BEFORE STARTING

HOUSEKEEPING

- Turn on your system's sound to hear the streaming presentation
- **Questions?** Submit them into the question box!
- The webinar on Twitter @ICTFOOTRPRINTeu

Speakers

Frédéric Croisson
Manager
Deloitte Sustainability

Deloitte.
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Sustainability

Karen Robinson
Project Manager
**save@work & Severn
Wye Energy Agency**

SAVE
@WORK

Thomas Corvaisier
CEO
GREENSPECTOR

GREENSPECTOR

Silvana Muscella - Moderator
Founder & CEO
Trust-IT Services

Trust-IT Services
Communicating ICT to markets

The ICTFOOTPRINT.eu initiative -In a nutshell

Mission

Become "THE" consolidated effort that, at European level, raises awareness on metrics, methodologies & best practices in measuring the energy and environmental efficiency of the ICT-sector, to facilitate their broad deployment & uptake.

Stakeholders

ICT Intensive SME

ICT Suppliers

Cities & Public Administration

Standard Development Organisations

Helping you choose your Low Carbon & Energy Efficiency in ICT

Main Outputs for our stakeholders

ictfootprint.eu

Marketplace

Buyer: Find sustainable ICT suppliers & publish ICT sustainable needs.
Seller: publish ICT sustainable services or procurements & search for clients.

Webinars

Know more on sustainable ICT: get practical guides from a highly qualified experts in the Sustainable ICT sector and learn how to apply them in your organisation.

Help Desk
In 5 languages

Get support about how to decrease your carbon footprint & implement ICT energy efficiency standards with Online Assistance (EN, FR, ES, DE, IT).

Success Stories

Best practices in Sustainable ICT. Search how players like you got energy savings & carbon footprint reduction. Or even showcase your success story!

Self Assessment Centre

Measure your own carbon footprint and start learning how to become sustainable thanks to ICT standards & methodologies. AVAILABLE SOON

Join us and get energy savings by choosing low carbon ICT

ICTFOOTPRINT.eu Self-Assessment Tool for Services (SAT-S)

Frédéric Croison
Manager Deloitte Sustainability   **Thursday, 23rd February 2017**

Targeted stakeholders

ICT-intensive organisations

Organisations using ICT for their business – e.g. e-commerce & online newspaper

Developers / ICT system integrators

Organisations providing ICT services to other companies – e.g. customised software solutions

ICT service providers (large companies)

Large organisations providing ICT services to other companies, including system integrators – software products, data centers, ICT engineering software companies …

Other stakeholders interested in knowing more about the environmental impacts of ICT products/services

Goals of the SAT-S

SAT-S: a simplified tool for awareness raising on the impacts of ICT services/products

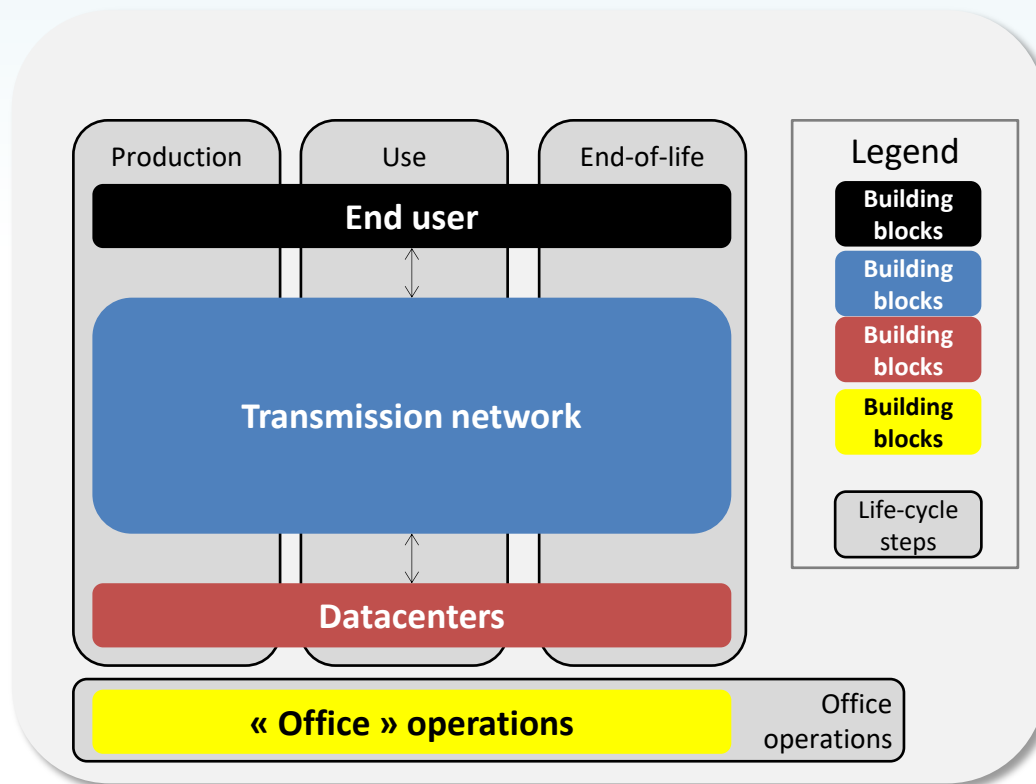| Goals/intended applications	Applications not intended
- Awareness raising - Identification of environmental hotspots of products / services - Simplified KEPI*-type LCA	- Detailed ecodesign / continuous improvement - Environmental communication through Environmental Product Declarations (EPDs) - Corporate or site environmental reporting - Monitoring of environmental impacts

