



**Master program in International Community Health,
25Oct2017, Oslo**

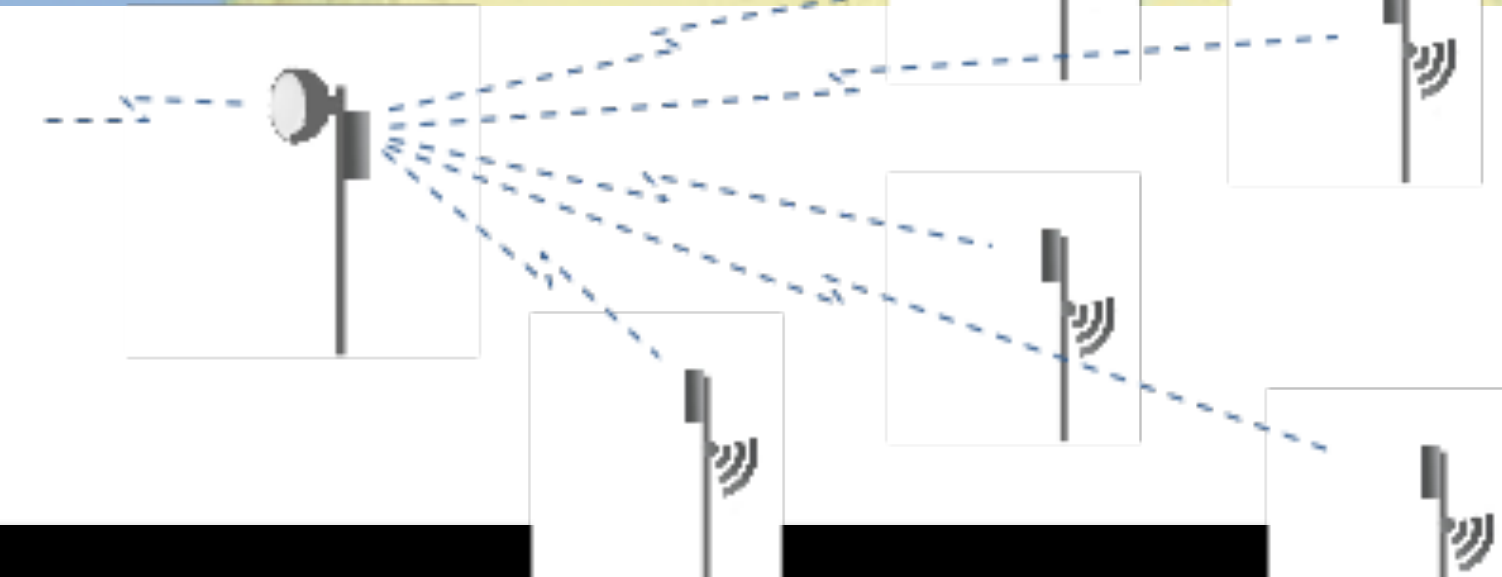
**InfoInternet:
Free Access to Information for All**

Josef Noll, Christine Holst,
Elibariki Mwakapeje

Center for Global Health

Background

- Internet provision to various parts of DRC
 - ➔ operations since 2011
- Connection to a.o. University of Lisala
- Experiences from Internet provision
 - ➔ Expensive access: 2000 US\$/month for 1 Mbit/s
Note: 80 Mbit/s for 66 US\$ (NO), factor: **2.420**
or **0.04%**
 - ➔ Requirement for self-sustainable infrastructure
- Developed network infrastructure
 - ➔ low-cost establishment of local hot-spots
 - ➔ remote core infrastructure (in Norway)
 - ➔ based on experiences from Internet history at UiO/UNIK



Connectivity & Affordability



- Mobile driven development,
→ Revenue-driven
- **Affordability** (costs of data)
- industrial perspective
→ Industry4.0, Internet of Things
- **Novel Approach** required



The Unconnected Market Landscape

Unique Mobile Internet Users

Population 15+ (bn)	Total
Developed World	0.9
Developing World	4.3
Total	5.2

Penetration 15+ (%)	Total
Developed World	100%
Developing World	100%
Total	100%

BMI	NMI	Unconnected	
0.6	0.1	0.3	
1.0	0.8	2.5	3.3
1.6	0.9	2.8	

BMI	NMI	Unconnected	
64%	27%		
23%	18%	59%	77%
30%	53%		

Source: GSMA Intelligence; figures reflect position at end of 2014
BMI = Broadband Mobile Internet (3G/4G); NMI = Narrowband Mobile Internet (<3G)

