Building Global Trust in the Internet of Things

THE IGF DYNAMIC COALITION ON IOT BRINGS TOGETHER STAKEHOLDERS FROM ALL OVER THE WORLD TO ENGAGE IN A DIALOGUE ON “GOOD PRACTICE” IN IOT, WITH THE INTENT TO FIND A REALISTIC AND ETHICAL WAY FORWARD.
New technologies bring us ways to respond to today's challenges that never existed before ... and come with new challenges.

As technologies are not good or bad in themselves – it is how we use them.

**Societal challenges**
- Healthcare;
- Independent living;
- Secure society;
- Sustainable society

**Economic challenges**
- Innovation; growth; profit

**Environmental challenges**
- Scarcce resources; waste reduction; environmental monitoring

**Governance**
- Global standards, open standards, multistakeholder involvement, ethical IoT

**Privacy and data collection**
- Big data issues, cloud issues (location, jurisdiction, accountability), digital literacy

**Security**
- Access, Autonomous systems, cyber attacks on new end points

Source: GNIS 2014
Connected technologies are a necessity to addressing multiple societal challenges in a doable way.

It requires global knowledge about solutions, and local knowledge about issues, and how they can be addressed.
Many applications...

- Ranging from:
  - industrial IoT to Consumer IoT;
  - connected emergency warning systems to traffic management systems;
  - Health monitoring and enhancing systems to agriculture applications;
  - Wildlife tracking to security enhancing;
  - Autonomous systems to tools that enhance our human abilities;
  - and much more ....

www.iot-dynamic-coalition.org/
Global approach towards IoT

IGF AND THE DYNAMIC COALITION ON IOT
1. IoT is merely a specific aspects of the Internet, just like social media, communication and access to information

2. IoT has specific characteristics that will co-determine the development of future networks. This includes;
   - Collecting, storing and providing access to many data related on observations by sensors;
   - Autonomous networks with actuators that take action following receipt of specific data according to pre-programmed decision models, learning, or external interventions.

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Dynamic Coalition on IoT

- Set up in Hyderabad (IGF, 2008) and active ever since during IGF and regional meetings

- Aim is to develop a shared understanding
  - on Global Good Practice
  - with regards to the Internet of Things

- Most IoT dialogues take place in silos with single stakeholders – in DC IoT **multi-stakeholders meet on equal terms at global level**

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Internet of Things Good Practice Principle

Internet of Things Good Practice aims at developing IoT products, ecosystems and services **taking ethical considerations into account from the outset**, both in the development, deployment and use phases of the life cycle, **thus to find an ethical, sustainable way ahead** using IoT helping to **create a free, secure and enabling rights based environment**: a future we want.

(IGF Dynamic Coalition on IoT: “IoT Good Practice policies”)

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IGF DC IoT thinking in summary

**Embrace IoT to address societal challenges in an ethical way**
- We need IoT to keep this world manageable

**Create an IoT environment that encourages investments**
- Involve all stakeholders
- Create ecosystem
- Stimulate awareness and feedback
- Provide legal clarity and review the legal mechanisms

**Ensure emergence of a trusted IoT environment**
- Meaningful transparency
- Clear accountability
- Real choice

[www.iot-dynamic-coalition.org/](http://www.iot-dynamic-coalition.org/)
1. Securing IoT:
   - What incentives for industry to ensure sufficient security
   - What to enhance security in ways that can be embraced by users;
   - How can standard setting help;
2. Address societal challenges in all countries of the world:
   - How to ensure affordability of key technologies
   - What can/should be done in terms of capacity building
   - How can standard setting help
3. Independent trusted expertise to ensure accountability
Committed contributors

- Alex WONG: World Economic Forum
- Daniela Brönstrup: German Federal Ministry of Economy and Energy
- Sebastián Bellagamba: Information Society (ISOC)
- Marco Hogewoning: RIPE NCC
- Eric Loeb: AT&T
- Arthur van der Wees: Alliance for IoT Innovation (AIOTI)

Your moderator: Avri Doria
Remote moderator: Sandra Hofenrichter
Center for the Fourth Industrial Revolution
Shift from Vertical to Horizontal

From **Vertical Industry** and **Government Communities**
- Vertical Industry Silos
- Vertical Government Silos
- Some Networking
- Closed Communities

To **Horizontal Multistakeholder Platforms** enabling **Outcomes**
- Cross-Sector Horizontal Collaboration Platforms
- Agile Public-Private-Civic Networks (Community-driven)
- Platform Services Enabling Networks
- Open Multistakeholder Community
Digital Protocol Networks are community groups of subject-matter experts and relevant decision makers from the private, public, and civic communities, including relevant technical and academic experts.

Each Network is formed around a specific issue affecting the digital economy or society and is time-bound to deliver non-binding policy frameworks with actionable implementable solutions.

Digital Protocol Networks are agile horizontal structures enabling the global community to craft innovative actionable solutions to the increasingly complex transnational issues.
Network on Industrial IoT Safety & Security

Outcome:
Our goal is to enable innovation of a safe and secure industrial internet of things.

Method:
Aligning incentives among key actors in order to ensure that IIoT development and implementation proceeds in a way that includes safety and security as a high priority.

Plan is to develop a framework to align incentives around ensuring safety and security – not a set of technical standards, but rather a document that industry and government leaders can use to ensure a safer IIoT.

One example of this combination of incentives, norms, and standards is UL’s (Underwriters Laboratory) development of electrical device safety protocols in the 19th century.

Prior Meetings:
• 23 March 2017 – San Francisco CA – Future of Digital Economy and Society Community Meeting – focus on insurance incentive
• April – August 2017 – New York – IIoT Safety Network Experts Calls
• 28 June 2017 – Dalian China – Annual Meeting of the New Champions
• 28 September 2017 – Cambridge MA – MiT/Forum IoT ecosystem meeting – security as component of IoT ecosystem
• 30 November 2017 – San Francisco CA – C4IR Partners Meeting – community feedback on draft protocol
• 12 December 2017 – New York – IIoT Network and Experts working meeting to review revised draft protocol

Daniel
‘We are in a position today, in this Digital Age, where Technology has outstripped our Legal & Standards Framework’

Admiral Michael Rogers, Director NSA & Commander CYBERCOM
Who is responsible for Data?

IT'S THEIR RESPONSIBILITY FIRST.
Do users know what to buy, deploy & use?
Risks, Comfort & Trust in Digital Technology

The Four Main Blocking Factors for Using Digital Technology = The Main Enablers to Digital Economy & Society:

1. Insufficient knowledge
2. Security
3. (Personal) Data Protection
4. Compliance

Eurostat (EC)

Where technology & digital used to be relatively a fairly low regulated horizontal, as it is now considered to be a Need-to-Have, it will become highly regulated in the very near future.
Possible issues to address towards IGF2018

How about:

- Identifiers in the Internet of Things? The role of IPv6, DNS, ONS, etc.
- Raising unintended consequences awareness? Which info to trust?
- Dealing with vulnerabilities? Where is the balance between exploiting by LEA and patching? Who is responsible for obsolete systems?
- The vulnerability of civil sector IoT during cyber –warfare attacks?
- What about robotics, Machine Learning and Artificial Intelligence
We create the world of tomorrow with the choices and actions of today ...
More information

- Read and comment on draft Declaration:  
  https://www.intgovforum.org/multilingual/content/2016-dynamic-coalition-output-documents

- Read more about the previous work of DC IoT:  
  http://www.iot-dynamic-coalition.org/

- Sign up for the DC IoT mailing list:  
  http://intgovforum.org/mailman/listinfo/dc_iot_intgovforum.org