



Information and Communication Technology

Introduction

- Information and Communication Technology (ICT) is a broad umbrella term encompassing the technological infrastructure and products that facilitate the acquisition, storage, analysis, manipulation, and distribution of information.
- Dominant ICT technologies:
 - Personal computer
 - Cell phone/mobile devices
 - Internet
- ICT includes other technologies that enable the collection, processing, transmission, and presentation of information.

Information and Communication Technologies

- ICTs are the primary instruments facilitating globalization.
- ICTs eroded the constraints of space and time on social interaction.
- ICTs allow people to share information and to communicate with each other at any time and in any place.



Information and Communication Technologies

- ICTs reflect the convergence of communications, computer, and media
- *Convergence* refers to the blurring of boundaries between media, information technology, and telecommunications
 - Computers, the Internet, and mobile phones are delivering a variety of media and communication services previously provided in separate ways

Information and Communication Technologies

- ICTs have changed the simple convergence and created a new form of human interaction: ***social media***
 - People can share information and communicate at any time and in any place



Top 15 Most Popular Social Networking Sites



The Information Age

- Refers to the period in which we are living today.
- A time characterized by the proliferation of information and the ability to transfer, share, and instantly access information that previously has been difficult.
- Considers as a revolutionary shift bigger, deeper, and more important than the industrial revolution.
- Associated with “shock” due to “information overload.”