SAT-S methodological background

🌿 Main methodological choices based on recommendations from existing standards or guidance (e.g. GHG Protocol - ICT Sector Guidance, ETSI 203 199)

🌿 BUT: the tool is not fully compliant to a specific standard or guidance

🌿 Multi-criteria and multi-step approach implemented:

  🌿 2 environmental issues (so-called "impact categories") assessed: **climate change** and **primary energy consumption** (Cumulative Energy Demand)

  🌿 Life-cycle of the digital platform split into 4 life-cycle steps and so-called "building blocks" (see the next slide)

Scope of the assessment of the SAT-S

Scope of the assessment: relation between "Building blocks" & "life cycle steps": 2 axis of analysis

	Production	Use	End-of-life
	End user		
	Transmission network		
	Datacenters		

Legend
- Building blocks (black)
- Building blocks (blue)
- Building blocks (red)
- Building blocks (yellow)
- Life-cycle steps

« Office » operations — Office operations

- **"Building blocks"** as defined in the GHG Protocol - ICT Sector Guidance: end user, transmission network (access network, provider edge, metro networks, long haul networks), and datacenters

- "**Life cycle steps":** for each building block, production, use and end-of-life of IT equipment are taken into account. Office operations are also included
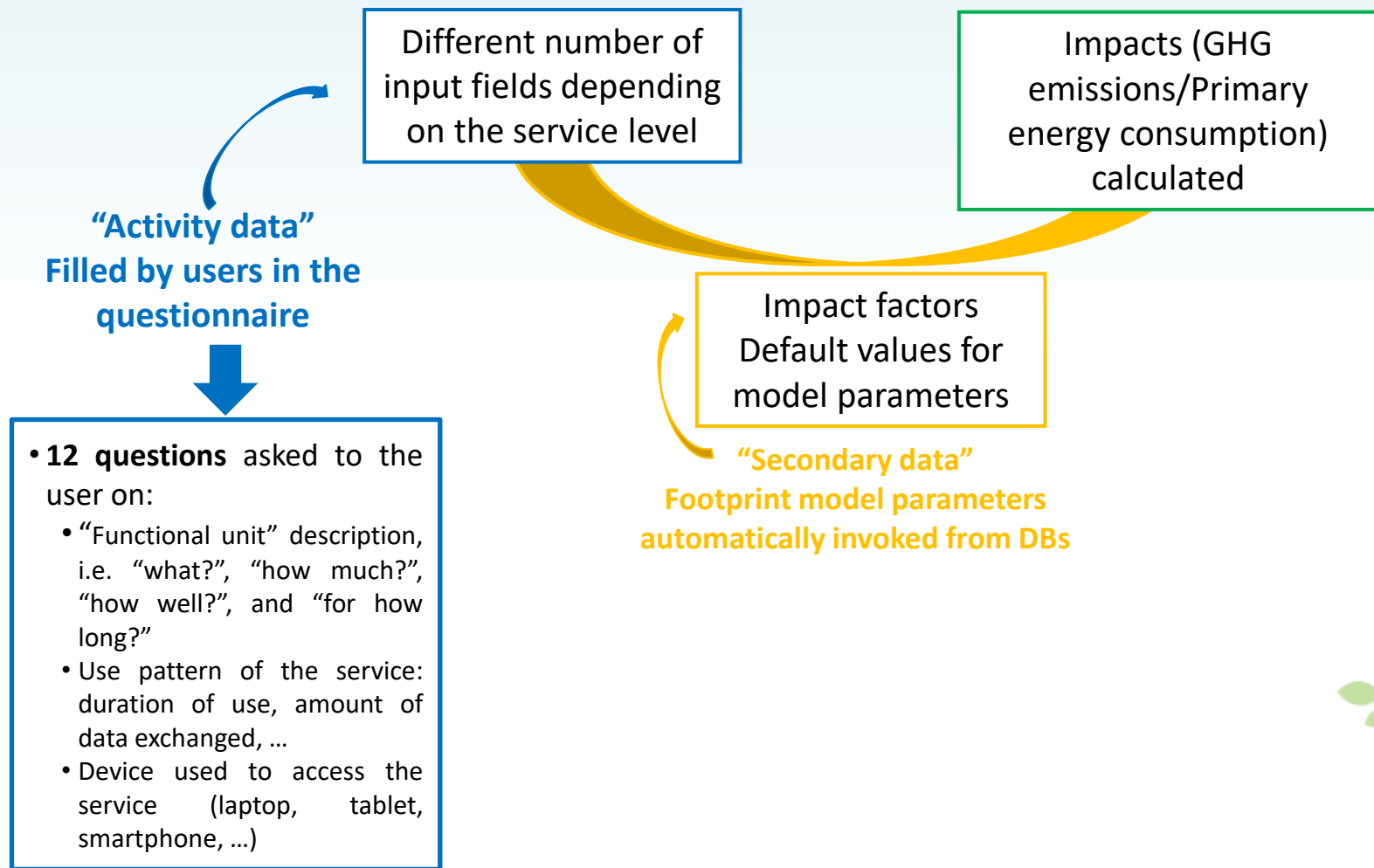
Scope of the assessment of the SAT-S

What type of services can be assessed with the SAT-S?