77% don't have
decent access

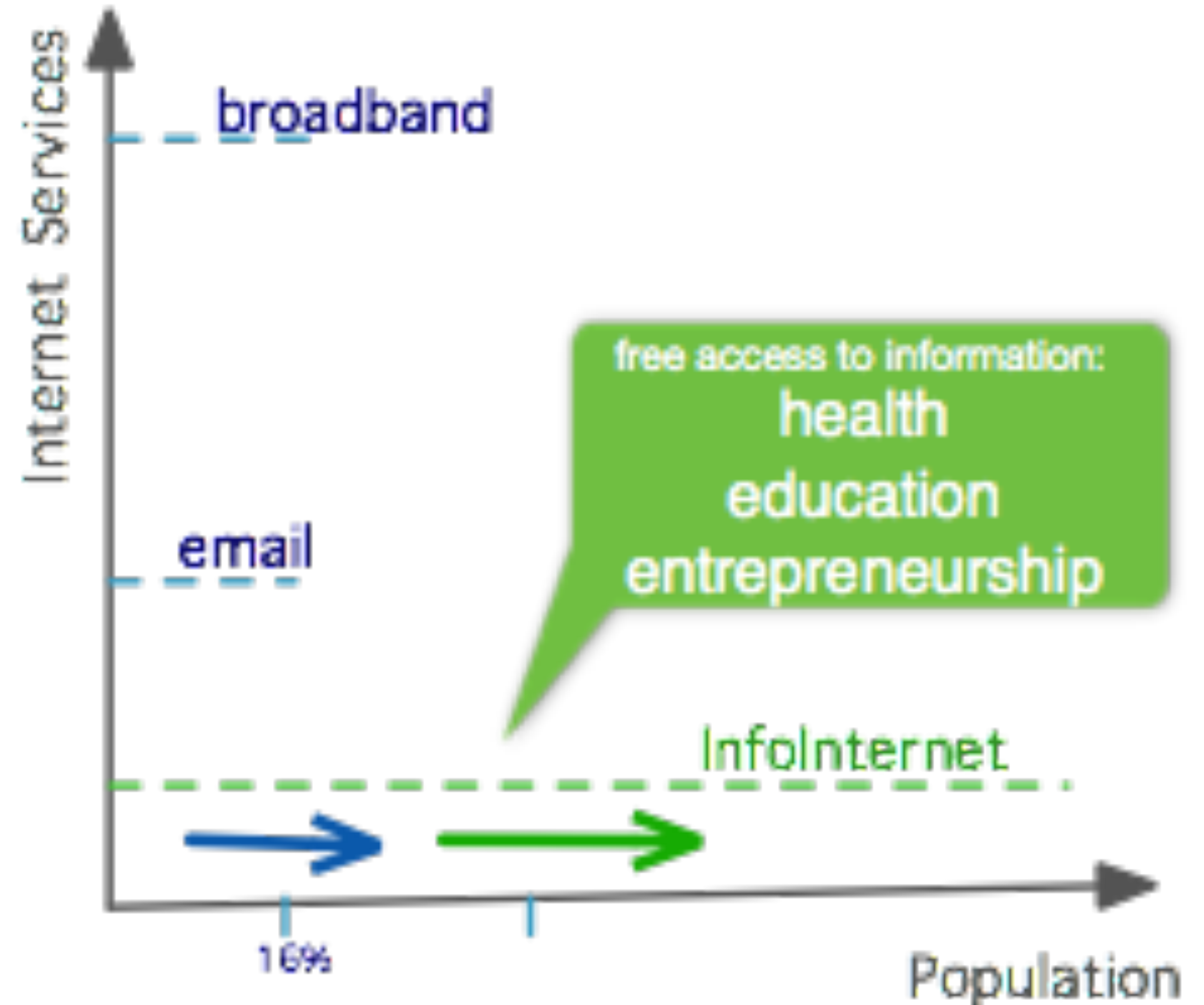
[Source: GSMA, Nov2015]



"Half a dollar is enough"



- "nobody pays for a health video"
-
- InfoInternet: text & pictures
 - ➔ Free access to information
 - ➔ Local content: health video, education
 - ➔ Voucher access to entertainment
- 10 min video = 10 months of information [Source:Opera Software]
 - ➔ Information: 2-2.5% bandwidth
 - ➔ 1 paid user + 300-400 free infoInternet