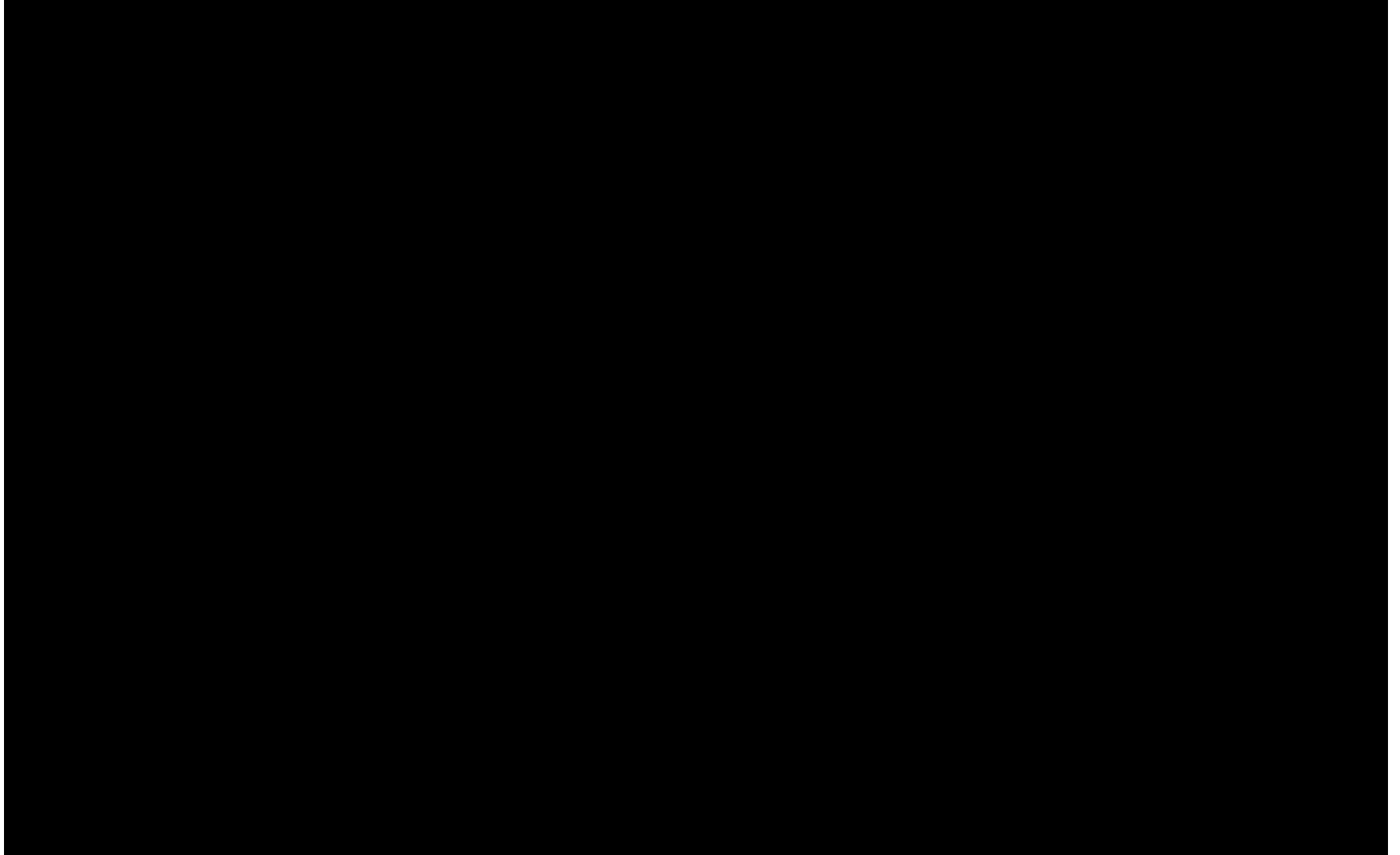
Information overload

- The inability to absorb, manipulate, evaluate, and retain information.
- There is too much information to be able to access and use it effectively and efficiently.
- Example: the web has dramatically increased the availability of information.
- It is difficult to separate relevant, accurate, and credible information.
- Information literacy can help to overcome information overload.

Information overload and fake news

- Social media is a platform where ideas and news compete for people attention
- Quality is not a necessary condition for online virality
- A recent study finds that “both information overload and limited attention contribute to a degradation of the market’s discriminative power,” that explains the spread of fake news

Information Overload and Fake News



Information literacy

- The ability to define an information need and to effectively and efficiently find, evaluate, and use information ethically and responsibly.
- Information literate people are able to find specific information from the 'floods of available information' in order to meet a wide range of personal and business needs.

