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

ICTFOOTPRINT.EU

European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector

Webinar: Green Policies, Green Labels and Virtualization Efficiency

In parternship with:

Nantes Métropole

EasyVirt

GREENSPECTOR

Thursday, 27th September 2018

Speakers

Matthieu Clavier
Coordinator
Nantes City Lab Coordinator & Nantes Métropole

Thierry Leboucq
Chairman
GREENSPECTOR

Martin Dargent
CEO
EasyVirt

Silvana Muscella - Moderator
Founder & CEO
Trust-IT Services

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.

Partners

Trust-IT Services
Communicating ICT to markets

Deloitte.

EUROCITIES

Stakeholders

- **ICT Intensive SME**
- **SDOs (Standard Development Organisations)**
- **Cities & Public Administration**
- **ICT Suppliers**

Helping you choose your Low Carbon & Energy Efficiency in ICT

ICTFOOTPRINT.eu Results so far

5.000+ Community Members

26 ICT Sustainable Suppliers from 11 different countries

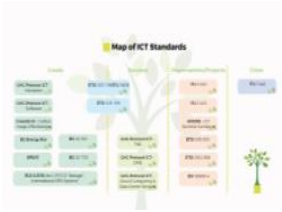
14 Advisory Group members from 7 different countries

5 languages helpdesk (EN, FR, DE, IT, ES)

1 Paper published in Scientific Event proceedings

1 user-friendly Self-Assessment Tool (SAT-O)

44 Success Stories on Green ICT



Map of ICT Standards with 20 factsheets

10 webinars with 28 different speakers & +400 registrations

Active Presence in 16 ICT & energy-aware events, plus visibility in 5 events

Consolidated community of 5,000+, through an effective marketplace, help desk, dynamic Map of ICT Standards, and communication & dissemination actions

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!**
SAT-S & SAT-O	**Measure your own carbon footprint and start learning how to become sustainable thanks to ICT standards & methodologies.**
Map of ICT Methodologies	**20 downloadable fact-sheets of ICT methodologies & standards, understand & measure your ICT goods, services organisations & cities' carbon footprint.**

Join us and get energy savings by choosing low carbon ICT

A Low Carbon ICT engaged community

Social Media followers, Newsletter subscribers, Webinars registrations , Marketplace sellers & buyers, Journalists, Synergies

★ > 5.300 members ★

ICTFOOTPRINT.eu COMMUNITY

ICTFOOTPRINT.eu Community 3.750 members

- *SMEs 53%*
- *Large Enterprises 12%*
- *Public Administration 5%*
- *NPO 24%*
- *SDO 0,6%*
- *Media 2,20%*
- *Academia & Research Centre 3,3%*

Amongst the connections that count (multipliers/influencers)

10 webinars with reputable speakers

CARBON TRUST · ETSI · the green grid · ITU · Greenit amsterdam region · DATA CENTER eureca PROJECT · vmware · BUREAU VERITAS · Sustainability for London · Microsoft

26 sustainable ICT sellers

VERNE GLOBAL · The Planet Mark · networkdna · ELe · eden project · Enervalis · greengage IT · caelus consulting · Carbon IT · circular computing · Certics · CELESTE · GREENSPECTOR · Green Web

How sustainable is your ICT company?

https://ictfootprint.eu/en/services/self-assessment-tool-organisations

SAT-O (for Organisations) – Free & simple tool to calculate the overall carbon footprint of your organisation

- Digital services provided & used by the organisation
- Structural impact of the building and personnel's
- Your own personalised report, with a light reading style, that shows the approximate climate change and primary energy footprint of your ICT-intensive organisation assessed over one year

SAT-O

Assess the ICT carbon footprint of your organisation, for sustainable ICT decisions

TRY "SAT-O" TOOL & MAKE INFORMED DECISIONS ON HOW TO MAKE YOUR ICT SUSTAINABLE & ENERGY EFFICIENT

Get to action! Joins us at ICT2018

What?

Networking session 4th December

Hall L5 – 17:00 to 17:45

Exhibition Stand from 4th to 6th December

Open all day

Who?

Public Authorities & cities, ICT companies, NGO on sustainability & ICT, Standard Development Organisations and and ICT

Key priorities, insights, networking, green tools, sustainable IT suppliers & further activities at our exhibition stand & networking session