InfoInternet - the infrastructure for Digital Access



Road Infrastructure

- Basic infrastructure
 - free usage for pedestrians & cyclists
 - authentication for cars
- Highways & toll roads
 - speed & comfort
 - often privately managed
- Successful complementarity



InfoInternet Infrastructure

- Basic Access
 - free access of information
 - walk to Internet
- Broadband and Mobile services
 - Voice, video & games
 - speed & comfort
 - privately managed
- Complementarity



The need for Partnerskap – InfoInternet



Partnership for digital inclusion	
Telecom	InfoInternet
revenue-driven	non-profit
targeting leveraged creation	targeting no- and limited use
voice & mobile broadband	compressed text & pictures
subscription based (SIM)	free access & voucher
mobile network: coverage & capacity	Wifi-spots: health-/community centres, schools
operator cost model	target: 0.5 US\$/month

[Source: GSMA, Nov2015]



United Nations Sustainable Development Goals



Google translate Partnership for Digital Africa

<http://www.aftenposten.no/meninger/debatt/Kronikk-Som-gjesteland-pa-G20-toppmotet-ma-vi-bidra-til-a-endre-verden--Erna-Solberg-614076b.html>



Comment: As a guest country at the G20 summit, we must help to change the world | Erna Solberg

ERNA SOLBERG (H), PRIME MINISTER

UPDATED: 30.JAN.2017 9:39 P.M. | PUBLISHED: 30.JAN.2017 7:58 P.M.



In July last year was Erna Solberg invited by Angela Merkel for this year's G20 meeting. Here from a meeting between the German Chancellor and the Norwegian Prime Minister in Berlin in November, where Norway's participation as guest country at the economic summit were among issues discussed.

1. UN sustainability goals and Agenda 2030:

Germany has chosen this agenda as a backdrop for their entire program for the presidency, and I lead a group at the United Nations that will drive towards implementation.

We will work to ensure that the G20 goes ahead with its own specific commitments to help achieve sustainability goals.

2. Migration and partnership with Africa:

The world is experiencing the greatest influx of refugees since World War II. Europe, and especially Germany, have seen the consequences of that.

It is necessary to improve the situation where people break up close. Germany will use its chairmanship to do something about the problems which people belong. There is no minimum job creation and private investment. There are agreements with African countries wishing to achieve it.

G20 can therefore help the countries and international organizations use their resources more on measures which create growth and job creation.

