Will ICT save the world?

Amael Parreaux-Ey – DINACon – 23.11.23

resilio

Solutions for a sustainable world.

resilio-solutions.com – contact@resilio-solutions.com

Virtual, really?

A global issue

The digital world represents:

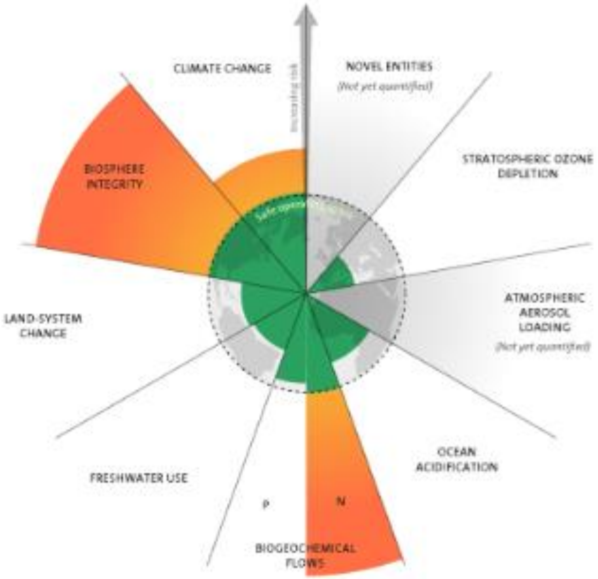
- The "**7th continent**" in terms of energy consumption.
- 4% of global GHG emissions, **more than civil aviation**!
- 50 to 75 billions kg of **electronic waste** each year.
- An **exponential** consumption of critical materials, a resource that will be exhausted in 1 to 2 generations.

Crédit : Dillon Marsh

*Source : "The environmental footprint of the digital world Study" 2019 - GreenIT.fr - Frédéric Bordage

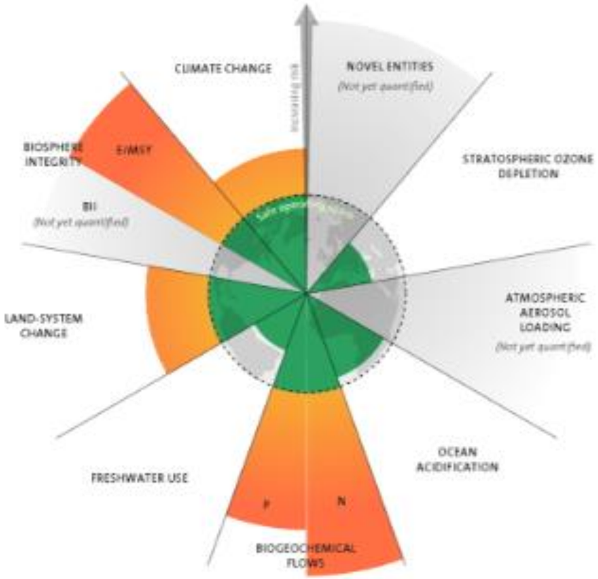
Planetary boundaries evolution

2009



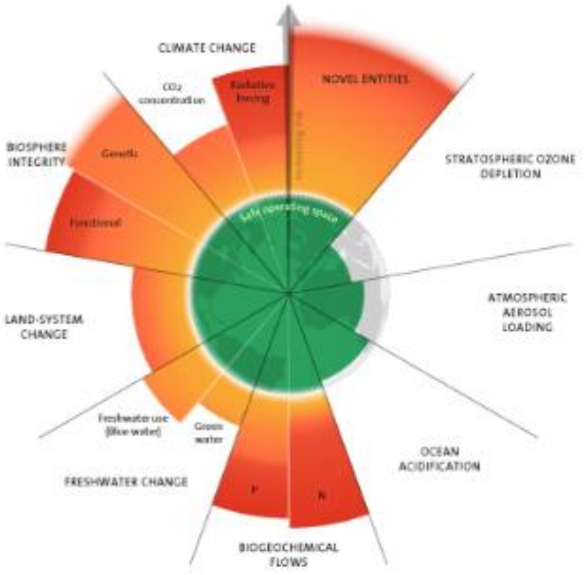
3 boundaries crossed

2015



4 boundaries crossed

2023



6 boundaries crossed

Source : Stockholm Resilience Center Licence CC BY-NC-ND 3.0.

Impact assessment, how can we do it?

