1st ACM SIGCOMM Workshop on Technologies, Applications, and Uses of a Responsible Internet

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Problem: declining digital autonomy of societies

- Increasing **dependency** on digital services, but **limited insight in and control over** the nature of these dependencies and the underlying mesh of systems and operators (black box)

- Concerns about **integrity** of digital systems because of (alleged) vulnerabilities
  - Eavesdropping, remotely disrupting or destroying systems and data, amongst others
  - No control => potential huge societal impact (e.g., smart grids, robots, 5G networks, ICS)

- Concerns about **dominance** of a few large and economically very powerful companies
  - Disproportional power (knowledge, data, technologies), different jurisdictions
  - No control => limits societies in determining their own direction, SPoFs

- **Reduces trust** in the foundations of our digital society

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Our proposal: the Responsible Internet

- Addresses lack of insight in and control over Internet's end-to-end structure and operation

- Tree new **design goals**: controllability, accountability, and transparency (CAT)

- Enables relying parties to communicate with more confidence and trust than today

- Extend Internet's original design goals

- Similar to responsible AI and GIAI-X (EU cloud)
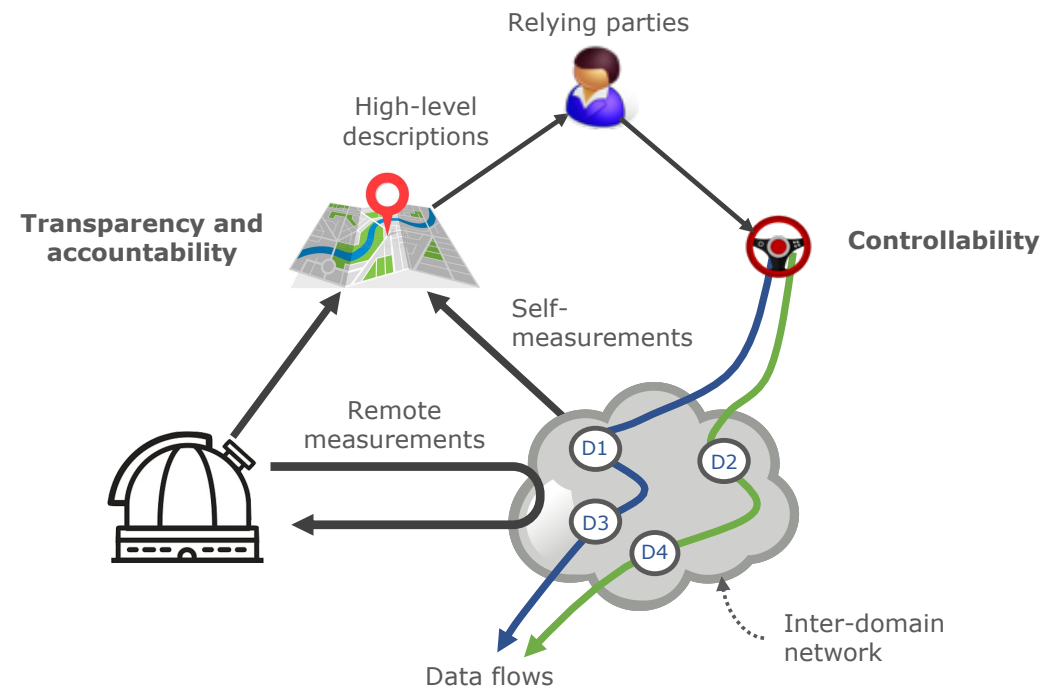
Added value for various types of relying parties

- Critical service providers: use shared Responsible Internet instead of dedicated networks

- Policy makers: more data-driven and proactive policy making, mediation and enforcement