3. Health and education.

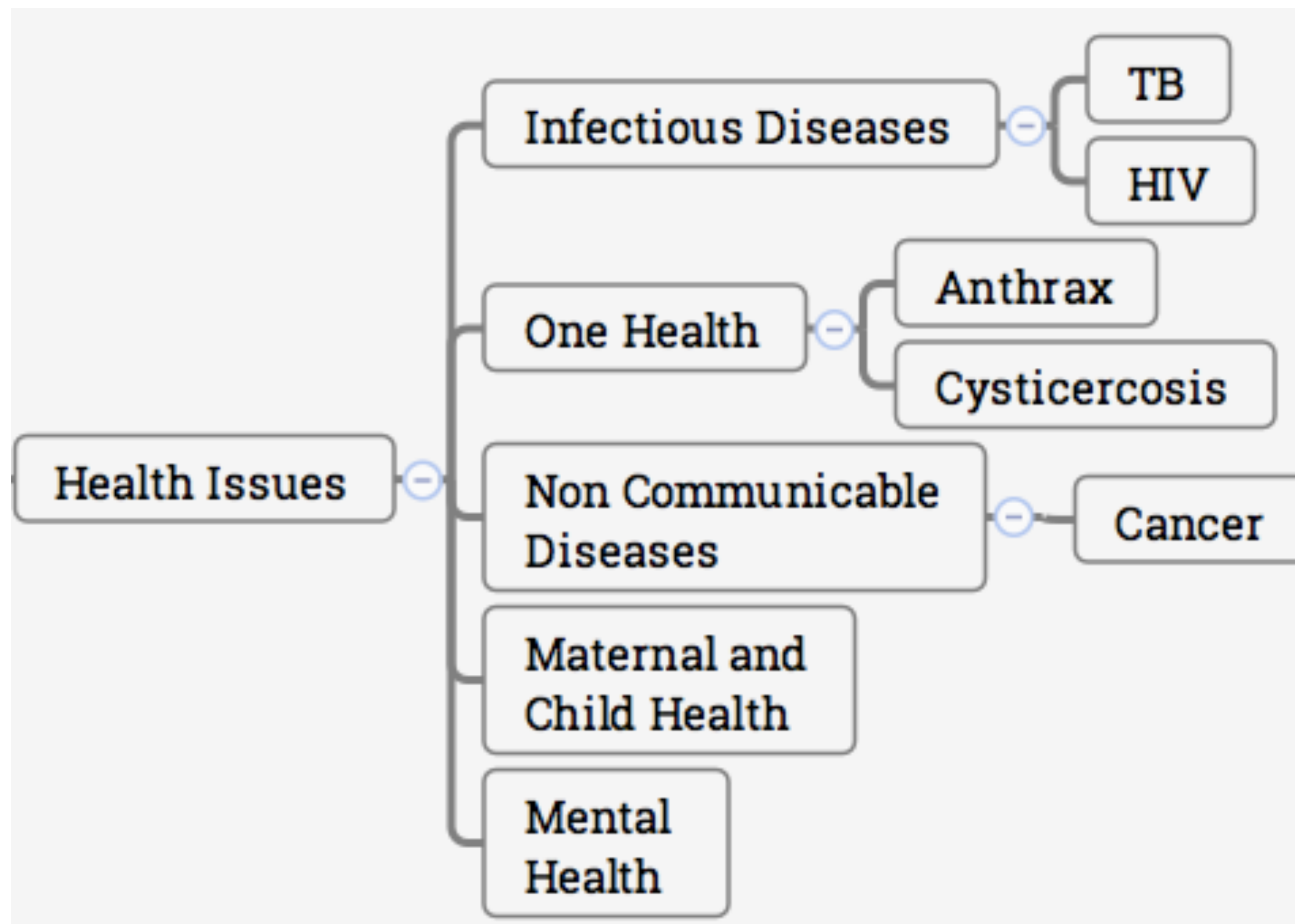
Norway has long had a heavy international involvement. Education and health are associated with economic growth.

Tanzania – Digital Health

2017



- Digital Health Information
 - ➔ 4 villages with health spots in Tanzania
 - ➔ Focus on TB, HIV, Anthrax and Cysticercosis
 - ➔ Health videos



Digital Global Health Involvement, participation and sharing

- **Catalyst** for Agenda 2030 and SDGs
- **Entry point** for the **Digital Society**



All Small Baby Newborn Childbirth Breastfeeding Cholera



The Story of Ebola, English



The Story of Ebola, Swahili

<https://globalhealthmedia.org/videos>

Summary

- **Digital Inclusion** is the key for **sustainable development**
- **Net neutrality**
 - ➔ access to information, compressed text and pictures through the **InfoInternet**
- Establishing the pilots for Digital Inclusion through Information access
 - ➔ Focus in Tanzania on health
 - ➔ Focus in DRC on education/work
- Well-balanced team
 - ➔ Strong local presence
 - ➔ Academia, Politics, Industry and SMEs
- Catalyst for Sustainable Development Goals 2030



Partners



FR



ES



Ministry of Health, TZ



UiO



TZ



USA



UK



Background slides

Topics of discussion for digital health

inventory list
commodities
epidemiological

- Please contact Josef Noll, m: +47 9083 8066 for more info and common work



after hospital
transitional care
digital support group
rare diseases
Medical data handling
emergency/ refugee
Online prescription
"digital money"

Internet is a basic human right

- Is Internet access and online freedom of expression a basic human right?
- “All people should be allowed to connect to and express themselves freely on the Internet.”