Carbon footprint
(GHG Protocol)

- Scope 1, 2, 3
- Suits for **States, Countries**

- **Single-criteria** GreenHouse Gases (GHG) emissions
- Few critic reviews

- Regulatory 'BGES' in FR to compensate for the laxity of the GHG Protocol

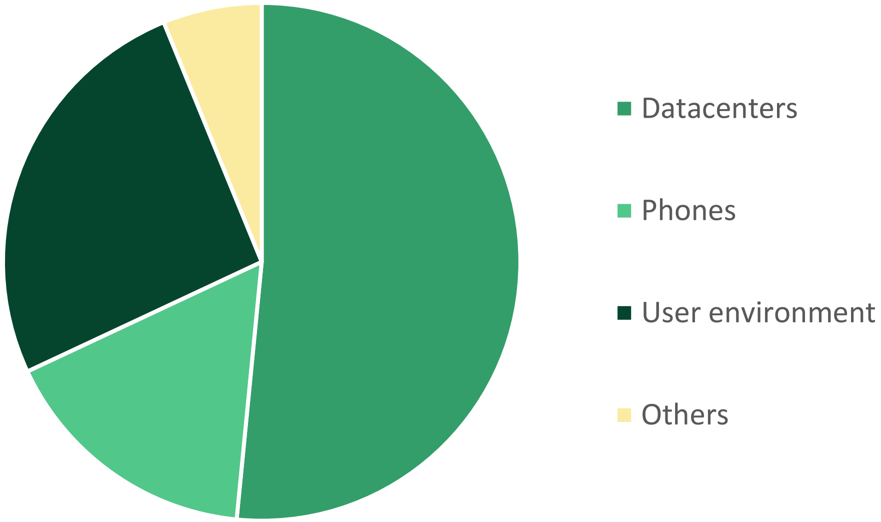
Life Cycle Assessment

- Suits the **products** and **services**
- **Multi-criteria** and **multi-step life cycle analyses**
- Regular critic reviews

- Product Environmental Footprint

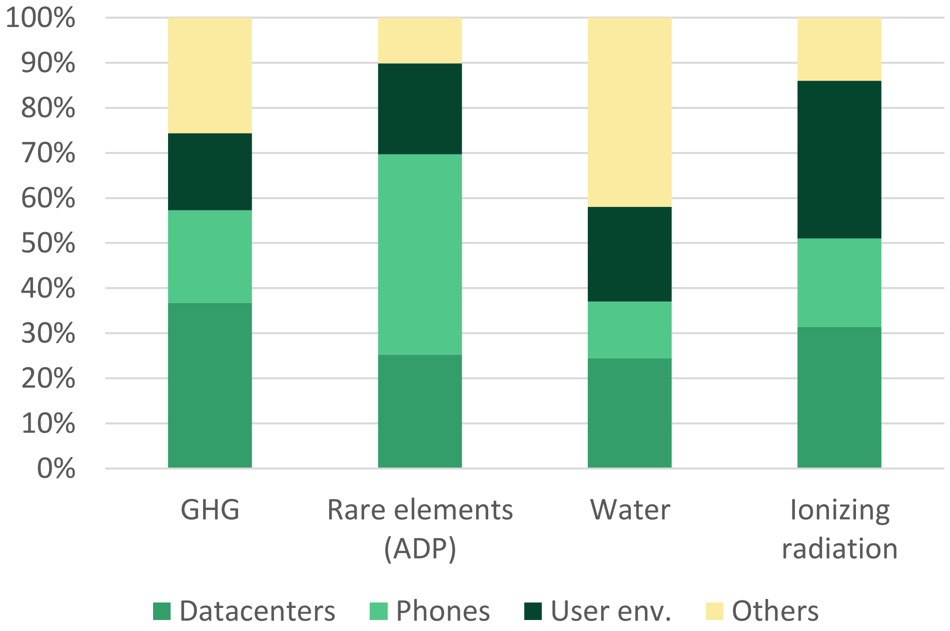
Impact assessment, how can we do it?

Carbon footprint
(GHG Protocol)



Oh, my datacenters pollute!

Life Cycle Assessment



Mhhh…

Impact evaluation, how do we do it?

Carbon footprint
(GHG Protocol)

Oh, my datacenters pollute!
Let’s get new devices!

Life Cycle Assessment

Mhhh…
How can we **reduce** our impact
(not move it)?

Who am I to tell you about it?

Amael Parreaux-Ey

CEO

resilio

tech. by resilio

academy. by resilio

database. by resilio

consulting. by resilio

Support organizations towards digital sustainability

Our solutions

Resilio Academy

Always up-to-date

- IT / CSR / digital teams **training**
- Raise **awareness** (workshops, conferences…)

Resilio Tech

Measure your footprint

- **Web app & API**
- **Life Cycle Assessments**
- Research & development

Resilio Consulting

Keep the rigth way

- Empower your team
- **Eco-design**
- Change management
- Follow-up

Who is on the road?

