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Empowering Employees to Make the World Greener

How to leverage your company's digital displays to reduce energy consumption and grow sustainability

To reduce their energy consumption and their carbon footprint, corporations usually:

- **Invest** in more sober production equipment.
- **Optimize** their internal processes.
- **Adjust** their end-to-end supply chain.

Although such initiatives are critical, they usually are not sufficient. The complex sustainability challenges also require changes in the individual and collective **behaviors of the employees**, as a multitude of everyday decisions and arbitrations by everyone - whatever their rank and their responsibilities – directly impact the effectiveness of the initiatives hereabove.

The purpose of this white paper is to share how visionary corporations help this change management process and accelerate the pace of their sustainability journey through **Digital Visual information** by proactively leveraging the wide networks of digital displays – **individual displays** (PCs, Laptops, workstations) and **shared displays** (digital signage displays, wallboards, kiosks) – which are already deployed across their facilities and visible to all employees.

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Sustainability and energy consumption depend on multiple individual and collective decisions by employees.

To reduce their carbon footprint, companies invest in less ressource hungry equipment and refine their processes. However, the effectiveness of such initiatives depends on thousands of everyday behaviors and decisions by the employees:

- How the teams cooperate to **optimize the operations** and **streamline the supply chain.**
- How operators use their equipment.
- How employees manage the **heating and cooling systems**.
- How everyone acts to **reduce waste** and support the **recycling initiatives**.
- How employees spontaneously make **creative initiatives** to grow the collective sustainability performance.

Changing behaviors requires transparent, accurate and timely information.

From experience, corporations know that behaviors are difficult to transform. **Empowering** human beings requires an educational process which goes through sharing clear explanations and precise information. While such a change management process might look lengthy, it ultimately is far more efficient than more authoritarian strategies.

Most employees have no or limited access to up-to-date data and information about sustainability.

Corporations are usually doing a great job in sharing their sustainability strategy and ambitions with their employees - as well as with their customers and eco-system.

However, despite the critical importance of carbon footprint reduction, most employees – including managers - have **limited visibility** of the practical aspects of energy consumption, waste management and other sustainability related questions in their own work context. Nor do they have visibility on **the impact of their everyday efforts and initiatives**.

When accessible, this extremely valuable information is only visible to a **limited number** of specialists in charge of sustainability and facilities management.

The **insufficient information of employees** impairs the performance in carbon footprint reduction.

Uninformed employees have:

- **No easy way to adjust** their behaviors and decisions to changing energy and sustainability conditions.
- **Limited incentive** to suggest process optimizations, energy conservation measures and sustainability initiatives.

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DIGITAL VISUAL INFORMATION IS ONE OF THE MOST EFFECTIVE CHANNELS TO INFORM & EMPOWER EMPLOYEES

Traditional internal communication channels are poorly fitted to a change management process.

Change management requires information that is structured, properly scheduled, easily accessible, and frequently updated. Traditional communication channels are unfortunately not well suited to match such criteria:

- **Paper posters** cannot be updated quickly enough to lastingly capture attention.
- **Intranets** are infrequently consulted.
- There is too much traffic through **emails** for sobriety messages to be read and taken into account; moreover, many employees don't have access to a personal professional mailbox and don't receive such messages.
- Information through **instant messaging** is not persistent enough for this type of use.

The power of Digital Visual Information.

Conversely, studies show that **digital visual information via electronic displays** is a uniquely effective channel to capture attention, share evolving information, generate employee's buy-in and help them adjust their behaviors.

- Digital screens get **400% more attention** than traditional displays: while information on a paper poster might go unnoticed, the same information on a digital display is rarely missed.
- Visual information requires **limited attention span**: human beings understand almost instantly a properly designed visual message.
- The brain retains information **6 times better** when it is visual, and therefore messages conveyed though Digital Visual Information systems have more impact and over a longer period.

Key facts about digital visualization

Visuals get close to **100% more views** than text-based information.