REGISTER ON https://ictfootprint.eu/user/register TO GET OUR NEWSLETTERS

ICTFOOTPRINT.EU

European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector

Green ICT at Nantes Métropole

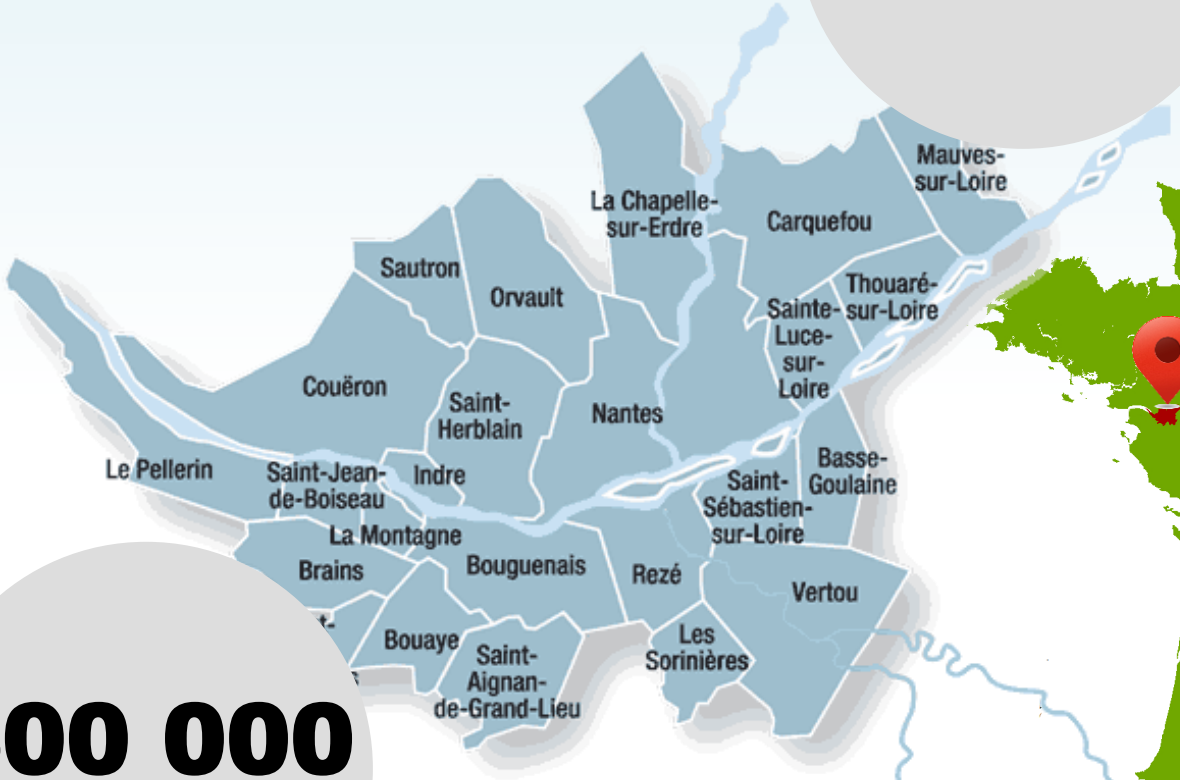
Matthieu Clavier,
Nantes Métropole

Thursday, 27th September 2018

Nantes Métropole

Metropolis

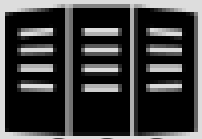
24 CITIES



600 000

INHABITANTS

KEY FEATURES



600
SERVERS

7 500
PC's

7 500
USERS

2 500
PRINTERS

5 000
PHONES

600
NETWORK SWITCHES

Major GreenIT steps in action

03/10/2018

2017 EcoLabel of website for energy transition big citizen debate

2016 Eco-design audit – Mobile App Network Energy Monitoring

2015 Green IT Roadmap with GreenLab Center

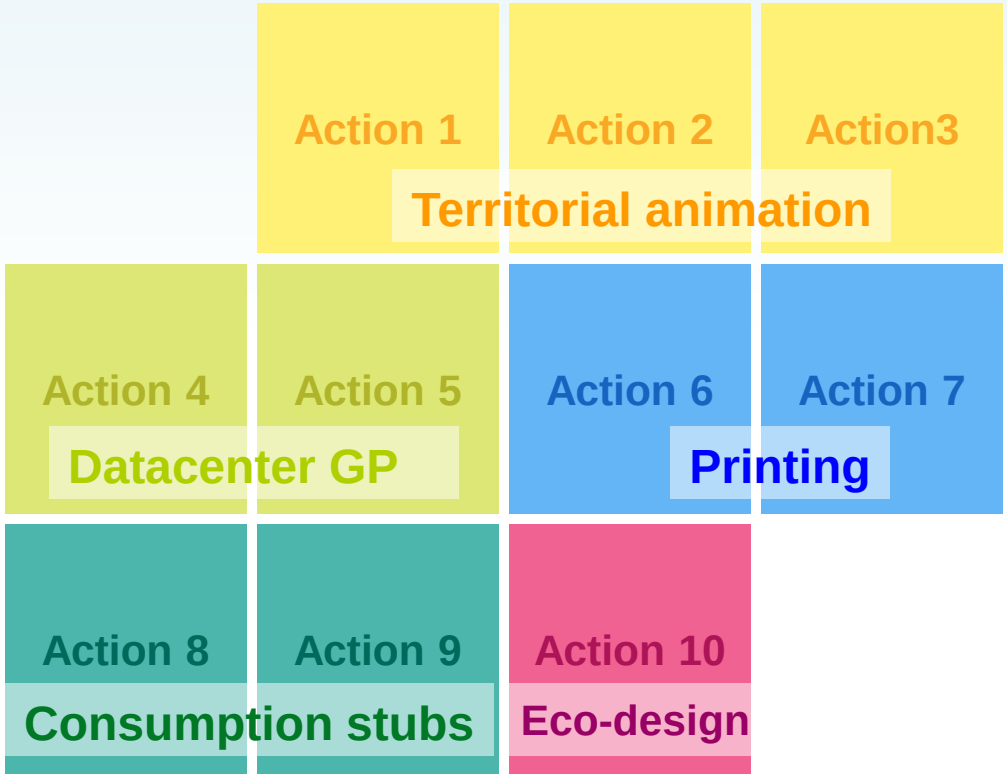
2014 Increase of datacenter temperature

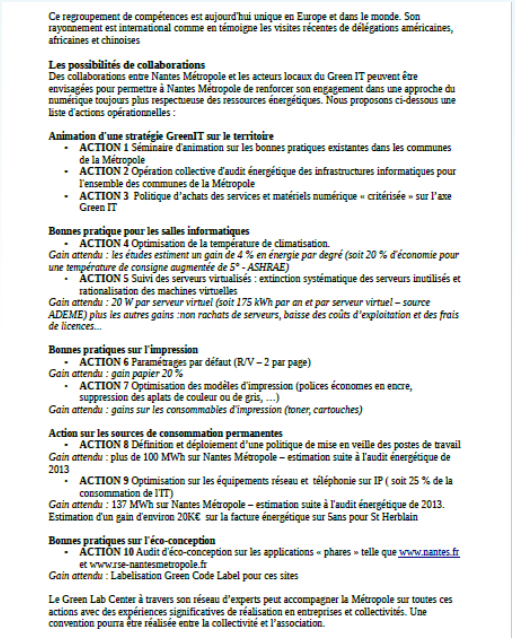
2013 Energy Audit of digital infrastructure
Stop of unused virtual servers

2011 E-Waste Management

2010 Servers Virtualisation
From 160 physical servers to 60

Green IT roadmap at a glance





Ce regroupement de compétences est aujourd'hui unique en Europe et dans le monde. Son rayonnement est international comme en témoigne les visites récentes de délégations américaines, africaines et chinoises

Les possibilités de collaborations
Des collaborations entre Nantes Métropole et les acteurs locaux du Green IT peuvent être envisagées pour permettre à Nantes Métropole de renforcer son engagement dans une approche du numérique toujours plus respectueuse des ressources énergétiques. Nous proposons ci-dessous une liste d'actions opérationnelles :

Animation d'une stratégie GreenIT sur le territoire
- **ACTION 1** Séminaire d'animation sur les bonnes pratiques existantes dans les communes de la Métropole
- **ACTION 2** Opération collective d'audit énergétique des infrastructures informatiques pour l'ensemble des communes de la Métropole
- **ACTION 3** Politique d'achats des services et matériels numérique « critérisée » sur l'axe Green IT

Bonnes pratique pour les salles informatiques
- **ACTION 4** Optimisation de la température de climatisation.

Gain attendu : les études estiment un gain de 4 % en énergie par degré (soit 20 % d'économie pour une température de consigne augmentée de 5° - ASHRAE)
- **ACTION 5** Suivi des serveurs virtualisés : extinction systématique des serveurs inutilisés et rationalisation des machines virtuelles

Gain attendu : 20 W par serveur virtuel (soit 175 kWh par an et par serveur virtuel – source ADEME) plus les autres gains :non rachats de serveurs, baisse des coûts d'exploitation et des frais de licences...

Bonnes pratiques sur l'impression
- **ACTION 6** Paramétrages par défaut (R/V – 2 par page)

Gain attendu : gain papier 20 %
- **ACTION 7** Optimisation des modèles d'impression (polices économes en encre, suppression des aplats de couleur ou de gris, ...)

Gain attendu : gains sur les consommables d'impression (toner, cartouches)

Action sur les sources de consommation permanentes
- **ACTION 8** Définition et déploiement d'une politique de mise en veille des postes de travail

Gain attendu : plus de 100 MWh sur Nantes Métropole – estimation suite à l'audit énergétique de 2013
- **ACTION 9** Optimisation sur les équipements réseau et téléphonie sur IP (soit 25 % de la consommation de l'IT)

Gain attendu : 137 MWh sur Nantes Métropole – estimation suite à l'audit énergétique de 2013. Estimation d'un gain d'environ 20K€ sur la facture énergétique sur Sans pour St Herblain

Bonnes pratiques sur l'éco-conception
- **ACTION 10** Audit d'éco-conception sur les applications « phares » telle que www.nantes.fr et www.rse-nantesmetropole.fr

Gain attendu : Labellisation Green Code Label pour ces sites

Le Green Lab Center à travers son réseau d'experts peut accompagner la Métropole sur toutes ces actions avec des expériences significatives de réalisation en entreprises et collectivités. Une convention pourra être réalisée entre la collectivité et l'association.

