helps participants in developing its skills on smart solutions and equips them with more confidence by full practical and HAND-ON knowledge on various available methods of developing a Smart solution for Smart City. Here, enCypher Technologies, will avail them with enough practice material that students can use throughout their lifetime and polish their skills as much as they want. We will also provide them with 6 months value added support where they can contact and get in touch with our experts and get further guidance/help.

HIGHLIGHTS OF THE COURSE

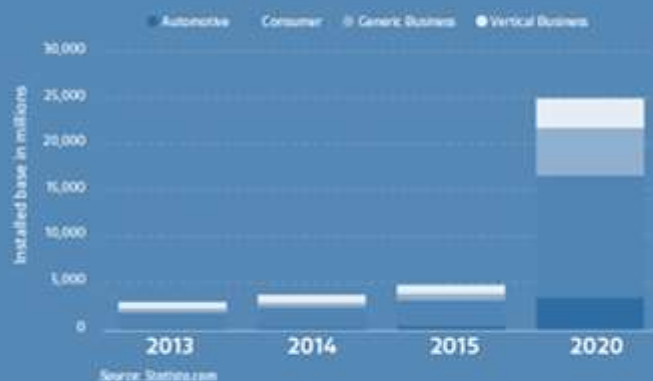
- ✓ **6 weeks** of certified practical training accompanied with industrial projects to give each student a glimpse of the internet of things' use cases.
- ✓ Study Materials to be given so that the students are able to keep an idea of what they have studied.
- ✓ Further help in industrial projects.
- ✓ Certified course by enCypher Technologies Pvt. Ltd.
- ✓ Competition at the end of the workshop.

INTERNET OF THINGS ECONOMIC GROWTH

Digital Trends Daily

Ready or not, here it comes – the estimated economic impact of the Internet of Things leaves nowhere to hide for today's brands and businesses. By 2020, IoT technology will contribute a full \$7.1 trillion to the global economy, a sum so massive that any company without a significant share in it is certain to fall behind, even to the point of collapse or obscurity. In 2020, that number will practically double – this is a level of impact and growth that is almost unprecedented for any industry. To ensure their involvement in this IoT revolution, brands should get in on the ground floor and start investing in the technology's development and potential applications.

The Internet of Things (IoT) units installed base by category from 2013 to 2020 (in millions)



CENTRIC DIGITAL

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DELIVERABLES

- ✓ Event Certificates.
- ✓ Hardware kit.
- ✓ Presentation of the whole program.
- ✓ Study material.
- ✓ 6 months value added support.
- ✓ Help in Project Development.

COURSE BENEFITS

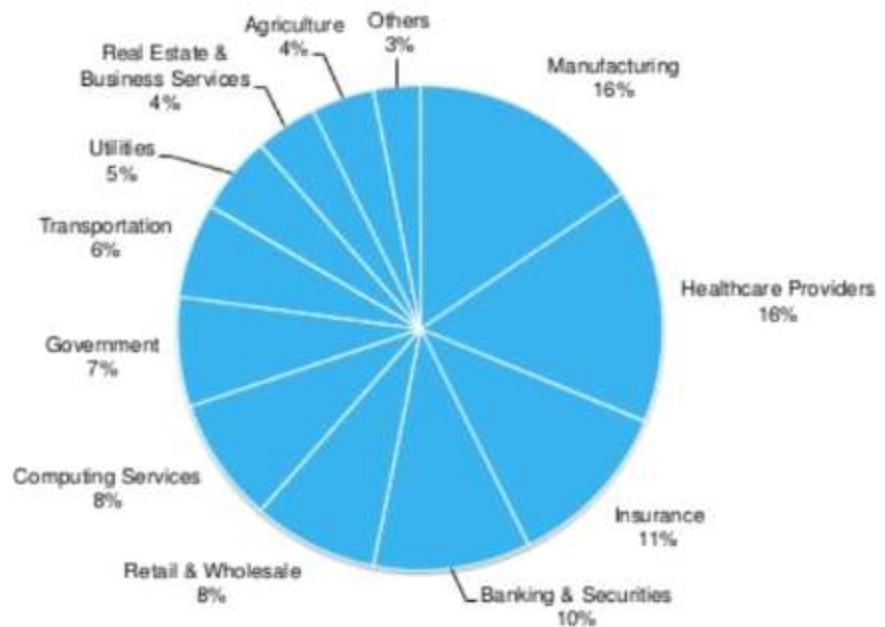
- ✓ In-Depth Knowledge of INTERNET OF THINGS' CONCEPT.
- ✓ First-hand experience of working on high end projects.
- ✓ Own developed projects.
- ✓ Certified opportunity to work with corporate people.
- ✓ Certified opportunity to get appreciated on R&D and Volunteer Work.
- ✓ Chance to become a potential smart solution provider.

