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Sustainable IT : a french benchmark to understand and enhance its spreading

Vincent Courboulay, *Frédéric Bordage*

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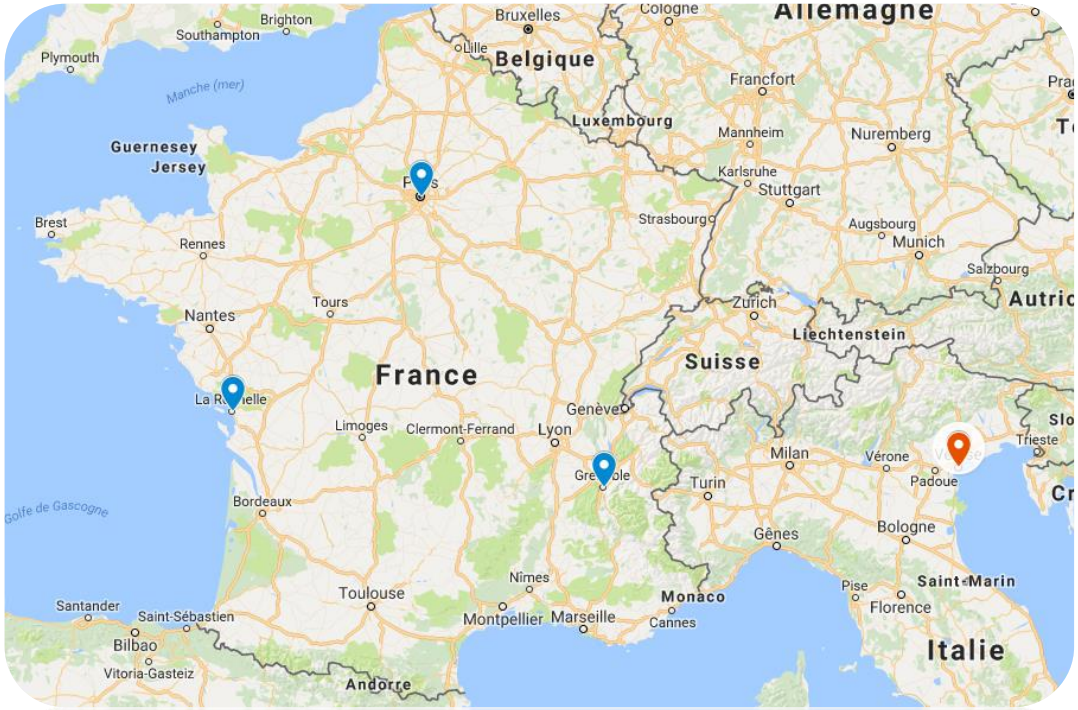
WHO WE ARE ?


Brighton
Southampton
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Manche (mer)
Guernesey
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Brest
Rennes
Nantes
Tours
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Lille
Belgique
Cologne
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Mannheim
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Pise
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Florence
Santander
Saint-Sébastien
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Vitoria-Gasteiz
Montpellier
Marseille
Cannes
Andorre
Italie

SUMMARY

- What are we talking about ?
- The Club GreenIT
- Our benchmark
  - Objectives
  - Methodology
  - Results
- Conclusions
- Perspectives

Sustainable IT : What are we talking about ?




Video : TEDX Vincent.mov

The Club Green IT

- The **Club GreenIT**
  - Created in 2014
  - user organizations, **no IT / telecom provider**
  - Members carry "digital responsible" projects

- Objectives
  - Sharing and exchanging between peers to build skills
  - Sharing intelligence on the themes of sustainable IT, responsible digital, and responsible digital design
  - Punctual contribution of expertise on key topics
  - Mutualizing some projects to reduce their cost while creating consensus
  - Giving voice to user companies

https://club.greenit.fr

THE CLUB GREENIT

- Members

https://club.greenit.fr

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Our benchmark

Objectives

1. What is the digital footprint of an employee?
2. What are the main sources of impacts?
3. How does my company compare to other participants?
4. How to reduce this footprint?
5. What are the best practices of the participants?

CONTEXT

- 8 organizations
- 530,000 users
- 14,000 IT employees
- 38,000 m2 dedicated to IT
- 1.7 million computer and telecom equipment

- All stages of the life cycle except recycling: manufacture, use, re-use

METHODOLOGY

- 3 analyzis per participant
  - **Footprint of <u>simplified LCA type</u>**;
    - energy, GHG, water, WEEE, paper
  - **Performance**;
  - **Maturity**.

- More than 700 input data per participant

Methodology

- xls file to fill
  - 2017-ClubGreenIT-benchmark-collecte-v2.xls
  - IT50-modele-v0.9.2.xls

DEMO

  - Based on :
    - ADEME database,
    - http://www.manufacturing.gatech.edu/sites/default/files/uploads/pdf/2012-01-0646_0.pdf ,
    - Greenconcept v2 / LCIE (veritas) ,
    - LCA.