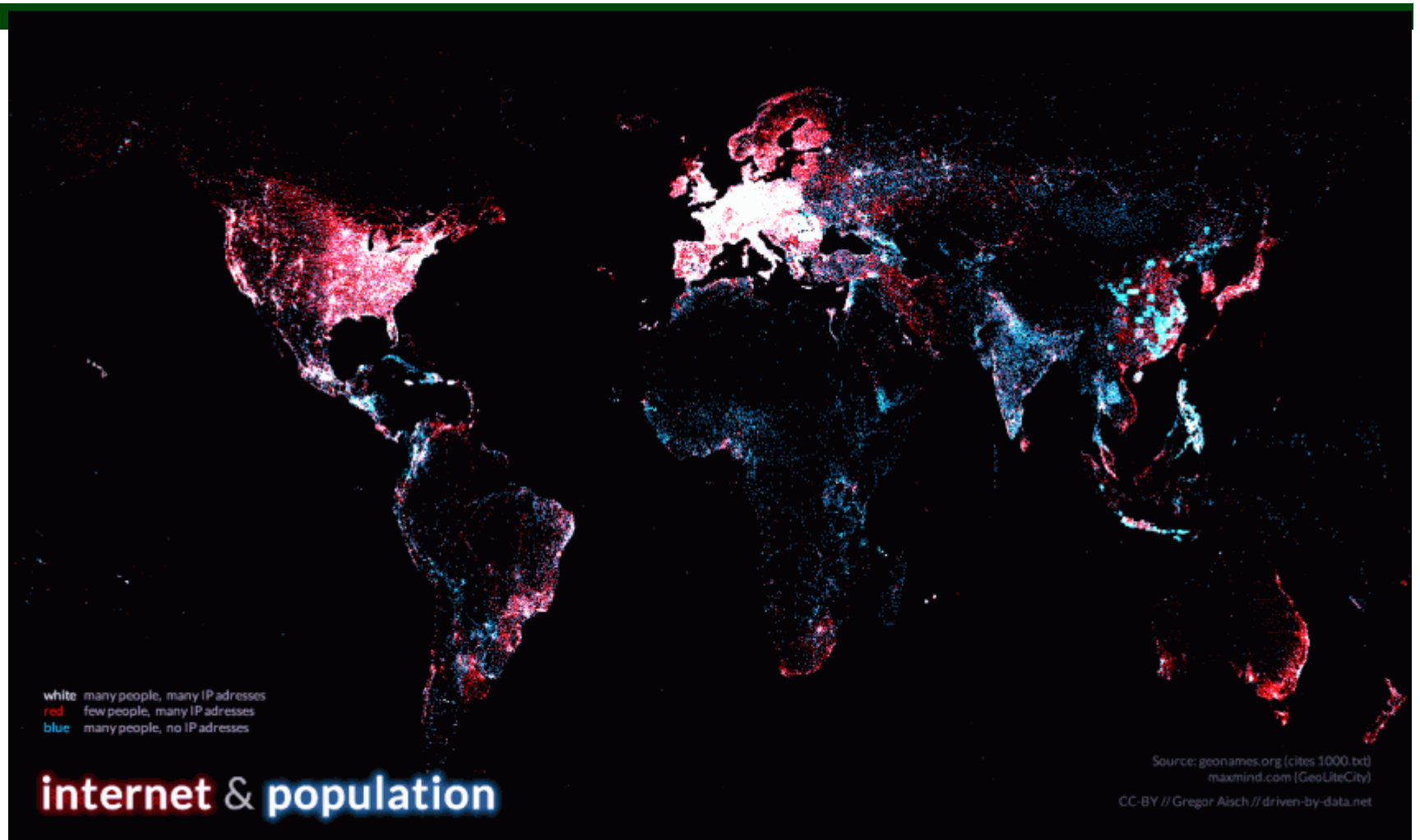
Information literacy

- Information literate people should be able to:
 - Determine the nature and extent of information needed
 - Access the needed information effectively and efficiently
 - Evaluate information and its sources critically
 - Use information effectively to accomplish a specific purpose
 - Understand many of economic, legal, and social issues surrounding the use of information, and use information ethically and legally