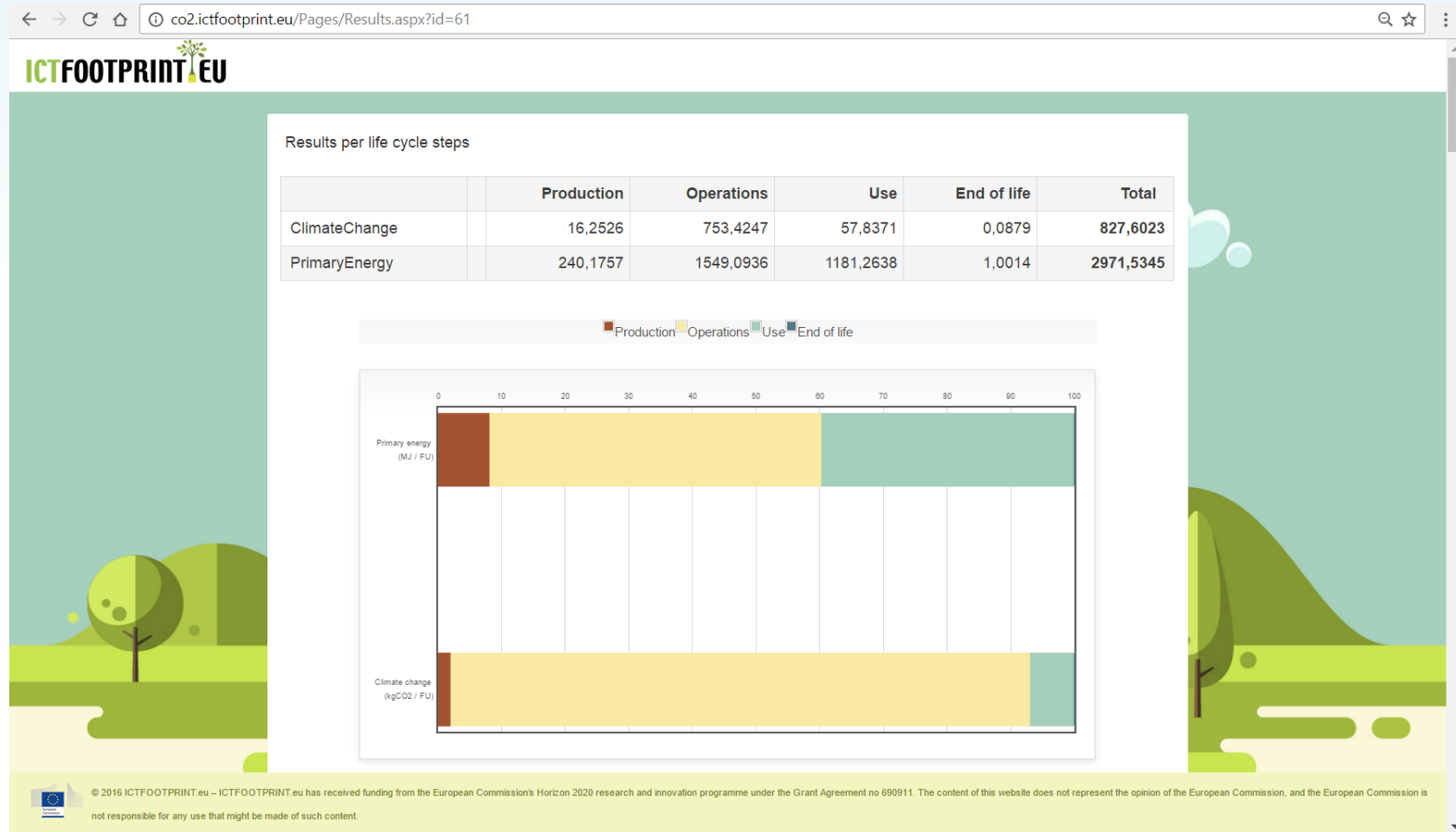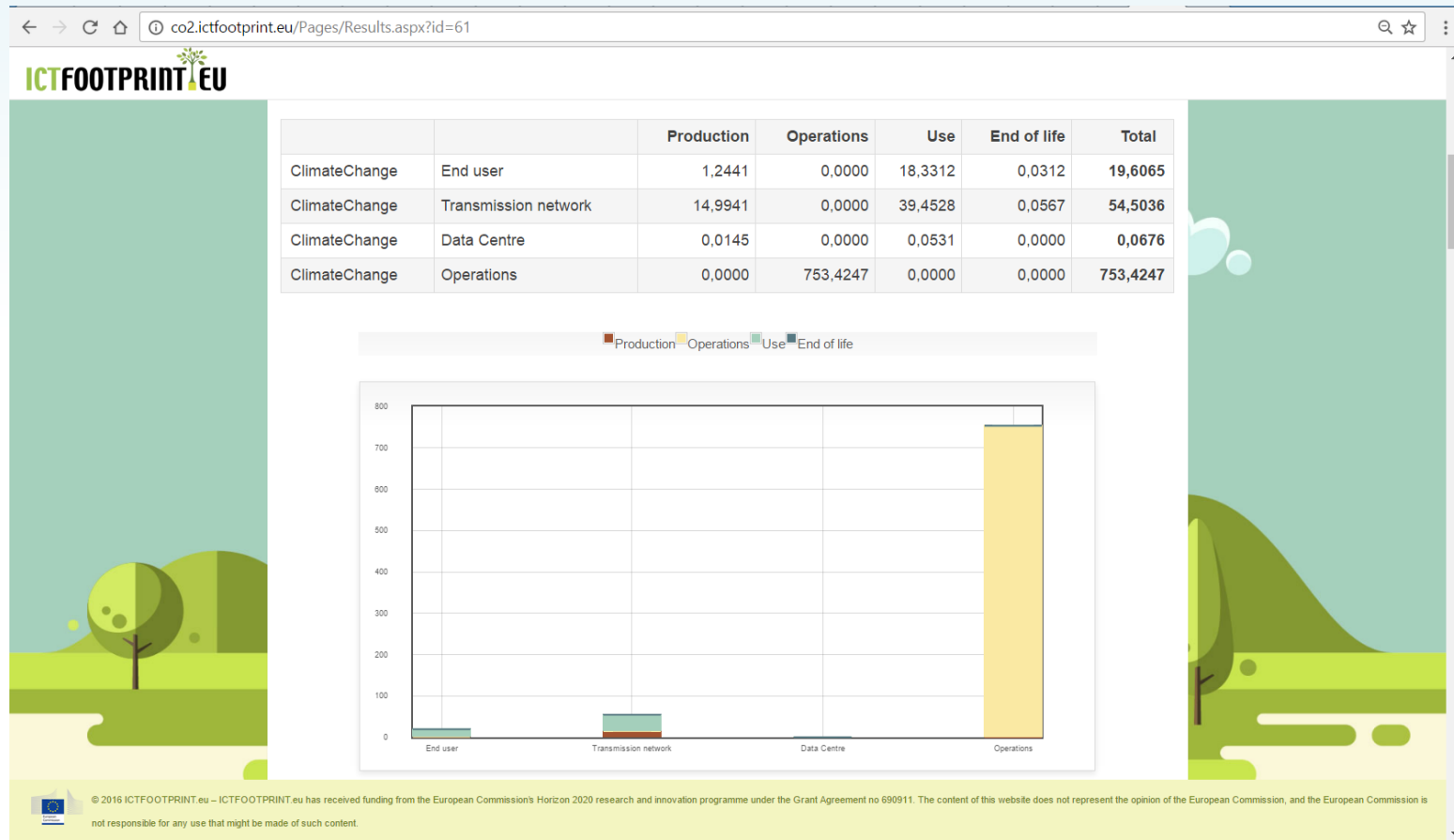| Type of standard user	ICT user	ICT provider
Typical example	travel agency proposing an online tickets reservation website, any ICT-intensive SMEs, …	Software/applications development companies (any web/local applications), video/music streaming platforms, e-commerce platforms such as Amazon, e-Bay, …
"Product/service" approach	**Not included in the scope of the 1st version of the tool.** The main reason for excluding this option is that non-ICT users will not be able to collect data on the whole life cycle of the ICT product or service assessed, as they are not producers of the ICT product/service analysed. The only data potentially available to ICT users would be limited to data on the use step of the ICT product/service which would not be sufficient to model the whole life cycle of the analysed ICT product/service	**Included in the scope of the 1st version of the tool.** We assume that the ICT provider would be more interested in communicating on the environmental performance of his product/service to his clients than communicating on the environmental footprint of his organization.

