Internet Society

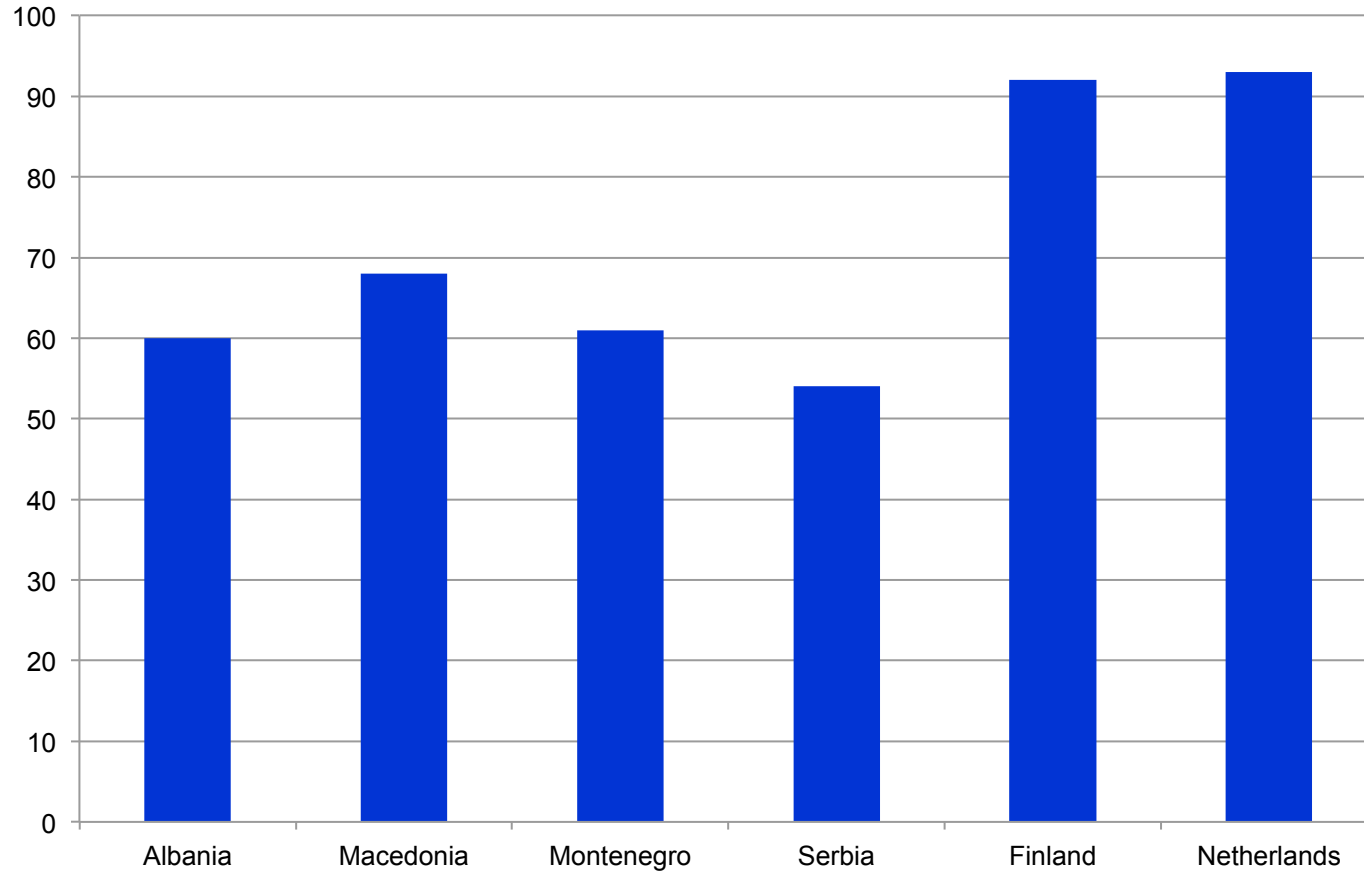## Connecting the Unconnected

RIPE SEE 5 – 20 April 2016, Tirana

Maarit Palovirta (palovirta@isoc.org)
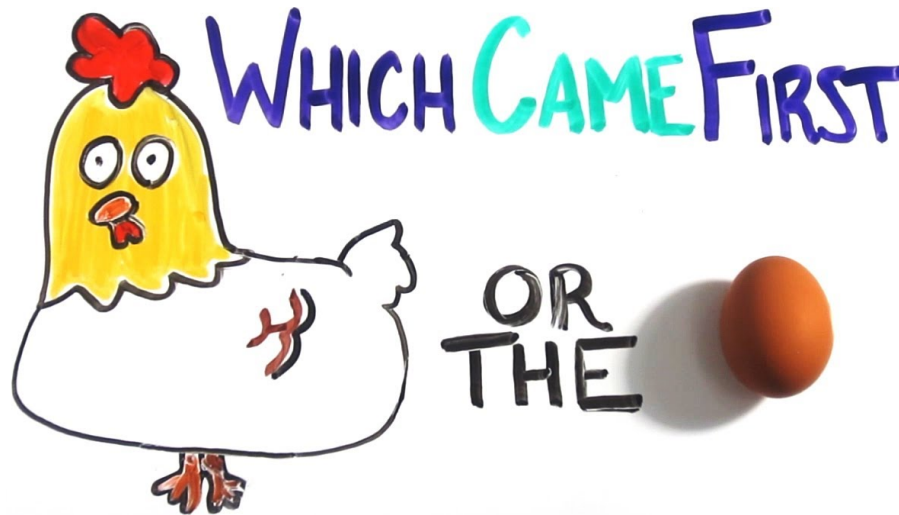
The Internet Is for Everyone!

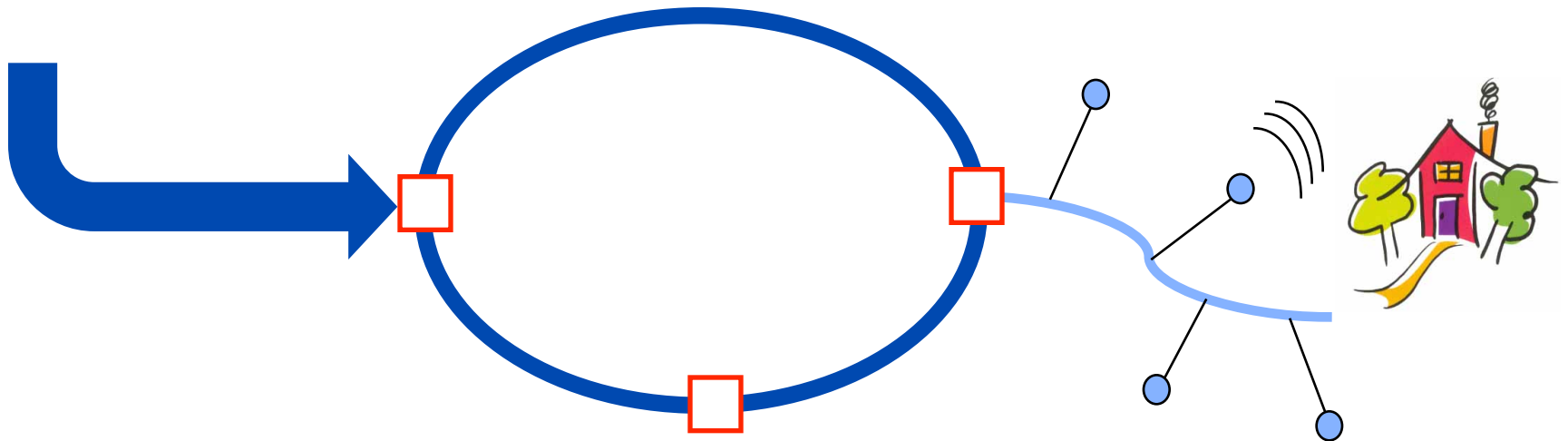**Percentage of indviduals using the Internet**

Source: ITU 2014

Identifying the Right Strategy

1. Availability: Access to Internet connectivity

2. Adoption: Use of the Internet

Availability of Internet Connectivity

Internet Access Value Chain

International connectivity	Domestic connectivity	Last mile

Accelerating Internet Development with IXP

• ISOC works with partners throughout the world to build IXPs, human capacity, and bottom-up governance of IXPs.

