

SustainIT 2015 Panel discussion

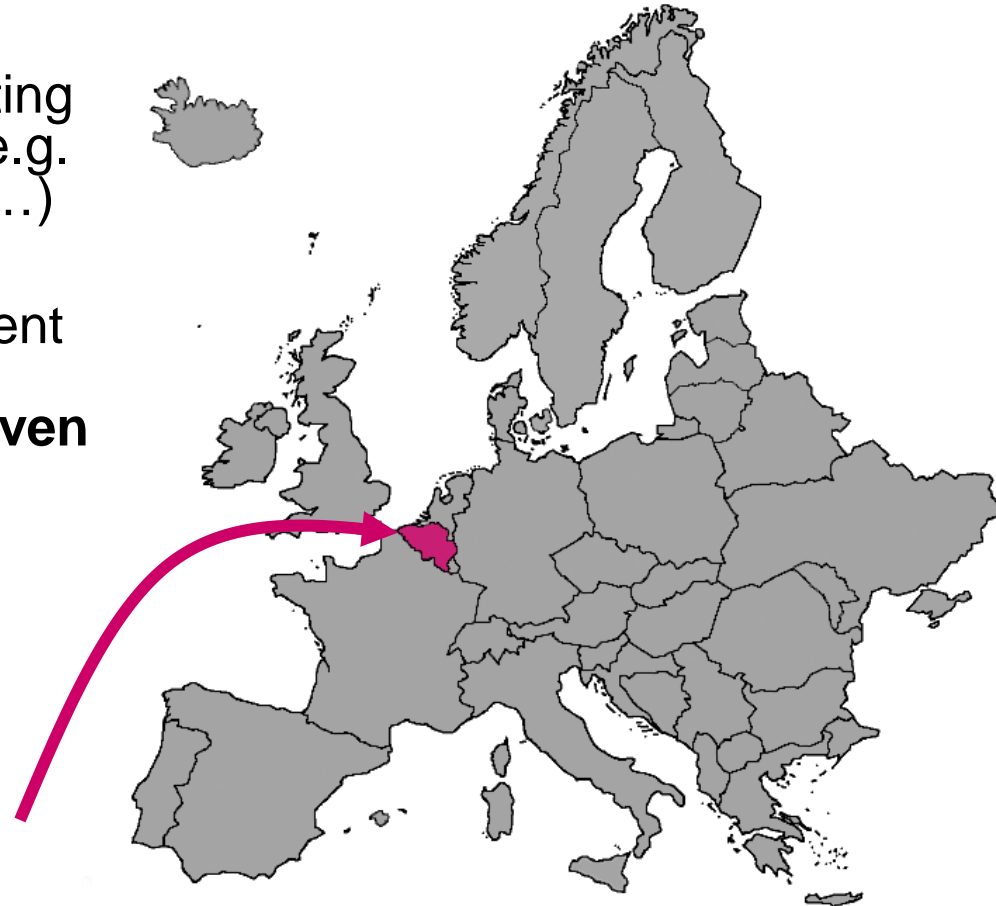
“Green networking and
renewable energy sources”



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Research institute iMinds

- Independent research institute for **multidisciplinary research on ICT**.
- Virtual research center of existing research groups in Flanders (e.g. Ghent University, KU Leuven ...)
- Mission to form highly competent human capital through **interdisciplinary demand driven research** focused on **ICT and broadband services** in cooperation with industry and government.



'Green ICT' research at iMinds since 2007

- Pioneering role in GreenICT research in Europe
 - Innovative ways to make ICT more energy-efficient, published in 15+ journal papers
 - **Two highly cited studies on ICT footprint (2007, 2012)**
- Involved in major GreenICT projects