Public

EPFL

Ville de Lausanne

PARIS

Commission européenne

canton de vaud

LIBERTÉ ET PATRIE

ADEME

AGENCE DE LA TRANSITION ÉCOLOGIQUE

Private

International groups

LVMH

L'ORÉAL

Swissquote

L'OCCITANE EN PROVENCE

PUBLICIS GROUPE

RATP

2015: The Paris Agreement

Objective of the Paris Agreement : 2 t CO2e / inhabitant

To stay below +2°, we must divide our footprint by 2050:

- By **2** on a global scale
- By about **7 or 8** on the scale of **Switzerland**

PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

> *"Dematerialization is the first essential step in any sustainable development strategy".*

Eric Boustouller,
President, Microsoft France,
October 2009

~ Birth of bullshit :
1kg CO2e in IT =
10kg CO2e saved elsewhere

?

Dematerialization: really ?

Credit : Dillon Marsh

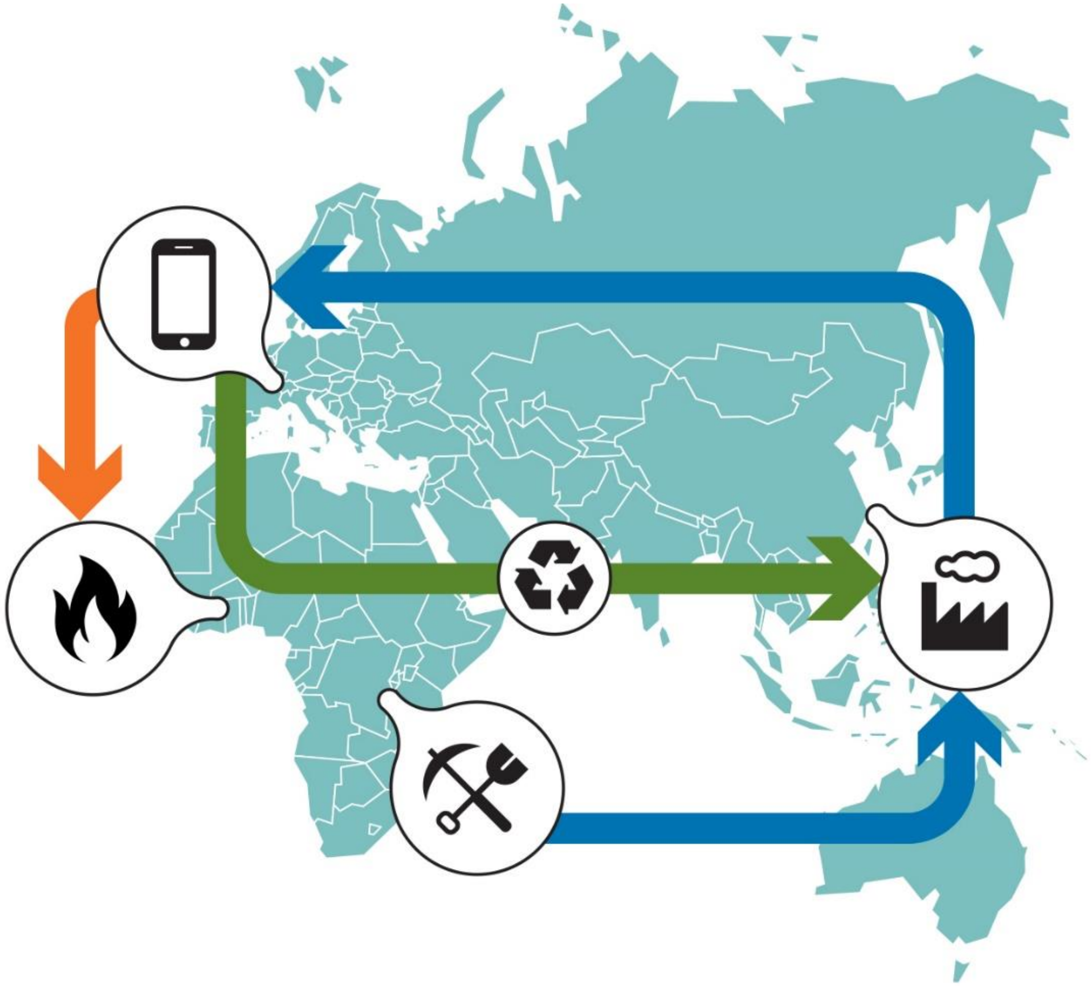
The digital universe:

World - 2019

- **34 billions** devices
- **4.1 billions** users
- **8 devices** per person

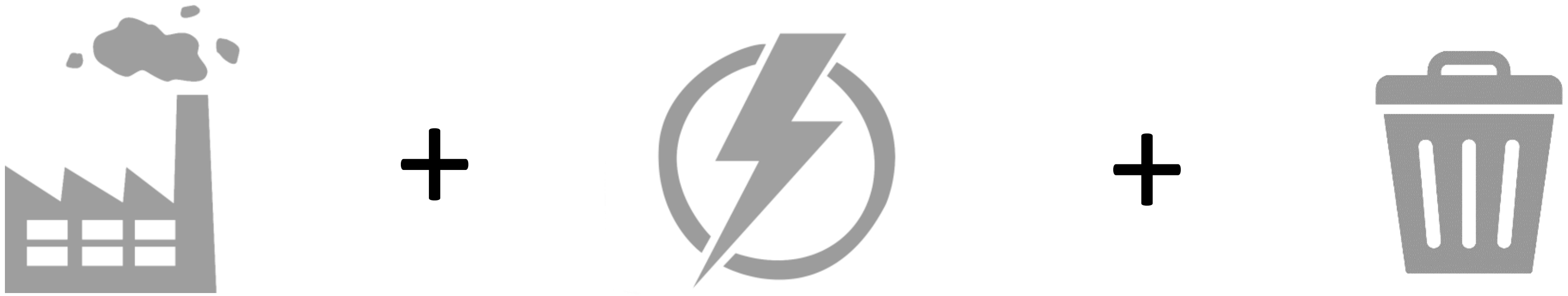
Source: « Empreinte environnementale du numérique mondial », GreenIT.fr, 2019 & « iNUM : Impacts environnementaux du numérique en France », GreenIT.fr, 2020, updated figures

Impacts occur throughout the life cycle



Source: https://livreouvert.editionslep.ch/les-4-etapes-du-cycle-de-vie-tourmente-dun-appareil-electronique/

3 mains sources of impacts



DIGITAL FOOTPRINT

= Sum of the environmental **impacts over the full life cycle**

Source: « Empreinte environnementale du numérique mondial », GreenIT.fr, 2019 & « iNUM : Impacts environnementaux du numérique en France », GreenIT.fr, 2020, updated figures