➢ **With partners:**

- ❖ Euro-IX, RIRs (RIPE-NCC, AfriNIC, APNIC, LACNIC), IXPs, Cisco, Comcast, Google, Alcatel, Microsoft, NSRC, PCH, and other global and regional experts.

➢ **Through Grants:**

- ❖ IXP Toolkit Grant from Google: www.ixptoolkit.org.

- ❖ Alcatel and Cisco donations & equipment grants.

- ❖ Comcast and Microsoft grants for IXP development and training.

Internet Society

EUR-IX: European IXP Landscape
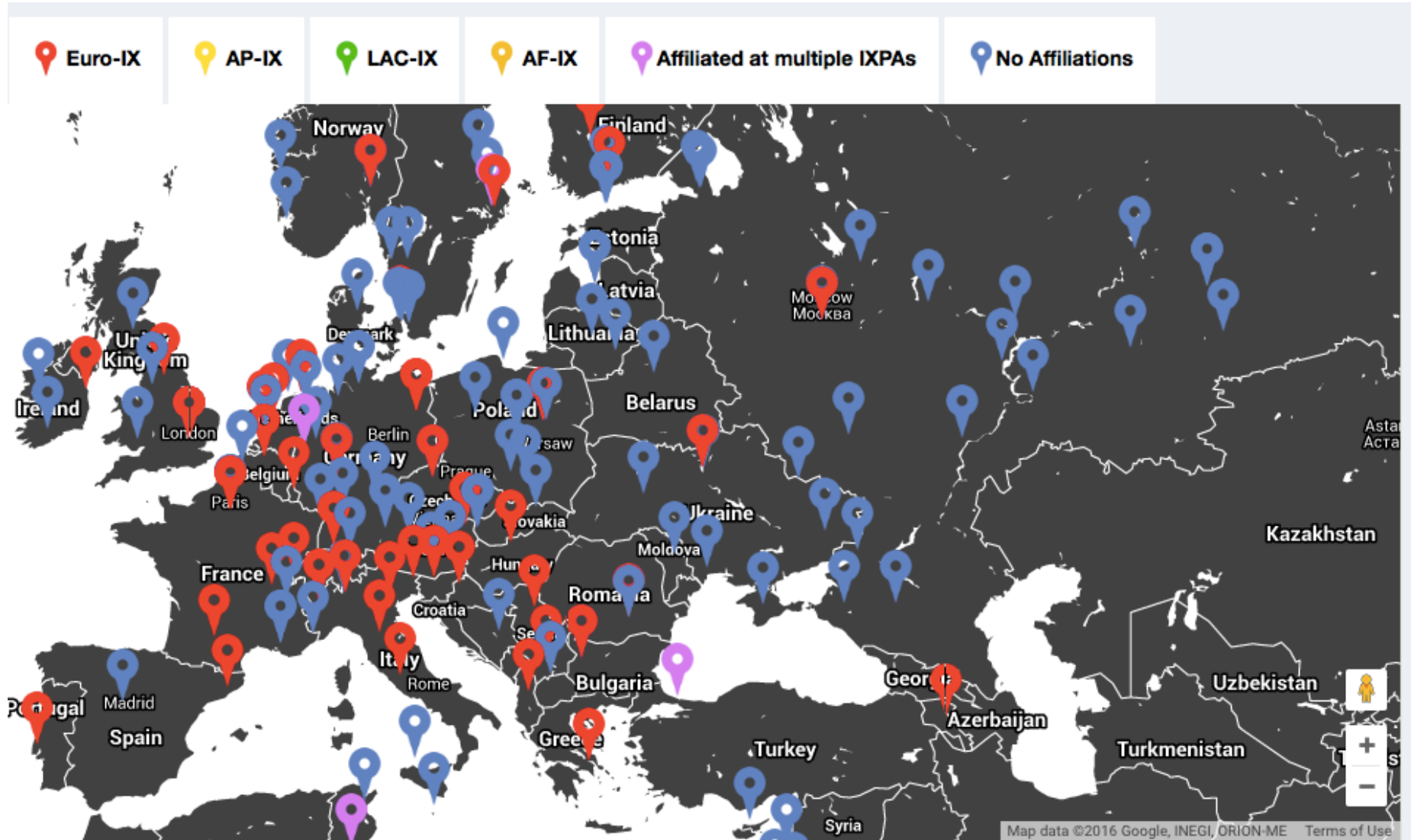
Kyrgyz Republic: IXP Work (2015)