Green IT policy

Métropolitan area scale

14 cities interested over sur 21 surveyed

IT Energy audit

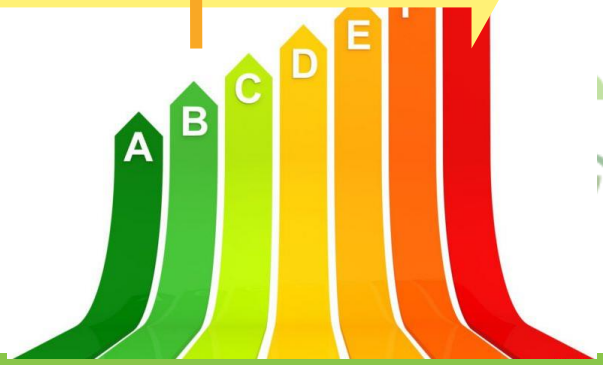
sharing of good practices

2013
Nantes Métropole
City of Nantes

2014
City of Saint Herblain

2015
City of Orvault

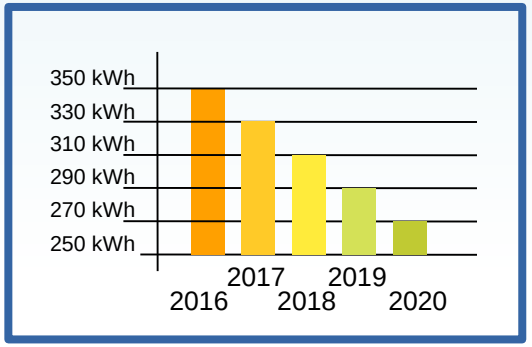
By the end of 2018
Nantes Métropole
City of Nantes



Consumption divided by 3

Referencing of very low energy workstation in 2015 for renewal

Potential in the collectivity **4 000** workstations by 2020



Annual power consumption of workstations

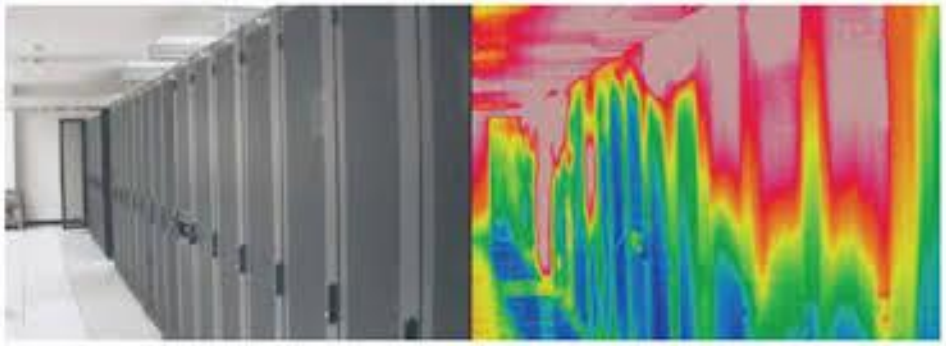
Average consumption of workstations 350 000 kWh/y

Estimated savings **100 000 kWh/y**

Optimization of the air cooling temperature

Limit of this action : lack of measuring

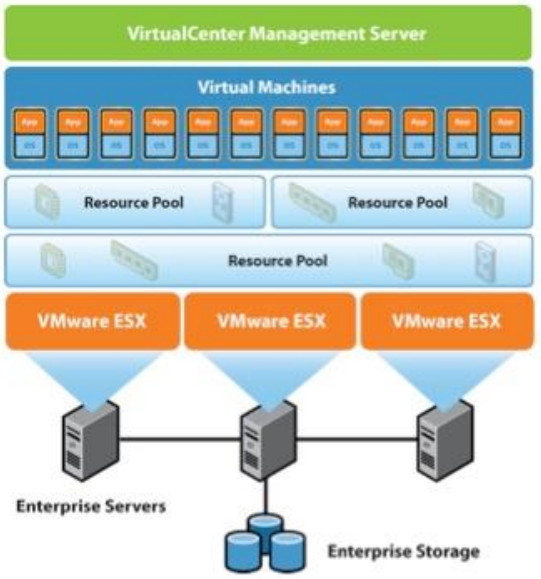
2009	2015	?
19°C	23°C	27°C



Automatic extinction of unused virtual servers

More than 100 servers (over 700) are permanently shut down

With 10W by server, it represents about 9 000 kWh savings a year



Automatic printers/copiers configuration

Starting point
about 16 000 000 printings B&W and color in 2015

92 % of printings are R/V

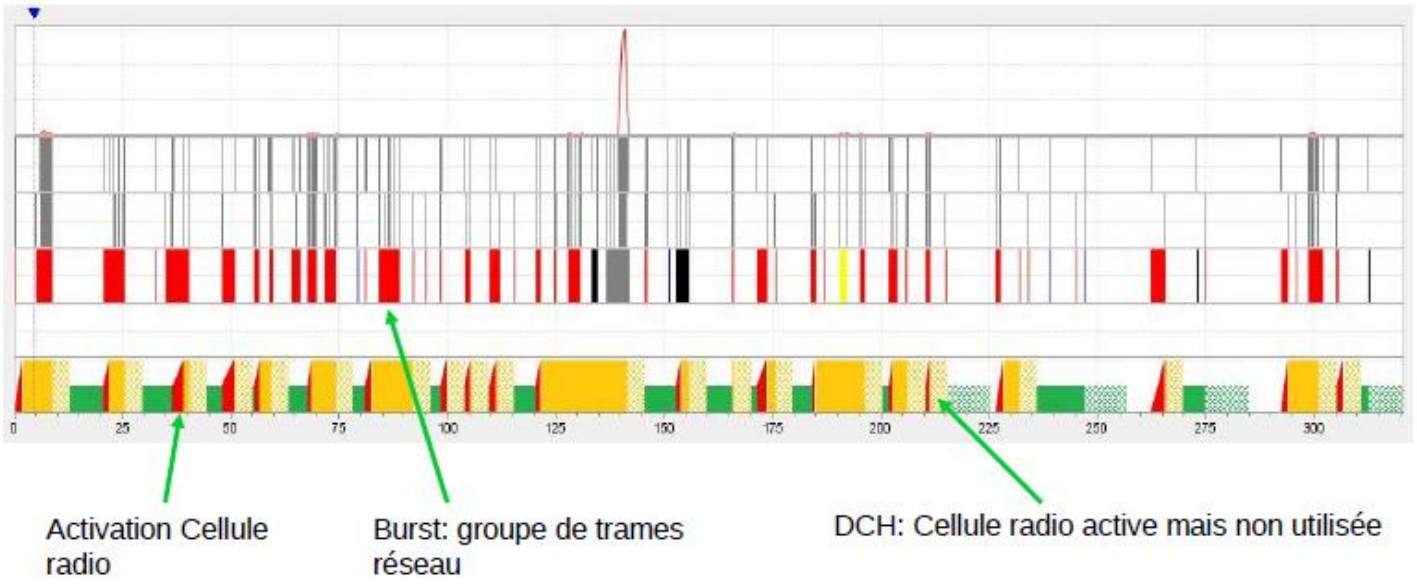
Nearly 14 000 paper reams saved

Default standby policy over 5 000 workstations

Every workstation get to standby after 3 hours of inactivity

The IT energy audit revelead good practices of users

Eco energetic audit of the official mobile app of the city

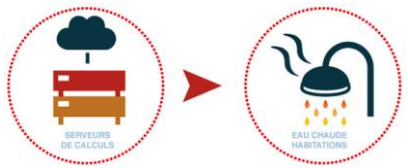


Eco software design

Setting up an eco-conception process for the labeling of a website dedicated to a major citizen debate dedicated to the energetic transition