General principles of the SAT-S

Different number of input fields depending on the service level

Impacts (GHG emissions/Primary energy consumption) calculated

"Activity data"
Filled by users in the questionnaire

Impact factors
Default values for model parameters

"Secondary data"
Footprint model parameters automatically invoked from DBs

- **12 questions** asked to the user on:
  - "Functional unit" description, i.e. "what?", "how much?", "how well?", and "for how long?"
  - Use pattern of the service: duration of use, amount of data exchanged, …
  - Device used to access the service (laptop, tablet, smartphone, …)

Example of results

ICTFOOTPRINT.eu Webinar: Calculation Tools & ICT Insights on energy saving:
SAT-S, save@work, GREENSPECTOR

Example of results

ICTFOOTPRINT.eu Webinar: Calculation Tools & ICT Insights on energy saving:
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Next steps

- Launch of SAT-S: beginning of March

- Development of another tool for the assessment of the environmental footprint of organisations (SAT-O) : to be launched in 2017 (more info soon)

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ictfootprint.eu/#newsletter

Questions ?

Deloitte.

Deloitte
Sustainability

Thank you for your attention

Contact: Frédéric Croison
email: fcroison@deloitte.fr

What is save@work?

- Horizon 2020 funded project – 649660

- Aimed at public authorities to help them to walk the talk!

  - Building are responsible for around 40% of energy use in EU.

  - 12% of buildings are used/owned by public bodies

  - Energy efficiency initiative by helping to change the energy consuming practices of employees