- Network operators: handle large-scale security incidents more proactively

- Individuals: more insight and control over their data (cf. Zoom Data Routing)
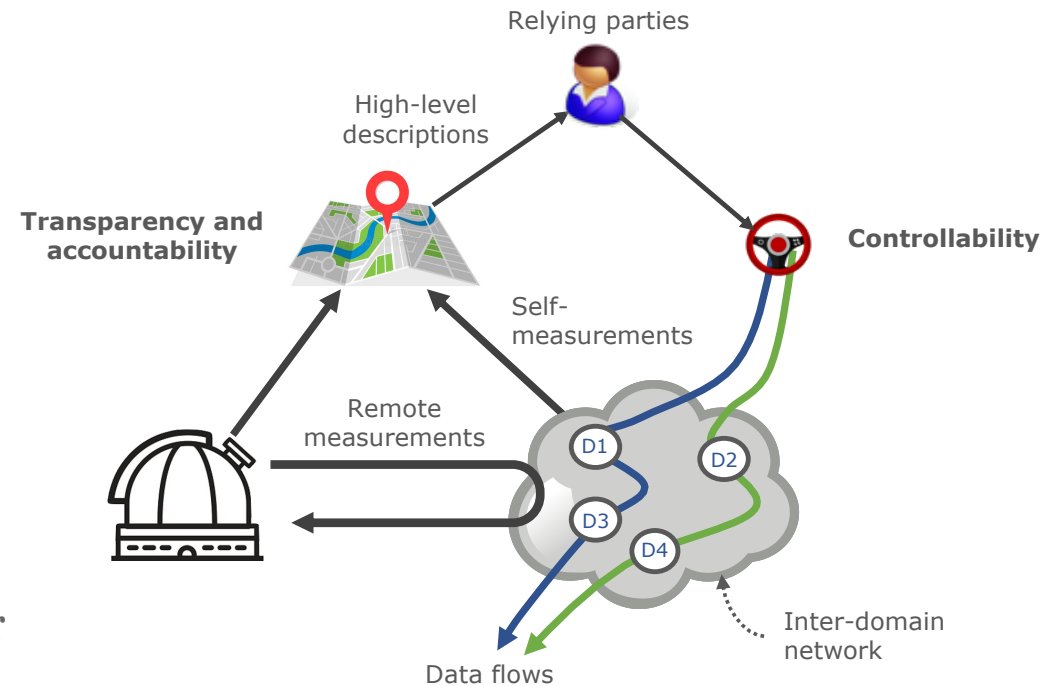
How to make the Responsible Internet a reality?

The Innovation Chain: Converting Science into Wealth

Source: uk-cpi.com
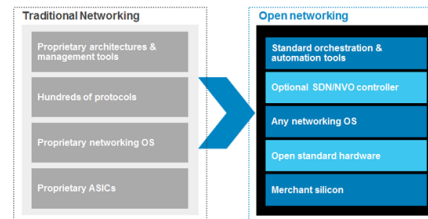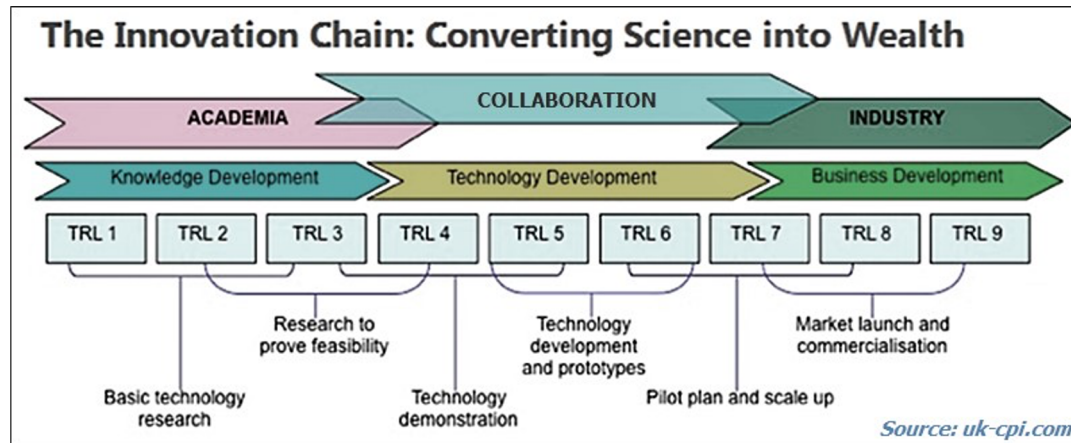
Technology
Business models
Policies

Workshop objective

- **Advance** the concept of a Responsible Internet and start building a **community**

- Focus: **technical**, but also consider societal dimensions (e.g., business or governance)

- Keynote and papers are staring point for the discussions

- Result: a workshop **manifesto**, to be published in Journal of Network and Systems Management

- Future: federated testbeds, joint experiments and funding requests, joint SIGCOMM paper

- Have fun!