Capturing a visual information is **almost immediate** and requires less attention span.
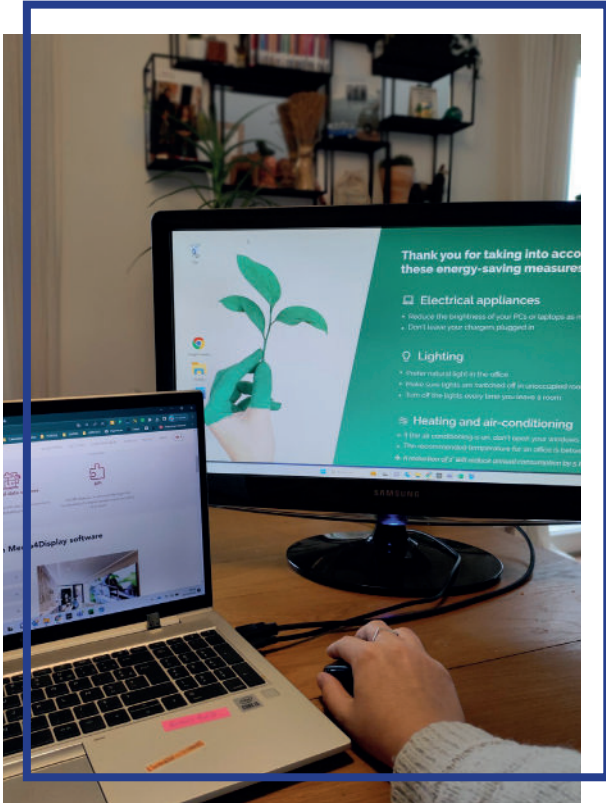
Illustrations and graphics favor the understanding of complex situations.

People tend to **retain much longer** information that they have seen.

In case of emergency, visual alerts get **quicker reactions** from viewers.

Leverage and complete the existing networks of displays of the company.

Most corporations already have a lot of displays deployed across their facilities:

- The **individual displays** of the employees' workstations, PCs, laptops; these devices embed powerful features such as notifications, lock screens, wallpapers which are underused and can be turned into powerful visual information channels thanks to an alerting solution.

- The **shared displays**, often handled through a **Digital Signage** solution and positioned in business environments such as offices, lobbies, corridors, lifts, break rooms, shop floors, warehouses; if properly used, these displays have a very strong impact on employee behaviors and sustainability as they are **visible to every worker**, including those with no or limited access to a workstation, professional email…

What does it take to move to Digital Visual Information?

- A **Digital Signage software solution** or 'Content Management System' (CMS); the CMS is preferably be tightly integrated with the IT infrastructure; it extracts the information from various data sources, organizes it in playlists and manages their broadcasting on the nnetwork of **players and professional displays** – e-paper, LCD, LED, tablets… - of different formats – single display, video wall, kiosk.

- An **Alert and Push-Communication solution** that communicates essential or urgent information directly to the employees on their computer, without modifying their work habits.

Connect to multiple internal and external data sources, and turn data into information.

Relevant sustainability data are generated by multiple systems, both **external** – utilities suppliers, weather channels, traffic monitoring systems… - and i**nternal** – production environment, heating and cooling systems, sustainable development databases…
The Digital Visual Information system must connect in real-time to these **multiple internal and external data sources**, and make it simple to extract, transform, combine and update data, turning these data into valuable and easily understandable information.

Provide the right information to the right people at the right time.

The Digital Visual Information is then organized into **sequences of information adapted to the various audiences** and their broadcast is scheduled to ensure people get relevant information at an appropriate time.

Share a common vision

- Share information about the sustainability challenges faced by the company/organization.

- Remind the employees of the global & local objectives.

- Report progress and improvements.

Provide up to date insights about energy

- Share observed heating and cooling temperatures in different parts of a building.

- Inform about progress or drift regarding electricity consumption by various teams/buildings/sites.

- Alert when some consumption thresholds are reached or when external weather conditions might impose special measures.