Environmental impact – End-user device CH

80%

MANUFACTURING

15%

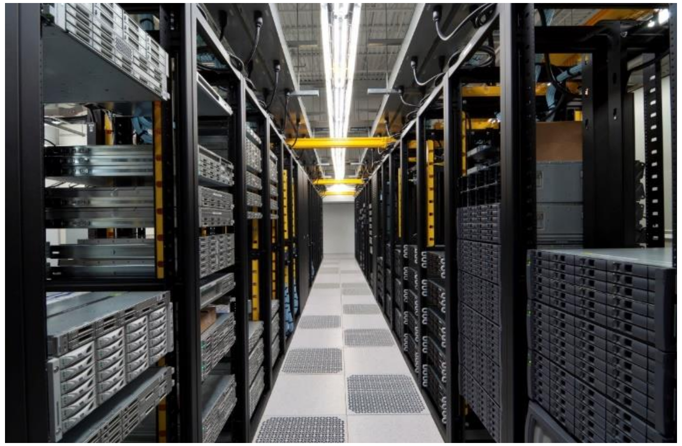
USE

5%

END OF LIFE

Source: Resilio DataBase, average for laptops and smartphone, 2023

Environmental impact – Server Poland



15%

MANUFACTURING

80%

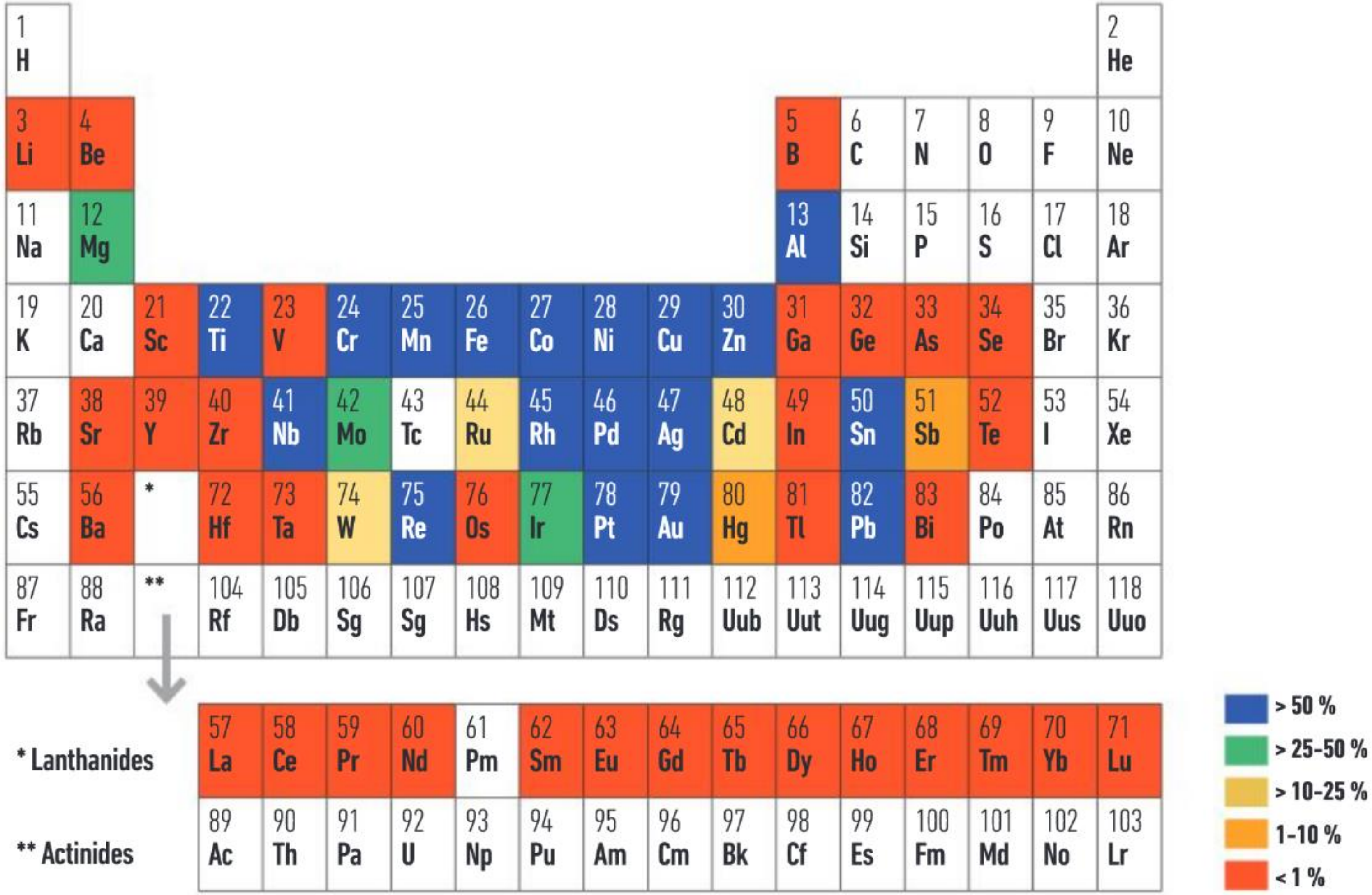
USE

5%

END OF LIFE

Source: Resilio DataBase, mix of servers, 2023

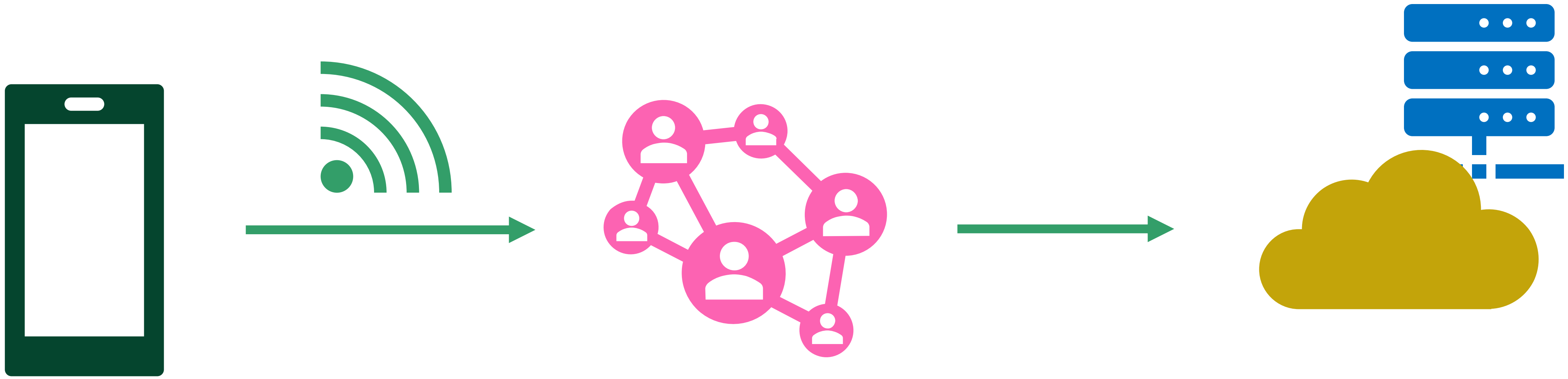
Recycling: A solution ?



Source: UNEP, Recycling rates of metals, 2011 – Image from BRGM, Revue Géosciences n°26, p. 27

