Carbon footprint of digital solutions

MitViDi kick-off ke 25.5.

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VINCIT

Agenda for today

- Carbon emissions in digital industry and challenges in measuring
- Carbon footprint calculation of International Biathlon Union’s app & website
- How can digital companies like Vincit decrease digital carbon footprint?

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Sustainability Manager
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Vincit in figures

FOUNDED

2007

EMPLOYEES

~600

TURNOVER 2021

€61.5m

EBIT 2021

€4.1m

FINLAND Tampere – Helsinki – Turku – Oulu – Jyväskylä – Kuopio
USA Palo Alto – Orange County – Los Angeles – Arizona

Specialist of service and business design, software development and continuous services

with a 100% satisfaction guarantee.

Award-winning workplace

Best place to work in Europe 2016
Best place to work in Finland 2014, 2015, 2016
(Great place to work)

Interest in digital emissions is growing

15% reduction in global emissions

Digital technology can create **large positive handprint** and help **reduce carbon emissions by up to 15%** in other sectors

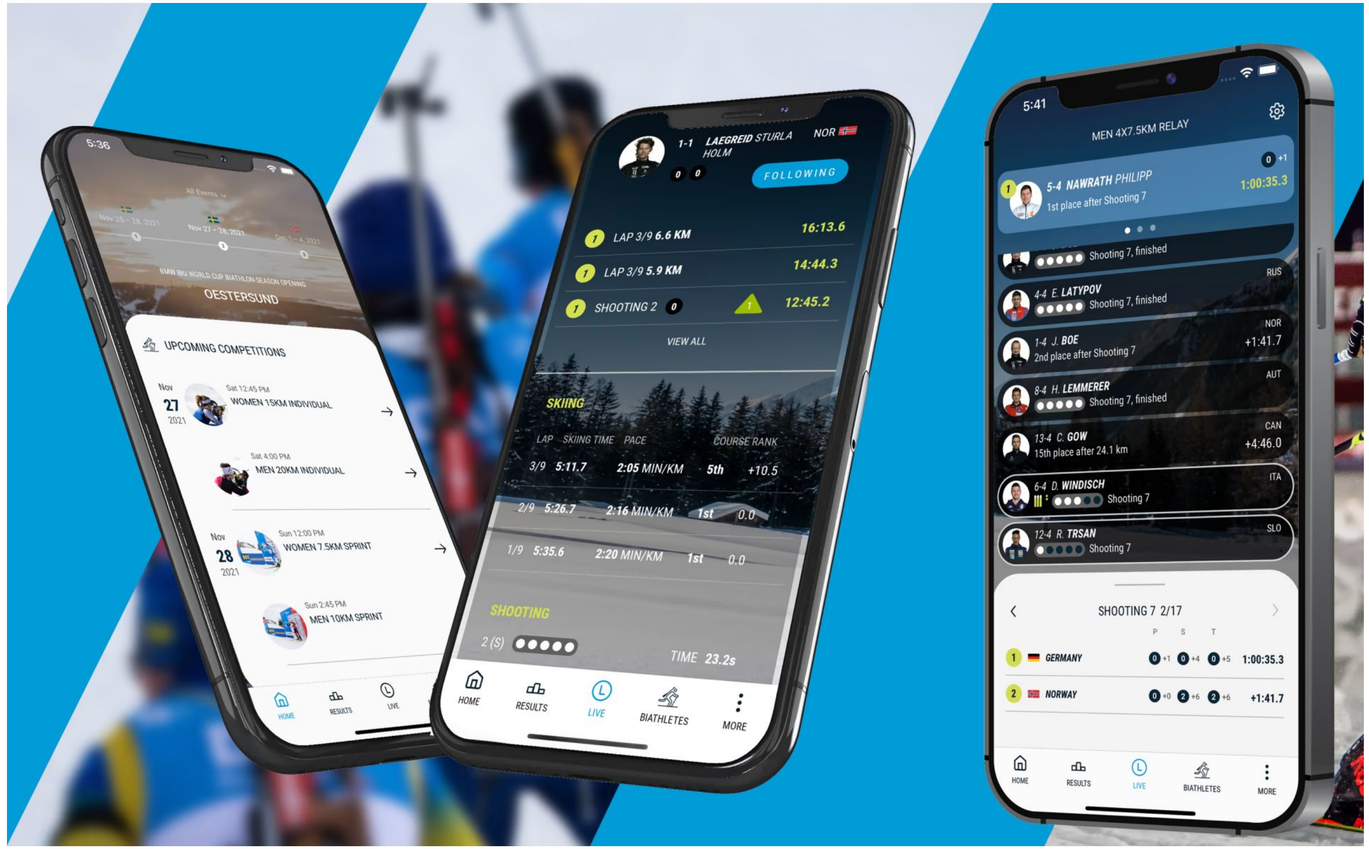
But 1,5-5% of global emissions

ICT solutions cause between **1,4 percent to 5 percent of global greenhouse gas emissions** (compared to e.g. 2% for aviation industry)

More insight needed

Companies are setting climate goals, and interest in understanding emissions in (digital) supply chains is growing, but data is still lacking

International Biathlon Union website and app



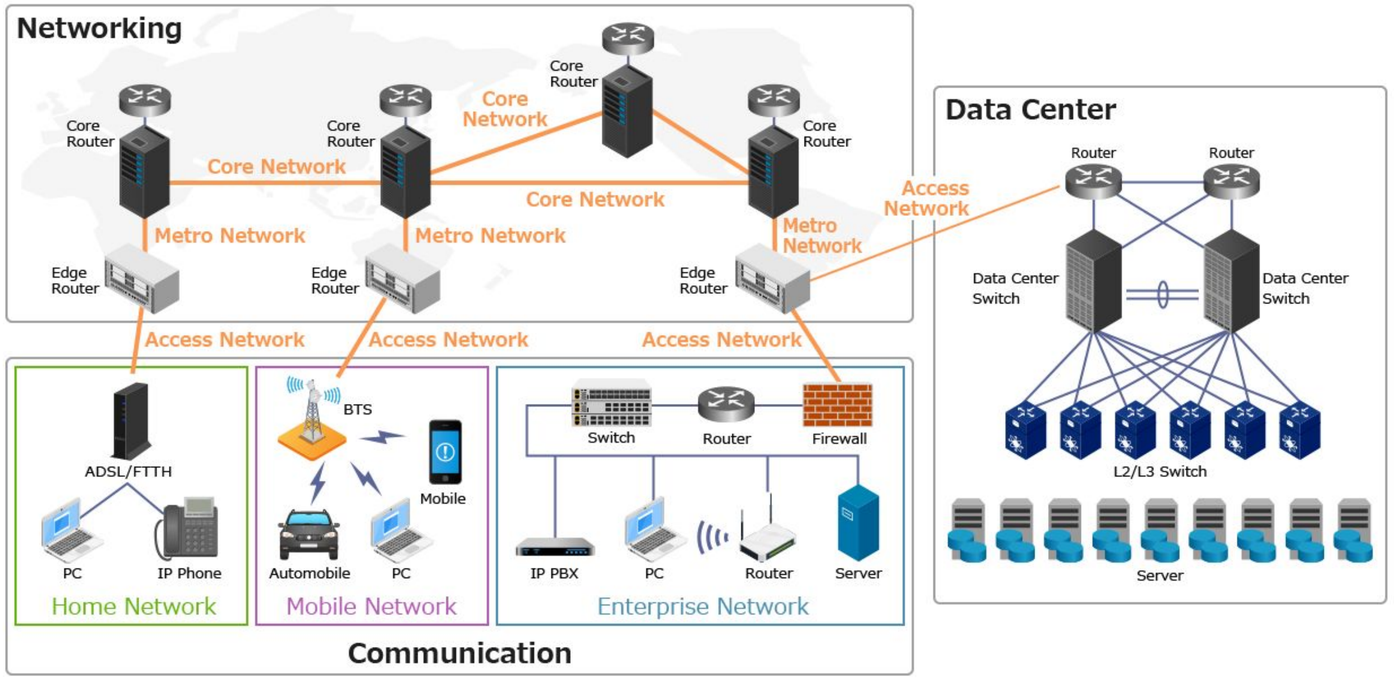
1,2 million unique monthly users
during winter season