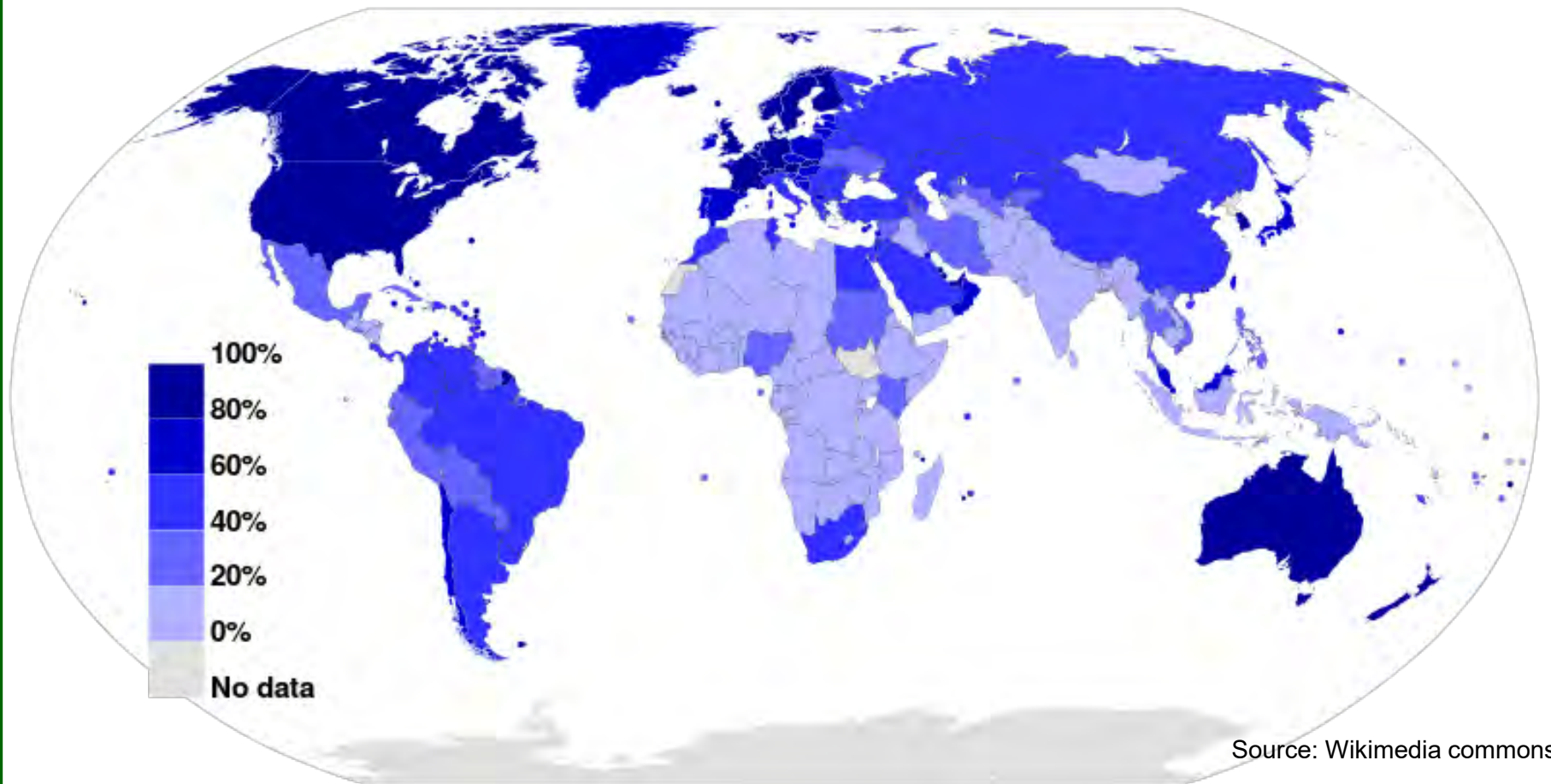
Digital Divide

- Refers to unequal access to physical ICTs, such as computers, mobile phones, and internet access, as well as to imbalance in the education and experience needed to develop information and technology skills.
- Global digital divide: disparities in technology access and use between countries or global regions.

