**TRAINING OUTLINE**

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| **NBTC – ITU Training**  **on**  **Building IoT solutions for e-applications**  **27-30 November 2017, Bangkok, Thailand** |

**COURSE DESCRIPTION**

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| Title | **Building IoT solutions for e-applications** |
| Method of delivery | Face-to-face |
| Objectives | * To build knowledge of ICT researchers and academia in ICT applications areas where IoT is applied (e.g. Agriculture, Health, Smart Sustainable Cities). * To promote awareness on key IoT issues for successful implementation; * To build skills on how to develop IoT solutions. |
| Dates | 27-30 November 2017 |
| Duration | 4 days |
| Registration deadline | 15 November 2017 |
| Training fees | Free with support from NBTC (Thailand) |

**LEARNING OUTCOMES**

Upon completion of this training, participants will be able to

* Have an overview of IoT, technology choices and building blocks.
* Understand the application of IoT in selected areas such as agriculture, health, smart sustainable cities
* Acquire skills for developing IoT products.

**TARGET POPULATION**

Staff from policy makers, regulators, telecom operators, researchers and academia responsible working on IoT.

**FACILITATOR/EXPERTS**

The training will be conducted by ITU experts.

**DRAFT TRAINING SCHEDULE AND CONTENTS / AGENDA**

**(Updated information will be available at** [**http://www.itu.int/itu-d/asp**](http://www.itu.int/itu-d/asp)**)**

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| DRAFT AGENDA |
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| **27 November 2017 (Day-1)** |

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| 0830-0900 | **REGISTRATION** |
| 0900-1000 | **Opening Session:**  Group Photo |
| 1000 – 1115 | **Session 1: Overview of IoT Ecosystem**  Objective: To provide an overview of IoT Ecosystem.   * Ashish Narayan (tbc) * Marco Zennaro |
| 1115-1145 | **Coffee Break** |
| 1145 – 1230 | **Session 2:  IOT for ICT applications**  Objective: To provide an overview of application of IoT in various ICT application areas e.g., agriculture, health, smart sustainable cities   * Jonathan Brewer * Tbc (oil&gas) |
| 1230-14:00 | **LUNCH** |
| 14:00-15:00 | **Session 3: Building an IOT product: Programming aspects**  Objective: To detail the steps required in building an IOT product including its programming.   * Franck Albinet |
| 1500-1530 | **Coffee Break** |
| 1530-1700 | **Session 4: Lab Exercise**  Objective: To learn about the workflow; toolbox installation; hello world for IoT with LED; button detection.   * Marco Zennaro * Franck Albinet |
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| 28 November 2017 (Day-2) |

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| 0900-1000 | **Session 5: IOT Standards**  Objective: To provide an overview of ITU-T and other Standards on IOT.   * Ashish Narayan * Jonathan Brewer |
| 1000-1100 | **Session 6: IOT, Big Data and Analytics**  Objective: To provide an understanding of IOT, Big data and analytics.   * Marco Zennaro * Franck Albinet |
| 1030-1100 | COFEE BREAK |
| 1100-1230 | **Session 6: Developing IOT product: Case Study**  Objective: To show a case study of product development   * Alex Somrak, CAT Telecom * tbc |
| 1230-1400 | LUNCH BREAK |
| 1400-1500 | **Session 7: Working Group / Lab Exercise**  Objective: to connect to a WiFi network; to read sensor data from the external sensor board. |
| 1500-1530 | COFEE BREAK |
| 1530-1700 | **Session 8: Working Group / Lab Exercise**  Objective: to learn about MQTT; to setup an MQTT broker. |
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| 29 November 2017 (Day-3) |

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| 0900-1000 | **Session 9: Privacy and Security aspects of IOT solutions**  Objective: To discuss the privacy and security issues in developing IoT Solutions.   * Jonathan Brewer |
| 1000-1030 | COFEE BREAK |
| 1030-1230 | **Session 10: Working Group / Lab Exercise**  Objective: to send sensor data to an MQTT broker. |
| 1230-1400 | LUNCH BREAK |
| 1400-1530 | **Session 11: Working Group / Lab Exercise**  Objective: to analyze and visualize data. |
| 1530-1600 | COFEE BREAK |
| 1600-1700 | **Session 12: Working Group / Lab Exercise**  Objective: to analyze and visualize data. |
| 1700-1730 | **QUIZ 2** |
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| 30 November 2017 (Day-4) |

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| 0900-1000 | **Session 13: IOT Platforms and Smart Sustainable Cities**  Objective: To show how IOT technologies and platforms are applied to Smart Cities  Panita Pongpaibool, NECTEC |
| 10:00-10:30 | **Tea / Coffee Breaks** |
| 1130-1200 | **Session 14: Working Group / Lab Exercise**  Objective: to apply machine learning to the data. |
| 1200-1300 | LUNCH |
| 1300 – 1400 | **Session 15: Working Group / Lab Exercise Presentation**  Objective: to apply machine learning to the data. |
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**METHODOLOGY**

The face-to-face programs will include

* + Instructor-led presentations,
  + Case studies,
  + Group exercises

**TRAINING COORDINATION**

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