🌿 9 Countries

🌿 180 buildings

🌿 9000 employees

🌿 3,100 tonnes of Carbon

NATIONAL PARTNERS

How do you engage people when they don't pay the bills?
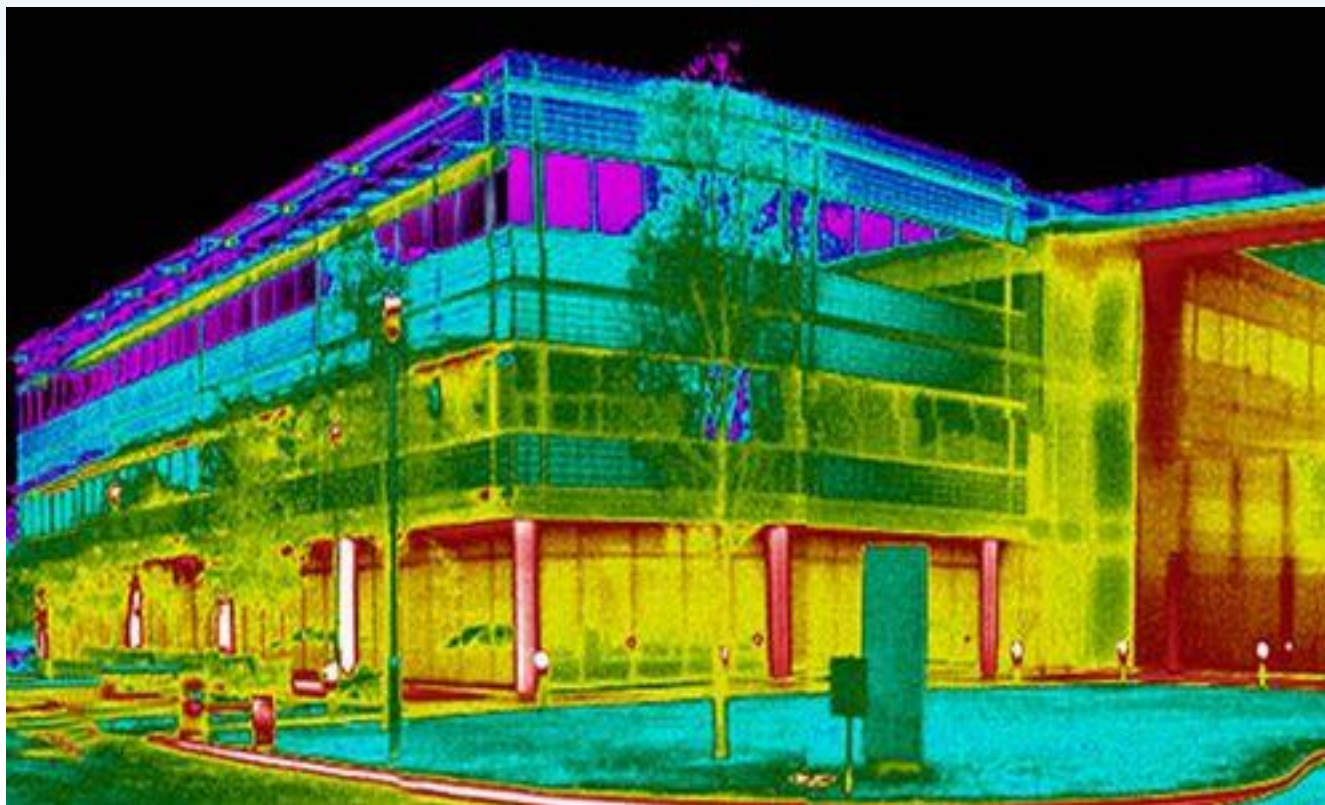
Save@work uses our understanding of behaviour change and what makes people tick

Step by step…..

1
- Form a working group
- Create an energy team

Year
- Building survey
- Training workshop

Long
- Action plan
- Regular feedback mechanism

The Telford Team

The Telford save@work energy team noticed that despite computers being turned off when people went home, monitors were often left on both when people went to meetings and overnight.

A study of their office showed that 14% of their staff regularly left their screens on.

Is it worth it?

Common arguments for not doing something...

- It is only a small amount of energy, what difference could it possibly make?

- I am only 1 person what difference could I possibly make?

What a single socket monitor can tell you....

- Standby of a dell computer 1 watt.

- 1000 hours(41.5 days) = 1 kW

- Telford office 490 computers 1 kW = 2 hours

- Land Registry 9,000 monitors 1 kW = 7 mins

- Land Registry is only 1, relatively small government department

We did some calculations….

If 25% of the Land Registry's staff left their monitors on overnight…

(0.25 x 9000) x 1watt x 12 hours/1000 = 27kWh wasted per night.

27kWh x 14p/kWh = £3.78 per night

But….if they also left them on over the weekend that is an extra £15.12

So….

(£3.78 x 5) x £15.12 = £34.02 per week

Or £1,769.04 per year

Small changes made by many people DO make a difference

Thank you for your attention

Contact: Karen Robinson
email: karenr@severnwye.org.uk

IT is not "virtual"

- IT services are often considered as having low or no environmental impact. They seem "virtual" or "immaterial".

