

# Reducing ICT environmental impacts : Where to focus on in priority?

PERCCOM  
erasmus mundus



green IT .fr

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Alliance Green IT (AGIT)  
[www.alliance-greenit.org](http://www.alliance-greenit.org)

## DNA

- Consulting
- Green IT, software eco-design, IT for Green
- Best experts network in Europe

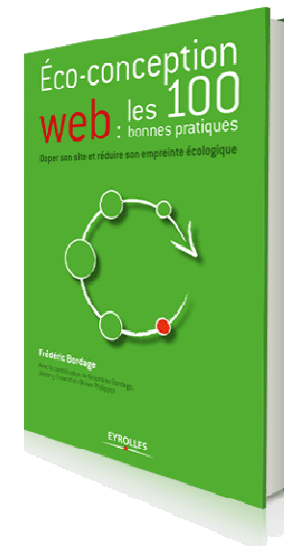
## First historical player

- in Green IT and IT for Green (since 2004)
- in software eco-design (since 2009)

## Other activities

- Conferences, books
- Software eco-design challenges
- Blog ([www.greenit.fr](http://www.greenit.fr))
- Lobbying (France, EU)

*GreenIT.fr advises and supports companies such as Axa, ADEME, AFNOR, Banque Cantonale de Fribourg, EDF, Engie (GDF-Suez), Gemalto, Generali, BPCE group, La Poste, Pôle emploi, SNCF, Syntec, Total as well as institutions such as the State of Geneva, the European Commission, etc.*



# Some customers





# GreenIT.fr and software eco-design



# Agenda

# Don't forget human beings



Mineral extraction



Manufacturing



« Recycling »

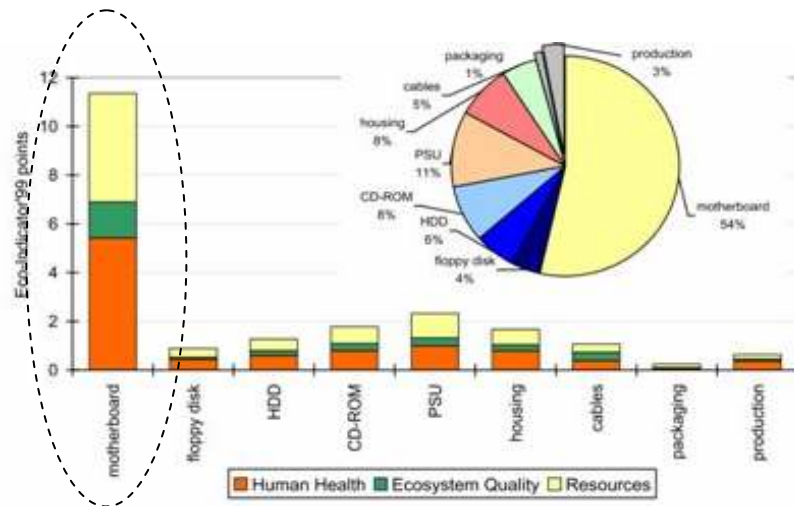


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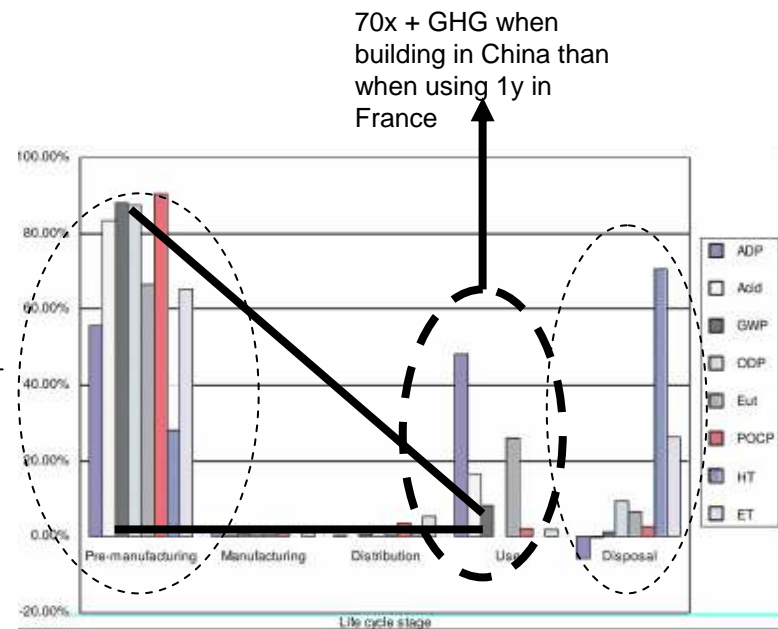
**What impacts ? When ? Where ?**



