


ICN2020 Project

Advancing ICN towards real-world deployment through research,
innovative applications, and global scale experimentation



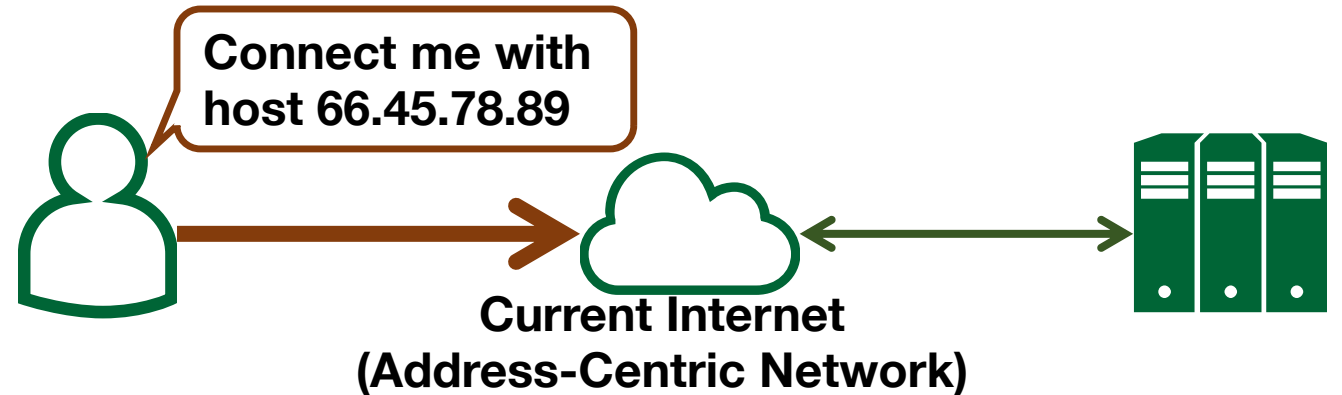
3 Dec. 2018

Atsushi Tagami (KDDI Research)

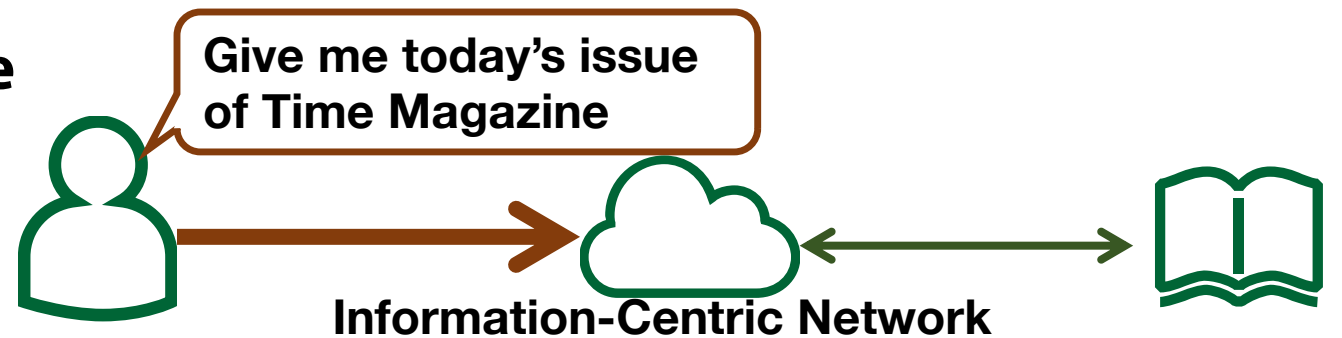
ICN : Information Centric Networking

Users are primarily interested in content and not where they retrieve the content from

- **Traditional IP**
Host to host connectivity



- **ICN**
Obtain content from anywhere



- **Key-objective :**
 - **Facilitate the real-world deployment of ICN through research, innovation and large scale experiments.**
- **ICN is halfway to the real-word deployment**
 - **ICN2020 Project approaches both from research and from proof**
 - **Challenge unsolved problem and enhance the ICN infrastructure**
 - **Design specific applications and evaluate them on the testbed**

ICN2020 Consortium

ICN2020



KDDI Research, Inc.



**Georg-August-Universität
Göttingen
Germany**



Kozo Keikaku Engineering, Inc.