150 000
registered mobile & web users

Over 200 annual competitions
with live streaming data

Emissions in digital industry

Digital emissions are caused by **electricity** needed to run **infrastructure** and **data transfer** and emissions from **manufacturing** of physical devices



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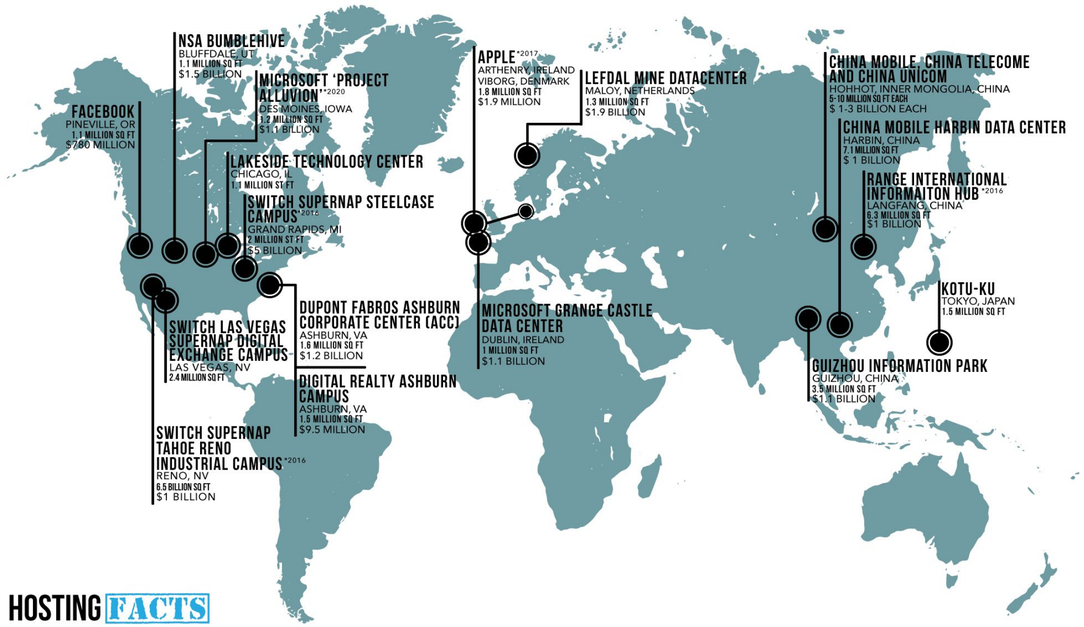
Measuring emissions of digital solutions is still challenging

- Calculation was done together with carbon footprint consultancy **UseLess Company**

- Data transfer happens in data centres in different countries

- Cloud architecture combining several SaaS-services makes data collection a challenge

- Only few companies publish information on how the energy used for data transfer & storage is produced



