Brief for News Item
Round Table on FI-Media* and Future of Internet

Held on: 23 November 2017, IIT Delhi

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On 23rd November, 2017, a Focus Group Discussion (FGD) was held with the key theme on "Internet of Things (IoT) and the Future of Internet" at the Indian Institute of Technology (IIT) Delhi. It was co-organised by Dept of Management Studies (DMS) of IIT, Delhi and the EU-India Project on Future Internet & Electronic Media (FI-Media), which is funded by the Delegation of the European Union to India[1] in New Delhi. FI-Media is facilitating Cluster to Cluster (C2C) cooperation partnerships between European and Indian "clusters" in important fields of mutual interest, such as the field of Internet of Things (IoT) and other areas related to a Next Generation Internet.

Theme

IoT, a technology domain of "connected devices", consists of multiple co-existing and competing products, platforms and domains. It is an excellent seamless integration of multiple technologies – electronics, embedded software, sw platform, cloud based services and mobile apps. For its survival and growth, the firms involved must cooperate as well as compete by using a common set of resources like hardware, software, platforms, standards that cater to the connectivity of devices, applications developed, provisioning services, assurance of quality and billing etc. The above "Round Table" session was aimed at addressing the key aspects of IoT as a domain important for the society, through discussions with the intention of improving the awareness of cross domain issues related to the development, growth and sustainability of IoT domain and also facilitating the formation of a dedicated Cluster to Cluster (C2C) partnership in this important topic.

Session

The session was well participated by a large number of experts from Industry, Researchers and Govt of India. The discussions commenced with the opening address by FI-MEDIA partner, Prof MP Gupta, Head-DMS, IIT Delhi, which highlighted the socio-economic relevance of this newly emerging technology and emphasised upon the importance of such organised discussions in view of IoT being an emerging technology. The session concluded with the expert views and concluding remarks by FI-MEDIA partner, Mr. Abhishek Sharma, Managing Director, Beyond Evolution Tech Solutions (P) Ltd, a company which has developed and commercially launched their IoT product and Platform "Betty" successfully in the market.

The "Round Table" was anchored by Dr. Shuchi Sinha, Assistant Professor, DMS, IIT Delhi supported by research scholars: Sudatta Kar and Bratin Chakravorty,

The key aspects discussed and the suggestions that emerged are as following:

1. **The IoT Ecosystem - Service Models, Competition and Survival:** This part attempted to touch upon the aspects like:
    a. Relevance of IoT for its stakeholders- the individuals, industry and the society as a whole.
    b. Identifying the key actors in the IoT ecosystem, their place in the IoT value chain, their aspirations and key challenges.
    c. The ways in which the diverse actors may be involved and integrated, and the challenges faced by IoT solution providers in integrating these systems and actors.
    d. The delivery model that would involve both the need for limited specializations and on the other hand, a mass consumption / mass production oriented delivery network.
    e. The business and commercial model for its sustainability and growth – what would be the target market segment, what are the cost implications for commercial viability of the products, solutions and consequently the industry.

[1] https://eeas.europa.eu/delegations/india_en

2. **Manpower, Skills and Adoption:** This theme addressed the following aspects:
   a. Top manpower issues facing IoT e.g. issues related to talent sourcing and the top challenges in engaging and retaining people.
   b. Identifying the role requirements and core competencies necessary in the people who could be engaged in creating, delivering and carrying it to the society through an effective and sustainable business model.
   c. Analyzing the availability of such people.
   d. The challenges faced by the IoT players for the adoption of the IoT products and solutions by the society.
3. **Discussions:** The discussions brought out a variety of ideas and experiences as shared by the participants. Some of the major views and suggestions were as follows:
   a. **Ecosystem**: IoT Ecosystem was the starting point of discussion where the system elements were talked about and the scope of IoT devices from their utility perspective was highlighted.
   b. **IoT Actors**: Discussions highlighted the need to identify the key actors in the IoT ecosystem and the importance of coordination amongst them. Examples were shared of the designers of the electronics & embedded software, the suppliers of the components, the EMS production units, other peripheral providers, the commercial entities, the financers etc., all of whom need to work in sync for the development, commercialisation, successful utilisation and the demand growth of IoT products and solutions.
   c. **Standards**: IoT standards were another important aspect that were pitched by many participants and discussed at length for different views. The need for seamless connectivity amongst the IoT products and solution was a major concern and the driver for the focus on standardisation. One of the observations raised was if the standardisation would solve the problems or add to them.
   d. **Interoperability: Interoperability and** compatibility with global standards was also discussed and considered essential for the growth of IoT market for the Indian players.
   e. **Addressing and Connectivity:** Addressing of connected devices uniquely is the key element of the IoT products and solutions. In the light of expected growth, many devices would be connected. This brings out the need for much higher addressing capacity of the internet protocol. Implementation of "IPv6" internet protocol across all geographies would be essential very soon as the adoption of IoT Devices grows and the growth of IoT solutions gather pace. Equally critical is the need for efficient and reliable connectivity between the devices.
   f. **Momentum building:** A concern was also raised is that due to the sudden popularity and appeal of this new technology, a "me too" race is also emerging, particularly in the ICT related domain based companies.
   g. **Start-up Role and Financing:** Start-ups were considered to be the main drivers for the innovation and growth of IoT systems. However the biggest challenge that the start ups face are the financial constraints. Some structured mechanism and system for the financial support to the start-ups are essential.
   h. **Government Role** for facilitating the growth of IoT systems was also discussed.
4. **Conclusion and Closing**

   The session was summed up with closing remarks of Mr. Abhishek Sharma. Besides bringing out the additional aspects of the points discussed, he also mentioned that the confidentiality associated with the innovative ideas of the IoT developing companies and the weakness of the regulatory and legal systems for awarding IPRs and ensuring the protections to the IPRs are one of the main issues posing challenges to the cooperation and healthy partnerships essential for the IoT's growth. Similarly, substantial government support to the Start-ups involved in the IoT business shall be yet another critical contributor for the speedy and healthy growth of IoT solutions. There were key conclusions on who should be contacted to form an EU - India C2C partnership in the hot topic of Internet of Things, broken down along a number of important areas that each side could contribute.
