agora software

SMART CITIES AND PREMISES

Optimize uses, reduce impacts, serve your citizens

www.agora.software

Operational management of a territory can be a real challenge. The topics and tasks are vast, the tasks multiple, with issues as diverse as improving public services, citizen engagement, reducing environmental impact, economic development and improving the functioning of its administration.

The territories have not waited for the digital era to be "intelligent", provided that this term is taken in the sense of "well informed", ie having the right data. In this white paper, we present here some subjects for which the Agora Software solution allows teams of cities, departments and regions to apply this 'intelligence' in the most efficient way.

We particularly thank ADEME, the Banque Postale, the Banque des Territoires, CEREMA, the iFRAP foundation, the Institut Montaigne and Villes de France for their various works from which we have drawn useful information for the writing of this white paper.

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LOCAL AUTHORITIES IN A FEW FIGURES

1,9 million agents (local civil service 2021), or 1 agent for every 40 inhabitants.

Average expenditure **4,000€** per year per inhabitant

20% of French real estate assests

200,000 m² on average for the median cities, i.e. 5m2 per inhabitant

One building for **400 habitants**

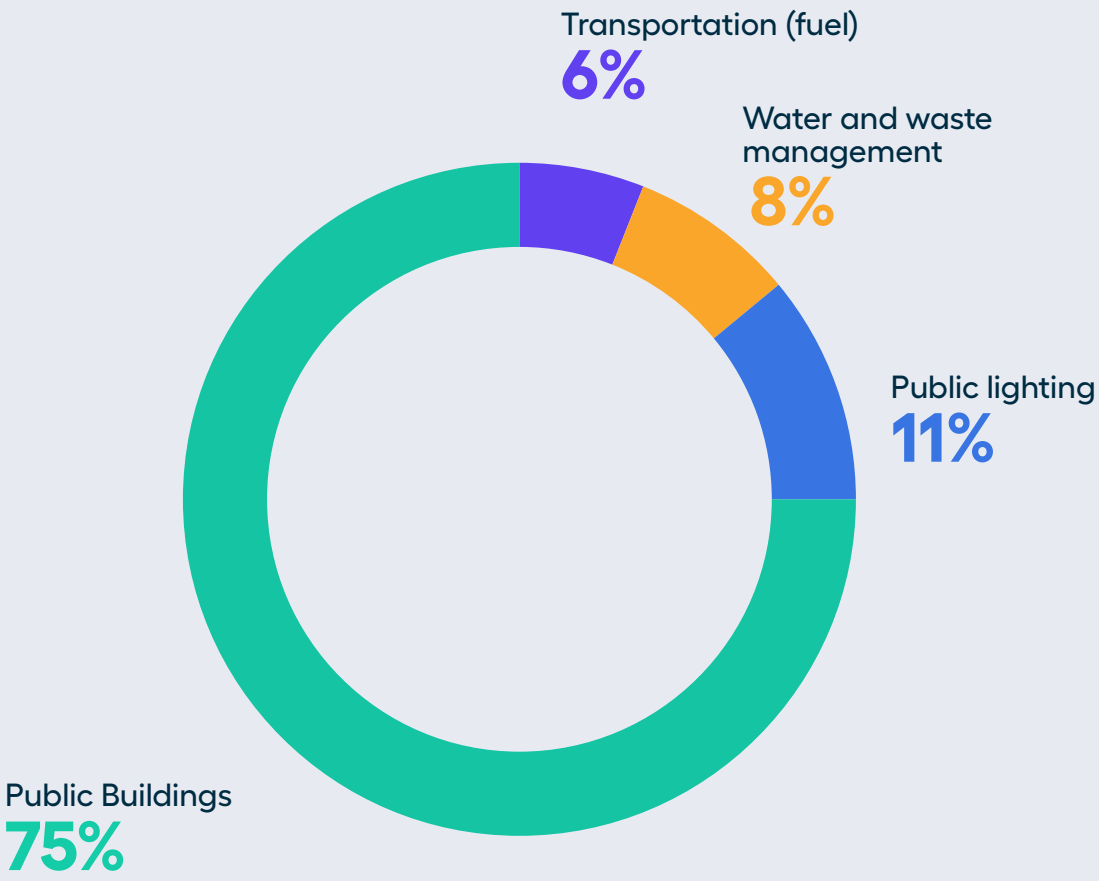
The value of the assets is over **1,300 billion** euros (2015)

8% of the operating budget of municipalities with 70,000 to 100,000 inhabitants is spent on property management

6 millions tons of CO2 emitted

The energy consumption of our assets amounts to **40 TWh**

Breakdown of energy consumption in cities and territories (energy consumption and expenses paid directly by local governments)




J.V.I
AGENCE
IMMOBILIERE
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AUTO-ECOLE
PEDICURE - PODOLOGIE

DATA, FUEL FOR DIGITAL PROJECTS

Digital projects often start with a preliminary project to collect various types of information, in particular through sensors (Internet of Things - IoT), followed by storage in a "data lake". This approach reveals against the harsh reality.