- Collaboration with major operators and vendors



Telefonica



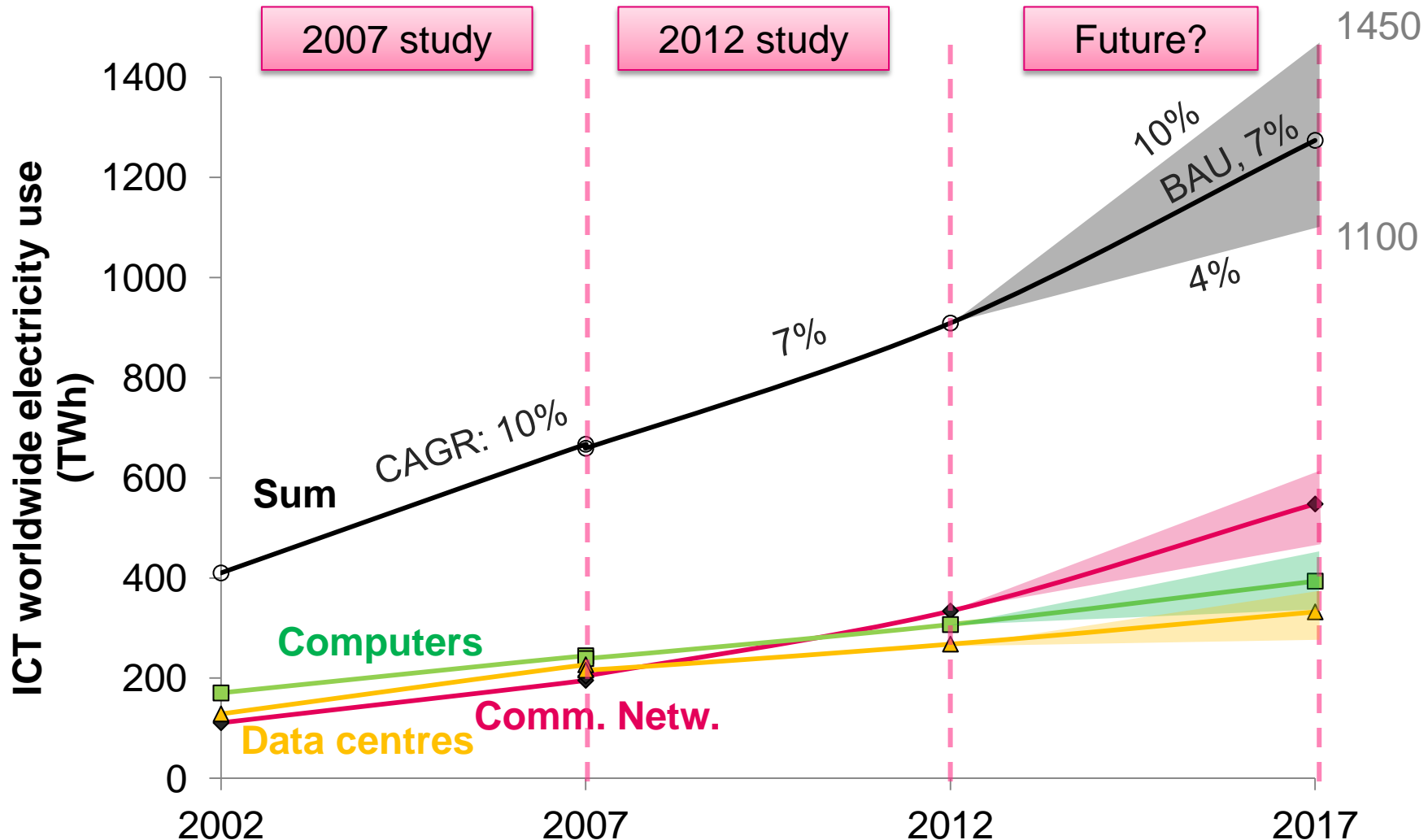
Alcatel·Lucent



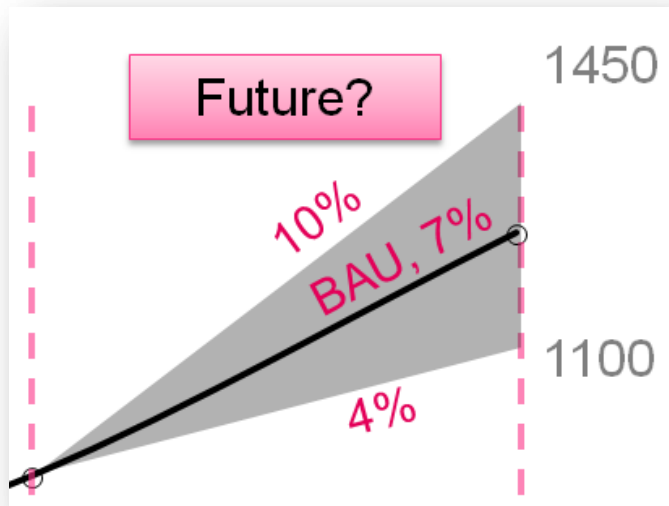
- Co-organizer of several Green ICT workshops & symposia
 - ECOC2008 (Brussels), ECOC2011 (Geneva), ECOC2012 (A'dam)

Future trends of ICT footprint?