**Università' degli Studi di Roma
Tor Vergata
Italy**



Osaka City University



**University College London
UK**



Osaka University



**Cisco Systems France Sarl
France**

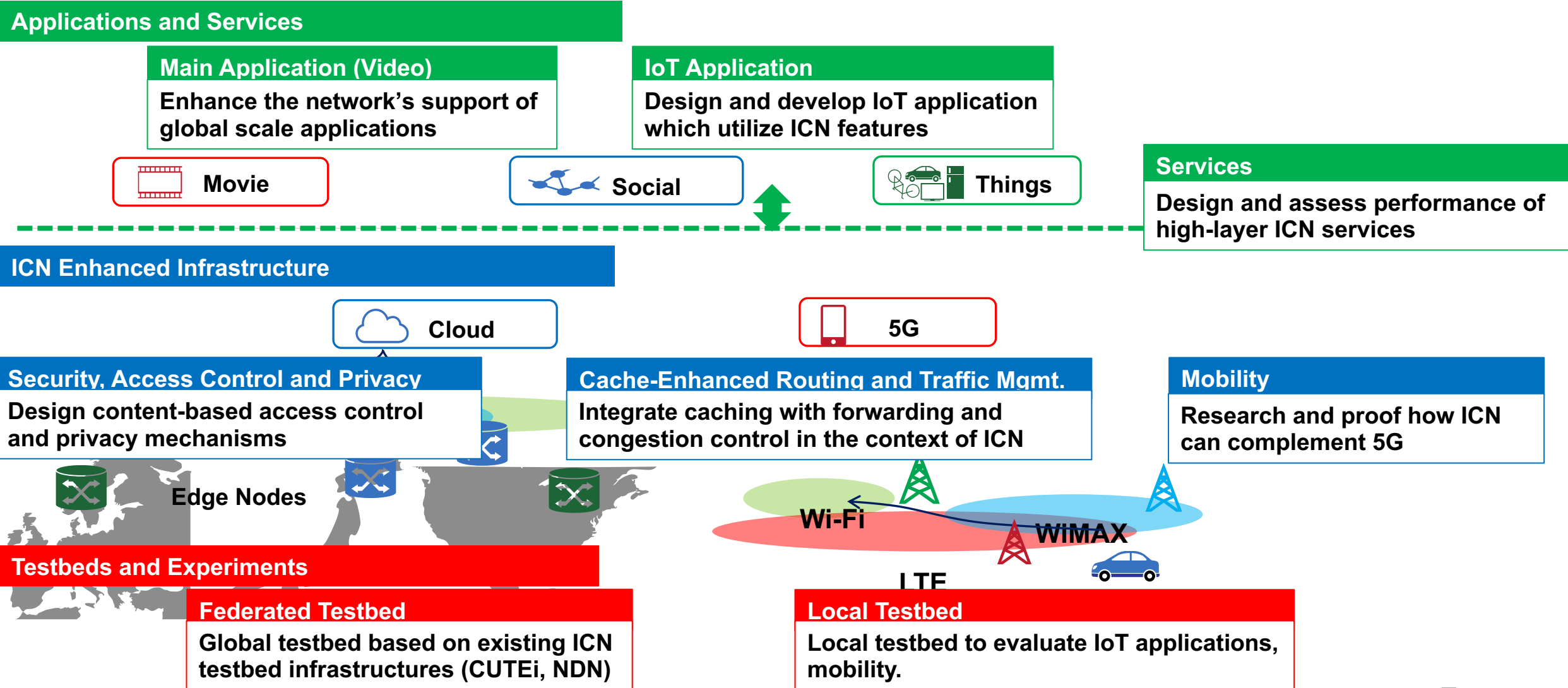


**Ericsson AB
Sweden**



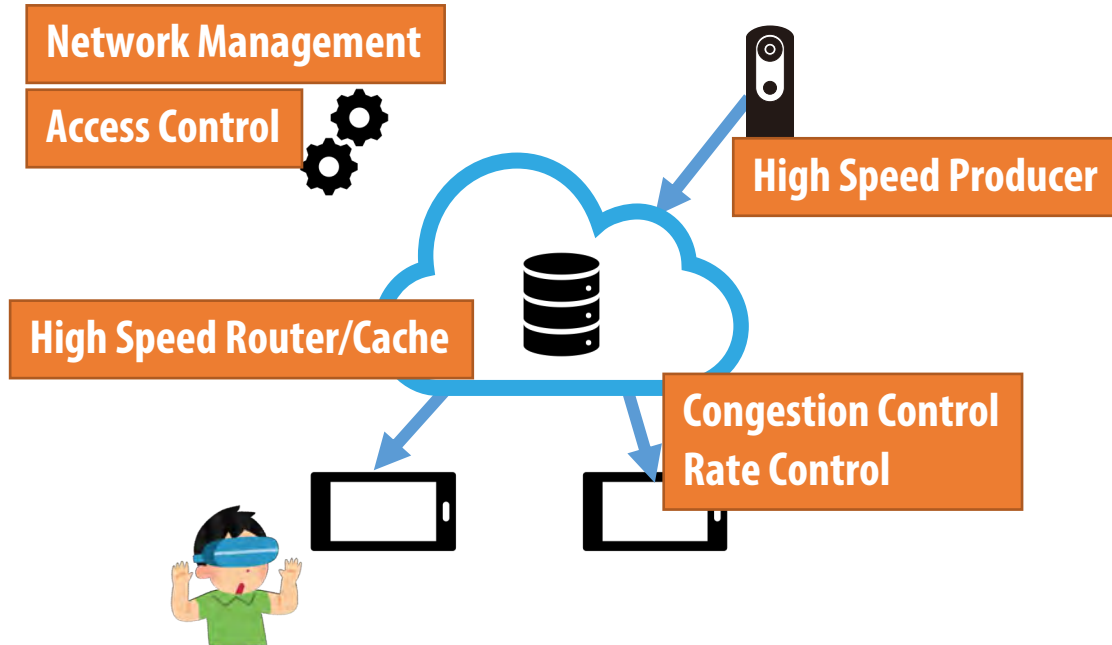
**Institut de Recherche
Technologique SystemX
France**

Overview



Two Applications

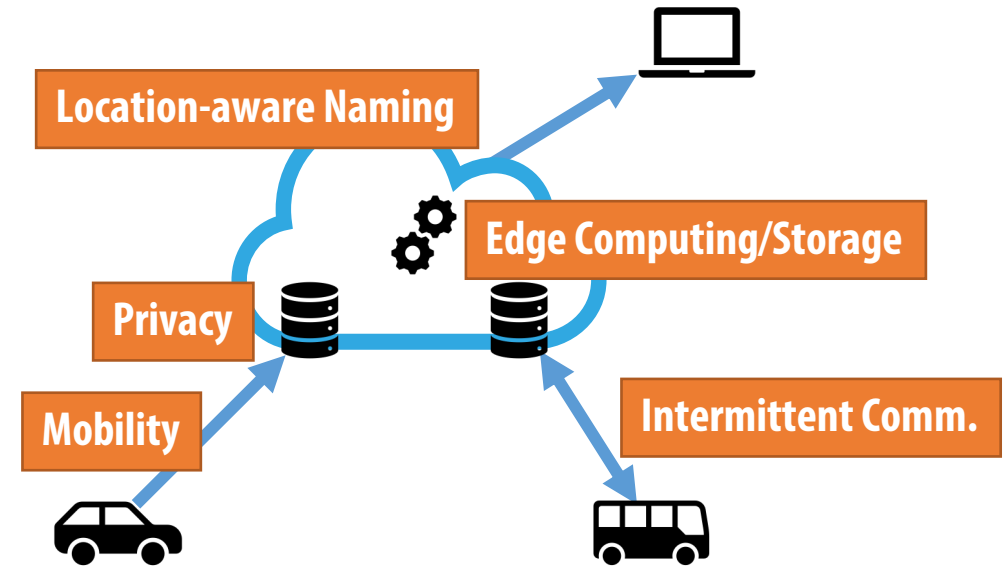
- **Video Application**
 - **VR Video Streaming**



ICN's benefits

- In-network cache
- Multicast-like routing
- Named object
- Consumer-driven congestion control

- **IoT Application**
 - **Location-aware Services**



ICN's benefits

- Name-based routing
- Content-based security mechanism
- Session-less communication
- Caching

Main Achievements

- **34 Publications (until end of 2nd year)**
 - **Conference:16, Journal:7, WS:3, etc:7**
- **CEBIT 2018**
 - **We demonstrated the video application**
 - **It was introduced in the news paper**
- **Standardization**
 - **IETF/IRTF**
 - **DMMWG: New data plane on 5G network**
 - **ICNRG: 1 draft is working**
 - **3GPP**
 - **hICN is disseminated**

Forthcoming Challenges

- **“The First Step” toward the commercial use**
 - **IP over ICN (for 5G network)**
 - **IoT (and in-network processing)**
- **We will commit the opensource communities and standardization**
 - **NDN consortium, CICN (FD.io project)**
 - **IRTF ICNRG and other**
- **We will design the future Internet architecture**