Certificate Course

On

Internet of Things

12.05.2022 to 31.05.2022

Coordinator: Smt. Saleha Tabassum

16

K.S.R.M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India– 516 003

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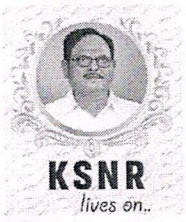

Lr./KSRMCE/ (EEE)/2021-22/

Date: **11.5.2022**

To

The Principal,
K.S.R.M.College of Engineering
Kadapa.

Respected Sir,

//THROUGH PROPER CHANNEL//

Sub: KSRMCE - (EEE) – Permission for Organizing Certification Course – Requested – Submitted - Reg.

It is being brought to your kind notice that, We Saleha Tabassum and N.Siddhik, Assistant professors Department of EEE,With the permission of Department Head, Planning to **Organize a Certification Course on IOT** from 12-5-2022 to 31-5-2022. In this regard we request you to kindly permit us for organizing the above mentioned program, for which kind of act I would be grateful to you sir.

Thanking you

Yours Faithfully

(Saleha Tabassum,N.Siddhik)

Assistant Professors Department of EEE)

Forwarded to Principal Sir
Kindly consider ~~and~~ their request & give permission to conduct the course
Agnihotra 11/05/2022

Permitted
V. S. Murthy

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Department of Electrical & Electronics Engineering

Date:12/05/2022

CIRCULAR

This is to inform that the department of Electrical & Electronics Engineering is organizing a "Certification Course on Internet of Things" for B.TEch VI Semester Students . In this regards, I request the students has to register their names with concern coordinator(s). The details of the course is as follows

Name of the Event	Certification Course
Name of the Course	Internet of Things
Date(s) of the Course	12-05-2022 to 31-05-2022
Resource persons	Mrs.S.Tabassum, Mr N.Siddhik Assistant Professor
Venue	SJ-114 (Simulation Lab)
Student Coordinator(s)	Mr.C.Pramod kumar Josi,Mr.G.Sai Puneeth Kumar VI Semester,EEE

Head of the Department
HEAD
Department of Electrical &
Electronics Engineering
K.S.R.M. College of Engineering
Kadapa -516003.

List of Registered Participants

Name of the Event	Certification Course
Name of the Course	Internet of Things
Date(s) of the Course	12-05-2022 to 08-06-2022
Timings of the Course	3:00 PM to 5:00 PM
Resource persons	Mrs.S.Tabassum, Mr N.Siddhik Assistant Professor
Venue	SJ-114 (Simulation Lab)
Student Coordinator(s)	Mr.C.Pramod Joshi,Mr.G.Sai Puneeth Kumar VI Semester,EEE

S.No	Name of the Student	Roll Number	Signature
1	K. Nithish Kumar	199Y1A0221	
2	J. Praveen Kumar	199Y1A0218	
3	G. Uma Maheshwara Reddy	199Y1A0214	
4	S. Karmar Hussain Khamar	199Y1A0249	
5	D. Boje Gowd	199Y1A0210	
6	M. Ram Mohan	199Y1A0227	
7	K. Venkata Ramana	199Y1A0225	
8	S. Yashwanth Reddy	199Y1A0247	S. Yeshwanth Reddy
9	D. Naveen Sai	199Y1A0209	D. Naveen Sai

10	M. Guru Teja	199Y1A0231	M. Guruteja
11	T. Shahansha Khan	209Y5A0207	
12	S. Mahesh	209Y5A0205	S. Mahesh
13	S. Md.Ashwaq	209Y5A0208	U. Sd/Ashwaq
14	D. Karishma	199Y1A0211	D. Karishma
15	C. Pramod Joshi	199Y1A0206	C. Pramodjoshi
16	K. Mohammad Ali	209Y5A0203	K. Mohammad Ali
17	C. Rakesh	209Y5A0202	C. Rakesh
18.	G.Sai Puneeth Kumar	199Y1A0217	

Signature of Coordinator

HOD

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Kadapa -516003.

K.S.R.M. COLLEGE OF ENGINEERING, KADAPA

(AUTONOMOUS)

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Internet of Things

(Certification course)

Module-1:

Understanding IoT fundamentals, IOT Architecture and protocols, Various Platforms for IoT, Real time Examples of IoT, Overview of IoT components and IoT Communication Technologies, Challenges in IOT

Module-2:

Designing of web server for displaying the sensor data using IP address, Application of Blynk app for monitoring active devices

Module-3:

Designing of smart refrigeration system, Health monitoring system, Designing of smart street light system, Home automation ,smart parking

.