Keep on going …

- Green IT culture
- Further projects
  - New IT energy audit
  - Experimentation of digital boilers
  - Continuous measures and dynamic dashboa…
  - Energy issues of cloud solutions
  - Permanent power consumptions of network infrastructure



Above all, keep pragmatic, with realistic, measurabale objectives … and measure

Thank you for your attention

Contact: Matthieu Clavier

email: matthieu.clavier@nantesmetropole.fr

ICT FOOTPRINT EU

European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector

Software Label

Thierry LEBOUCQ,
Chairman at GREENSPECTOR

Thursday, 27th September 2018

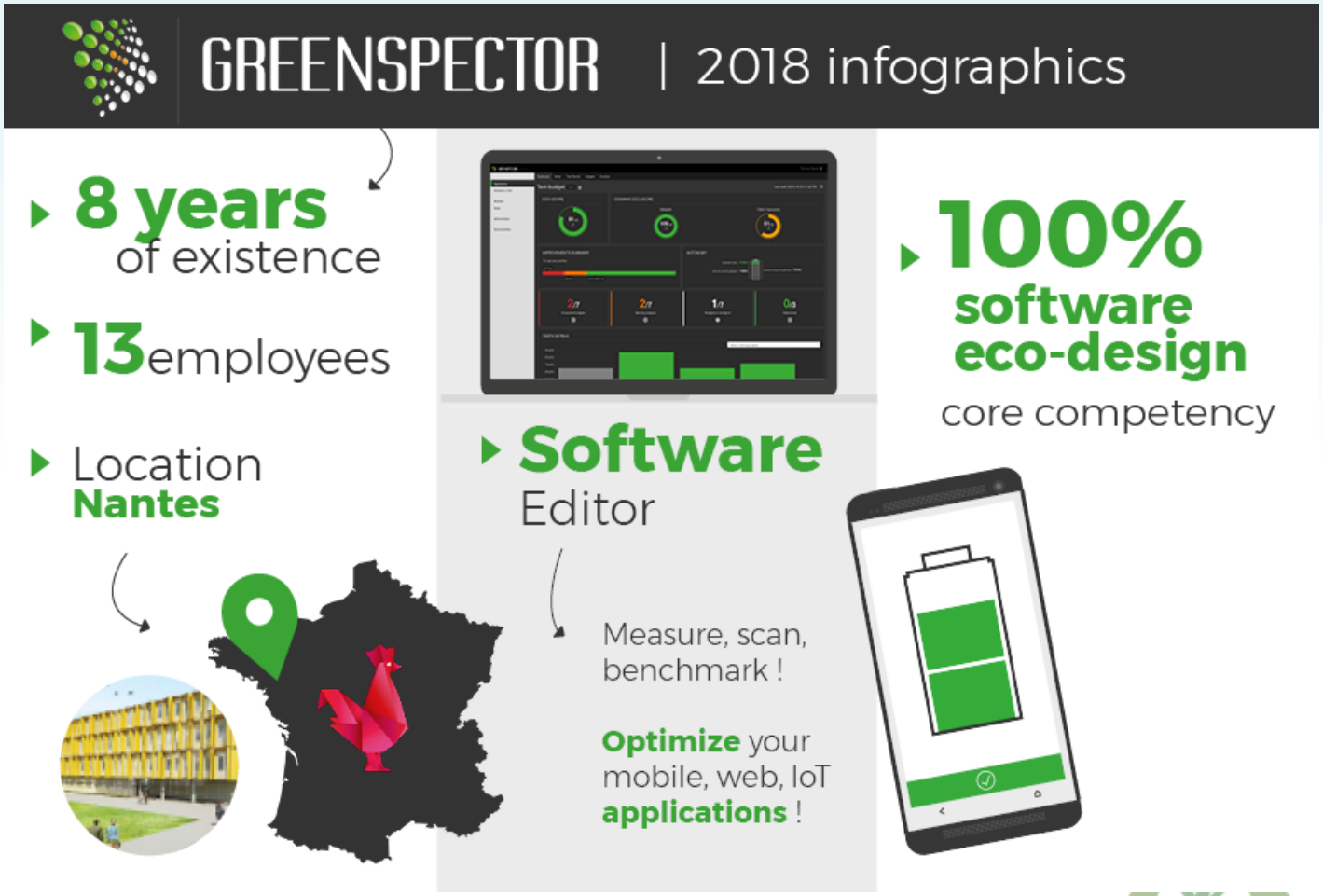
GREENSPECTOR

ICT FootPrint
27/09/2018

Sofware Label

Thierry LEBOUCQ(@tleboucq)
GREENSPECTOR (@green_spector)

- Founder of GREENPECTOR
- Co-Founder of GreenCodeLab



GREEN CODE LAB

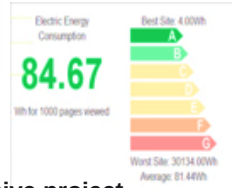
Green Code Lab is a French community to act in digital services ecodesign

green<ode LAB

- **Actions to sensibilize digital actors :**

Green Patterns book

webenergy ARCHIVE



Webenergyarchive project

GREEN CODE LAB CHALLENGE

Greencodelab challenge

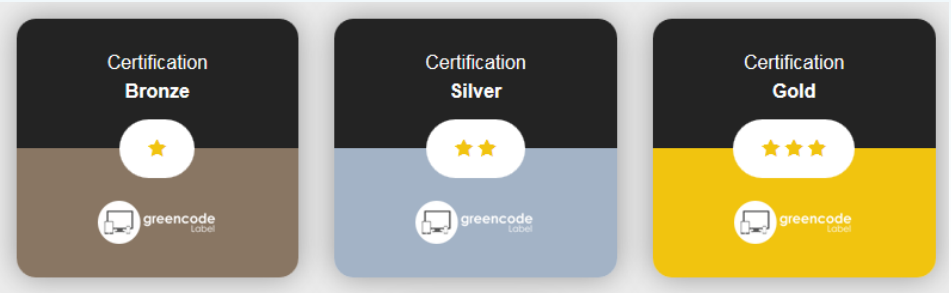
ICT4S ICT for Sustainability

ict4s.org

green<ode LABEL

Greencodelab challenge

A FRENCH LABEL FOR A SUSTAINABLE WEB



To engage orgnizations in action and communication for sustainable Web

GREEN CODE LABEL – BIG PICTURE

- **A repository of Green rules :** public,
- **A self-assessment** Excel spreadsheet
- **Preparation** accredited onsultant

- **An « independant » exam** by Green Code Lab, 5 web pages
- **A Label** for 2 years, for a website, 3 levels

GREEN CODE LABEL – PERIMETER

- Effectiveness of the "server code"
- “low” use of databases
- Optimization of network transfers
- Effectiveness of the "customer code" Resource consumption
- Relevance and sobriety of presentation of the content (without obligation of austerity)

GREEN CODE LABEL – RULES REPOSITORY

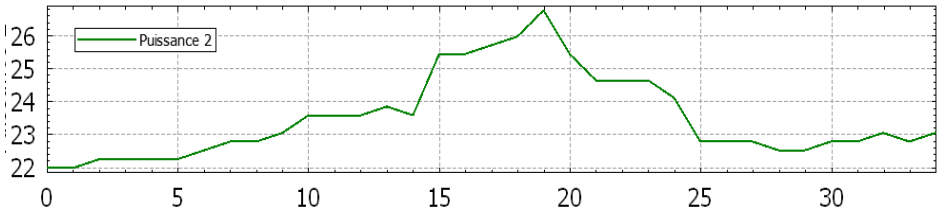
The repository contains criteria of means and criteria of results

- 32 criteria of means covering the entire process
- 2 criteria of results via Webenergyarchive.com

GREEN CODE LABEL - RULE

Criteria 22 (Client part)

Stop processing if the user no longer views the page (Minimization, idle ...)