Global Digital Divide

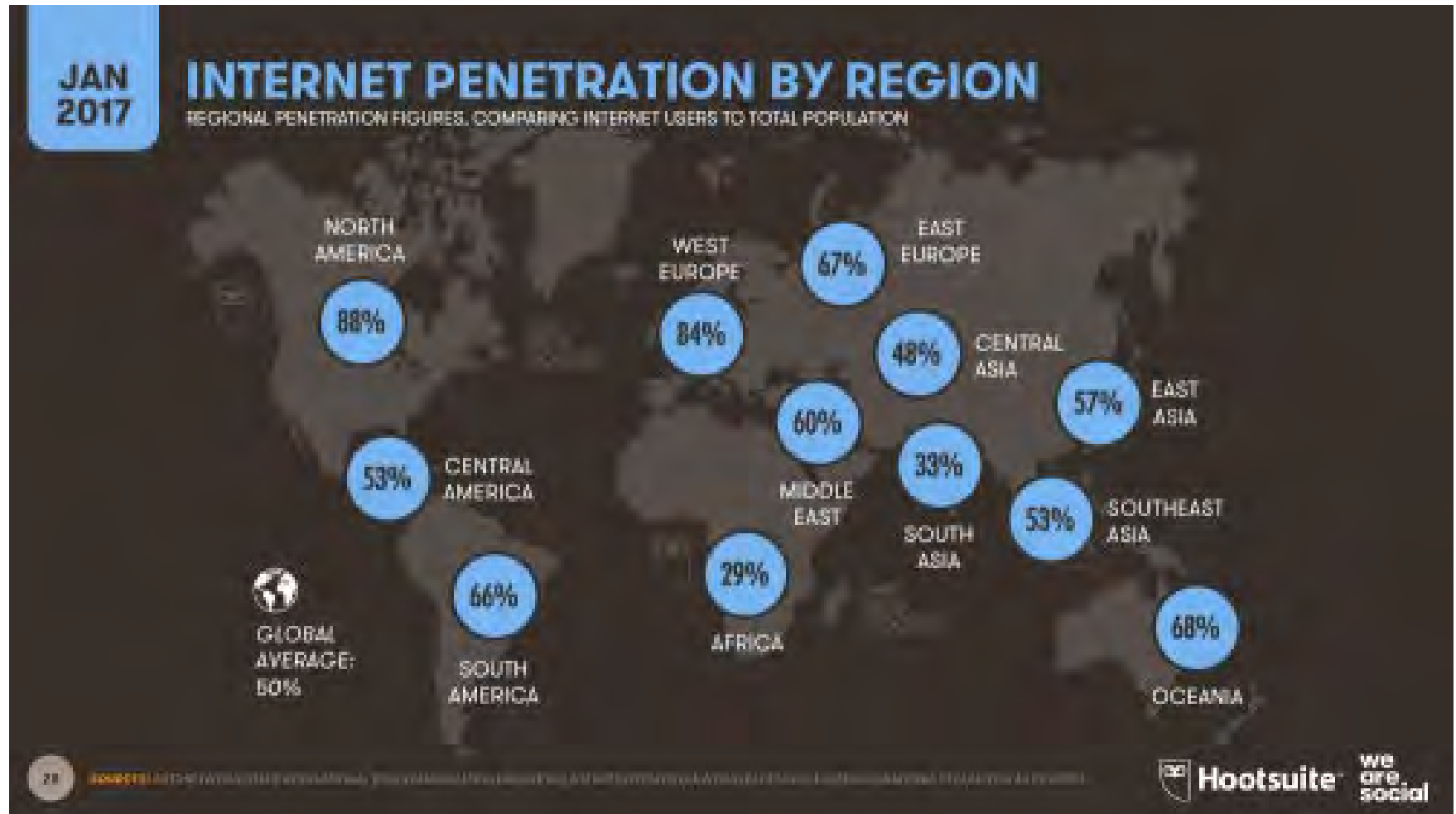


Internet Penetration (2012)



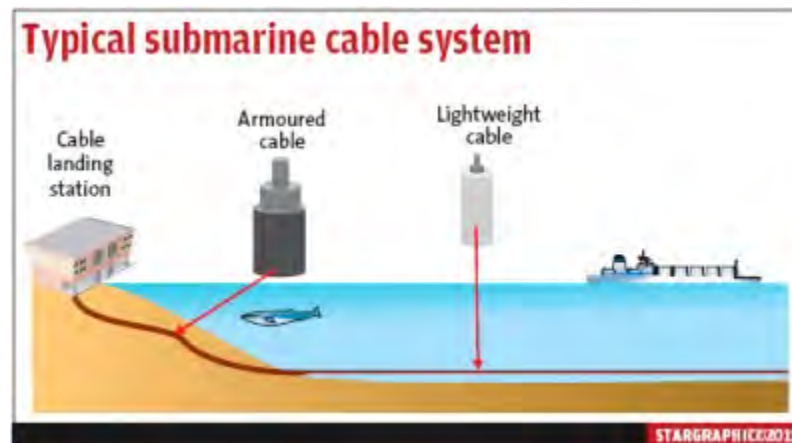
Number of internet users as a percentage of country's population.