Department of Electrical and Electronics Engineering

Certification Course

on

"Internet of Things"

S.no	Date	Topic	No. of Hours
		Module-1	
1	12-5-2022	Understanding IoT fundamentals	2
2	13-5-2022	IOT Architecture and protocols	2
3	16-5-2022	Various Platforms for IoT	2
4	17-5-2022	Designing of web server for displaying the sensor data using IP address	2
5	18-5-2022	Designing of web server for displaying the sensor data using IP address	2
		Module-2	
6	19-5-2022	IoT Communication Technologies,	2
7	20-5-2022	Challenges in IOT	2
8	21-5-2022	Application of Blynk app	2
9	23-5-2022	Application of Blynk app for monitoring active devices	2
10	24-5-2022	Application of Blynk app for monitoring active devices	2
11	25-5-2022	Designing of smart refrigeration system	2
		Module-3	
12	26-5-2022	Designing of smart refrigeration system	2
13	27-5-2022	Health monitoring system	2
14	28-5-2022	Health monitoring system	2
15	30-5-2022	Designing of smart street light system	2
16	31-5-2022	Designing of smart street light system	2
17	01.06.2022	Home automation	2
18	02.06.2022	smart parking	2
		Total	36

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Student Attendance

S.No	Roll Number	12-5-2022 (AN)	13-5-2022 (AN)	16-5-2022 (AN)	17-5-2022 (AN)	18-5-2022 (AN)	19-5-2022 (AN)
1	199Y1A0206	P	P	P	P	P	P
2	199Y1A0210	P	P	P	P	P	P
3	199Y1A0209	P	P	P	P	P	P
4	199Y1A0211	A	P	P	P	A	P
5	199Y1A0214	P	P	P	P	P	P
6	199Y1A0217	P	P	P	P	P	P
7	199Y1A0218	P	P	P	P	P	P
8	199Y1A0221	P	P	P	P	P	A
9	199Y1A0222	P	P	A	P	P	P
10	199Y1A0225	P	P	P	P	P	P
11	199Y1A0227	P	P	P	P	P	P
12	199Y1A0230	P	P	P	P	P	P
13	199Y1A0231	P	P	P	P	P	P
14	199Y1A0247	P	P	P	P	P	P
15	199Y1A0249	P	P	P	P	P	P
16	209Y5A0205	P	P	P	P	A	P
17	209Y5A0206	P	P	P	P	P	P
18	209Y5A0207	P	P	P	P	P	P
19	209Y5A0208	P	P	P	P	P	P

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Student Attendance

S.No	Roll Number	20-5-2022 (AN)	21-5-2022 (AN)	23-5-2022 (AN)	24-5-2022 (AN)	25-5-2022 (AN)	26-5-2022 (AN)
1	199Y1A0206	A	P	P	P	P	P
2	199Y1A0210	P	P	P	P	P	P
3	199Y1A0209	P	P	P	P	P	P
4	199Y1A0211	P	P	P	P	P	P
5	199Y1A0214	P	P	P	P	A	P
6	199Y1A0217	P	P	P	P	P	P
7	199Y1A0218	P	P	P	P	P	P
8	199Y1A0221	P	P	P	P	P	P
9	199Y1A0222	P	P	P	P	P	P
10	199Y1A0225	A	P	P	P	P	P
11	199Y1A0227	P	P	P	P	P	P
12	199Y1A0230	P	P	P	P	P	P
13	199Y1A0231	P	P	P	P	A	P
14	199Y1A0247	P	P	P	P	P	A
15	199Y1A0249	P	P	P	P	P	P
16	209Y5A0205	P	P	P	P	P	P
17	209Y5A0206	P	P	P	P	P	P
18	209Y5A0207	P	P	P	P	P	P
19	209Y5A0208	P	P	P	A	P	P

