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Priority Theme 2:
ICTs for Inclusive Social and Economic Development

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Structure of the presentation

1. Introduction
2. Experience to date
3. Emerging trends

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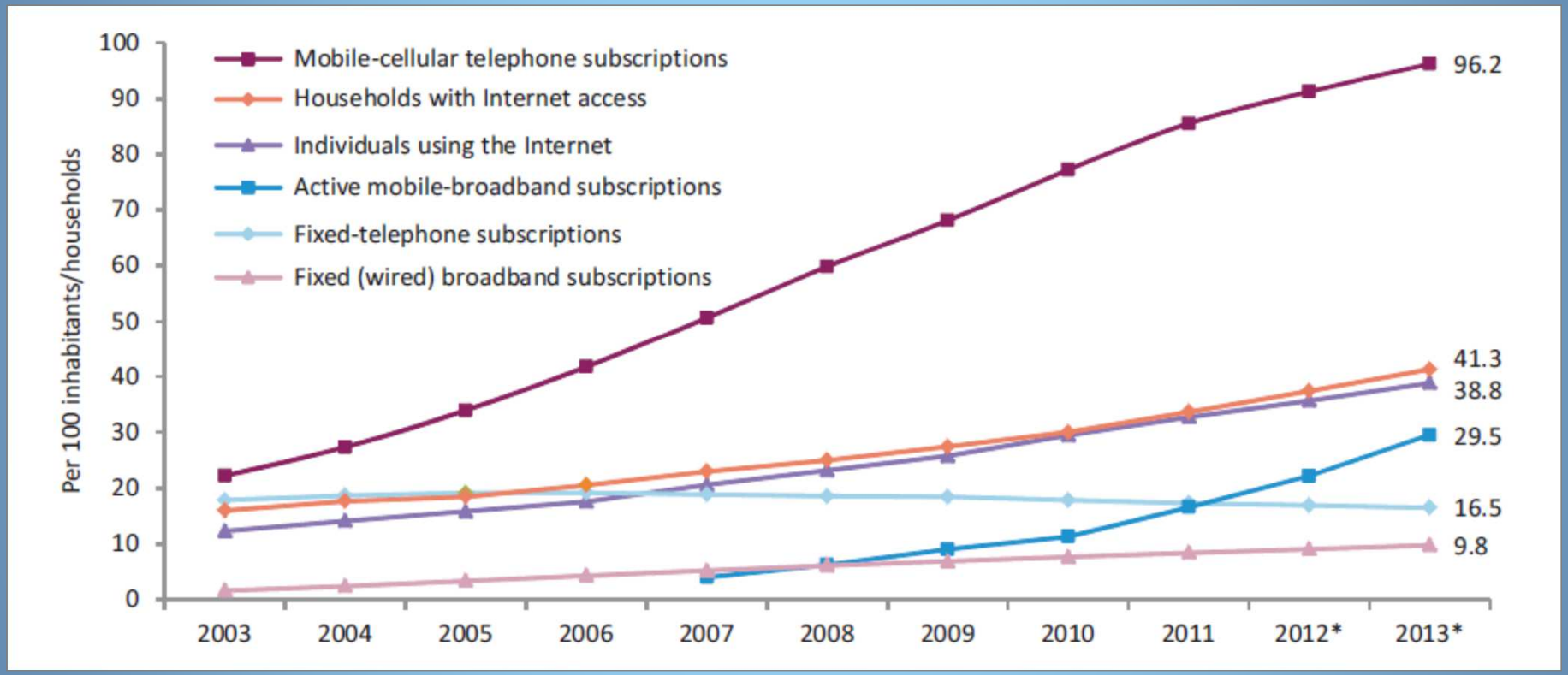
   - Datafication
   - Big data and big data analysis
   - Cloud computing
   - The Internet of Things
   - Smart systems