AT THE END OF TRAINING, EACH STUDENT WILL BE EQUIPPED WITH DIFFERENT SMART SOLUTIONS AND ITS OWN DEVELOPED USED CASE SCEANRIOS.

Internet of
Things Value
Add by 2020

**\$1.9
Trillion**

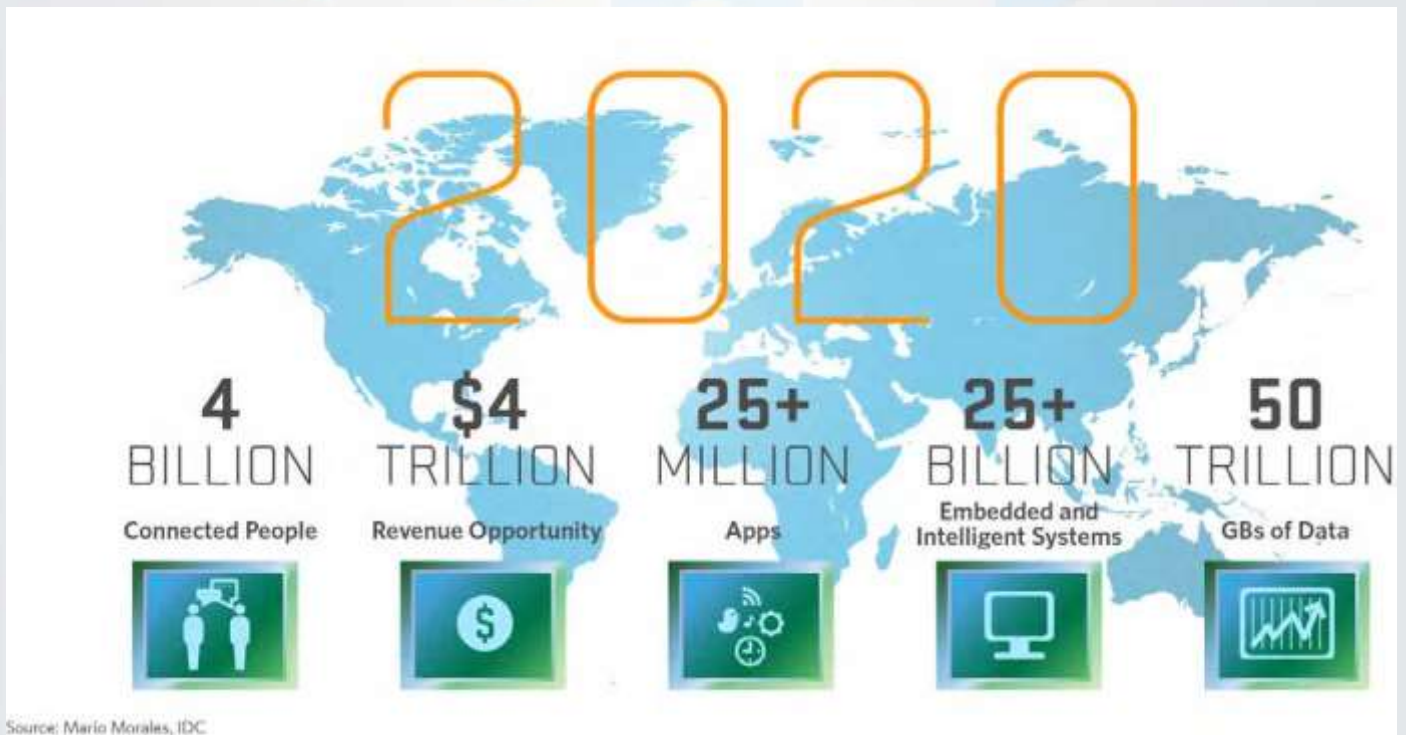
Source: Gartner



TARGET AUDIENCE

- ✓ Students of B.E/B.Tech/MTECH/ME/B.Sc/M.Sc/BCA/MCA can participate in this training program.
- ✓ Hobbyists or anyone with learning enthusiasm.

ALONG WITH SKILL DEVELOPMENT AND SUPPORT, WE WILL ALSO PROVIDE FEW SELECTED STUDENTS AN OPPORTUNITY TO WORK WITH US TO PRAISE THEIR SKILLS ALONG WITH WORK EXPERIENCE CERTIFICATE WHILE PURSUING THEIR BACHELORS.