GREEN CODE LABEL - RULE

Criteria10 (Content)

Optimize images and adapt images to the user platform

GREEN CODE LABEL – REAL MEASURE

Criteria 31 (Energy)

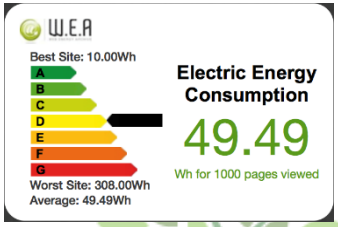
Consumption of Home page on client side

- **Label A : 2 points**
- **Label B : 1 point**
- **Label C : 0 point**
- **> Label C : Eliminating criteria**

PowerAPI

WEBPAGETEST

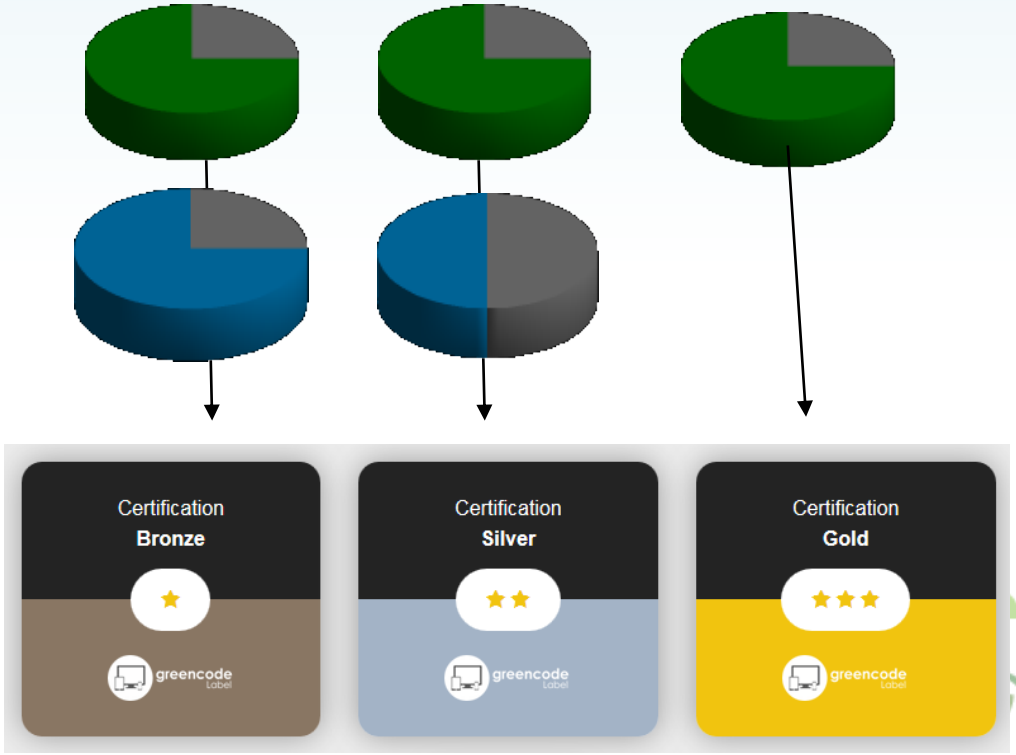
webenergy ARCHIVE



GREEN CODE LABEL – LEVELS

Rules level 1>

Rules level 2>



GREENSPECTOR

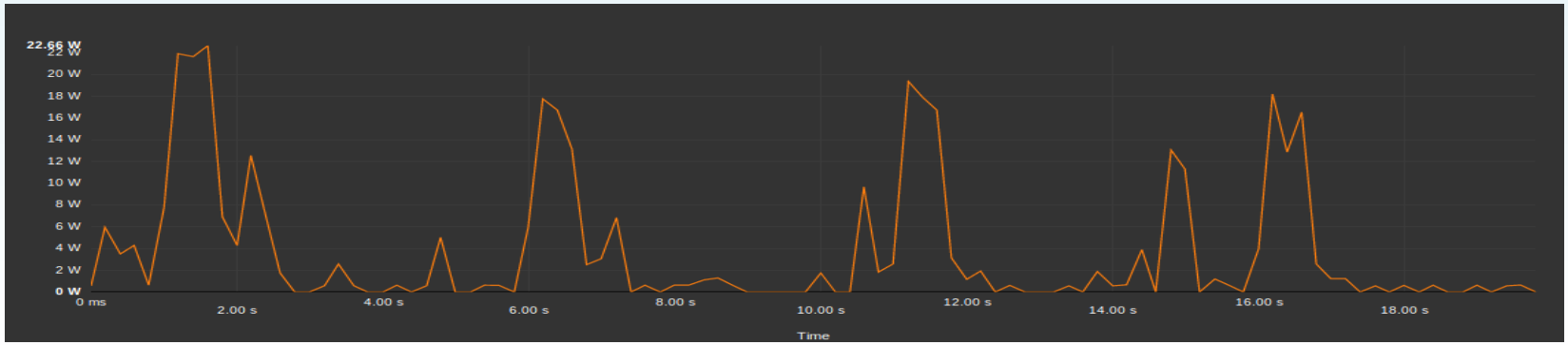
A label for a commitment

Certification Gold

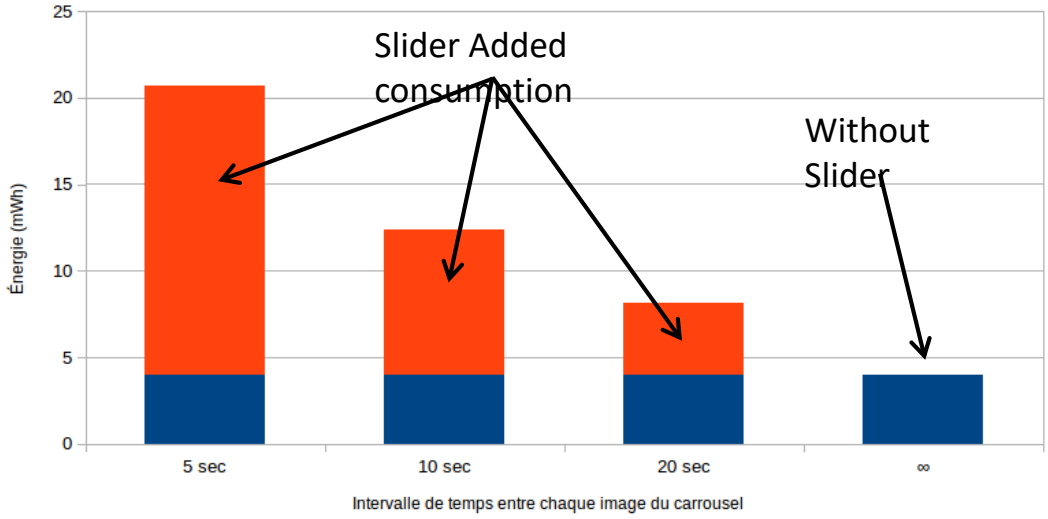
NANTES METROPOLE – FIRST ASSESSMENT

- Website : https://www.nantestransitionenergetique.fr/
- Website developped with an external Digital Partner
- First Evaluation : near Silver
- Level but **F label** in Energy

NANTES METROPOLE – WORKING TIME …



Removing Image Slider reduces Energy Consumption by 80%.