4. Looking Ahead.

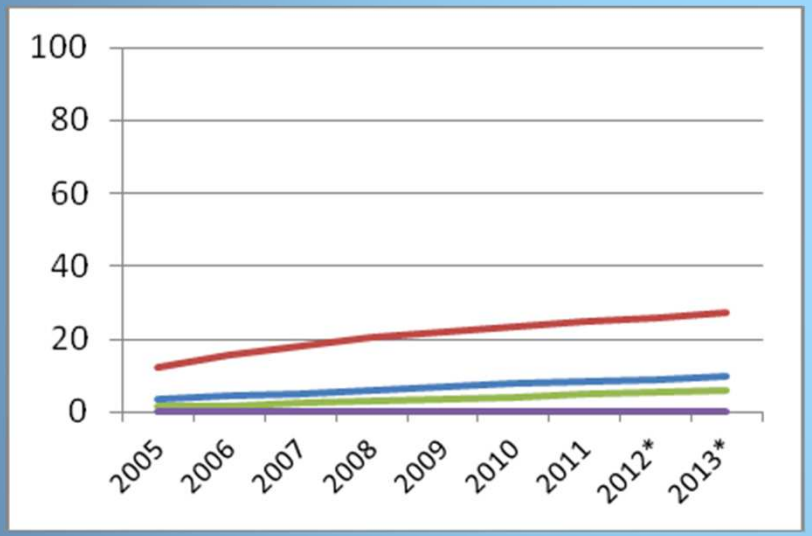
Developments in global ICT access



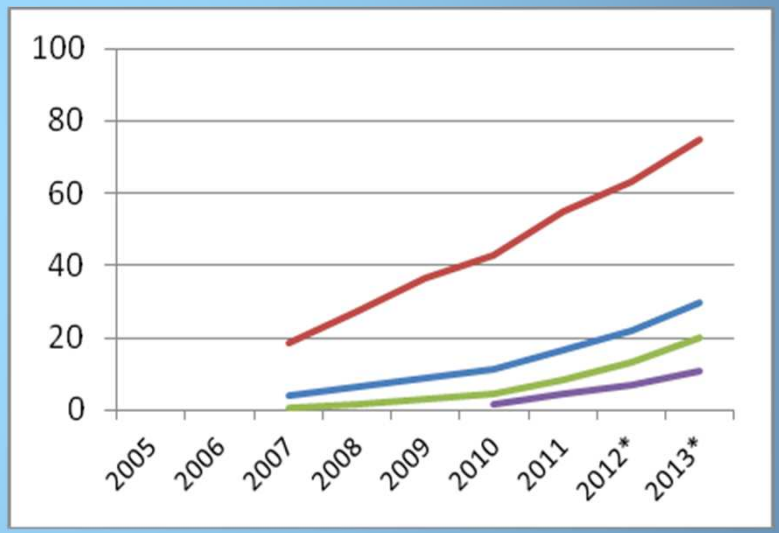
Source: ITU, *Measuring the Information Society, 2013*

The changing ‘digital divide’