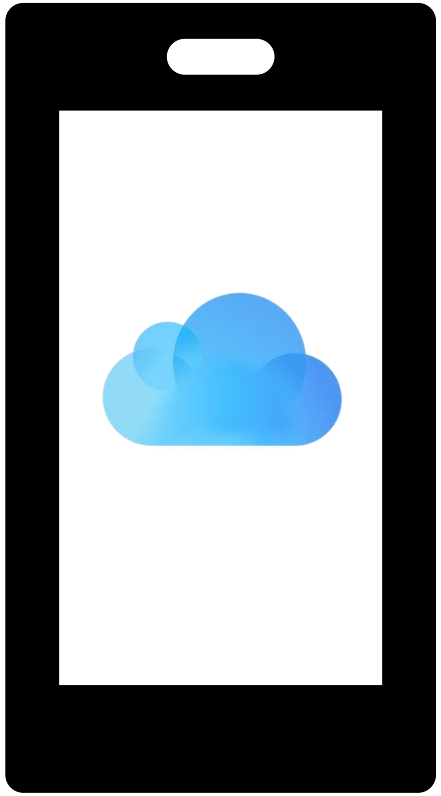
Go virtual: Move to the **Cloud**

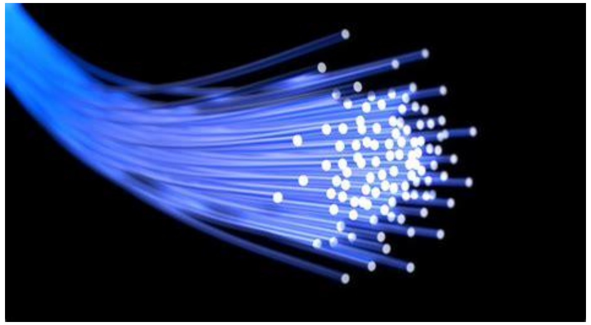
When your IT colleague thinks about the Cloud…



Go virtual: Move to the **Cloud**

When you think about the Cloud…





Go virtual: Move to the **Cloud**

When I think about the Cloud…

Can ecological & digital transformations converge?

Equipment

1. Reduce my equipment ratio

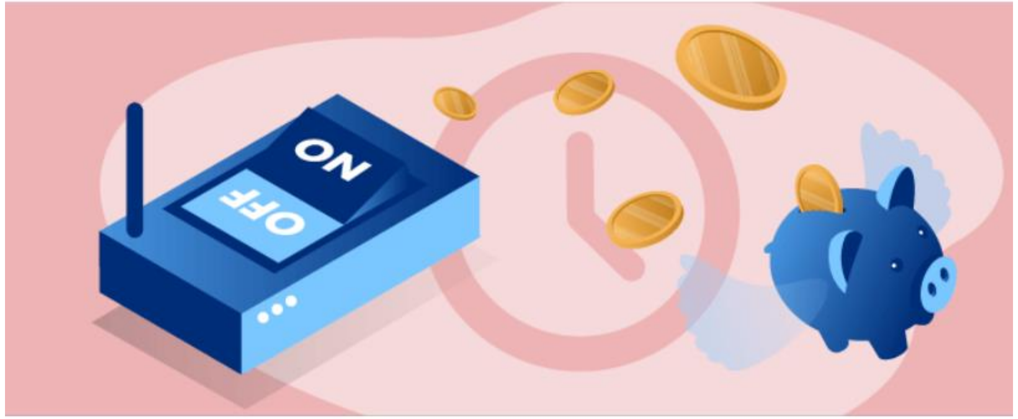
WATCH
SERIES 9
Smarter. Brighter. Mightier.
Learn more ›
Buy ›