Internet Penetration 2017



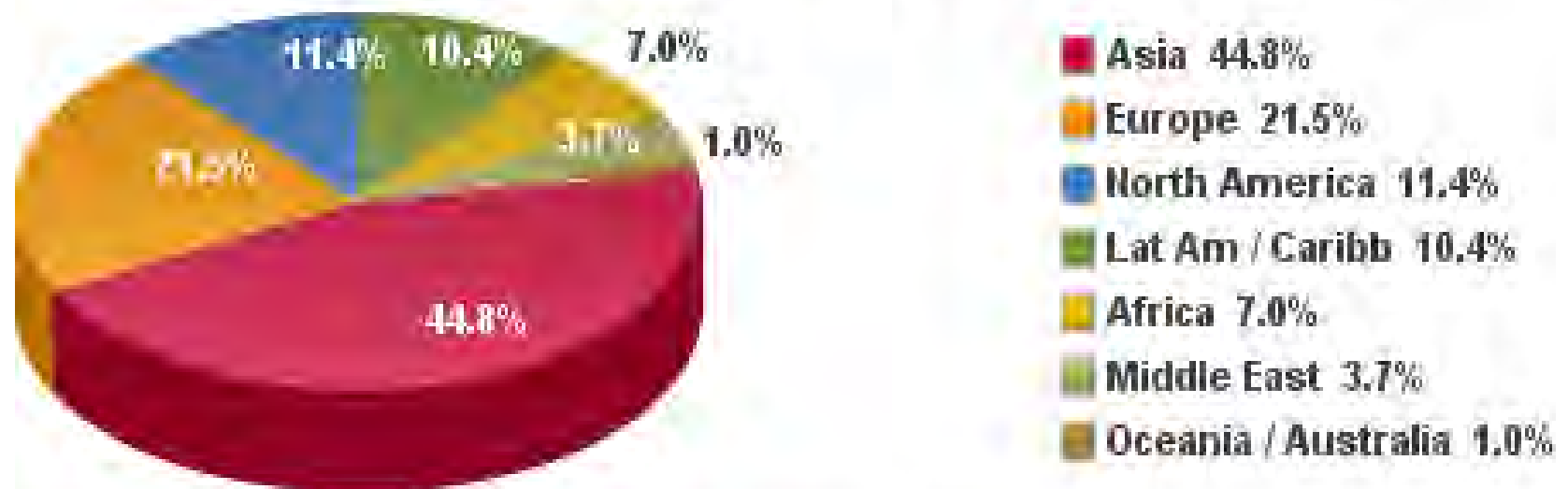
Submarine Cable

- A submarine communication cable is a cable laid on the sea bed between land-based stations to carry telecommunication signals across the ocean.
- <http://www.submarinecablemap.com/#/>



Internet Users in the World

Distribution by World Regions - 2012 Q2

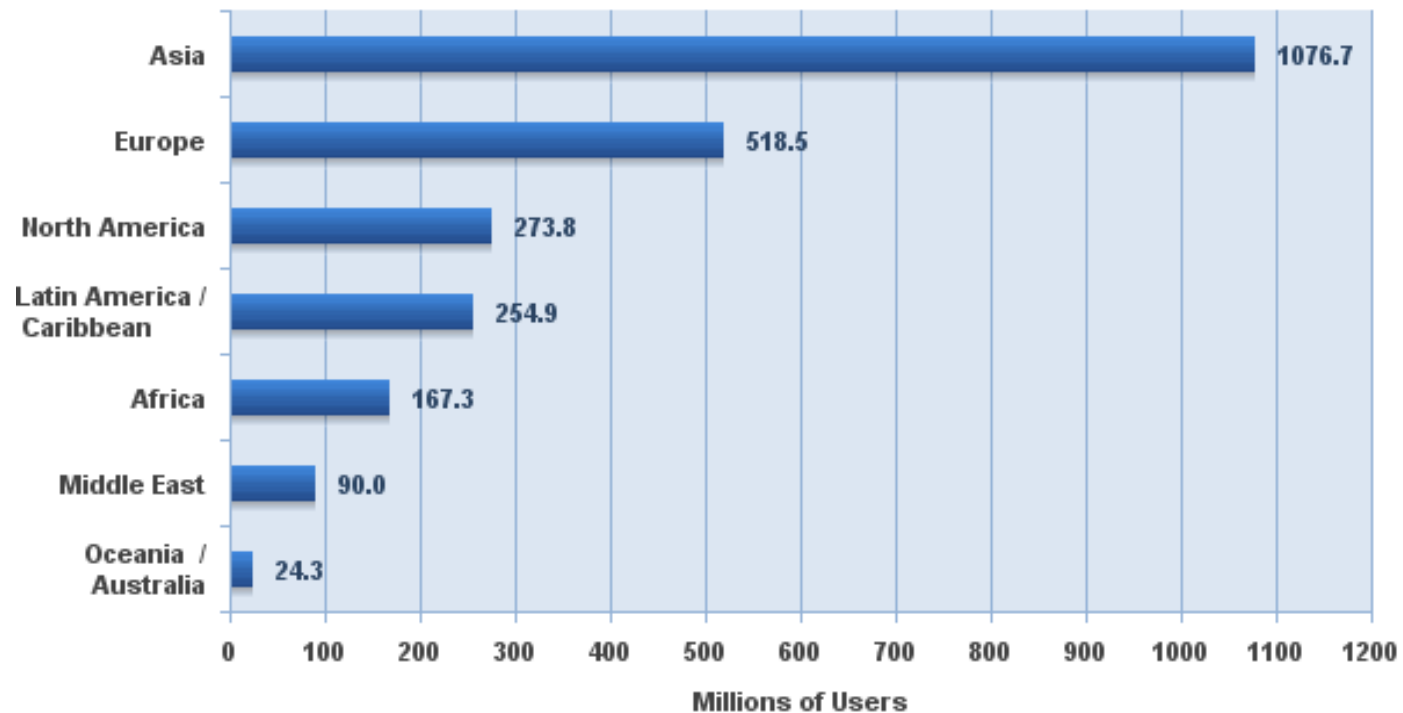


Source: Internet World Stats - www.internetworldstats.com/stats.htm

Basis: 2,405,518,376 Internet users on June 30, 2012

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Internet Users in the World by Geographic Regions - 2012 Q2