Fixed broadband



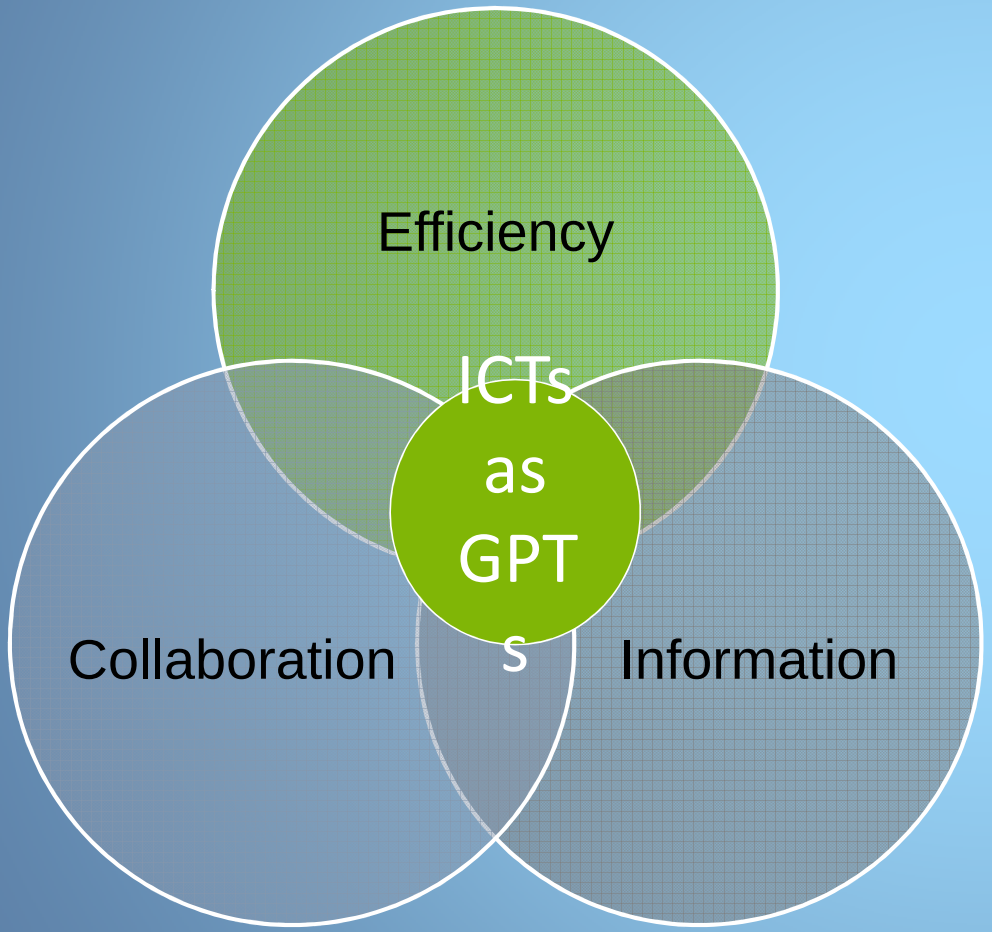
Mobile broadband

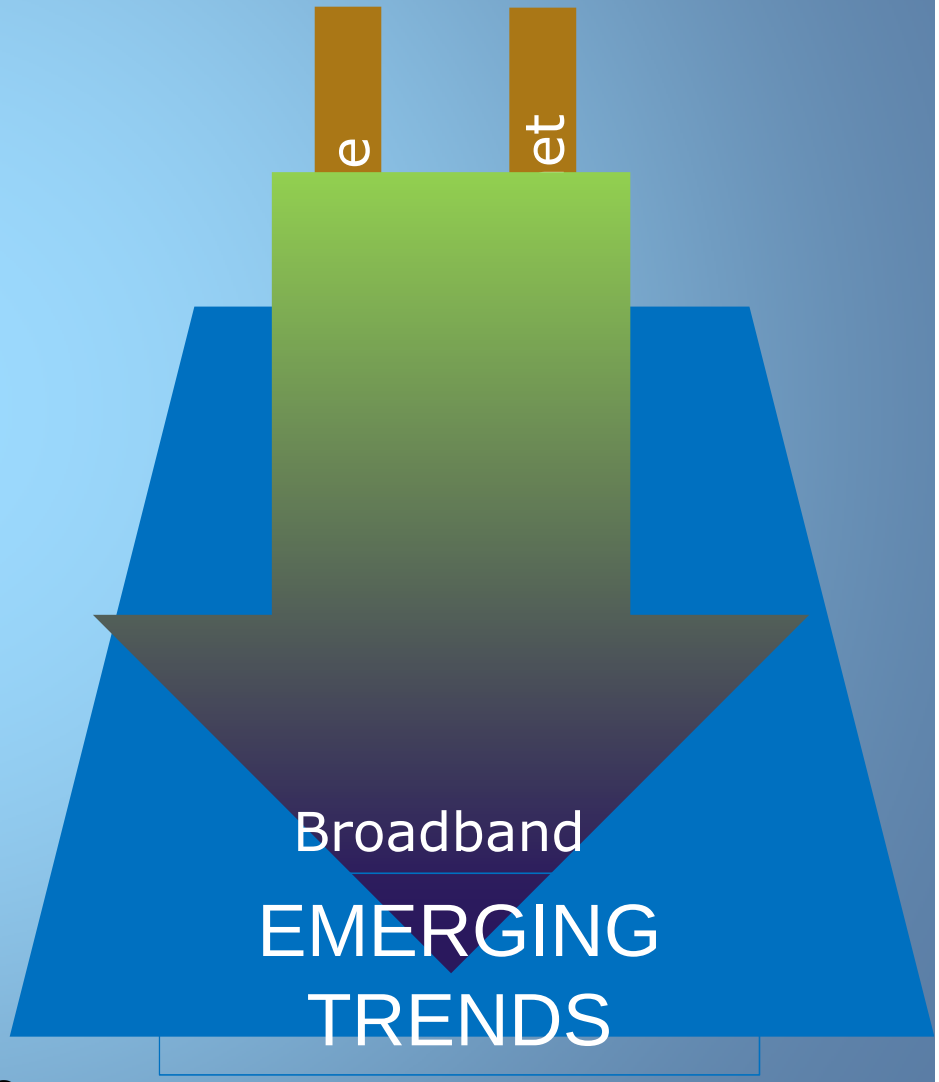


ICT4D and its growing relevance for the technological divide:

- ICTs and access to information
- Important infrastructure for economic and social development in countries
- How do we replicate those successes in developing countries?
- Important new applications - those who do not have the ability to enable it, might be excluded from promoting development in general through a variety of ICT related applpications.