Equipment

2. Extend the life of my existing equipment

Energy sobriety

3. Switching off my boxes... and other devices



4. Limit cloud usage as much as possible, especially with 4G.

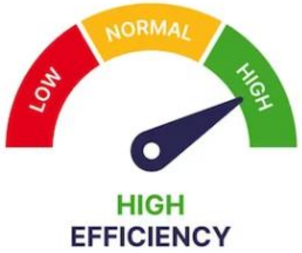
End-of-life

5. Bring back your old phones & devices

WEEE:
Waste of
Electrical and
Electronics
Equipments

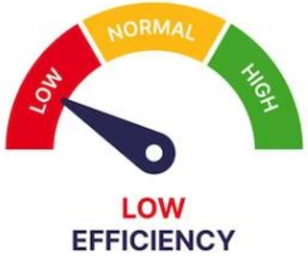
COLLECT
4NATURE

High efficiency, low effort


LOW
NORMAL
HIGH
HIGH
EFFICIENCY

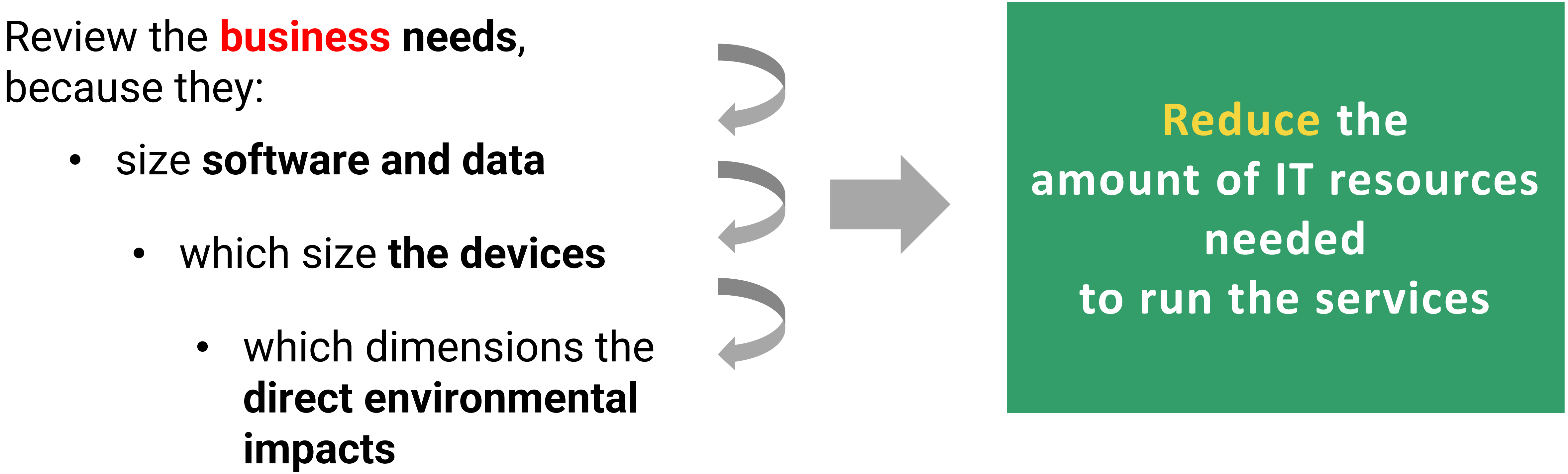
- Keep your smartphone 2 years longer
- Switch off and disconnect when not in use.

Low efficiency, **high effort**


LOW
NORMAL
HIGH
LOW
EFFICIENCY

- Delete my emails
- Change browser to use less electricity
- Reduce VoD and video usage while wired

Eco-design of digital services

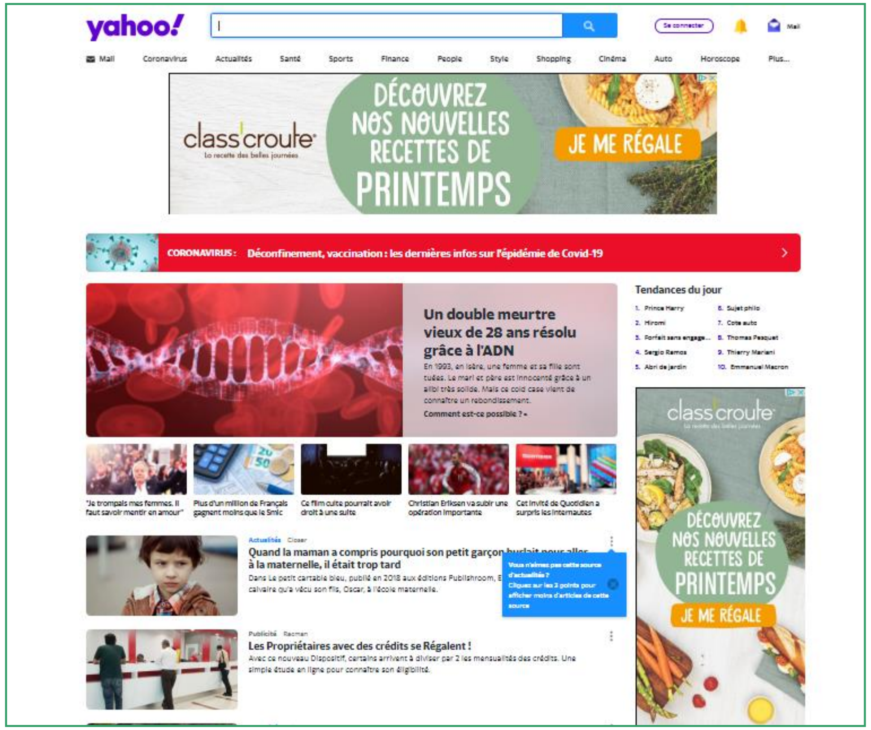


Review the business **needs**, because they:

- size **software and data**
  - which size **the devices**
    - which dimensions the **direct environmental impacts**

Reduce the amount of IT resources needed to run the services

Digital sobriety as a key for competitiveness


yahoo!
Se connecter
Mail
Mail
Coronavirus
Actualités
Santé
Sports
Finance
People
Style
Shopping
Cinéma
Auto
Horoscope
Plus...
class'croute
La recette des belles journées
DÉCOUVREZ NOS NOUVELLES RECETTES DE PRINTEMPS
JE ME RÉGALE

CORONAVIRUS : Déconfinement, vaccination : les dernières infos sur l'épidémie de Covid-19

Un double meurtre vieux de 28 ans résolu grâce à l'ADN

En 1993, en Isère, une femme et sa fille sont tuées. Le mari et père est innocenté grâce à un alibi très solide. Mais ce cold case vient de connaître un rebondissement.