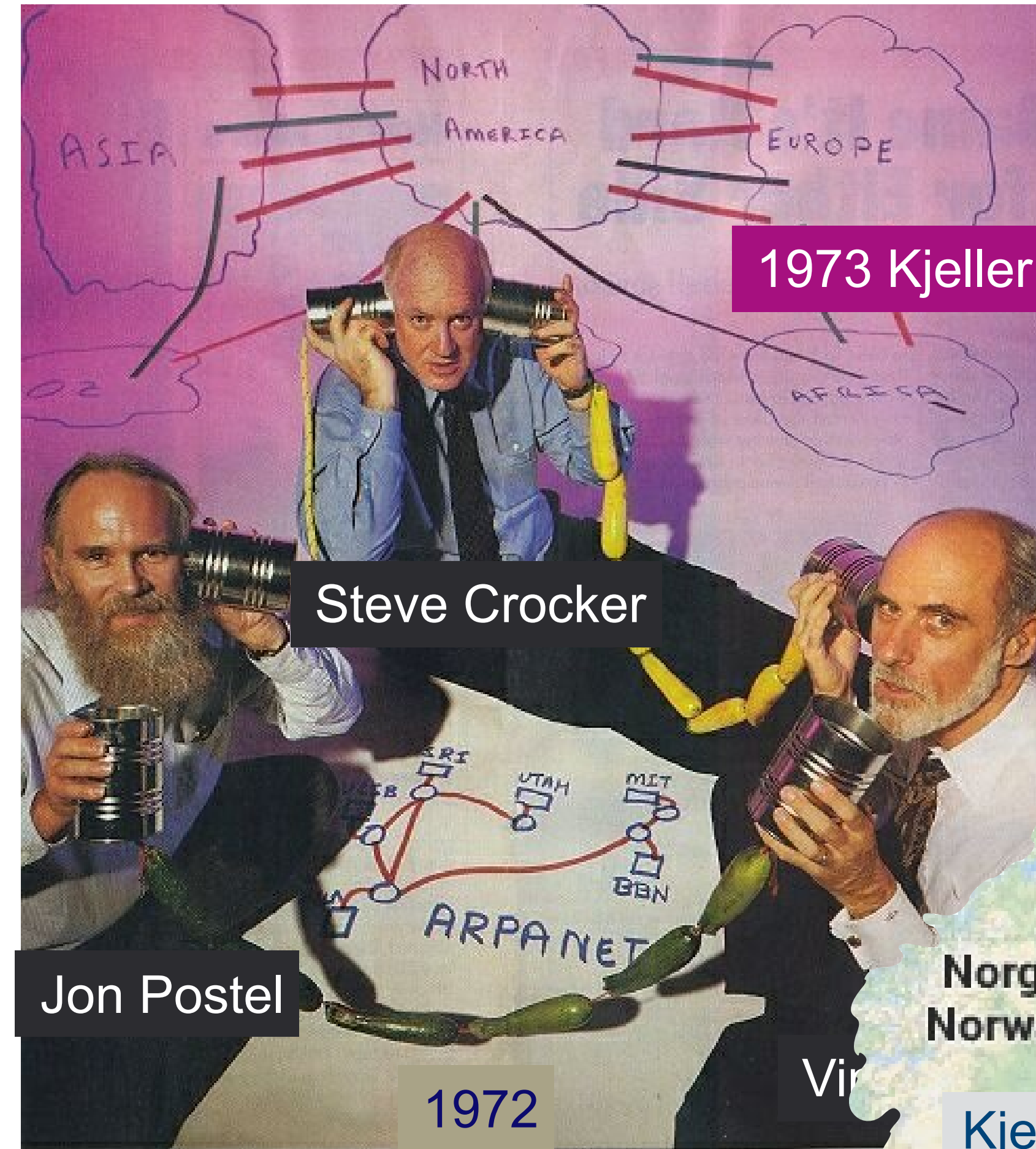
- The United Nations' Human Rights Council unanimously backed that notion in a resolution on **5 July 2012**. All 47 members of the Human Rights Council including China and Cuba signed the resolution.



- The building where the Internet (Arpanet) came to Europe in June 1973

1971 (at which point 23 hosts, at universities and government research centers, were connected to the ARPANET); 29 by August, 1972, and 40 by September, 1973.

At that point, two satellite links, across the Pacific and Atlantic Oceans to [Hawaii](#) and [Norway](#) (NORSAR) had been added to the network. From Norway, a terrestrial circuit added an IMP in London to the growing network.