Opportunities arising from ICTs

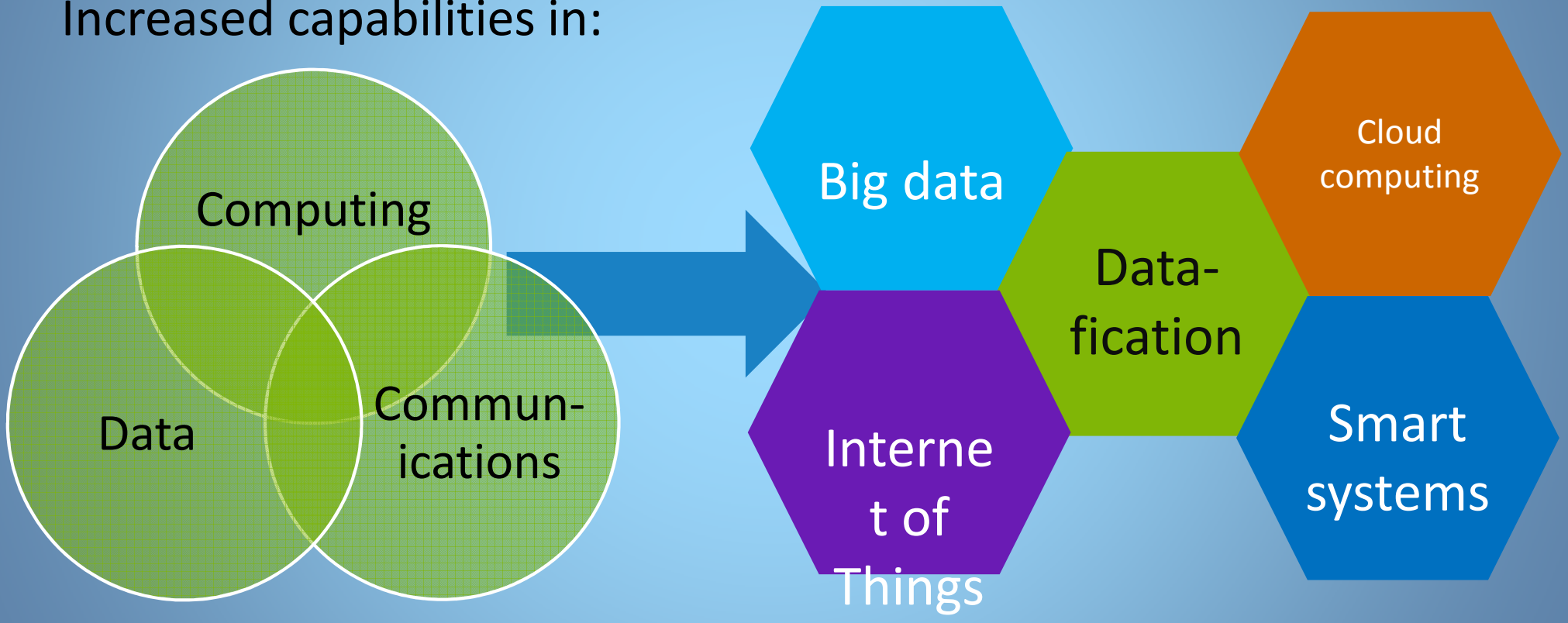




Source: Souter, 2013

Five emerging trends

Increased capabilities in:



CSTD intersessional panel, Washington DC, 3 December 2013

Datafication

Datafication has become critical in much of business.

Trends:

- Data management provides new avenues to engineer business success.
- Often also increasingly significant in government processes.

But:

- Depends on more than technology.
- Calls for organizational change (delayering, retraining, restructuring of supply chains).