On the one hand, the data is perishable and, on the other hand, once it has been immersed in the lake, the data is damaged: it is no longer possible to recover its energy to feed the business scenarios.

Static data is perishable

The practical utility of stored data diminishes rapidly over time. Let's take the easily transposable example of a charging station for electric vehicles.

In the medium term, information on the terminal (in service/out of service, free/occupied, energy consumed, etc.) can be used to deduce averages: usage rate, usage profile (day/night, etc.), seasonality, availability, probability of finding a free terminal, etc. This data is to plan investments and measure the impact of the service provided to users. Overall they are useful and on trend.

But dwhen you take a closer look, minute-by-minute information loses its usefulness if it is not used on the spot, for example to inform electric vehicle owners of the location of available charging stations at the moment they need them.

Data in motion has an intrinsic energy

Like light, data in motion has its own energy. In the previous example, the instantaneous knowledge of the status of a terminal has value for someone who needs to recharge his vehicle. The instantaneous profile of the water consumption of a house gives a useful indication of the activity of an isolated person...

The knowledge of the rate of CO2 in an establishment receiving the public (school, auditorium, museum...) makes it possible to alert the person in charge (teacher, guard...) while it is possible to act.

Capturing the energy of data

To perform the transformation of raw data into useful actions, a number of prerequisites are necessary:

- Obtain data from any source: connected objects, applications, web services (weather, traffic, air quality, etc.), not to mention agents or residents;
- Correlate data in real time and derive decisions that can be applied on the spot thanks to tailored scenarios that are easy to define by the agents in charge;
- Communicate and involve teams, service providers, partners and residents, if possible without imposing new tools or applications.

Transforming the kinetic energy of a river into useful work is the role of mills. Lakes offer rest and eternal oblivion: communities need the former more than the latter.

TRANSVERSALITY, A SOURCE OF PERFORMANCE FOR THE DIGITAL CITY

Missions and projects

The tasks are as diverse as the management of buildings, roads, green spaces, waste collection and treatment, reception of the public, security, etc. The variety of infrastructures dominates:

- A public building for 300 to 500 inhabitants, with different destinations (technical, sports, administrative, educational...);
- We must add the parks and gardens, the Voluntary Drop-off Points, the Electric Vehicle Charging Infrastructure, the public parking lots, the swimming pool, etc.

One project = one solution is an unsustainable equation

Addressing each of these needs through a specialized solution would be an inappropriate approach:

- **Complex.** Users will find it difficult to get used to the interfaces and language of each tool; the practical difficulties will destroy a large part of the benefits sought.
- **Cumbersome.** Multiple suppliers to select, contracts to set up, integration to achieve with each system, and sometimes even between these systems.
- **Costly.** The addition of expense items will limit the number of accessible projects, and will slow down the optimization of the various operations.

Transversal solution for the digital city: which aspects are essential?

1. Versatility of use cases

The solution must address all situations within the territory. Including future projects not yet planned (or even not identified) that will appear as time goes by.

It must be open enough to interconnect with a large number of data sources of all kinds (applications, IoT, technical building management, web services, etc.).

2. Simplicity of implementation

Simplicity. Digital projects must be implemented by those who use them. Those responsible for heritage, mobility, parks and gardens, waste, etc. The implementation must be simple and allow rich scenarios.

Autonomy. Frequent recourse to the ISD creates an unnecessary workload and introduces significant delays in implementation. The IT department validates the tools, implements them and provides support, but has little involvement in the adjustment and daily use of the tools.

Scalability. Needs change, areas of optimization appear, organizations evolve: the scenarios must do the same. The maintenance of functional logics must be simple and ultra-fast.

3. Intuitiveness of use

Field agents, partners, citizens: it is difficult to get the attention of users. Interactions must be intuitive and use the tools they already have at hands.


TUNNIN KUVA
Terveystalo
RUOHONJ
FABU LOS
Hello!
Sensible 4
MUJI

DIGITAL TECHNOLOGY MUST SIMPLIFY CITIZEN'S LIVES - AND AGENTS

Digitization is progressing in all daily tasks: housework, professional life, leisure, health.... Interactions between users and digital tools must be as simple and natural as possible.

Collaborative applications and social networks

- Despite the growth in the number of mobile applications available, the number of applications used daily is **decreasing**.
- Out of the 10 most popular mobile applications, **7 are social networks**, which capture the majority of usage time. We are witnessing a standardization of uses.
- In a medium-sized city with a pool of about 100 applications, nearly half are left unused due to lack of time and expertise.