Comment est-ce possible ? »

Tendances du jour

1. Prince Harry
2. Hiromi
3. Forfait sans engage...
4. Sergio Ramos
5. Abri de jardin
6. Sujet philo
7. Cote auto
8. Thomas Pesquet
9. Thierry Mariani
10. Emmanuel Macron

"Je trompais mes femmes. Il faut savoir mentir en amour"

Plus d'un million de Français gagnent moins que le Smic

Ce film culte pourrait avoir droit à une suite

Christian Eriksen va subir une opération importante

Cet invité de Quotidien a surpris les internautes

Actualités Closer

Quand la maman a compris pourquoi son petit garçon hurlait pour aller à la maternelle, il était trop tard

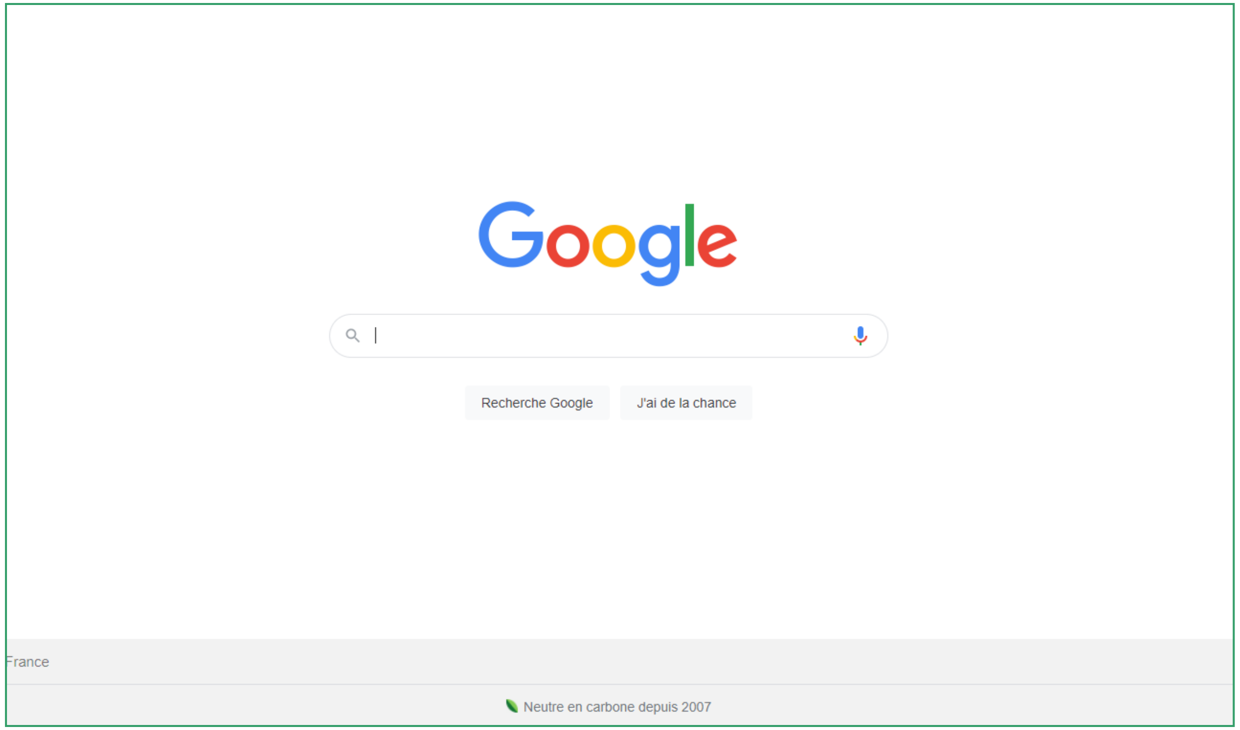
Dans Le petit cartable bleu, publié en 2018 aux éditions Publishroom, E calvaire qu'a vécu son fils, Oscar, à l'école maternelle.

Vous n'aimez pas cette source d'actualités ? Cliquez sur les 3 points pour afficher moins d'articles de cette source

Publicité Racman

Les Propriétaires avec des crédits se Régalent !

Avec ce nouveau Dispositif, certains arrivent à diviser par 2 les mensualités des crédits. Une simple étude en ligne pour connaître son éligibilité.


Google
Recherche Google
J'ai de la chance
France

Neutre en carbone depuis 2007

The concept of frugal innovation:

Meeting specific needs with the **least sophisticated & least expensive** technological solutions possible, **without compromising** service levels.

search
Time
concept
Team
POWER
WORK
PLAN
IDEA
BUSINESS
Idea
TEAM
BUSINESS

What next?

If we want digital to be **sustainable**, we need to keep **impacts** under control…

And you can **start, right now**.

resilio-solutions.com

contact@resilio-solutions.com

Amael Parreaux-Ey

Add me on LinkedIn!