# 1. What impacts ? When ? Where ?



Impact environnemental des différents composants de l'UC d'un PC fixe, exprimé en points Eco-Indicator'99 source : Eugster et al, 2007



Contribution des différentes phases du cycle de vie d'une UC de PC coréen à chaque catégorie d'impact, avec un taux de recyclage de 46% - source : Choi et al, 2006

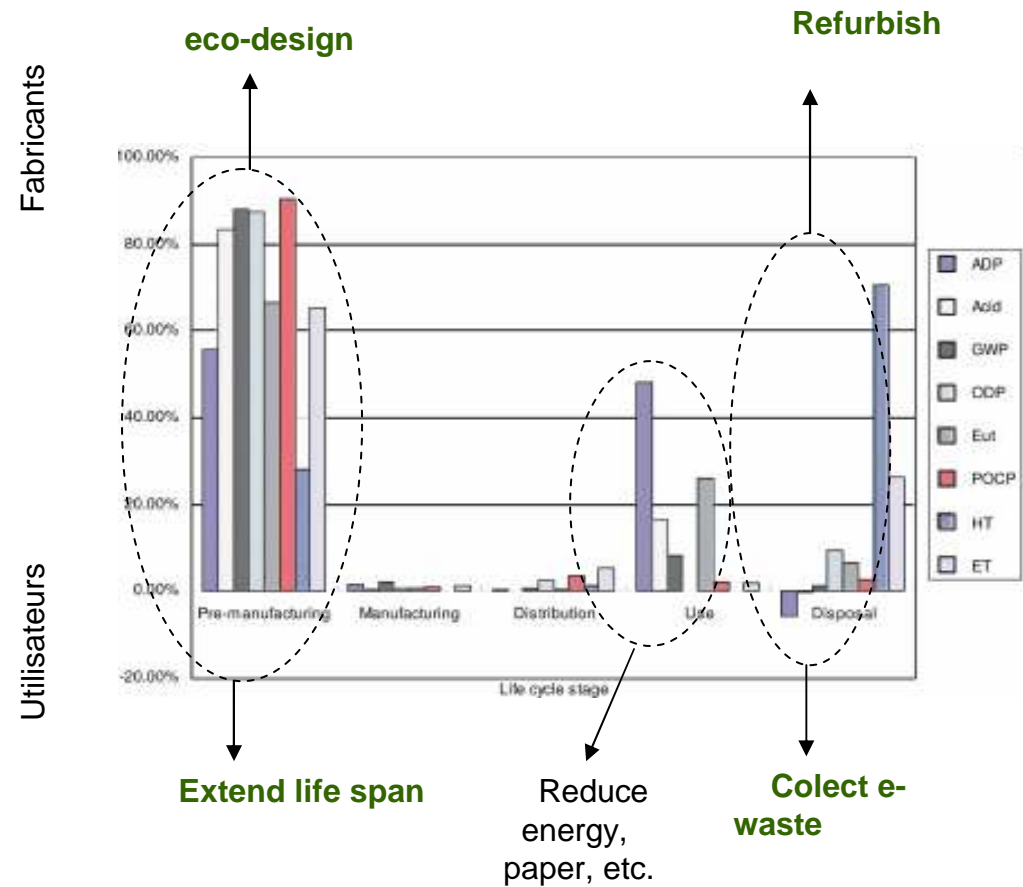
# 1. What impacts ? When ? Where ?