Big data

Big data = the ability to store and analyse much larger quantities than before due to certain infrastructure advancements.

Big data can be used at macro and micro levels, to understand whole populations and target individuals.

Potential gains:

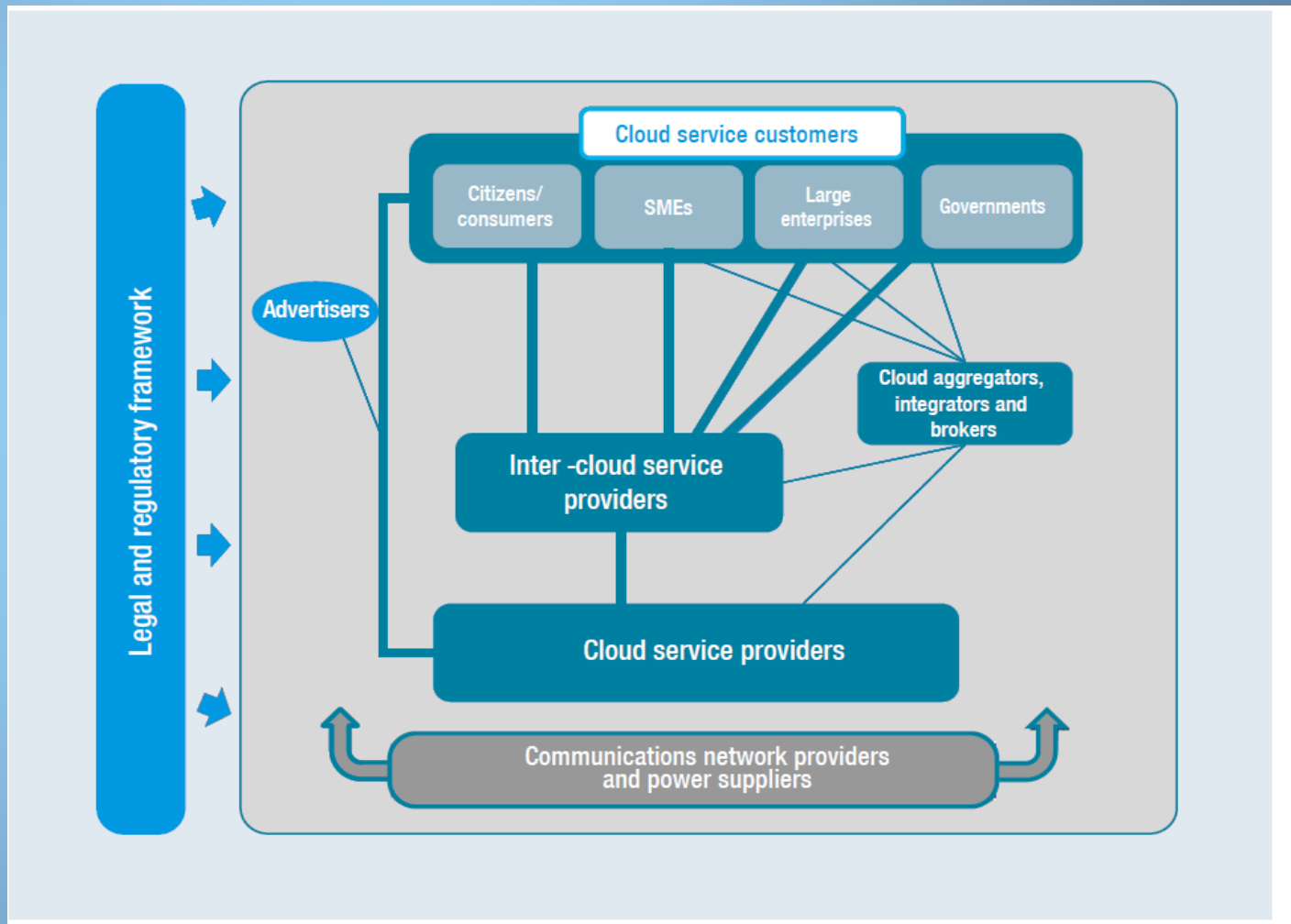
- Data storage could lead us to diagnose societal issues (trends, consumer patterns could assist in predicting issues of health, food usage, crime analysis, effective ways to affect behaviour patterns, disaster and risk management).