Student Attendance

S.No	Roll Number	27-5-2022 (AN)	28-5-2022 (AN)	30-5-2022 (AN)	31-5-2022 (AN)	1-6-2022 (AN)	2-6-2022 (AN)
1	199Y1A0206	P	P	A	P	P	P
2	199Y1A0210	P	P	P	P	P	P
3	199Y1A0209	P	P	P	P	P	P
4	199Y1A0211	P	P	P	P	P	P
5	199Y1A0214	P	P	P	P	P	P
6	199Y1A0217	P	P	P	P	P	P
7	199Y1A0218	P	P	P	P	P	P
8	199Y1A0221	P	P	P	P	P	P
9	199Y1A0222	P	P	P	P	P	P
10	199Y1A0225	P	P	P	P	P	P
11	199Y1A0227	P	P	P	P	P	P
12	199Y1A0230	P	P	P	P	P	P
13	199Y1A0231	P	P	P	P	P	P
14	199Y1A0247	P	P	P	P	P	P
15	199Y1A0249	P	P	P	P	P	P
16	209Y5A0205	P	P	P	P	P	A
17	209Y5A0206	P	P	P	P	P	P
18	209Y5A0207	P	P	P	P	P	P
19	209Y5A0208	P	P	P	P	P	P

Coordinator(s)

Head of the Department

HEAD
Department of Electrical & Electronics Engineering
K.S.R.M. College of Engineering
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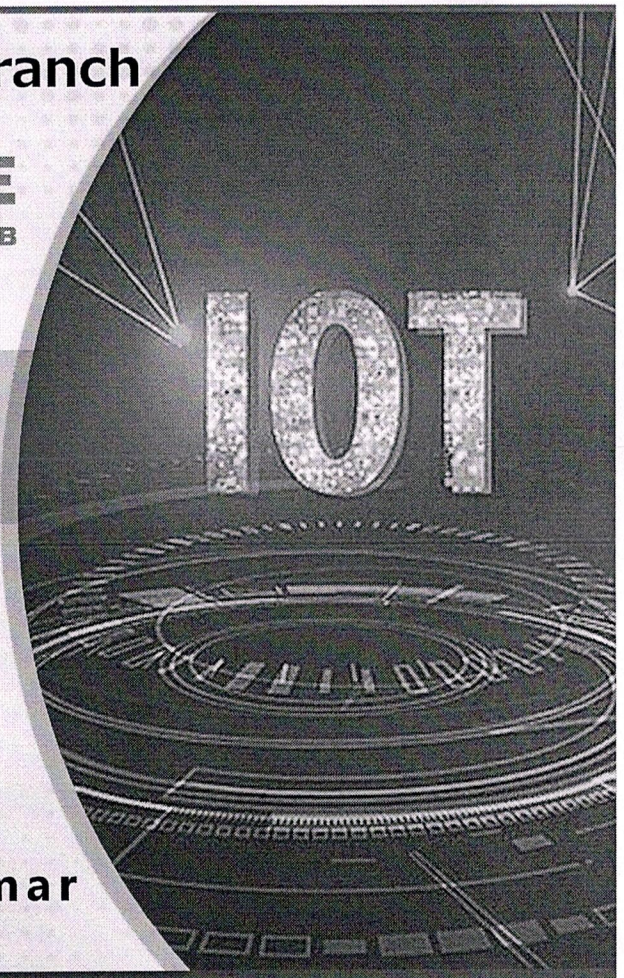
Department of EEE in Association with IEEE Student Branch Organizing a

Certification Course on

" Internet Of Things "

IEEE KSRMCE SB



13/05/2022 – 31/05/ 2022

SJ 104

Resource Persons

Smt. Saleha Tabassum, Asst.Prof

Sri N.Sidhik. Asst.Prof

Coordinators

Mr.C.Pramod Kumar Joshi & Mr.G.Sai Puneeth Kumar

VI Sem, EEE

Dr. K.Amaresh (Prof & HOD)

Dr. V.S.S. Murthy (Principal)

Dr. Kandula Chandra Obul Reddy (Managing Director, KGI)

Smt. K.Rajeswari (Correspondent,Secretary & Treasurer)

Sri K. Madan Mohan Reddy (Vice - Chairman)

Sri K. Raja Mohan Reddy (Chairman)