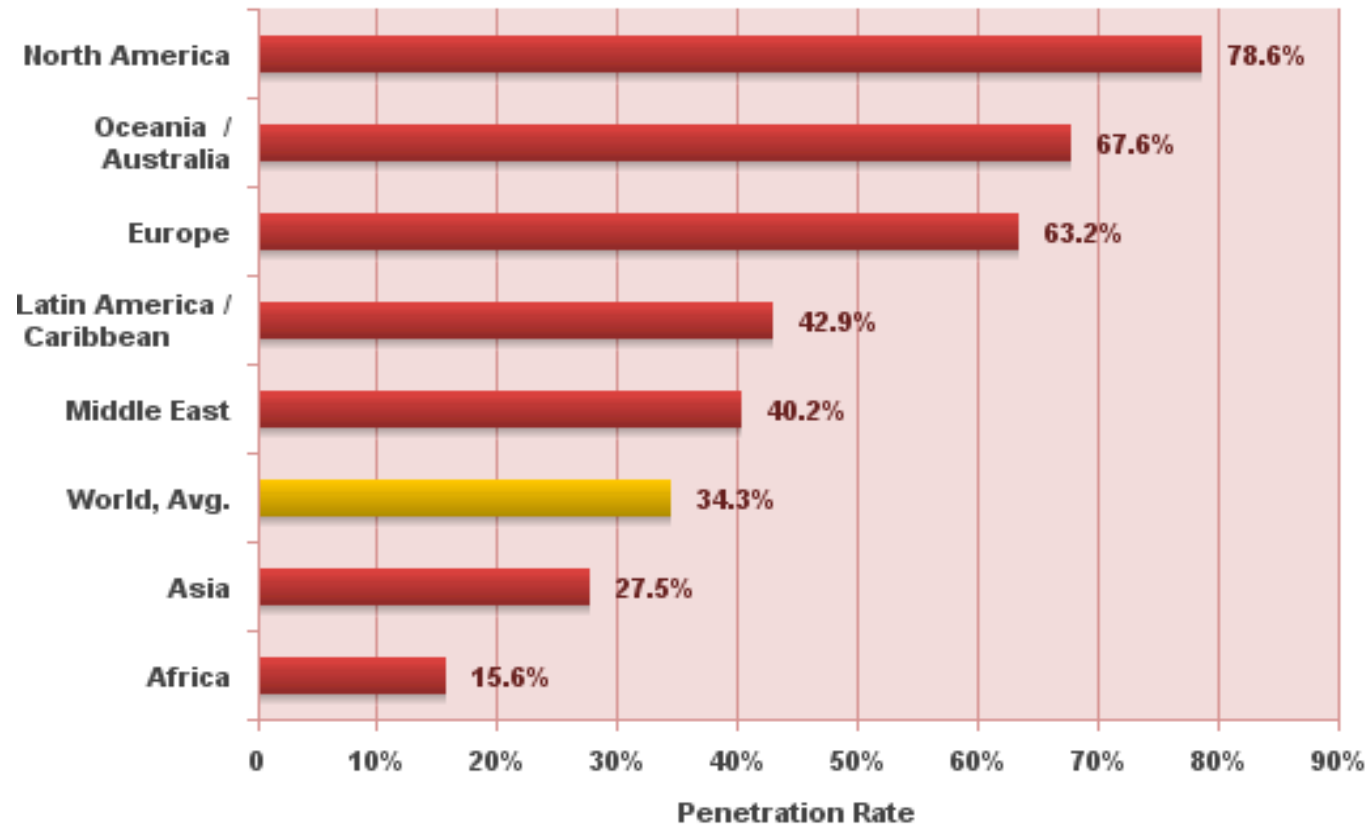


Source: Internet World Stats - www.internetworldstats.com/stats.htm

2,405,518,376 Internet users estimated for June 30, 2012

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World Internet Penetration Rates by Geographic Regions - 2012 Q2