Source: <http://www.michaelkaul.de/History/h...>



1973: Internet to Kjeller/Europe

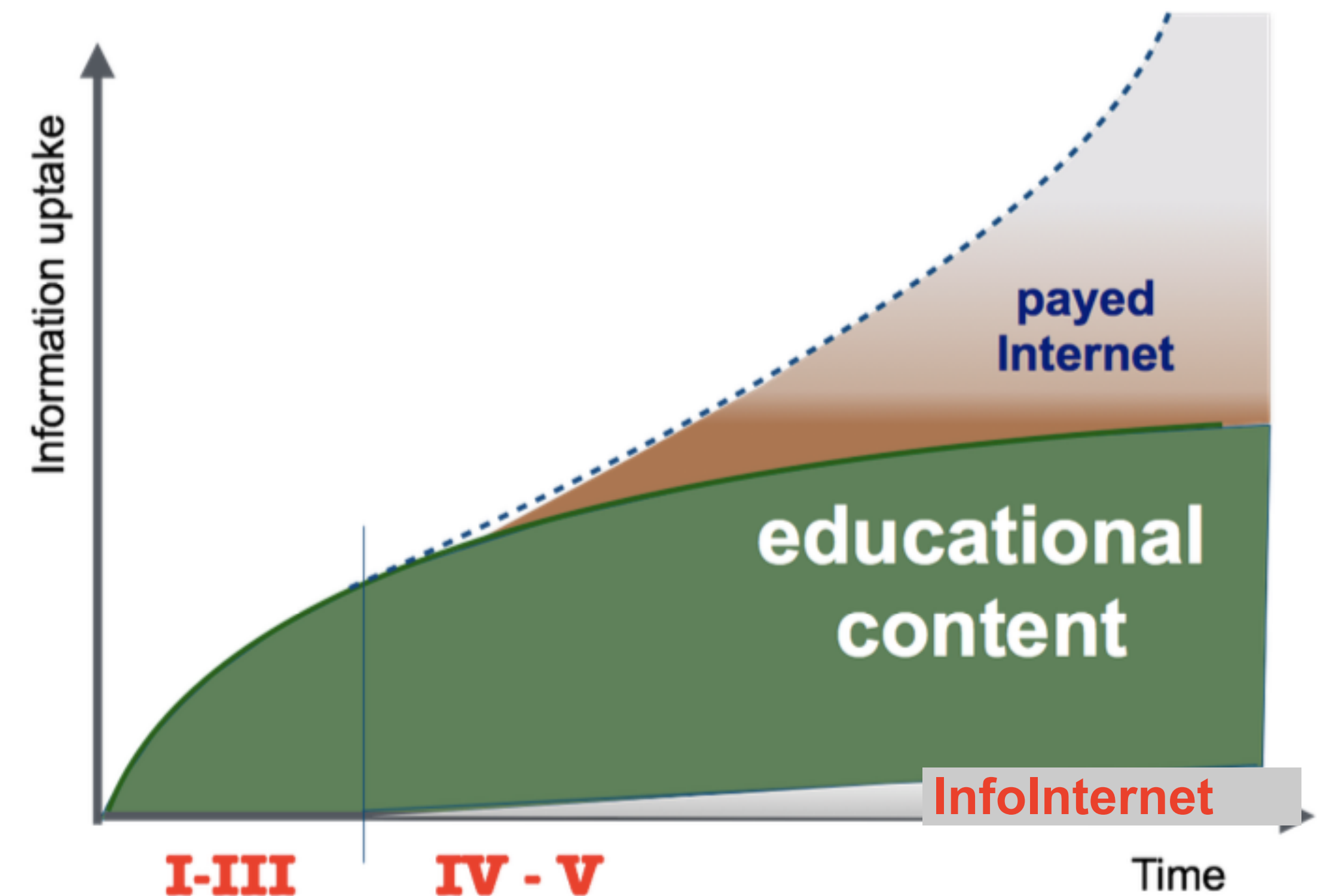
1994: Opera Software

2014: Basic Internet
«half a dollar is enough»

Norge
Norway
Kjeller

The need for an Information-Internet (**InfoInternet**)

- Pilot - Kinshasa (DRC)
 - ➔ Information focus (text & pictures)
 - ➔ low-ba
 - ➔ Focus on compressed text and pictures
- **Affordability** (costs of data)
- industrial perspective (Ind4.0)



[Source: GSMA, Nov2015]

Motivation:

“Need to close the digital gap”



- The Global Goals:
Norway is the secretariat for Quality Education
- Internet history
 - ➔ 1973 Europe through Kjeller
 - ➔ 1994 Opera Software
 - ➔ 2014 Basic Internet Foundation