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www.ksrmce.ac.in

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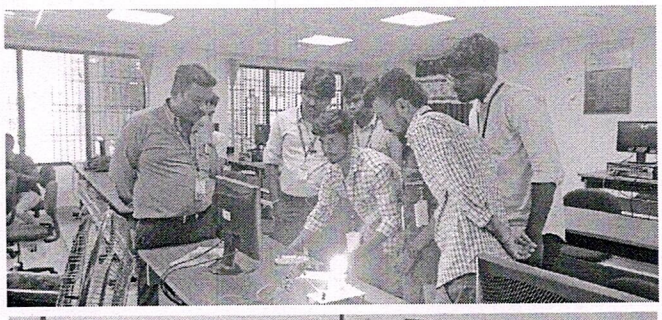
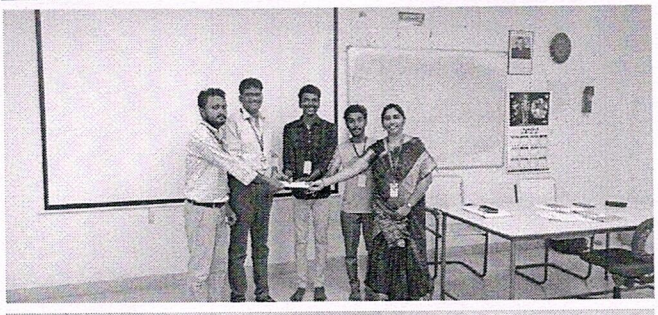
Activity Report

Name of the Activity	Internet of Things
Type Of Activity	Certification Course
Date(s) of Activity	13-5-2022 to 7-6-2022
Details of Participants	Students -18
Coordinator	Sri. N.Siddhik Smt Saleha Tabassum
Supporting Team	Department of EEE
Report	The Department of EEE organized a Certification Program " Internet of things" from 13-5-2022 to 7-6-2022. In this course 18 Students are participated actively, at the end of Course students developed Four Projects out of this Two projects were awarded a Cash prize of amount Rs 1000/- (First-Smart Refrigerator) and Rs 500/- (Second-Controlling of Single Phase Appliances using IR Remote).The Valedictory function was conducted on 8-6-2022 from 4.00 PM-5:00 PM. The Participants gave a Positive feedback for the Course.

Photos	  

Coordinator

HOD

HEAD
Department of Electrical &
Electronics Engineering
K.S.R.M. College of Engineering
Kadapa-516003

V. S. S. Murty

Principal

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KSN
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CERTFICATE OF APPRICIATION

IEE
KSRMCE

This is to certify that Mr. S.KHAMAR HUSSAIN Bearing Roll No 199Y1A02 acted as Resourse Person in "Certificate Course on Internet of Things organized by Department of EEE in Association with IEEE Student Branc from 12 may to 7 June,2022.

Coordinator

HOD EEE

V. S. S. Murthy

PRINCIPAL

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KSN lives

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CERTFICATE OF APPRICIATION

IEE KSRMCE

This is to certify that Mr. J. PRAVEENKUMAR bearing Roll No 199Y1A02' acted as Resourse Person in "Certificate Course on Internet of Things organized by Department of EEE in Association with IEEE Student Branc from 12 May to 7 June,2022.

Coordinator

HOD EEE

V. S. S. Murthy

PRINCIPAL

Feedback on Certification Course on "Internet of Things"

* Required

1. Roll Number *

_____

2. Name of the Student *

_____

3. Organization of Course and session planning by instructor. *

Mark only one oval.

- ◯ Good
- ◯ Very Good
- ◯ Excellent

4. Clarity in content delivery. *

Mark only one oval.

- ◯ Good
- ◯ Very Good
- ◯ Excellent

5. Content is relevant and useful *

Mark only one oval.

- ◯ Good
- ◯ Very Good
- ◯ Excellent

6. Adequate opportunity to interact with trainer *

Mark only one oval.

- ◯ Poor
- ◯ Fair
- ◯ Good
- ◯ very Good
- ◯ Excellent

7. Overall rating *

Mark only one oval.

- ◯ Poor
- ◯ Good
- ◯ Very Good
- ◯ Excellent

K.S.R.M. COLLEGE OF ENGINEERING
(AUTONOMOUS)
Department of Electrical & Electronics Engineering
Feedback of students on Certification Course on "Internet of Things"