Communication networks + computers + data centres



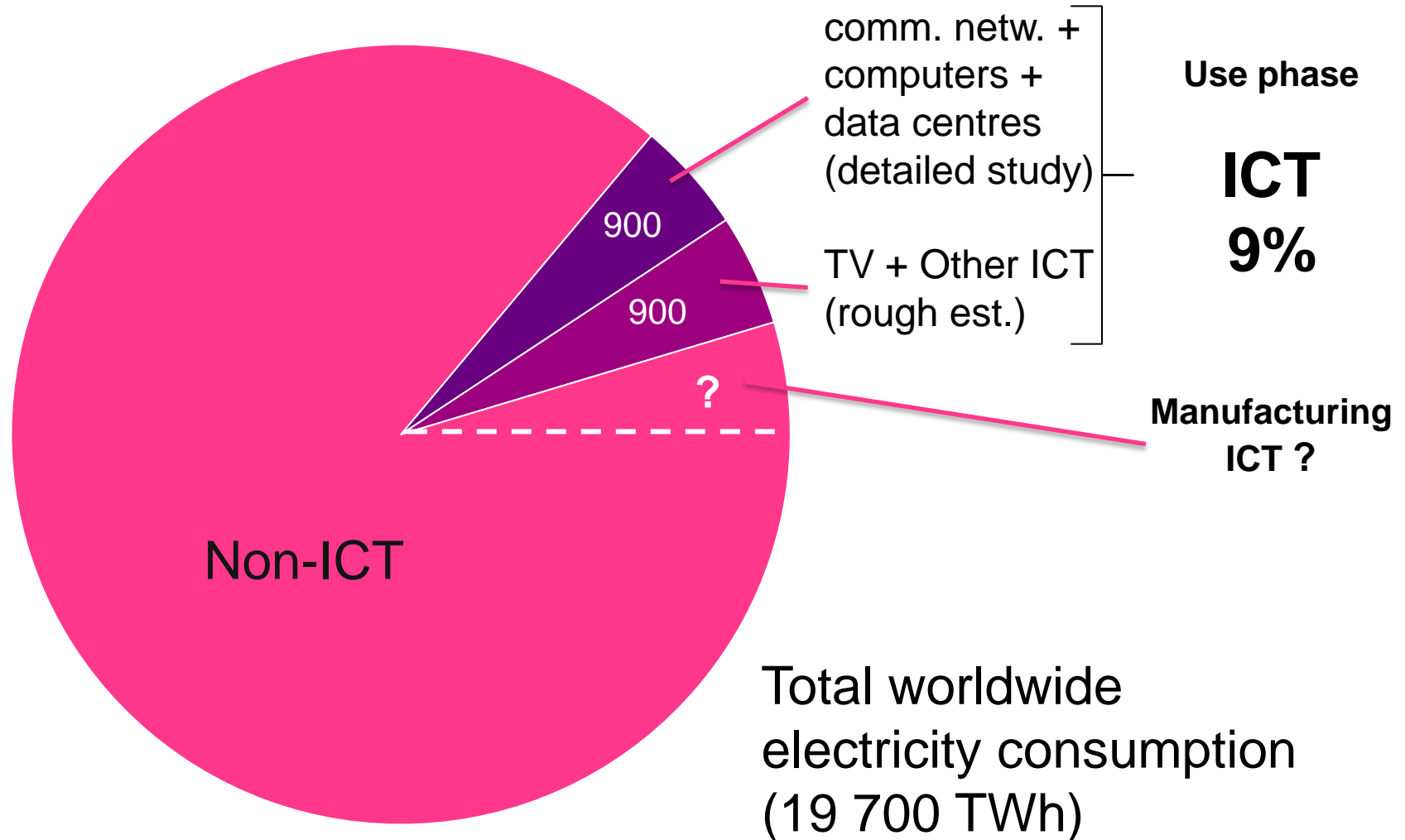
Future trends – CAGR?



- Higher CAGR (e.g. 10%)?
 - Temporary effect of crisis disappears
 - Cloud computing
 - Low hanging fruit solutions already accomplished
 - Smart homes (IoT)
- Lower CAGR (e.g. 4%)?
 - CAGR gradually going down during last decades
 - Further intensification of measures and research
 - Shift to smaller/mobile devices

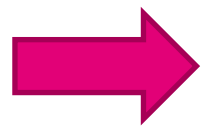
Will the CAGR after 2012 be *higher* or *lower* than in the timeframe 2007-2012?

Overall picture 2012 footprint



Can we keep using fossil fuels?

- Probably not, due to a number of issues...
 - Fossil fuel depletion
 - Peak oil: some scientists expect a peak in conventional oil production before 2030, leading to a global fuel shortage
 - Global warming
- ...but alternative energy sources have limitations
 - Nuclear: radioactive waste, nuclear disasters...
 - Hydropower: needs large areas with right geography
 - Wind / solar: fluctuating weather conditions



Less supply continuity than fossil fuels;
possible temporary energy shortages

Belgium faces 116 hour electricity shortfall



🕒 Tue 02/09/2014 - 12:28 👤 Colin Clapson

The daily De Tijd has published figures calculated by Elia, the company that runs the Belgian electricity grid. Elia has worked out that next winter Belgium faces a shortage of electricity that could put the lights out for 49 hours.

*In a future with a fluctuating energy supply and even possible energy shortages, it may be needed to **reduce the quality of service of ICT networks during some periods of time.***



Thanks for your
attention!

Questions? Remarks?

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