•**IXP roundtable:** Business level introduction of IXPs to government, network operators and technical experts.

•**ISOC study on Kyrgyz Internet Environment:** Specific recommendations for next steps to the Kyrgyz Telecommunication Operators Association (who runs IXP)

•**BGP training:** Technical training on peering/ BGP to engineers from local ISPs.

•**Next steps:** Visit to a European IXP and further technical training (tbc!)

Internet Society

Georgia: IXP Workshop (2014)

- **Workshop partners:** GNCC, RIPE NCC and EUR-IX.

- **Attendees:** Main telecoms operators, ISPs, data center providers, GRENA.

- Summary of **issues raised**:

  ➤ IXP and competition in telecoms market;

  ➤ Private peering vs. public peering;

  ➤ IXP neutrality: who and where;

  ➤ Value add of IXPs;

  ➤ Role of government in IXP development.

IXP & Interconnection Activities

IXP Work in Europe & CIS

• Support of CEE Peering Day & RIPE SEE

• **IXP workshops in SEE:**

✧ Montenegro | with RIPE-NCC, France-IX, NIX.CZ, INEX, Cisco, ICANN in 2015.

✧ Serbia | with partners in 2013.

✧ Georgia, Kyrgyz Republic and Tajikistan | in 2015.

• **Equipment donations:**

✧ Serbia in 2014, Macedonia and Montenegro likely this year.

Last Mile Connectivity:
Wireless For Communities (W4C)

Objectives:

- Advance **citizen empowerment, local economic development, and education** through Internet access.

- Create new opportunities for **skilled jobs and entrepreneurship** through IT training.

- Ensure **sustainability** of the project through solid business model and train-the-trainer programme.

Results in India:

- ❖ **Access:** 22,000 people in rural villages connected, with total network coverage radius spanning some 140 kilometers.

- ❖ **Public access points:** Information kiosks and rural cyber cafes.

- ❖ **E-governance initiatives:** Community service centres, automation of birth and death certifications, and single window clearance systems.