Inform staff about supply chain status

- Provide real-time visibility of production status, events and alerts and show quality indicators, scrap rates to help teams adjust to changing conditions and streamline the processes.

Educate & empower

- Regularly share information about best practices.

- Promote creative initiatives by employees.

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New technologies make Green Signage a promising sober alternative to traditional channels.

Communication media traditionally have a significant carbon footprint.

- **Paper posters** have a significant impact due to both their fabrication and printing, their storage, their transportation/deployment and their recycling. The chemical agents as well as the water consumption make the paper industry the third most polluting.
- **Emails** also have a non-neutral carbon impact as both their transportation and their storage generate a growing energy consumption and mobilize significant networking and data center resources.

On the other hand, progress to reduce the energy consumption of displays has been extremely impressive over recent months.

- **E-paper technology** – extensively used in e-readers – is now available for signage through large indoor and outdoor displays; e-paper displays offer an unbeatable value proposition regarding electricity consumption, as they require power only **when changing the displayed information**.
- On a more traditional front, **new LED displays** require 2Kwh/year which compares with 28Kwh/year for traditional LCD displays and with 11Kwh/year for TV screens.

An **innovative strategy** to enhance digital visual information is to leverage existing resources, such as computer screens, laptops, mobile devices, and already deployed screens. This approach eliminates the need for additional hardware investment. With the emergence of Alert and Push-Communication software solutions, it is now possible to fully use this often underutilized screen network to effectively disseminate the desired information.
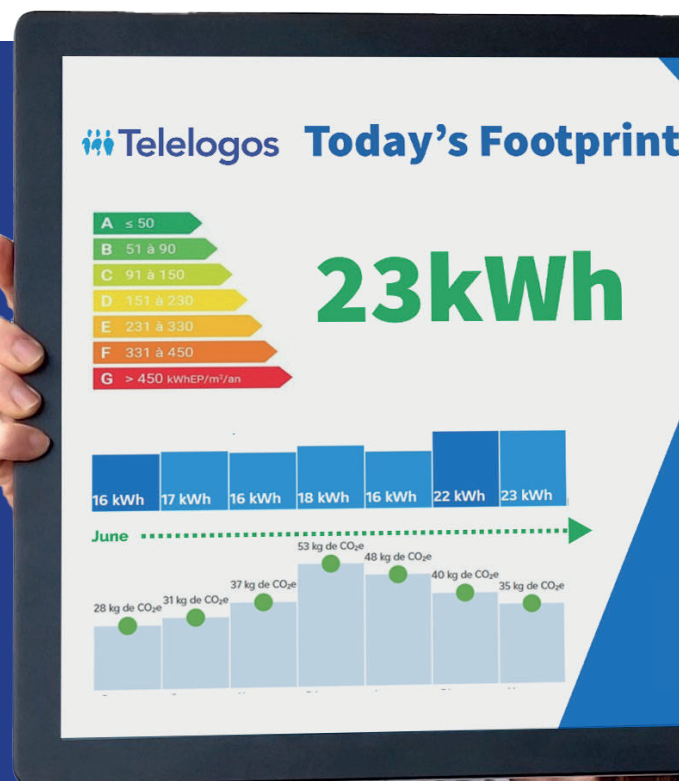
E-PAPER SCREEN

To reduce cost of ownership.

Where low power consumption is of essence.

Telelogos **Today's Footprint**

A	≤ 50
B	51 à 90
C	91 à 150
D	151 à 230
E	231 à 330
F	331 à 450
G	> 450 kWhEP/m²/an

23kWh

| 16 kWh | 17 kWh | 16 kWh | 18 kWh | 16 kWh | 22 kWh | 23 kWh |

June

28 kg de CO₂e · 31 kg de CO₂e · 37 kg de CO₂e · 53 kg de CO₂e · 48 kg de CO₂e · 40 kg de CO₂e · 35 kg de CO₂e