S.No	Roll Number	Name of the Student	Organization of Course and session planning by instructor.	Clarity in content delivery.	Content is relevant and useful	Adequate opportunity to interact with trainer	Overall rating
1	199Y1A0221	K. Nithish	Very good	Very good	Very good	Fair	Very good
2	199Y1A0218	J. Praveen Kumar	Good	Good	Good	Good	Good
3	199Y1A0214	G. Uma Maheshwara Reddy	Excellent	Excellent	Excellent	Excellent	Excellent
4	199Y1A0249	S. Karmar Hussain	Excellent	Excellent	Excellent	Excellent	Excellent
5	199Y1A0210	D. Boje Gowd	Fair	Excellent	Excellent	Excellent	Excellent
6	199Y1A0227	M. Ram Mohan	Excellent	Excellent	Excellent	Excellent	Excellent
7	199Y1A0225	K. Venkata Ramana	Very good	Very good	Excellent	Excellent	Excellent
8	199Y1A0247	S. Yashwanth Reddy	Very good	Excellent	Excellent	Very good	Excellent
9	199Y1A0209	D. Naveen Sai	Very good	Good	Very good	Very good	Excellent
10	199Y1A0231	M. Guru Teja	Excellent	Very good	Excellent	Very good	Excellent
11	209Y5A0207	T. Shahansha Khan	Very good	Very good	Very good	Very good	Very good
12	209Y5A0205	S. Mahesh	Poor	Poor	Excellent	Poor	Poor
13	209Y5A0208	S. Md.Ashwaq	Excellent	Excellent	Excellent	Excellent	Excellent
14	199Y1A0230	M. Sreenath Reddy	Very good	Very good	Excellent	Very good	Excellent
15	199Y1A0222	K. Samara Simha Reddy	Fair	Excellent	Excellent	Excellent	Excellent
16	209Y5A0206	S. Sravana Sandhya	Excellent	Excellent	Excellent	Excellent	Excellent
17	199Y1A0211	D. Karishma	Very good	Very good	Excellent	Excellent	Excellent
18	199Y1A0206	C. Pramodh Kumar Joshi	Very good	Excellent	Excellent	Very good	Excellent
19	199Y1A0217	G. Sai Puneeth Kumar	Very good	Good	Very good	Very good	Excellent

(Coordinator)

(HOD)

Internet of Things

Internet of Things (IoT)

- Internet of Things is a system of interrelated computing devices or objects which have the ability to transfer the data over a network without requiring any human to human or human to computer interaction uniquely addressable, based on standard communication protocol.
- It is a giant network of connected things, capturing the data about the way they are used and the environment around them.
- When we speak about the "Things" in IoT, these are objects not precisely identifiable.
- The sensors are used in the devices and objects and these feed the data to various IoT platforms.
- Further, IoT platforms are used to gather the pinpointed information, detect patterns.
- Thus, with the above process the IoT helps the organizations and institutions in reducing the cost through improved processes efficiency, asset utilization and productivity.

Different Names of IoT

- Internet of Everything
- Smarter Planet
- Machine to Machine (M2M)
- The Fog
- Tsensors (Trillion Sensors)
- The Industrial Internet
- Industry 4.0
- Internet of Things (IoT)

Reasons of IoT

- Data deluge : The explosion of the amount of data collected and exchanged is one of the major reason why IoT came in existence. Forecasts indicate that in the year 2015 more than 220 Exabytes of data are stored. So we need novel mechanisms to find, fetch, and transmit data.

- There is decrease in energy required to operate intelligent devices. The search will be for a zero level of entropy where the device or system will have to harvest its own energy.

- Miniaturization of devices: the devices are becoming increasingly smaller.

- Autonomic management: the devices/systems of future will have self-management, self-healing, and self-configuration capabilities.

- IPv6 as an integration layer: allows to exploit the potential of IPv6 and related standards.

Source: Tata Consultancy Services. http://gisfi.org/pdf/june_21_23_10/Internet_of_Things.ppt

Internet of Things Enablers

- Energy
- Intelligence
- Communication
- Integration
- Interoperability
- Standards