NANTES METROPOLE – GOLD LABEL

- Decision to target Gold Level
- Decision by Business owner to replace image slider by a changing image to obtain A-Label for Energy Consumption
- Budget for improvement accepted (cupple of days)
- …. GOLD LABEL !

NANTES METROPOLE – INTEGRATION IN PROCESS

- Repository used in another website, Musée des beaux Arts Website, label exam not yet taken
- Since 2 months, NANTES METROPOLE decided within Digital Partner Public Contract to Measure energy consumption all along conception phases with Greenspector Cloud Solution

GREEN HAPPY END !

Thank you for your attention

Links

https://greencodelab.org/

https://label.greencodelab.org/

https://label.greencodelab.org/green-code-label-detail/

https://wea.greencodelab.org/

https://www.meetup.com/fr-FR/Green-Code-Lab/

ICTFOOTPRINT.EU

European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector

EasyVirt - IT Efficiency and optimization

Martin Dargent,
CEO at EasyVirt

Thursday, 27th September 2018

EasyVirt

EasyVirt

IT Efficiency and optimization

EASYVIRT @EasyVirt

Easyvirt dans la sélection des 21 start-up qui œuvrent pour l'environnement @Alliancy_lemag bit.ly/1ItChaS

La FRENCH TECH

CODE OF CONDUCT DATA CENTRES Endorser

2016 2017 LAURÉAT IT innovation

EasyVirt team

Martin Dargent

PhD Jean-Marc Menaud

PhD Frédéric Dumont

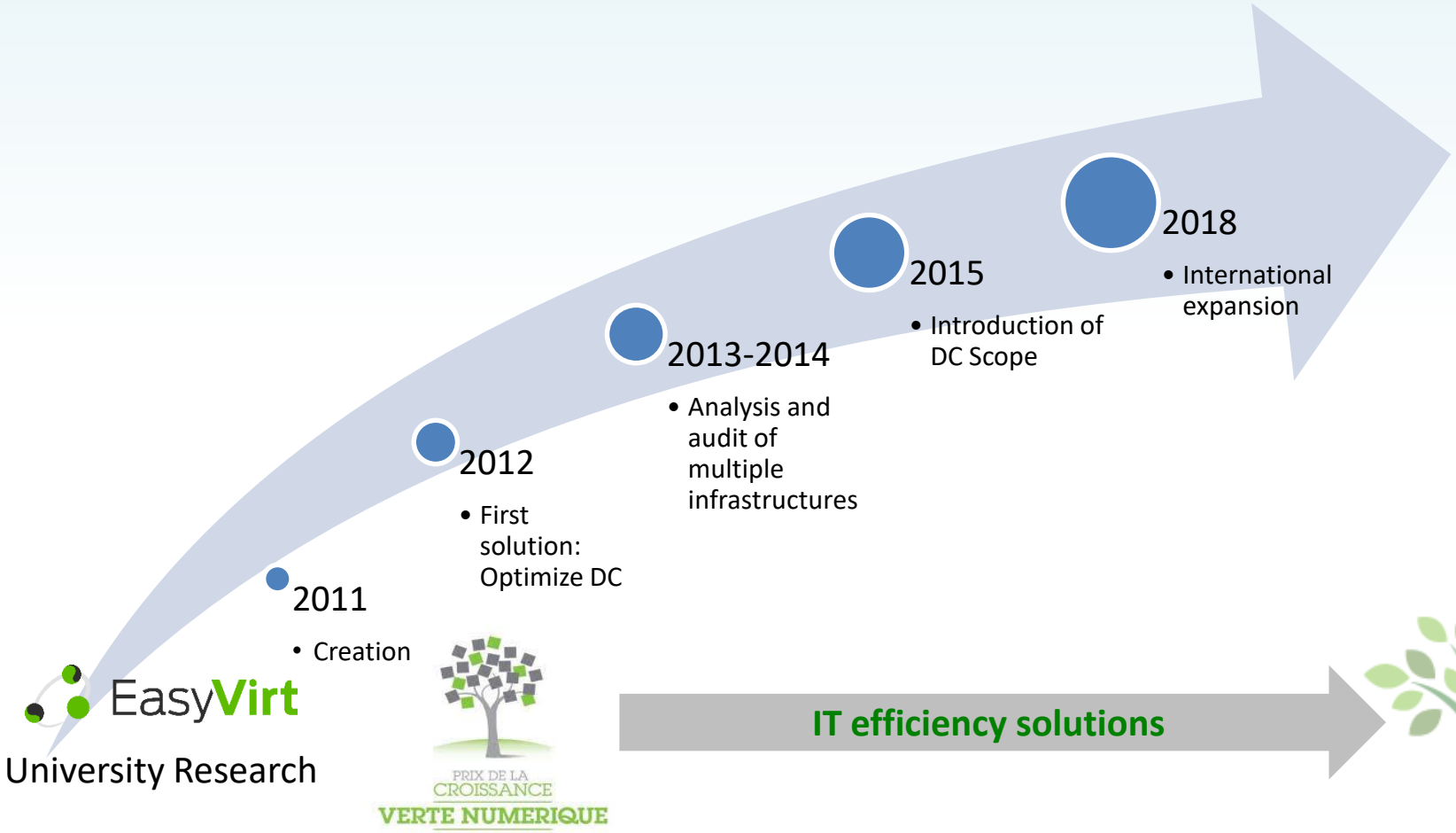
Thierry Bernard

PhD Frederico Alvares

Bertrand Caron

Juan Osorio

Easyvirt - History



Our objective

To bring precise solutions that allow organizations to reduce environmental impact in their IT systems

How?

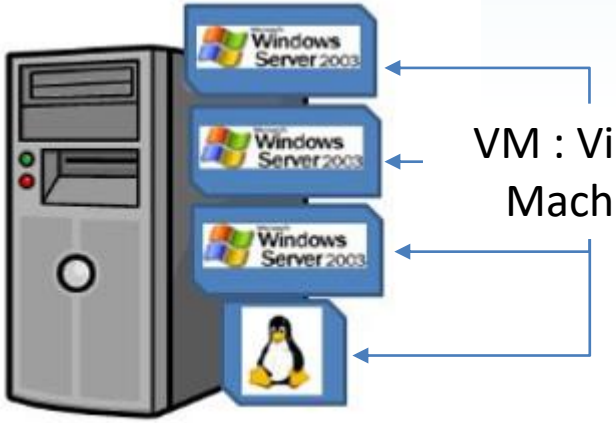
Targeting IT infrastructures = VIRTUALIZATION

Why? ---->

First of all : **virtualization** is good for environment

Before virtualization

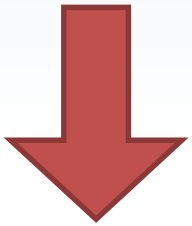
After virtualization



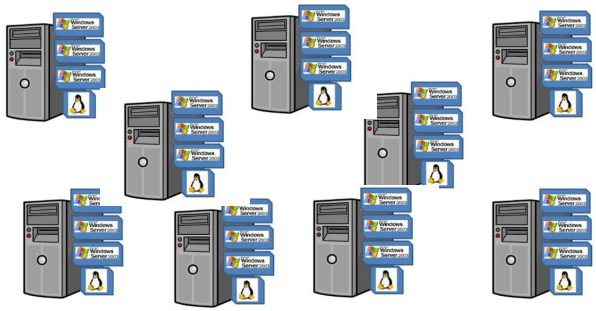
Virtualization allows one physical server to replace several servers…