1973: Internet to Kjeller/Europe

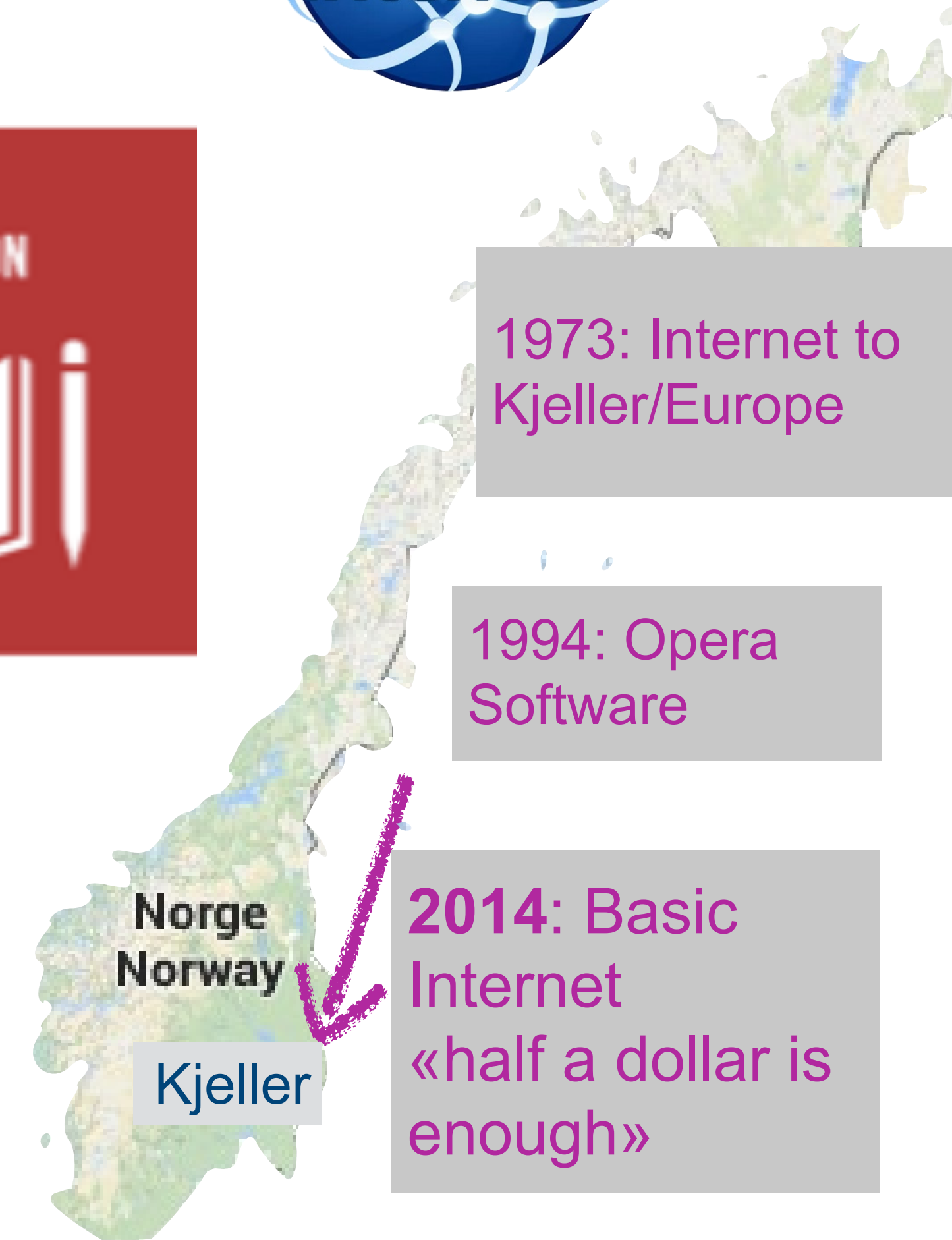
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“Internet is my teacher”