EXTRAPOLATION

- For an order of magnitude more representative of the **French average**:
  - the footprint must be increased by +30% to x2
  - the overall maturity reduced by one point
  - Experience of Authors

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Results

Results> Annual Footprint > 8 companies

1,442,000 MWh of primary energy (of which manufacturing)
200,000 French (annual energy consumption)
7 million low consumption bulbs 25 W x 365 days x 24 hours
1 nuclear reactor * (900 MWe net) for 2 months

140,000 t of greenhouse gases
19,200 French
935 million kms by car (23,500 rounds of the world)

2,500,000 m3 of water
47,000 French
50 million showers (50 liters)
420 million packs of mineral water (6l)

1,530 t of electronic waste (category 3&4)
510,000 French
12 million smartphones

11,000 t of paper
clearcut of an adult forest of 17 ha (24 football pitch)
or the sustainable exploitation of about 650 ha
if collected => 9,000 tonnes of recycled paper

Manufacturing included - * most French power plants are equipped with 4 reactors

RESULTS> FOOTPRINT > BY USER

Per Year	Per day
3,460 kWh of primary energy 80 light bulbs conso 25 W x 220 d x 8h ½ French + per user	16 kWh of primary energy 80 light bulbs conso 25 W x 8h 2 electric radiators 1000 W x 8 hours
360 kg of greenhouse gases 2,400 km by car (150gCO2e / km) 5% annual issue of a French	1.6 kg of greenhouse gases 9 kms by car (150gCO2e / km)
5,000 liters of water 100 showers (50 l) 830 packs of mineral water (6l)	23 liters of water 4 packs of mineral water (6l)
3 kg of electronic waste 22 smartphones 1100 USB sticks	13 g of electronic waste 5 USB sticks or 6 memory sticks (RAM)
19 kg of paper waste	86 g of paper waste

Results> Footprint> annual for France

77,000,000 MWh of primary energy (including manufacturing)
- 10 million French (annual energy consumption)
- 351 million low consumption bulbs 25 W x 365 days x 24 hours
- 10 nuclear reactors (900 MWe net) for 1 year (out of 58 in France)

7,500,000 tonnes of greenhouse gases
- 1 million French
- 57 billion km by car (1.4 million world tours)

131,000,000 m3 of water
- 2.5 million French
- 2.6 billion showers (50 liters) - 41 showers + by French
- 22 billion packs of mineral water (6l) - 346 packs of water by French

81,500 t of electronic waste (category 3)
- 28 million French
- 630 million smartphones

561,000 t of paper
- 3.4 million French

* Considering 27 million employees accessing an information system of the same type.

SOURCES OF IMPACT

1. Equipment manufacturing (particularly users) (57% of GHG emissions) and in the travel of IT employees (19%);

2. Papermaking and electricity (61% of water consumption); and user equipment (26%)

3. Equipment power supply (63% of energy balance)
   Manufacturing of user equipment (13%);
   Home-work journeys for IT employees (13%).

Great Sources of improvements

- IT services
  - Lifetime Lengthen it by favoring re-use;
- Impression
  - Reduce print volumes even further
  - Choose a quality recycled paper (FSC / Blue Angel);
- Energy
  - Use renewable energies, in particular "common" hydro electric kWh;
  - Work on gray energy -> cf reuse;
  - Implement good energy efficiency practices.
- Purchasing department
  - Simplify the act of responsible purchasing by training teams to eco-labels;
  - Prioritize the SSE and the adapted sector from the moment of purchase (products AND services);
  - Include / integrate the most fragile: accessibility, digital divide, etc. ;
- Integrate the responsible digital service design approach

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Conclusions & perspectives

CONCLUSIONS

- First european study to present IT footprint of numerous companies
- A usefull tool to guide Sustainable IT politics
- Identification of source of impact and improvements

Perspectives

- WeGreenIT
  - New version of our benchmark
  - Presented next month
  - Supported by WWF
  - 24 big companies
    - Dell, ADP, Engie, Ubisoft…
    - Great potential of improvements

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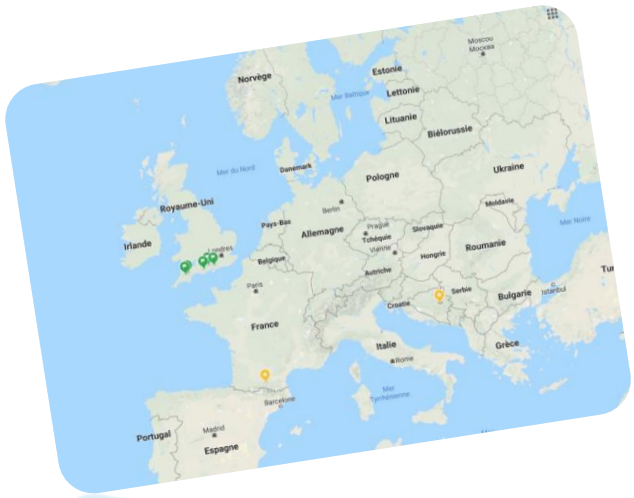

If you are you interested in develop our benchmark in your country, do not hesitate !

Thank you for your attention

vcourbou@univ-lr.fr