Natural language brings users and digital tools together

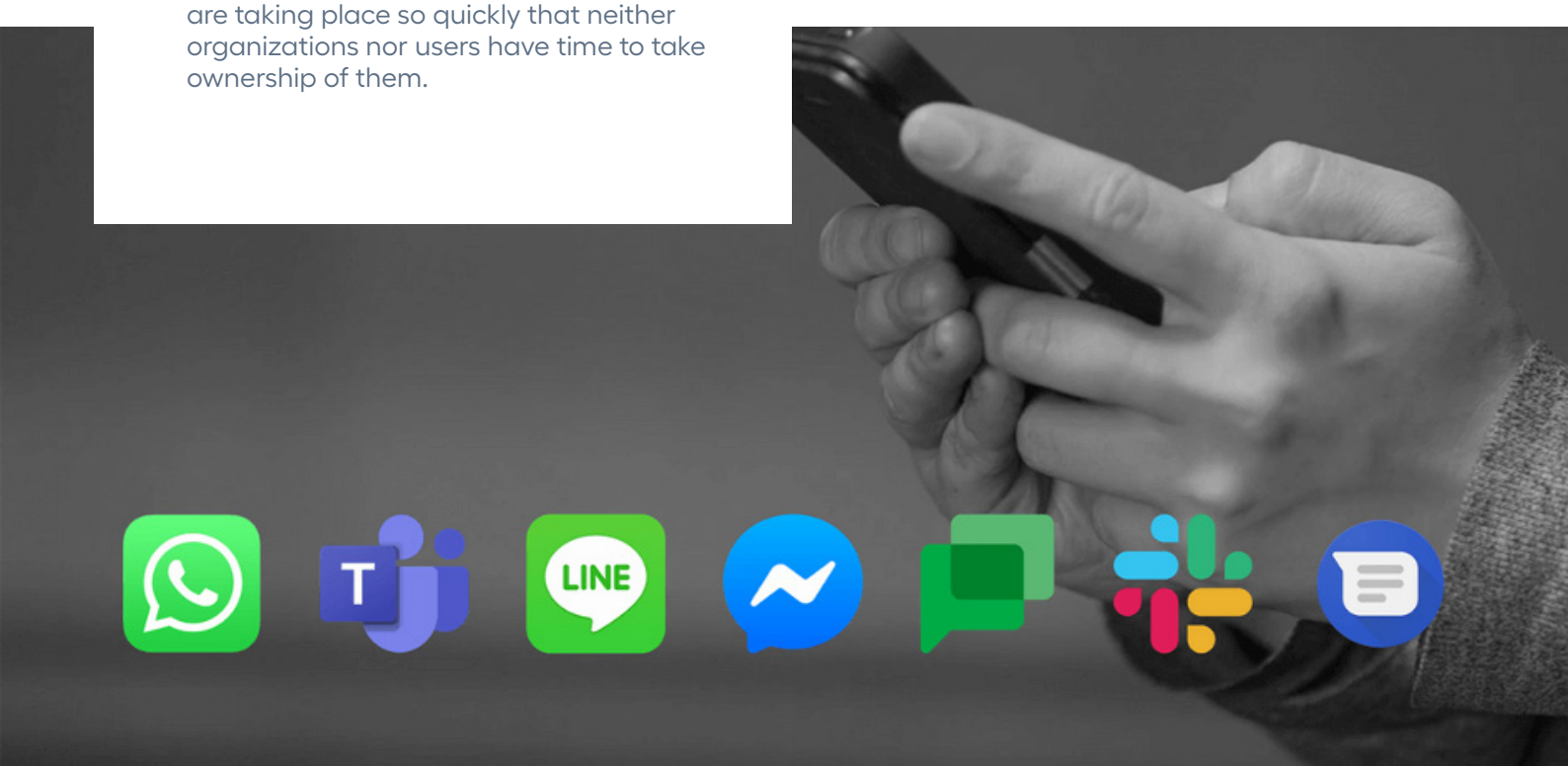
There are two main trends:

- On the one hand, the digital transition "devours the world" and affects all sectors of activity, including cities and territories;
- On the other hand, the transformations made possible by digital technology are taking place so quickly that neither organizations nor users have time to take ownership of them.

Natural language, the everyday language, is an effective and simple way to bring users closer to their digital tools:

- It allows natural **queries** ("what is the temperature?") and **commands** ("start watering");
- Its **flexible syntax** makes it possible to express the same intention in different ways, regardless of the interlocutors, human or digital;
- **Intuitive and durable,** the language allows projects to take advantage of the evolution of technology while preserving the simplicity and continuity of exchanges;
- It allows interactions from **everyday tools** (SMS, collaborative applications, social networks).