OPTIMIZATION OF OPERATIONS CONTRIBUTES TO IMPROVING THE SUSTAINABILITY OF DIGITAL VISUAL INFORMATION

Beyond selecting sober equipment, corporations also reduce the carbon footprint of their displays by operating their Digital Visual Information through a truly professional digital signage software which natively embeds device management capabilities to:

- **Detect the presence of viewers** and automatically put the screens in standby mode or power them down when nobody is in the vicinity of the displays.
- **Manage the broadcasting and the refresh** of the playlist to reduce the calls of the displays and players to the server, therefore minimizing the use of the bandwidth, especially if the displays and players have content storage capabilities.
- **Truly manage the 'ON/OFF' status of the players and displays**: too many digital signage networks stay 'ON' at night when they are no longer in use; they look 'OFF' but in reality are playing 'black content' because their digital signage software is not able to turn the screens 'ON' and 'OFF'.
- **Adjust the brightness** depending on external conditions such as the brightness of the surroundings or the presence or absence of potential viewers.
- **Enable preventive maintenance** by controlling through the digital signage software all the hardware and software components of the Digital Visual Information network and launching corrective actions to avoid the displacement of a technician and/or the replacement of the equipment.

Today's Good Deeds

Insights
- Everyday: 281 billion email sent
- Emails represent 4g of CO2
- Email with attachements : 35g of CO2

What to do?
- Evaluate the volume of my mailbox
- I empty the folder of deleted items
- I delete redundant emails, emails with heavy attachments, newsletters, etc.
- I create sorting rules

THIS SCREEN CONSUMES **5WH IN IDLE MODE** AND **0.5WH IN STANDY MODE**

SCAN ME TO LEARN MORE

PHILIPS

E-PAPER SCREEN

Where a low carbon footprint is valued.

For applications where content doesn't need to be changed every hour.

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Telelogos

Telelogos is an independent software vendor focused on customers' and employees' onsite experiences. Companies and organizations across multiple industries use its digital signage, resource management and mobility solutions to improve employees, customers, and visitors' experiences.

Telelogos solutions are deployed by an international network of system integrators and consulting companies able to support customers locally.

Telelogos considers that companies have a responsibility that goes beyond their corporate name and as such Telelogos adheres to the principles of the United Nations Global Compact and its Sustainable Development Goals.

For more information telelogos.com or follow us on LinkedIn.

Equipment partners.

Telelogos solutions better runs on high quality servers, players and displays, manufactured by companies highly involved in eco-responsibility and sustainability.

Telelogos R&D teams have close technology relationships with their counterparts within these manufacturers to offer companies an optimal platform.

Telelogos is also actively exploring with selected partners promising technologies such as e-paper.

Integration & deployment partners.

Telelogos solutions are deployed by a large ecosystem of certified system integration and AV partners. Thanks to their global coverage and local presence, these partners can reduce the transportation costs. Thanks to their expertise, they design and configure the most appropriate architectures and operations to reduce carbon footprint.

Telelogos Softwares for employee's Digital Visual Information.

Thanks to Telelogos software, companies around the world can easily **extract** data from internal and external data sources, turn those data into **valuable information**, and provide it to the right people at the **right time**. They also rely on Telelogos powerful device management capabilities to optimize the energy consumption of their displays and proactively reduce their carbon footprint.

- Digital Visual Information is broadcasted on **shared displays** in offices, lobbies, corridors, lifts, break rooms, shop floors, warehouses through Telelogos **Media4Display** - a powerful digital signage software.
- Digital Visual Information is broadcasted through the notifications, the lock screen and the wallpapers of **workstations, PCs, laptops** through **Telelogos Channels**.

Planet Tech'Care

Telelogos is part of the Planet Tech'Care initiative which brings together players, convinced that digital High Tech action offers major opportunities for innovation at the service of sustainability and ecological transition.

The Planet Tech'Care initiative is led by Numeum, France's leading professional organisation for HIgh Tech companies.

Visit > https://planet-techcare.green

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DIGITAL SIGNAGE

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