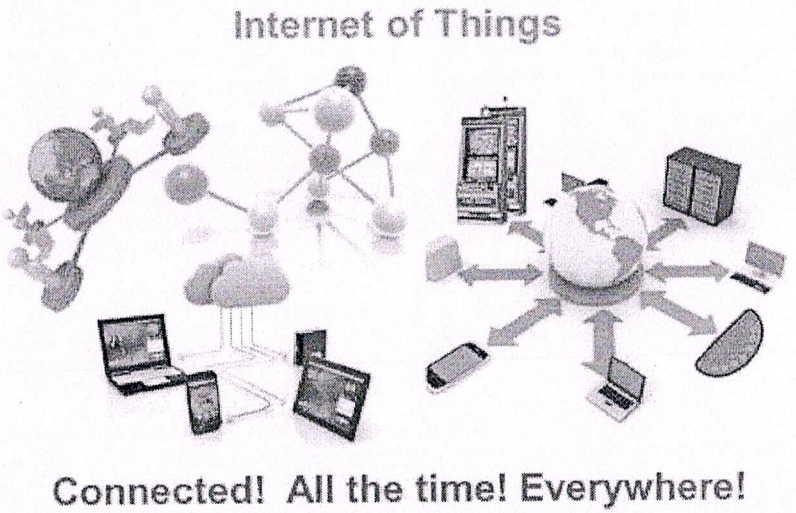
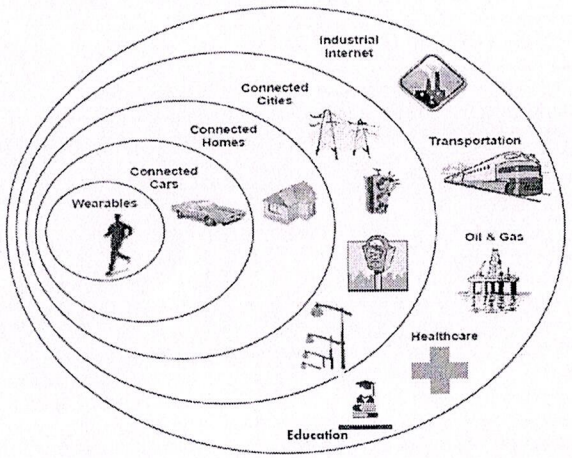
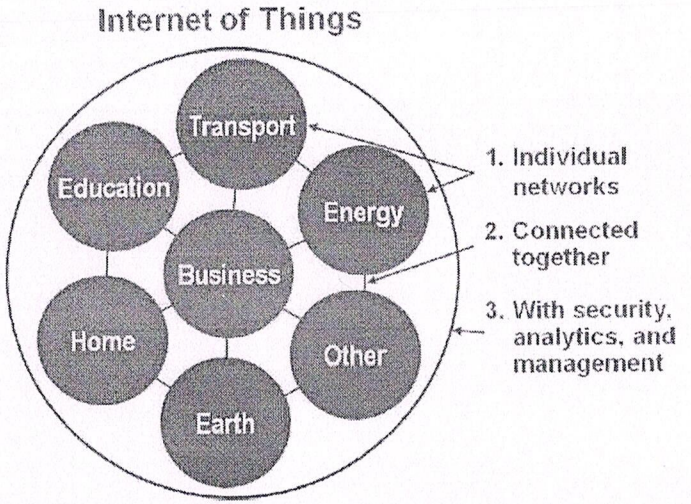


Image Source: The Internet of Things, 2012, New Horizons, Edited by: Ian G Smith, Technical Editors: Ovidiu Vermesan Peter Friess Anthony Furness http://www.internet-of-things-research.eu/pdf/IERC_Cluster_Book_2012_WEB.pdf

IoT

- Internet for Devices
- Internet for M2M communication
- Internet for Non Human





Source: Cisco IBSG, April 2011

Threat vs. Opportunity

- If misunderstood and misconfigured, IoT poses risk to our data, privacy, and safety.

- If understood and secured, IoT will enhance communications, lifestyle, and delivery of services.