Potential risks and challenges:

- Control of data = commercial control of market forecasting abilities
- Data concentration and resulting market monopolies (in some companies only)
- Contextualization issues - not good for all social contexts, since it calls for extensive infrastructure investments, and those countries who do not have it cannot possibly use it.
- Privacy concerns:
  - government use of data for surveillance
  - risk of data loss to criminal organisations, hackers, *etc*.

Cloud computing

Cloud computing is a model of computing in which data *and applications* are held in large data centres rather than on users' terminal devices.



Source: UNCTAD.

Cloud computing

Advantages

Rental model of computing access reduces hardware, software, IT costs (by up to 40%).

Access from multiple locations.

Provision of new data-based services to consumers (including online social networks, search).

Challenges

Similar to big data since cloud computing calls for the same kind of infrastructure as big data:

- Large economies of scale => dominance by global corporations.
- Dependence on reliable broadband networks.
- Requirement for organisational change.
- Concerns over data privacy and data sovereignty.
- Risk of lock-in (lock in of data, poor service, etc) - so calls for regulation.

The Internet of Things

The Internet of Things = the extension of connectivity beyond people and organisations to include objects and devices used in government, business and daily life.

Sensor-driven data sources already contribute to monitoring and decision-making.

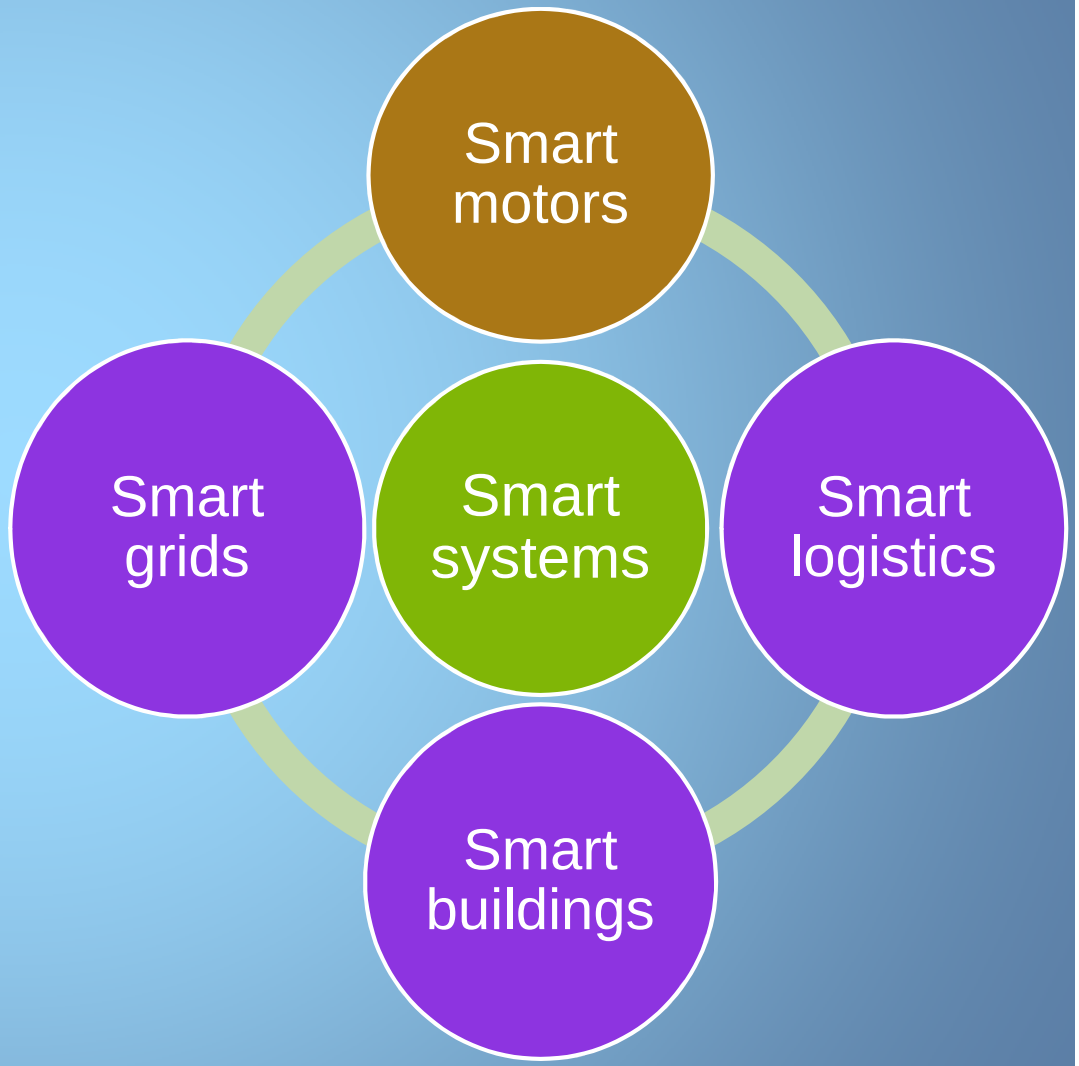
Potential for enormous increase in data generation and retention, with associated risks related privacy and surveillance.

Dependent on adoption of IPv6.

Smart systems

Smart systems = industrial, administrative and other processes which make use of the capabilities of ICTs to produce and distribute goods and services more efficiently, and to enable more efficient consumption of those goods and services.

- Has several systemic features.
- Not only potential economic but can have huge environmental and social gains:
  - E.g., in the case of renewables, smart grids help to improve connectivity.



Implications of these trends for development:

- Paper highlights ways and means in which these trends can help and promote governmental administration or private sector efficiency.
- However, the operative word is *can.*
- There is a need to realize the context in which these benefits can accrue and to design policy around it.

Looking ahead: Issues for the post-2015 context

- ICT4D issues are no longer simply issues of providing infrastructure, they need to be construed as an essential aspect of developmental policies.
- ICT issues will, in the future, form a critical core of the widening technological divide in the knowledge economy.
- Ability of countries to benefit from ongoing developments in the post-2015 context will depend on:
  - Overcoming general innovation constraints in their economies .
  - Policy coherence and coordination abilities.
  - Using the potential of ICTs to serve clearly articulated social and technological goals.
- What changes in national and international policies are needed to harness the value of the new trends in ICTs for social and economic development discussed in this Issues Paper?

Thank You