COURSE CATALOG

FIRST WEEK

- ✓ Introduction of the team members.
- ✓ Idea generation session.
- ✓ Ice breaking session.
- ✓ Discussion about the Internet of things (IoT).
- ✓ IoT evolution.
- ✓ Future of IoT market in India and across the globe.
- ✓ Diving deep into Infrastructure of IoT.
- ✓ How the IoT works.
- ✓ Case study of IoT.
- ✓ How a smart solution is built.
- ✓ Eligibility for a thing to become the thing of IoT.
- ✓ Purpose of IoT.
- ✓ Autopsy of Smart phone to understand the concept of IoT.
- ✓ Introduction to the take away and the practice kits.
- ✓ Software kits.
- ✓ Working with the Device part of the “DNA (Device, Network and Application)” ecosystem of IoT.
- ✓ Introduction to the basic electronics.
- ✓ Learning the core concept of Arduino.
- ✓ Working with Arduino.
- ✓ Installing and working with the “Integrated Development Environment (IDE)”.
- ✓ Learning serial communication and Different Protocols using Arduino.
- ✓ Developing the projects with the Different Sensors.
- ✓ Use cases of Arduino.
- ✓ Learning “How to debug the Arduino’s programming problems”.

SECOND WEEK

- ✓ Developing the Application part of the “DNA” ecosystem of IoT.
- ✓ Evolution of Internet.
- ✓ Overview of HTML5.
- ✓ Explaining the key differences between HTML and HTML5.
- ✓ Explaining the meaning of front-end and back-end applications.
- ✓ Working with HTML5 and developing a cross platform application using HTML5.
- ✓ Introduction with Javascript.
- ✓ Romancing with jQuery.
- ✓ Structure of jQuery program Important to remember
- ✓ Functions, Variable Assignment.
- ✓ DOM Manipulations.
- ✓ Exercises on jQuery
- ✓ jQuery based web applications.

THIRD WEEK

- ✓ Introduction to jQuery Mobile.
- ✓ Know how jQuery mobile framework works.
- ✓ Basic architecture of jQuery Mobile and its various components.
- ✓ jQuery Mobile UI development.
 - ✓ Buttons
 - ✓ Pages
 - ✓ Navigation
 - ✓ Sliding Menu
 - ✓ Transition effects
- ✓ Login Screen for mobile application.
- ✓ Developing full-fledge jQuery Mobile application.
- ✓ Developing a cross platform application using jQuery Mobile.
- ✓ Introduction to Intel XDK.
- ✓ Intel XDK as a tool for application development.
- ✓ Connecting mobile application over network through mobile.

FOURTH WEEK

- ✓ Networking and Communication
- ✓ Starting with the Q & A session.
- ✓ Discussing the concept of client-server model.
- ✓ IP addresses and port number.
- ✓ Wireless and wired sensor network.
- ✓ Communication Protocols and their importance.
- ✓ MQTT, UDP, IFTTT, Bluetooth.
- ✓ Intro to Python
- ✓ Hello World and Basic Programming
- ✓ Inputs, variables and loops
- ✓ String Operations and Dictionary
- ✓ Modules, Functions and Methods
- ✓ Python Modules Integration
- ✓ Python and Networking
- ✓ Introduction to the sockets.
- ✓ Socket Libraries and their usage
- ✓ Developing some programs using sockets
- ✓ Using the UDP sockets to create client and server.
- ✓ Using the client server to create a chat application.

FIFTH WEEK

- ✓ Introductions to Serial Communication with Python.
- ✓ TTL and UART com with Python.
- ✓ Controlling the hardware using python.
- ✓ Working on the Network part of the DNA ecosystem.
- ✓ Connecting the dots.
 - ✓ Integrating the “DNA” and creating the projects.
 - ✓ Controlling the hardware using mobile application.
 - ✓ Integration and the debugging session of the whole system developed.
 - ✓ Moving towards the Smarter World.

SIXTH WEEK

- ✓ Introduction to Raspberry Pi.
- ✓ Hardware Basics of Raspberry Pi.
- ✓ Learning how to boot the Raspberry Pi.
- ✓ Introduction to Linux.
 - ✓ The Linux Organization Structure.
 - ✓ LINUX Shell.
 - ✓ SHELL Scripting.
 - ✓ Introduction to various Functions.
- ✓ Installing the linux on Raspberry Pi.
- ✓ Accessing the files through command line.
- ✓ Taking RPi for the drive.
- ✓ VnC Server and client
- ✓ Understanding the GPIOs and ports of RPi.
- ✓ Using GPIOs with Python.
- ✓ Targeting the “DNA” through RPi (the real world approach).
- ✓ Deploying our smart application on RPi.
- ✓ Accessing the developed projects through mobile application.
- ✓ Live project on RPi.

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