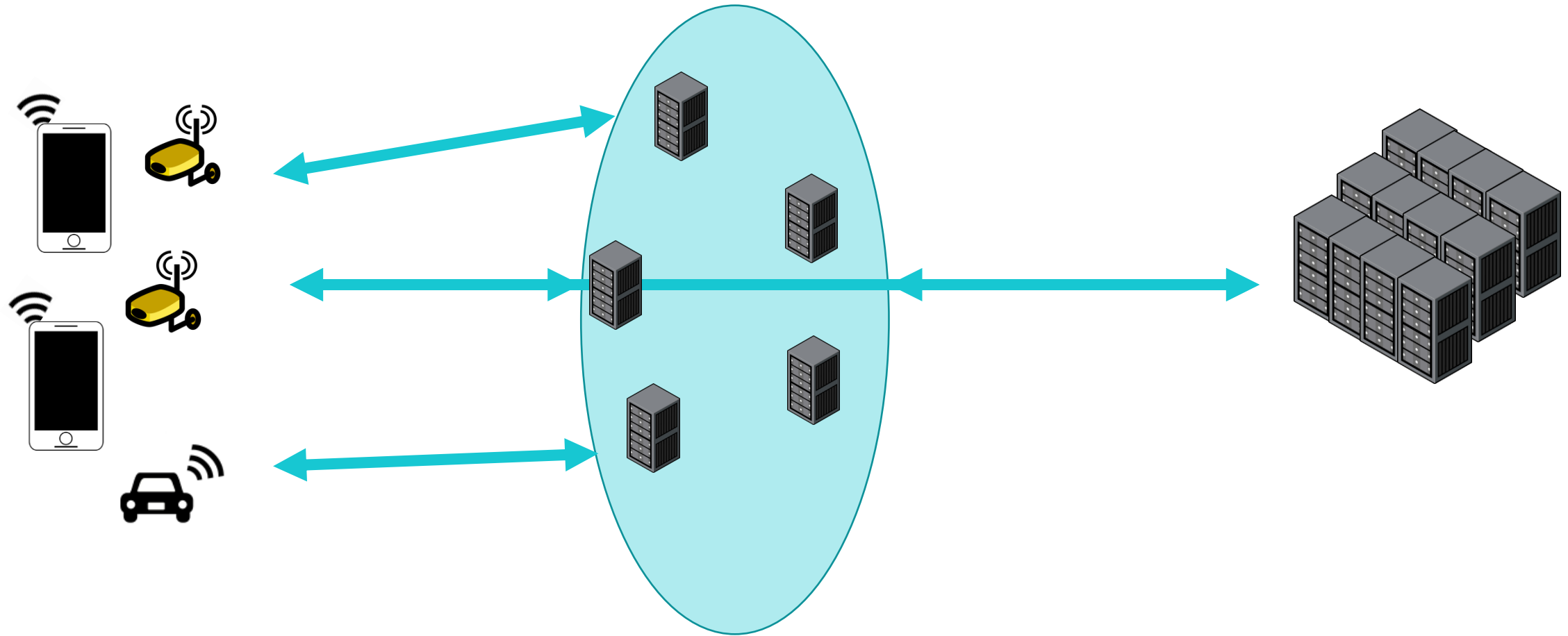


Sustainability and Green Internet

The dark side of edge computing

Klervie Toczé

Extending cloud with edge



The bright side

- Lower latencies enable new applications
- Possibility to handle higher volume of data
- Higher privacy for the end user