Project website: www.wforc.in

Internet Adoption: Local Content

Source: OECD/ISOC/UNESCO (2013): The Relationship between Local Content, Internet Development and Access Prices
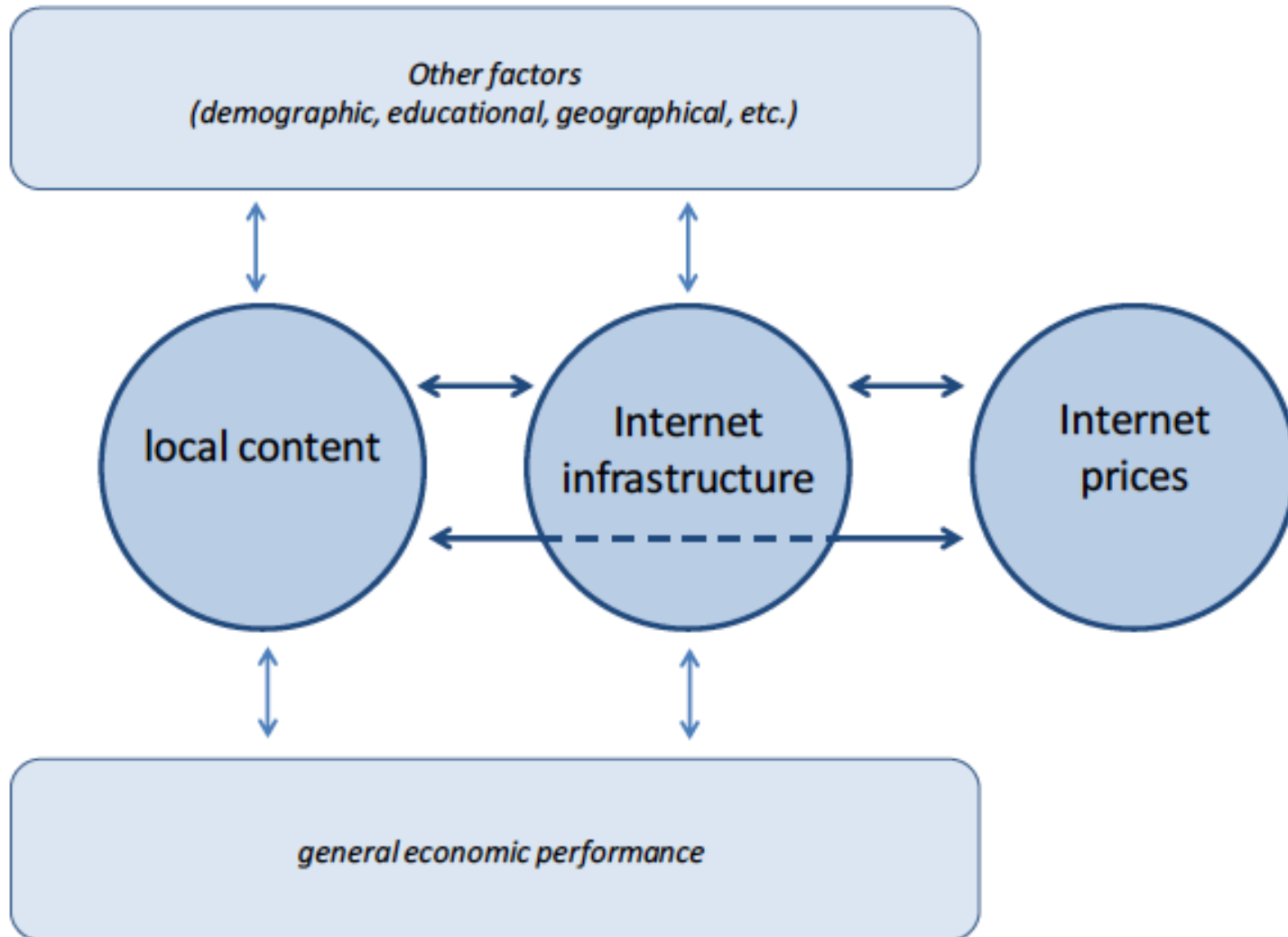
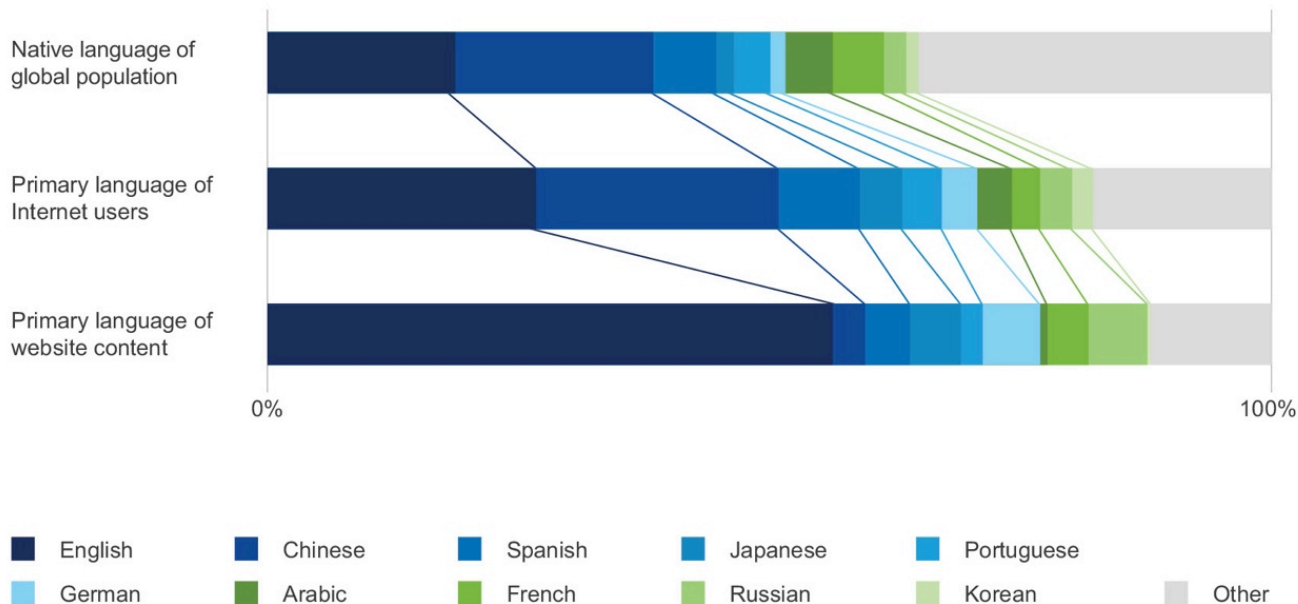# Language is a significant issue, and English remains over-represented