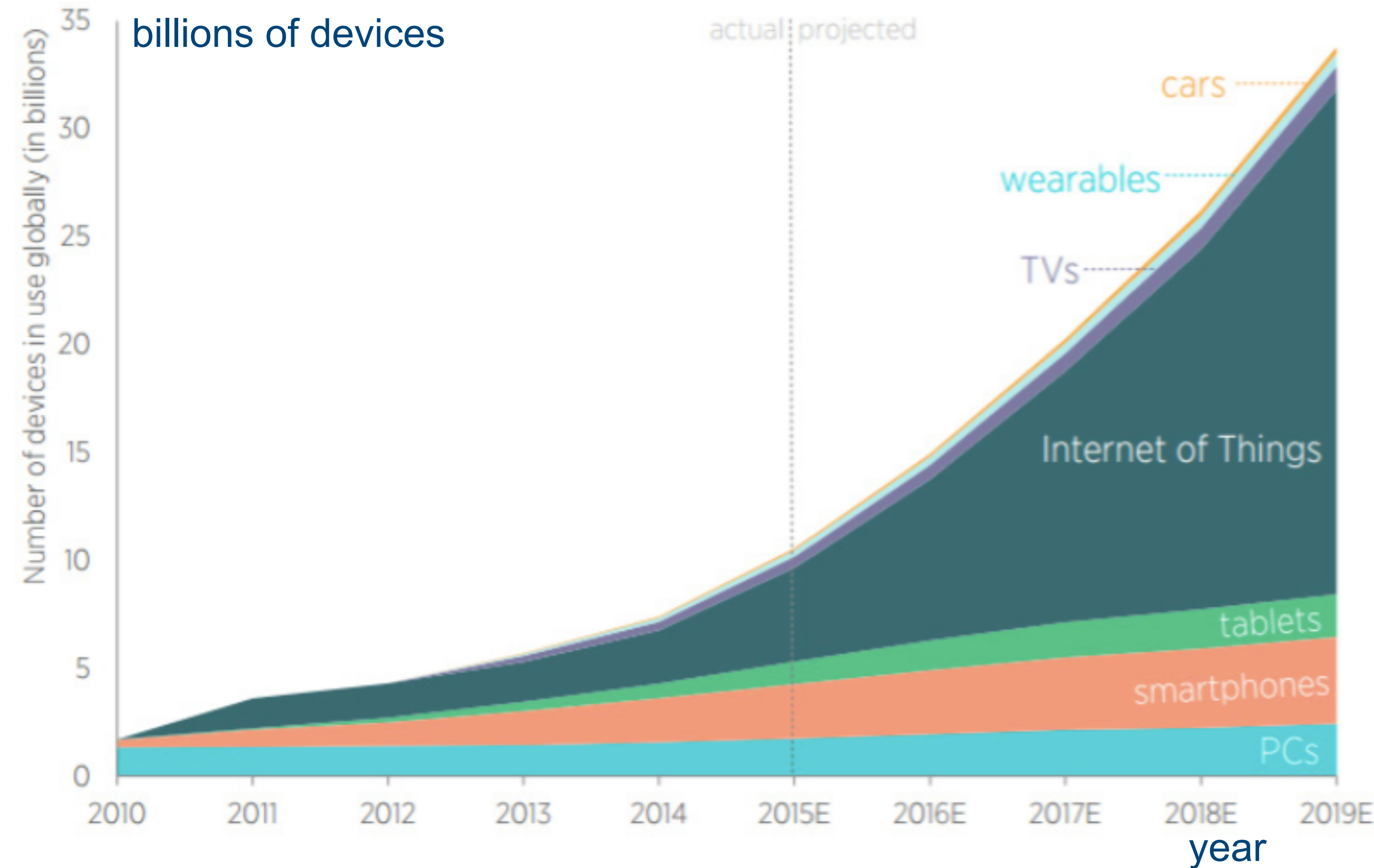
“I’m currently learning Python and HTML, so I can make a website for my parents’ business”



IoT expected impact

[Source: A. Thinner and A. Castillo, 2015]

- Smart home appliances, “wearables”, smart metering, autonomous vehicles, ...
- 10 billion (2013) -> 19 - 40 billion
- total global impact: US\$ 2.7 - 14
- ~3/4 of devices from IoT++
~1/4 from tablet, mobile,...



Source: John Greenough, "The Internet of Everything 2015," *Business Insider Intelligence*. Produced by Adam Thierer and Andrea Castillo, Mercatus Center at George Mason University, 2015.

The vision of 2026

- “Digital and Inclusive Society”
- Networks adopting to service needs
 - ➔ Security, privacy, dependability
- “the Road Network Infrastructure”
- Information-Internet
 - ➔ free and open access
- Broadband services
 - ➔ authenticated access
- A common goal for the Open Innovation Lab

Business model “road access”
for the Information-Internet



Poverty and stability

- 80% GSM coverage, but only 20% mobile broadband (0.4% cable broadband)
- “Everything is connected”: social, politics, climate and economy
- “money is not the decisive faktor” [@Civita]
 - ➔ “security/rights, peace and development”

[source: Nikolai Hegertun, Civita_10_2016 report]

- >2 billion people with less than 3 US\$/month, ~1 billion people with less than 1.5 US\$/month [World Bank, 2016]