# 1. Three ways to reduce ICT and online services footprint

1. extend life span (priority)
2. use less ICT (priority)

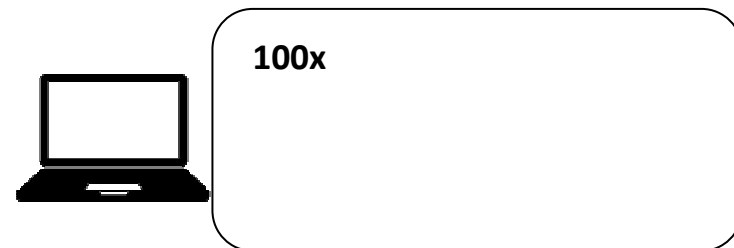
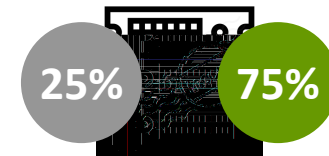
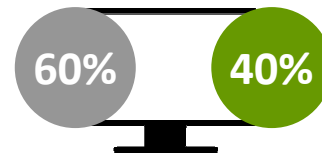
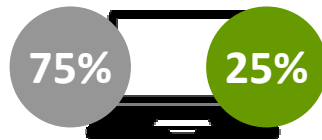
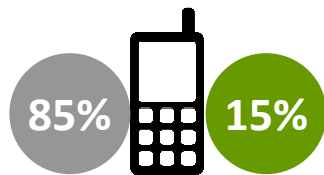
extend life span

ecodesign



Source : [greenit.fr](http://greenit.fr)

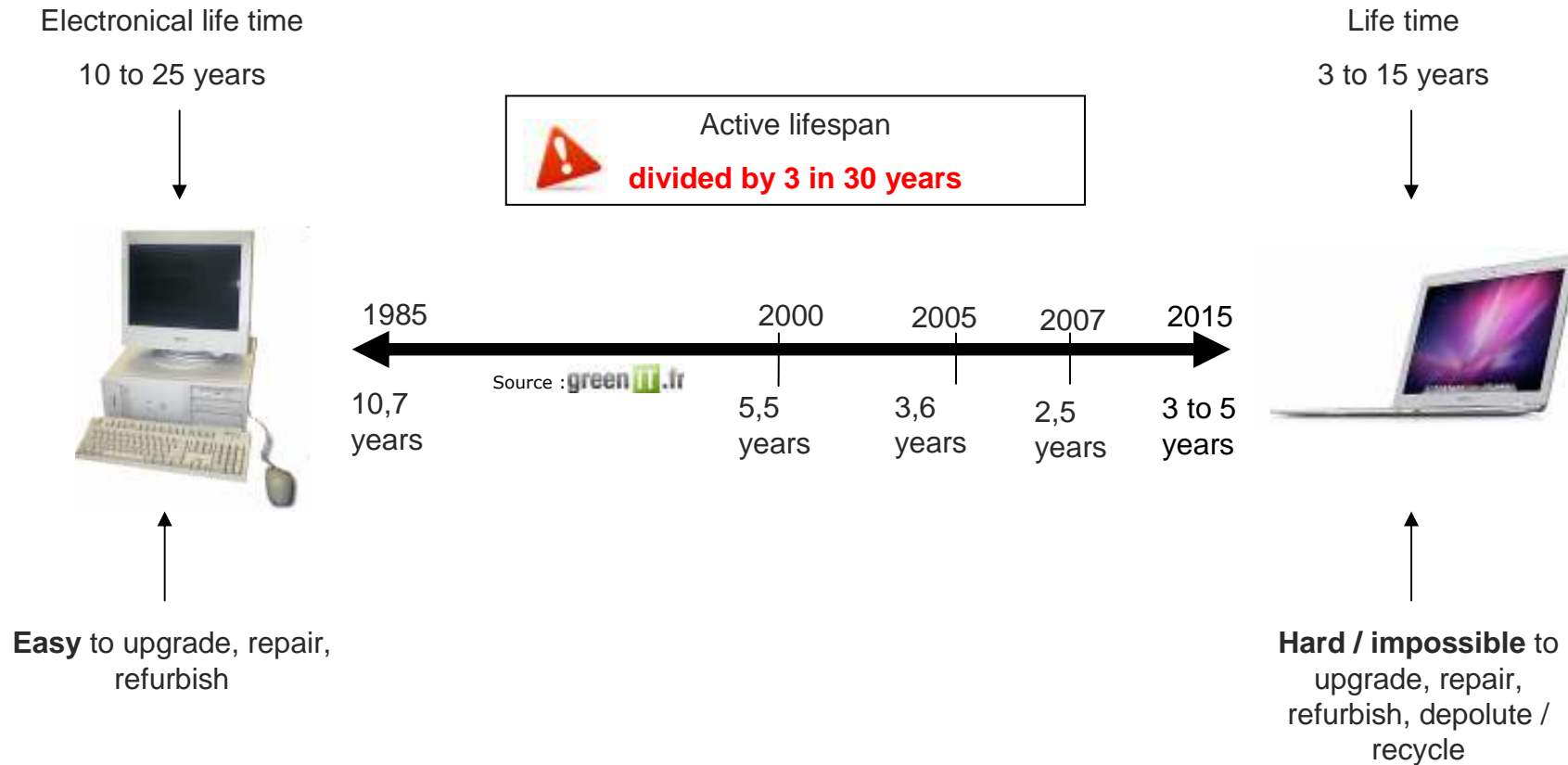
# 1. Embodied energy and GHG emission factors