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Agenda part 1: presentations

Ralph   Abhishta   Rodrigo   Yasir   Cristian

10:00 am - 11:00 am ET	Opening + Keynote [Ralph, Cristian]
10:00 am - 10:15 am ET	Opening Remarks Speakers: Workshop co-chairs
10:15 am - 11:00 am ET	Fostering a healthy and innovative Internet infrastructure ecosystem Speakers: Adrian Perrig (ETH Zurich)
11:00 am - 12:00 pm ET	**Session I: Design [Cristian]**
Increasing the Transparency, Accountability and Controllability of multi-domain networks with the UPIN framework R. Bazo, L. Boldrini, C. Hesselman, P. Grosso	
SIAM: A Global Distributed Secure Mapping of Network Addresses S. Sridhara, F. Wirz, J. de Ruiter, C. Schutijser, M. Legner, A. Perrig	
Accounting Value Effects for Responsible Networking G. Sileno, P. Grosso	
12:00 pm - 12:30 pm ET	**Break**
12:30 pm - 1:10 pm ET	**Session II: Measurements [Abhistha]**
Divesting in Socially (Ir)responsible Internet Service Providers E. Huff, A. Gember-Jacobson	
On the Deployment of Default Routes in Inter-domain Routing N. Rodday, L. Kaltenbach, I. Cunha, R. Bush, E. Katz-Bassett, G. Dreo, T. Schmidt, M. Wählisch	

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Agenda part 2: discussion sessions

Ralph   Abhishta   Rodrigo   Yasir   Cristian

1:10 pm - 1:30 pm ET	**Group formation [Ralph]**
	A few challenges based on the Responsible Internet paper Selection of group focus areas (e.g., technology and incentives)
1:30 pm - 2:30 pm ET	**Discuss challenges [Ralph, Abhistha]**
	Two parallel breakout groups Scribes: Rodrigo and Yasir
2:30 pm - 2:40 pm ET	**Break**
2:40 pm - 3:00 pm ET	**Presentation of report/manifest [Ralph, Abhistha]**
3:00 pm – 3:10 pm ET	**Closing [Ralph, Abhistha]**

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Further reading (also in Ralph's Slack message)

Original paper (concept and research agenda):

C. Hesselman, P. Grosso, R. Holz, F. Kuipers, J. Hui Xue, M. Jonker, J. de Ruiter, A. Sperotto, R. van Rijswijk-Deij, G. C. M. Moura, A. Pras, and C. de Laat, "A Responsible Internet to Increase Trust in the Digital World", Invited paper, Journal of Network and Systems Management (JNSM), special issue on "Future of Network and Service Operations and Management: Trends, Developments, and Directions", October 2020, https://link.springer.com/article/10.1007/s10922-020-09564-7

Blogs (summaries of the paper and further discussion):

C. Hesselman, R. Holz, and P. Grosso, "Three more things you need to know about the Responsible Internet", June 2021, https://www.sidnlabs.nl/en/news-and-blogs/three-more-things-you-need-to-know-about-the-responsible-internet

C. Hesselman, P. Grosso, R. Holz, F. Kuipers, J. Hui Xue, M. Jonker, J. de Ruiter, A. Sperotto, R. van Rijswijk-Deij, G. C. M. Moura, A. Abhishta, L. Allodi, C. Papagianni, B. Nieuwenhuis, A. Pras, and C. de Laat, "A responsible internet: increasing trust in the foundation of digital societies", November 2020, https://www.sidnlabs.nl/en/news-and-blogs/a-responsible-internet-increasing-trust-in-the-foundation-of-digital-societies

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