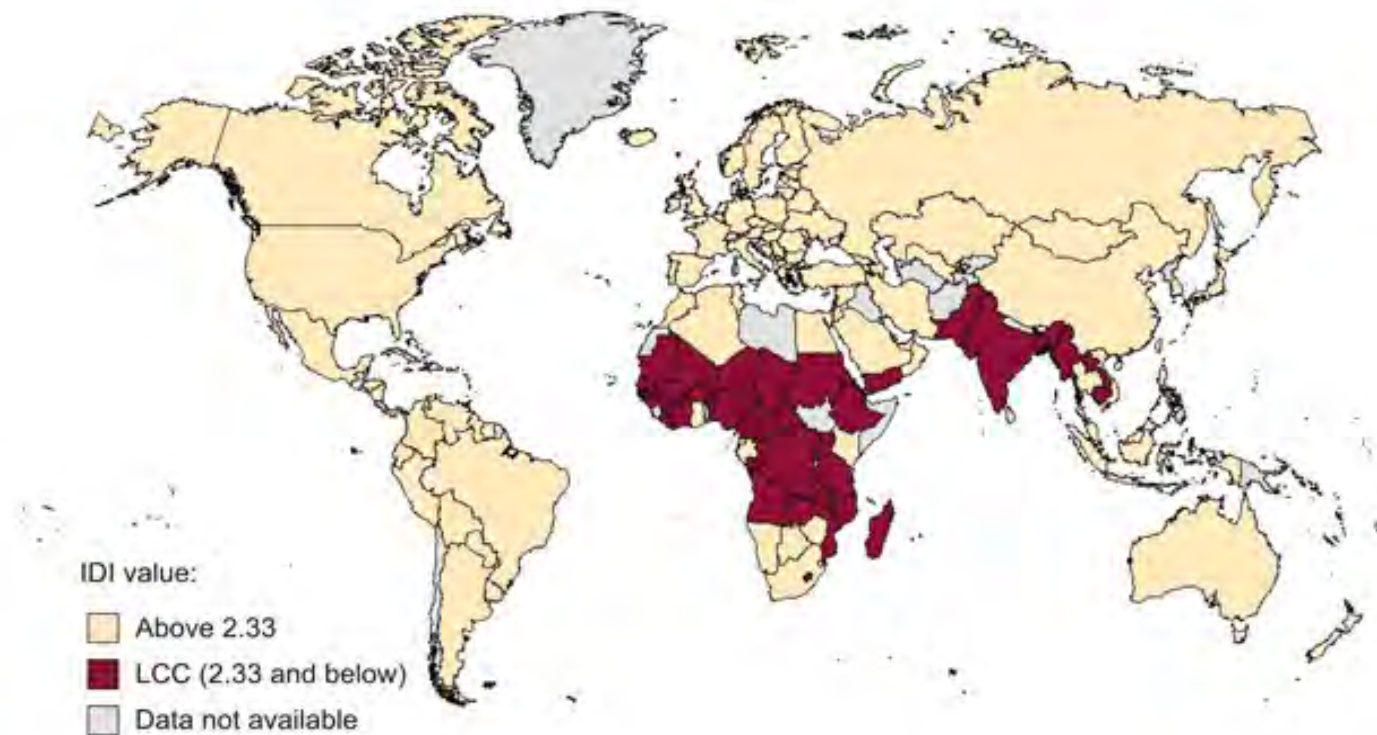
Source: Internet World Stats - www.internetworldstats.com/stats.htm
Penetration Rates are based on a world population of 7,017,846,922
and 2,405,518,376 estimated Internet users on June 30, 2012.
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International Telecommunication Union (ITU)

- ITU is the United Nations specialized agency for ICTs.
- An organization based on public-private partnership.
- Membership: 193 countries and over 700 private sector entities and academic institutions.
- Headquarter: Geneva, Switzerland
- ICT Development Index (IDI): is an index based on internationally agreed ICT indicators.

IDI is based on 11 ICT indicators grouped in 3 clusters: access, use and skills.

Least Connected Countries (2012)



Source: ITU