2

**Enlarge your life span**

## 2. Computer lifespan divided by 3 in 1 generation



## 2. Hardware design & form factor

2007



Crédit : IBM

Standardized  
Interchangeable  
User friendly  
... components



2013



Crédit : Apple

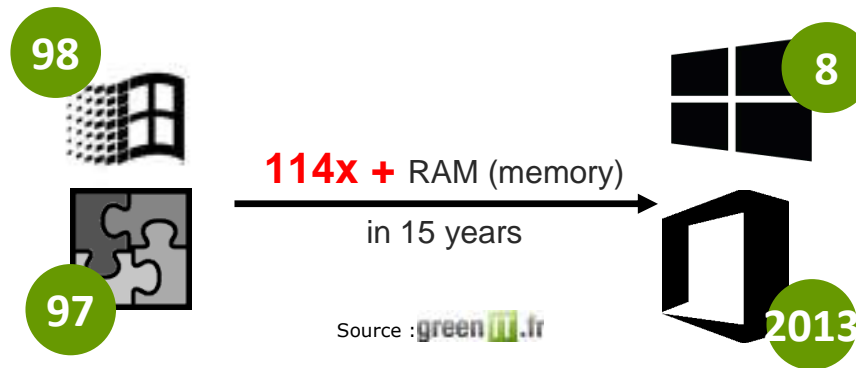
Proprietary screw (when exists)  
Welded components  
Prohibited by warranty terms

3

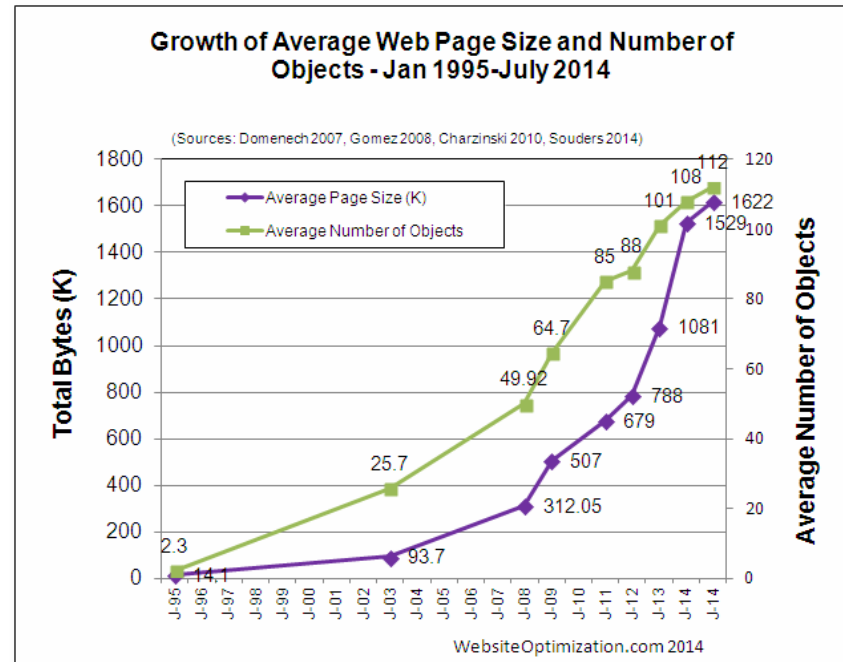
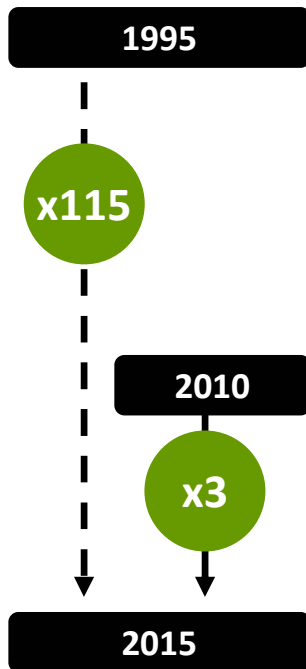
## Links between lifespan and software eco-design