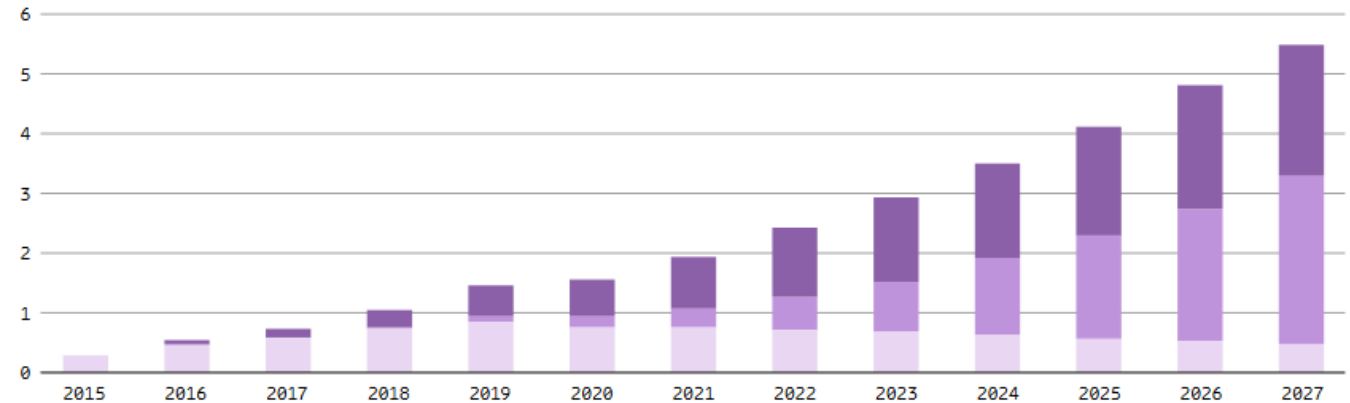


Pictures: <https://europe.autonews.com/automakers/autonomous-vehicles-undergo-reality-check>
<https://www.ericsson.com/en/blog/2020/4/how-5g-and-edge-computing-can-enhance-virtual-reality>
<https://www.activeadvice.eu/news/concept-projects/what-is-smart-health-and-how-do-people-benefit/>

What about the dark side?

- Tremendous increase of the number of devices
- Efficiency-trap
- Risk of green washing
- And more...

Number of cellular IoT connections (billion)



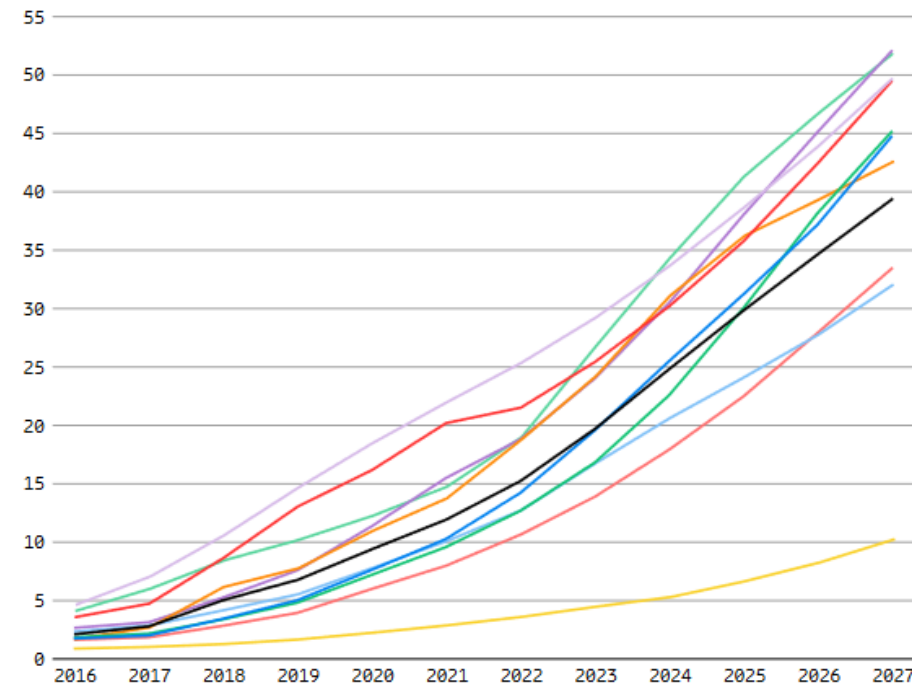
Source: Ericsson mobility report June 2022

K. Toczé, M. Madon, M. Garcia, and P. Lago, **The Dark Side of Cloud and Edge Computing: An Exploratory Study**, in *LIMITS '22: Workshop on Computing within Limits*, 2022. doi:[10.21428/bf6fb269.9422c084](https://doi.org/10.21428/bf6fb269.9422c084)

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Mobile data traffic per smartphone (GB per month)



Source: Ericsson mobility report June 2022

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What to do then?

- Think about and investigate the impact of edge computing research and deployments
- Go beyond the energy-efficiency focus
- Raise impact awareness
- Rethink our internet usage
- What else?

Thanks for the invitation and for listening!

klervie.tocze@liu.se