Virtualization is good for environment, but…

Less physical servers = less energy …



But now we notice a rebound effect



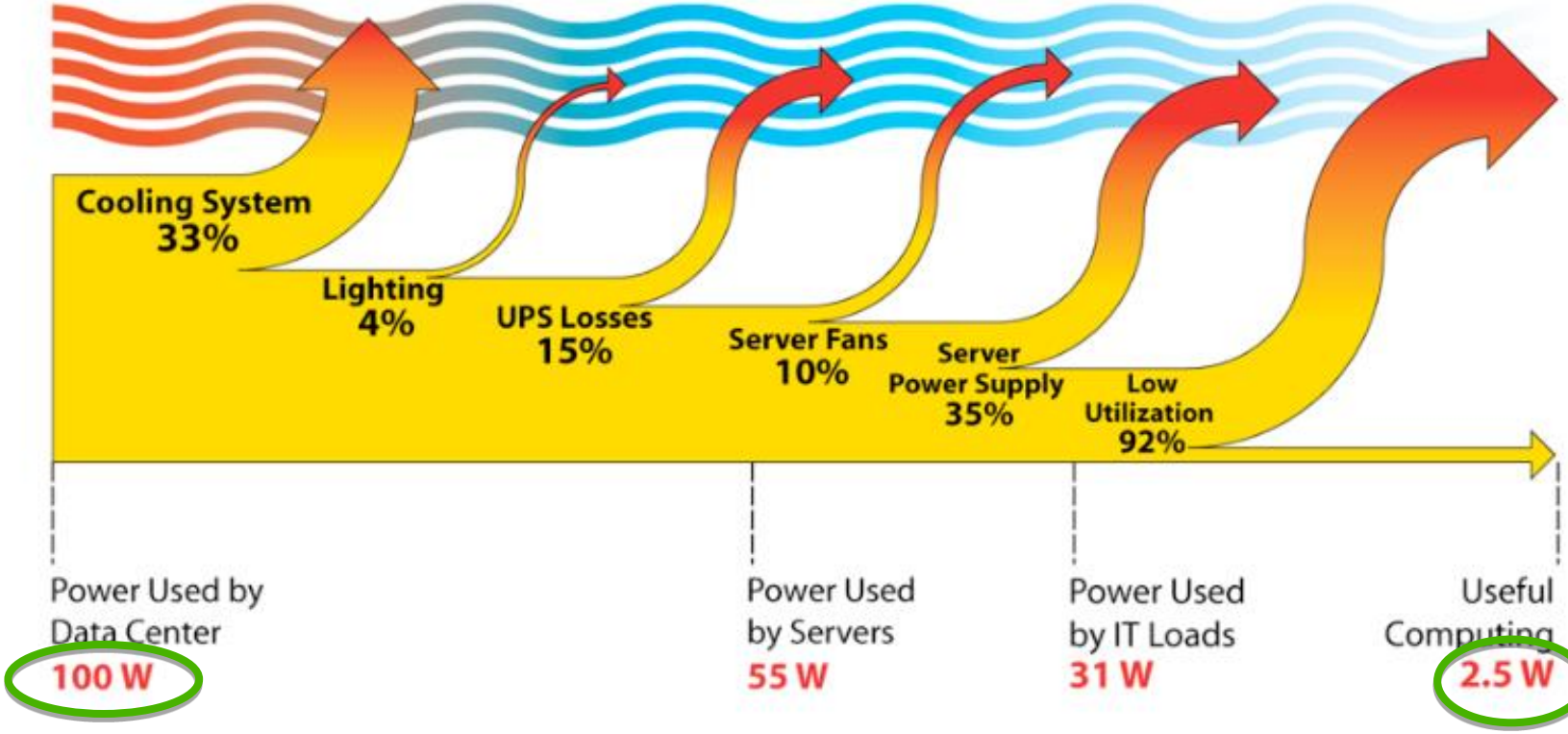
Multiplication of VM

VMs are practical and easy to install…

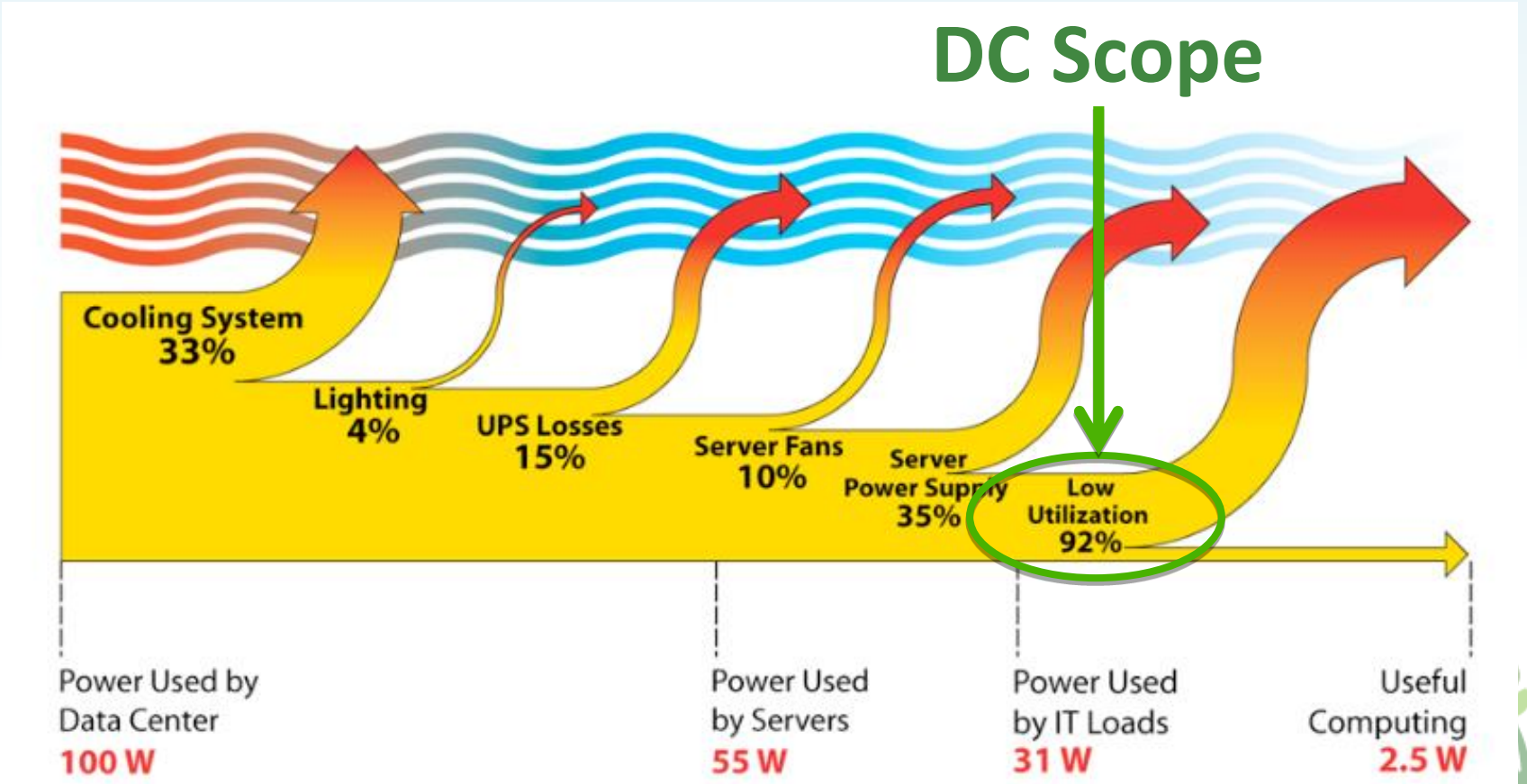
Organizations deployed a lot of VMs

They have to buy new physical servers to bear the huge amount of VMs

Cascade effect in a server



DC Scope optimize the server utilization



Findings

- A lot of waste…or room for improvements…
  - VMs unused (10%)
  - VMs oversized (80%)
  - no optimization of the use of VMs
  - CTO don't have capacity planning tools so they tend to buy servers to avoid risks.

This mismanagement results in underutilization of physical servers and waste of resources

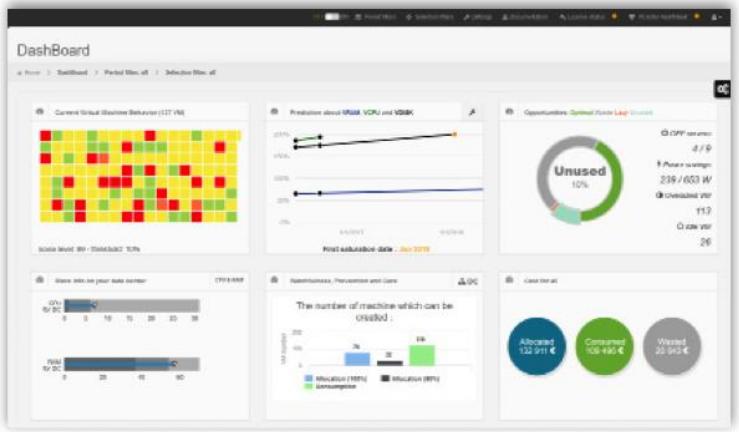
WHAT HAVE WE DONE?

- Our first software Optimize DC (2011)
  - This solution was an orchestrator for DataCenter,
    - Optimize DC: optimizes the Virtual Machine placement in a way to switch on the minimum of physical servers
  - This solution was hard to sell, because CIOs don't want to take risk to reduce electricity consumption …

- Then we developed **DC Scope®**
  - The current finding is that virtualized IT infrastructures are generally poorly managed.
  - DC Scope makes it easy to control and optimize virtualized infrastructure and be efficient; more efficiency is less waste at the sources (see diagram cascade effect).

DC Scope to optimize and easily manage virtualization

1. Monitoring
2. Troubleshooting
3. Capacity Planning
4. Optimization
5. Cost analysis
   Public and Private Cloud



QUESTIONS ?

DC Scope® provide the answer

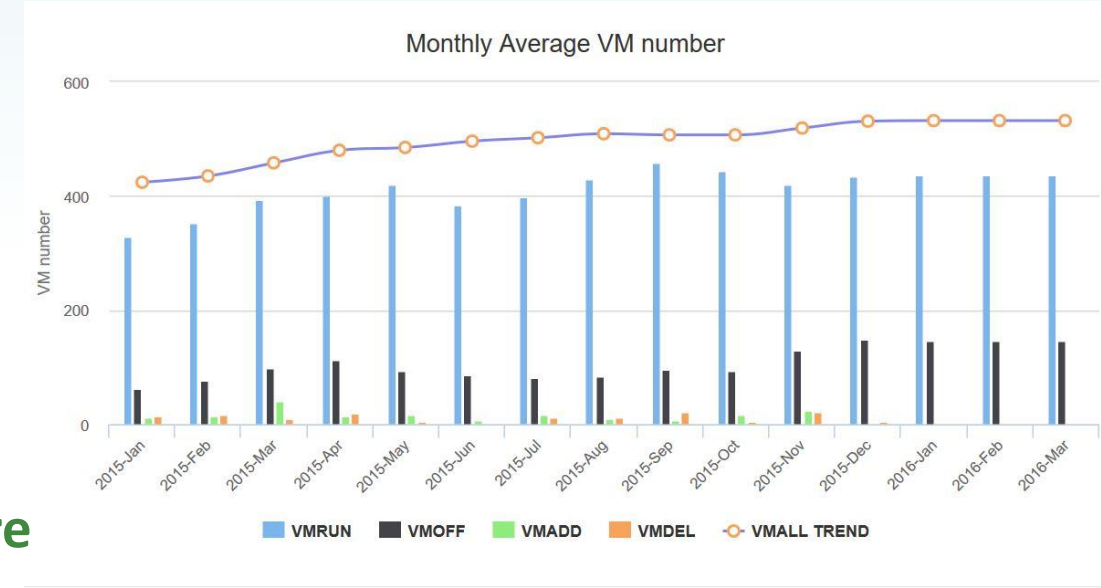
- Justify your investments

- Control your costs

- Easily simulate your PCA

- Optimise your infrastructure

- Edit key indicators and dashboards



Recognition in the French market by influencers, experts ...

2015 2016 LAURÉAT IT innovation

vmware vEXPERT

INNOV'ECO CLEANTECH INNOVATION HUB