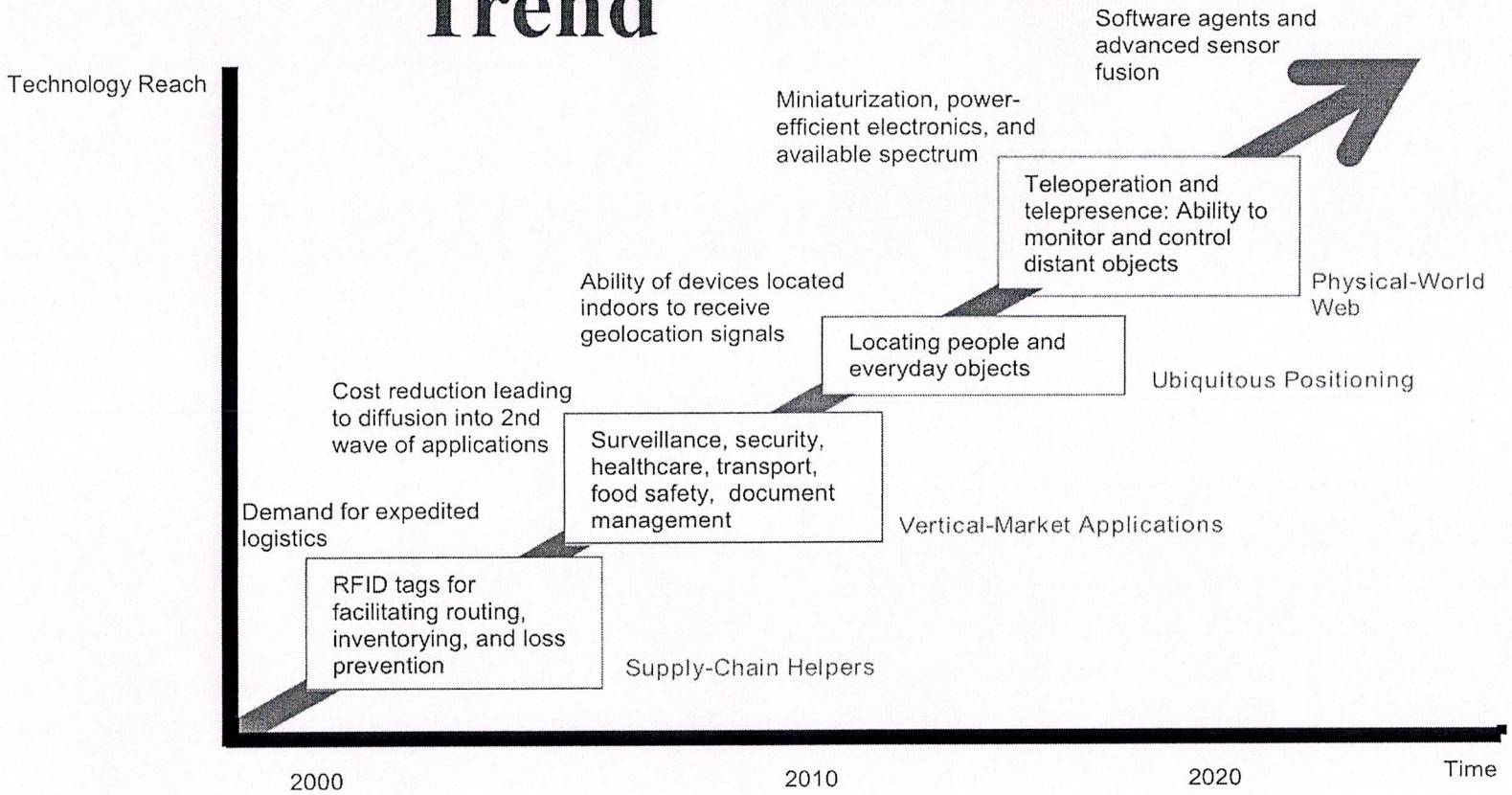
How are the networks changing?

- Extensions
  - More nodes, more connections
  - Any TIME, Any PLACE + Any THING
  - M2M, IoT
    - Billions of interconnected devices,
    - Everybody is connected.
- Expansions
  - Broadband
  - LTE, 5G
- Enhancements
  - Smart networks
  - Data-centric and content-oriented networking
  - Context-aware (autonomous) systems

Source: University of Surrey. IoT,
http://personal.ee.surrey.ac.uk/Personal/P.Barnaghi/teaching/EEEM048/2015/EEEM048_Lecture1_Introduction.ppt

Technology Trend

TECHNOLOGY ROADMAP: THE INTERNET OF THINGS



Source: SRI Consulting Business Intelligence

Re -Source: university of Surrey. IoT,
http://personal.ee.surrey.ac.uk/Personal/P.Barnaghi/teaching/EEEM048/2015/EEEM048_Lecture1_Introduction.ppt

Architectural Trends

- The following issues are important for IoT standardization
  - Designing Web Services
  - Designing Messaging Services
  - Designing Common Data Exchange Formats
  - Using Internet Protocol Layers or an IP proxy layer

- The architectural framework needs to incorporate all the desired aspects such as scalability, flexibility, adaptability etc.

- The components, and interfaces for various building blocks such as device interfaces, data formats, networking standards and protocols, service platforms and application interfaces are to be defined in IoT standards.

Source: Tata Consultancy Services. http://gisfi.org/pdf/june_21_23_10/Internet_of_Things.ppt