- But IT services need real hardware to operate.
- And hardware
  - Needs to be built (and that costs a lot)
  - Needs to be fed electricity (and they are quite hungry)

- As a result:
  - In 2030, the internet could consume as much electricity as all humankind in 2008 (Dresde University)
  - The footprint of the IT sector is more than 2% of all GHG emissions (as much as the aviation sector!) and growing at a fast pace.

It's not going to get better

- Hand-held devices have become very common
  - 4.5 billion smartphones in 2016
- Connected devices are coming at a fast pace
  - 80 billion in 2020?
- With these new capabilities, users are asking for always-on, faster and more reliable IT services.

- To face this demand for software services:
  - Network infrastructure and datacentres are growing: more routers, more servers…
  - Lots of fully functional hardware pieces (PCs, smartphones…) are replaced because they appear to lack performance.

    « Software is eating the world », Marc ANDREESSEN, 2011.

SOFTWARE IS EVERYWHERE, & IS BECOMING BLOATWARE.
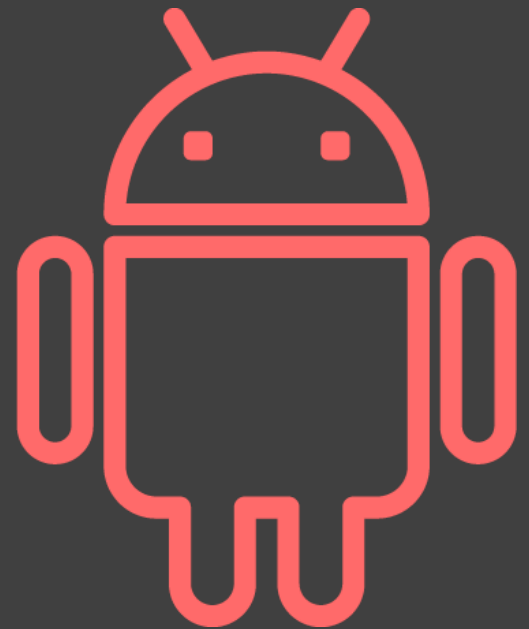
HEAVY SOFTWARE HAS NEGATIVE IMPACTS ON:

USER EXPERIENCE
- Slowness
- Productivity
- User Experience

RESOURCES
- Battery life
- Availability

COSTS
- Exploitation
- Hardware renewal

What if...

... we could make the software **lighter**

so that it consumes **less resources**

while having the same performance?

*(or even **BETTER performance**?)*

How?

By applying the principles of

eco-design

to the software development process

During all production steps:
- Requirements analysis
- Software Architecture
- Hardware Architecture
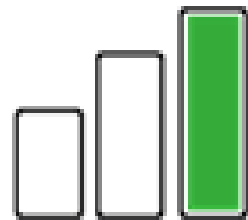- Software Development
- Overall management