### 3. Bloatware



### 3. WWW also is fat



Source : <http://www.websiteoptimization.com/speed/tweak/average-web-page/>

4

## Software eco-design

# 4. Find a website URL

FAIL



WIN



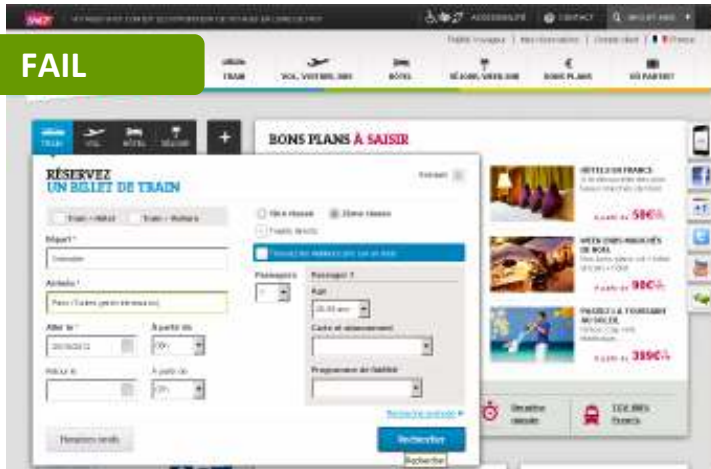

## 4. Software ecodev: definition and scope



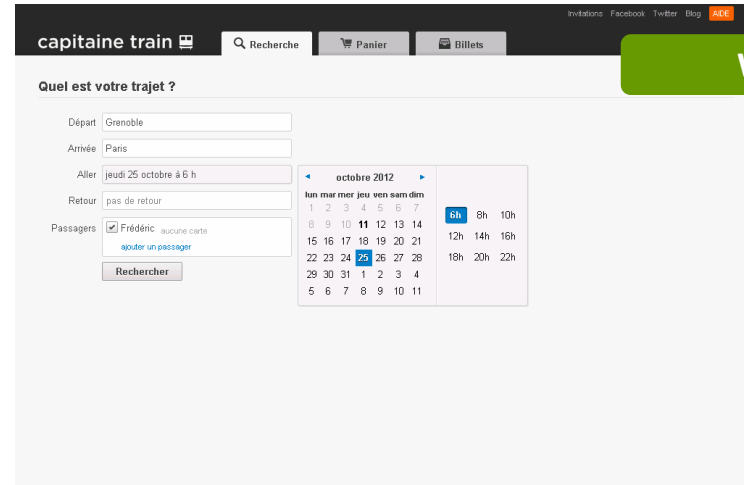
\* Functional, GUI, technical, ...

# 4. Book a train ticket

FAIL



WIN




### Analysis Error

The page took too long to load

GTmetrix tried to analyze the page, but it took longer than 2 minutes to finish loading. Try testing from a test location closer to your server.

Please see our [FAQ](#) on how to fix this error.

## Conclusion

# Conclusion

Enlarging lifespan