Lauréat du Tremplin INNOV'ECO
www.innoveco-paris.com

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Agence de l'Environnement et de la Maîtrise de l'Energie

INVESTISSEMENTS D'AVENIR

EASYVIRT @EasyVirt

Easyvirt dans la sélection des 21 start-up qui œuvrent pour l'environnement @Alliancy_lemag bit.ly/1ItChaS

Easyvirt DCscope, un Nantais à l'assaut de vRealize Operations !

Posted on 3 octobre 2016

Easyvirt : le green IT passe par l'efficacité du SI - Le Mag numérique

Focus sur la startup nantaise Easyvirt, spécialisée dans le Green IT et la maîtrise de la virtualisation des systèmes d'information.

lemag-numerique.com

Persistent situation

The virtualized infrastructure support the informatic systems...
but it is not really managed

SHORT ANTICIPATION

LACK OF TIME

OVERLOADED RESOURCES

UNKNWON ADAPTED SOLUTIONS ...

A real demand from management and IT teams

- Search for efficiency, cost optimization, rationalization
- Need visibility / indicators
- Need of decision making tools
  - Validation of BCP / DRP
  - What about moving to the cloud ...

Lack of control over virtualization

Thus

- Waste of time
  - Managing unnecessary virtual machines (VMs)
  - Difficulties of reliable dashboards
  - Communication problems between teams
- Increase of risks
  - Management by rule of thumb
  - Making decisions on unreliable data...
- Significant waste
  - VM and storage
  - Purchase of unnecessary servers

DC Scope®
Zero obstacle & Zero constraints

Simple installation : **15 minutes to install**

Getting started : **Hyper fast**

Not a setup process: **2 clicks**

Complete solution: **functionalities developed in collaboration with our customers.**

Our differences

- Intuitive and quickly
  - Quickly to install solution an immediate use (no setup process)
  - Intuitive and powerful application
- At the right cost
- A solution recognized by stakeholders in virtualization

Thank you for your attention

EasyVirt

THANK YOU!

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