Main benefits

CSR policy
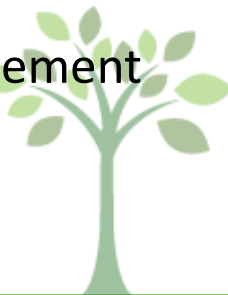
Less energy

Longer hardware lifespan

Battery life

More autonomy

More availability

Performance

Better UX

Better engagement

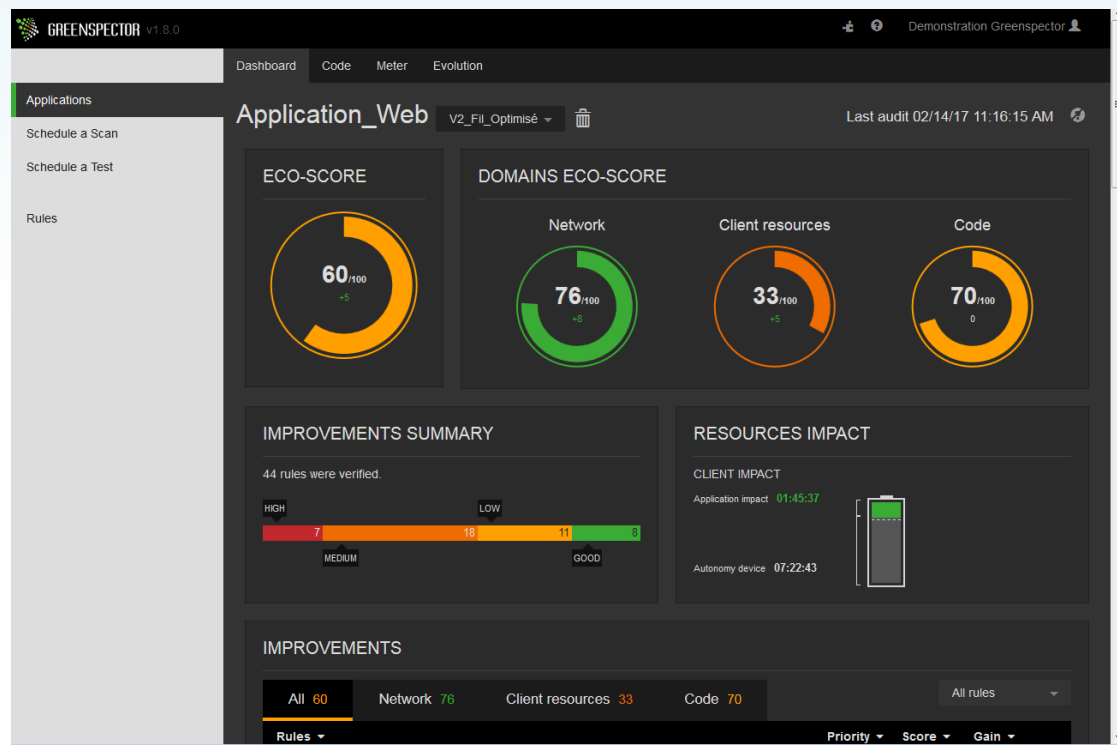# GREENSPECTOR

Manage efficiency scoring and "green" maturity

Measure energy and resources consumption on real mobile devices

Automatically detect power-draining patterns in source code

GREENSPECTOR

- A comprehensive dashboard

- Prioritized recommandations

- More than 200 efficiency patterns

- « Energy Test Cloud » service for easy consumption check

A use case

- An IT services company was developing a fully integrated smartphone for defence purposes.

- Its battery life was down to 3 hours.

- With GREENSPECTOR the dev team was able to measure energy consumption, identify and correct an "energy bug".

- Battery life was upped to 11 hours in a few days.

- They now use our tool for continuous efficiency control.
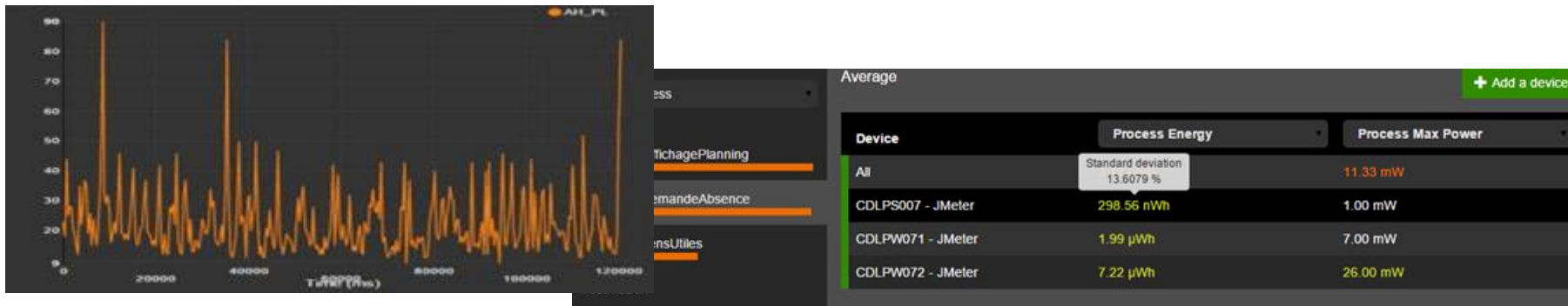
Technical integration

Integrated with mainstream IDEs, continuous integration platforms, agile teams…

Conclusion

- If you want to

  - Avoid building bloatware,

  - Find energy bugs before your users do,

  - Improve energy efficiency and battery life,

  - Improve UX and performance,

- Then

  - Software eco-design is the way to go.

They already do it: **AtoS** LA POSTE orange CGI A Chinese leader

GREENSPECTOR

Thank you for your attention

Contact: Thomas CORVAISIER
email: contact@greenspector.com

THANK YOU!

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