Figure 4.13: Proportion of Internet users, websites and native language speakers for the top-ten Internet user languages

[Source: internetworldstats.com, W3Techs, 2014]

Native language of global population

Primary language of Internet users

Primary language of website content

0%   100%

- English
- Chinese
- Spanish
- Japanese
- Portuguese
- German
- Arabic
- French
- Russian
- Korean
- Other

Creating Local Content

Number of ccTLD domains (in millions)
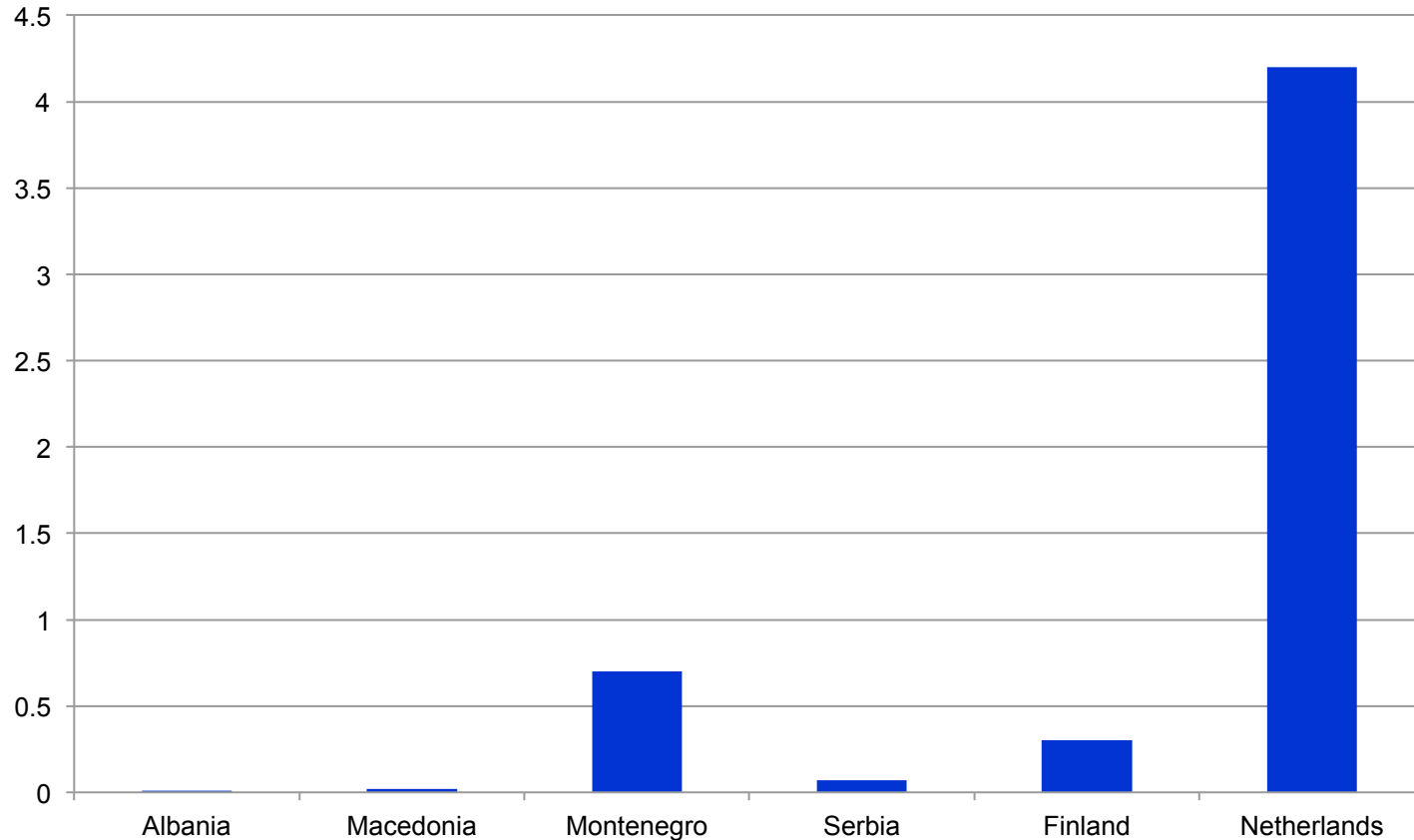
Source: ISOC Global Internet Maps (2015)

Developing Technical Capacity and Skills

Knowledge Transfer

Deploy 360 programme:

• Internet Protocol version 6 (IPv6);

• Domain Name Security (DNSSEC);

• Securing border Gateway Protocol (BGP).

•Transport Layer Security (TLS) for applications.

Policy awareness

E-learning courses:

• Shaping the Internet: Internet Governance and current policy topics;

• Digital footprint;

• Managing your online identity.

Deploy 360: http://www.internetsociety.org/deploy360

E-learning: http://inforum.internetsociety.org

Internet Society

ISOC: Internet Development in Europe

Development pillars	Activities
Connectivity	❖ Internet exchange points (IXP) ❖ Wireless for Communities (W4C)
Capacity development	❖ Technical trainings ❖ Policy awareness
Community building	❖ Chapters ❖ Local partnerships ❖ Regional and national NOGs
Policy advocacy	❖ Country/ regional reports ❖ Policy advocacy and events

Internet Society

Useful Materials

IFG 2015 Policy Options for Connecting the Next Billion:
http://www.intgovforum.org/cms/policy-options-for-connection-the-next-billion/cnb-outdocs

Global Internet Report 2015 (ISOC):
http://www.internetsociety.org/globalinternetreport/assets/download/IS_web.pdf

Global Internet Maps 2015 (ISOC):
https://www.internetsociety.org/map/global-internet-report/

The Relationship between Local Content, Internet Development and Access Prices (OECD/ISOC/UNESCO, 2013):
http://www.oecd-ilibrary.org/science-and-technology/the-relationship-between-local-content-internet-development-and-access-prices_5k4c1rq2bqvk-en

ISOC IXP Toolkit: http://www.ixptoolkit.org

Thank you!

Maarit Palovirta (palovirta@isoc.org)

@European Regional Bureau

Internet Society