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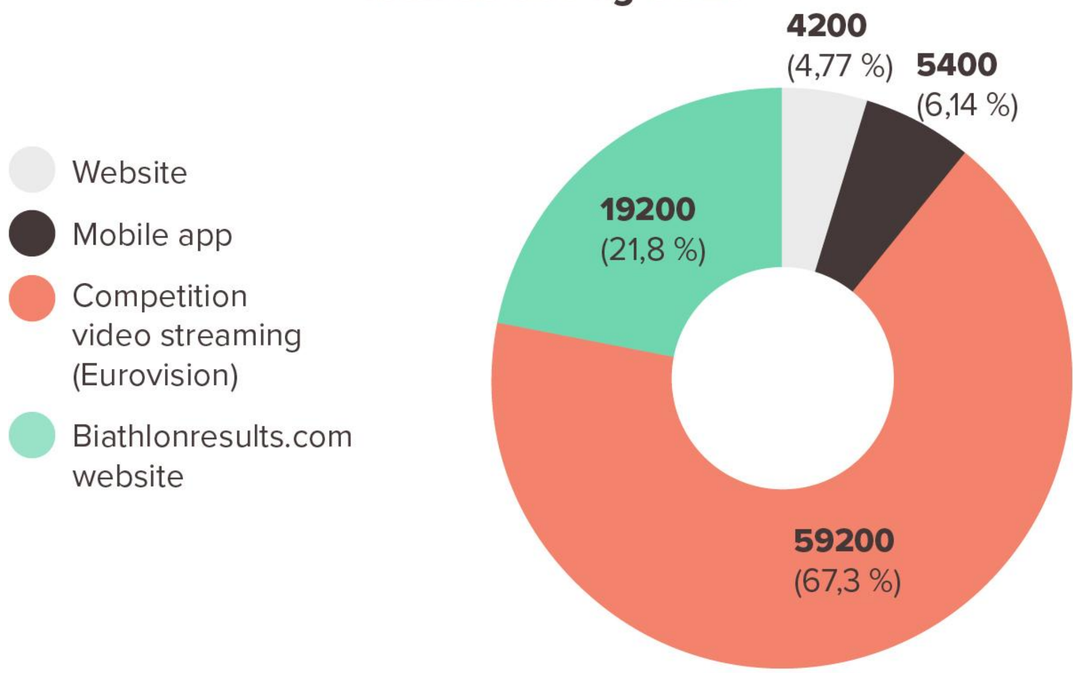
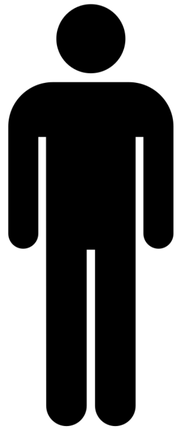
The carbon footprint of IBU app & website

Carbon footprint of IBU digital service ecosystem - Total 88 000 kg CO2e



App & website built by Vincit

9600 kg CO2



= Average annual carbon footprint of Finnish person

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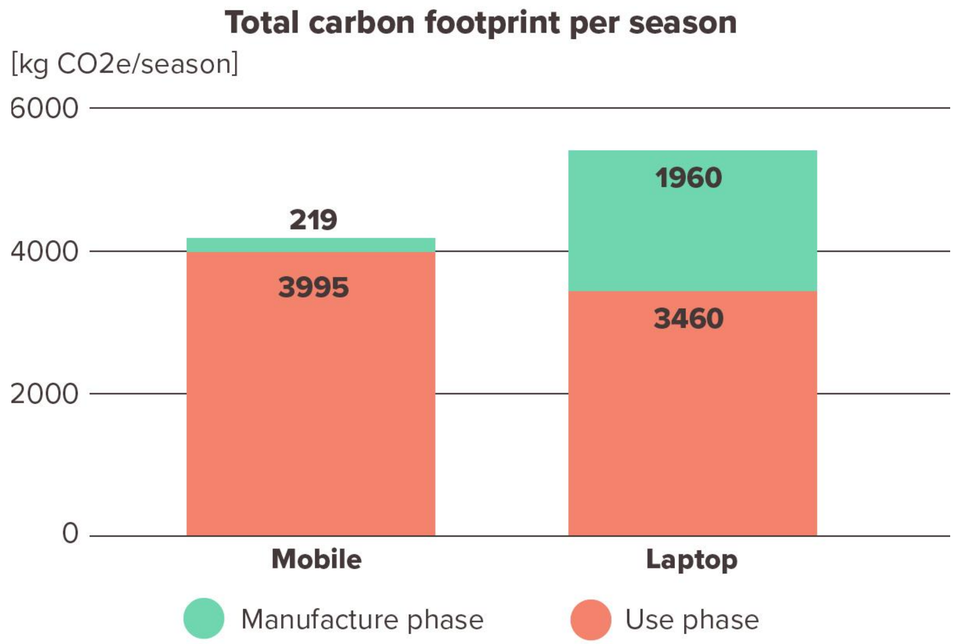
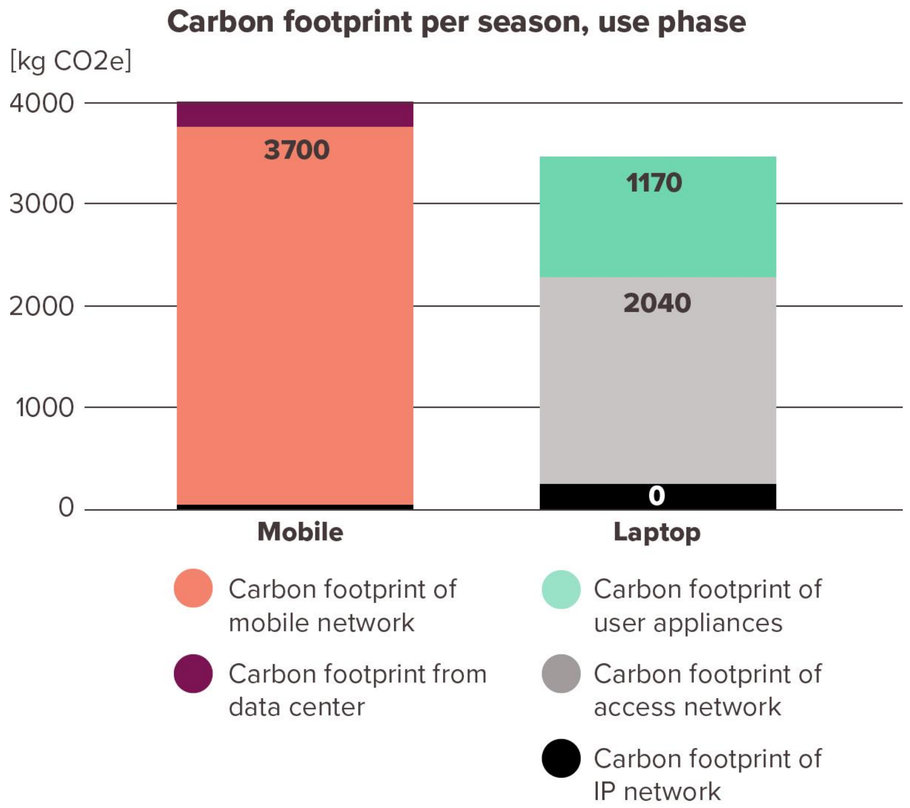
The carbon footprint of IBU app and website





Customer premise equipment and server manufacturing were allocated to this calculation based on the lifetime energy usage of the equipment in proportion to time used in IBU service during one season.

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Key takeaways

- **Data transfer has largest impact** and we should focus finding ways to optimize data transfer

- **Examples of what was done in the IBU app and website**
  - Lazy loading of images and social media content
  - Image resolution optimization for different size viewports (retina vs. standard)
  - Video bitrate optimization for different bandwidth
  - Polling for information vs. receiving incremental updates using websocket
  - Use on demand capacity vs. using dedicated capacity in data centres for example serverless offering in cloud

Reduced emission come hand-in-hand with reduced running cost and better user experience!

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Thank you!

You may clap and cheer now.

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