The control of applications in natural language, directly from collaborative applications and social networks, reconnects digital technology with its users.



THE AGORA SOLUTION

Align your processes with the needs of your community

At the heart of the Agora solution, natural language and no-code orchestration ensure simple and flexible use by each stakeholder: business experts, operational teams and the IT department.

Benefits

Simplicity

For business experts

They define and maintain the most diverse scenarios they are responsible for, without the need to code.

For the public

Notifications and queries in everyday language, no new applications to install and tame, no logging on to a website.

For the ISD

Unburdened by the maintenance of business processes and the development of APIs, the IT department can focus on its infrastructure and innovation projects.

Alignment

The continuous alignment of business processes with operational needs is made optimal, while reusing existing infrastructures. The value of the information system is thus reinforced and the capacity for innovation is multiplied.

Traceability

All transactions are recorded in natural language and allow a total transparency of the uses. This register contributes to the traceability of operations within your organization as well as to the identification of atypical situations.

Plateform

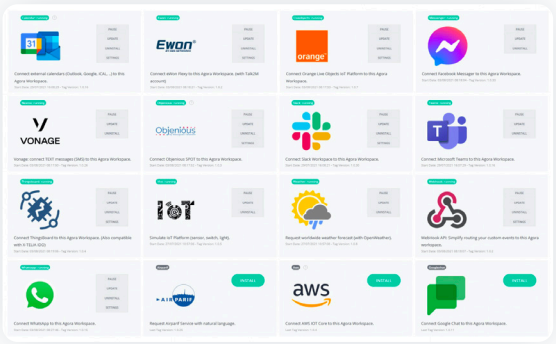
The Agora solution is delivered from a shared platform, hosted in the cloud. Each organization subscribing to the service benefits from one or more protected workspaces, allowing the deployment of its various projects.

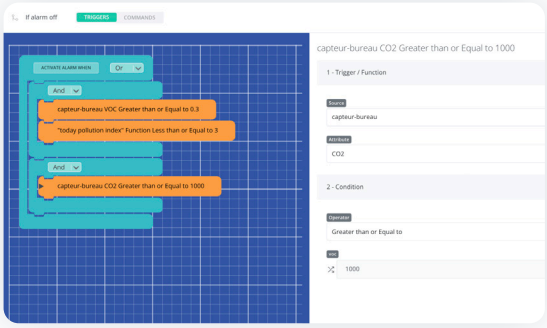
Secure workspaces for every project

Each workspace has an administration console that allows the configuration, supervision and creation of automated processes. It also enables the activation of natural language interfaces to users and the various applications and platforms that need to be interconnected. All administration functions are also accessible from a documented API.

Applications, Web Services and IoT Platforms

The workspace is connected to applications and platforms via their APIs, thanks to a dedicated connector called "vThing". Each vThing converts in real-time the language of the API it is responsible for into natural language, manages events, discovers available resources... The vThings are selected from a store accessible from the console.





Business experts: defining scenarios without coding

The business expert defines his processes via a no-code interface, in two steps: 1° selection of triggering conditions and 2° configuration of commands to be applied when the conditions are met. An advanced mode allows the graphic input to be replaced by code for specific situations.

Users: exchange in natural language

Users exchange through their social networks, collaborative applications, SMS, etc. These applications work in natural language and there is no need to load and learn a new application. Users can simply interact in the language of their choice with objects and applications within their workspace.

Technology

The Agora solution combines original technologies, application containerization, advanced resource orchestration and a robust implementation to offer its customers high performance and flexibility of use.

Automatic language processing

Fast and very precise, the automatic language processing (ALP) developed by Agora allows exchanges with users, objects and applications.

Multi languages

Agora NLP works directly in many languages (English, French, Japanese, etc.). Immediate adaptation to the user's language is made possible by automatic language detection.

No code orchestration

The no-code drag-and-drop interface makes it easy to program rich and varied processes. An advanced mode also allows the development of scripts in JavaScript.

Real-time

The entire platform is designed to respond in real time to the events and demands placed on it, even in the case of very large deployments.

Security and privacy

Each project has dedicated and isolated resources (database, micro-services, etc.). Data exchanges are encrypted, as well as all secrets (accounts, API keys, etc.).

High availability

Technical resources are hosted in the data centers of three independent providers, with load balancing and automatic reconfiguration in case of failure.

ANIMATE THE REAL ESTATE ASSETS

Under the pressure of the necessary reduction of environmental impacts, as well as recent regulations (tertiary decree, BACS decree), the energy and technical management of the various elements of the building become important. To reduce impacts, improve comfort, reduce expenses and optimize the use of premises.

Some themes

Communities can animate their buildings in many ways, which can be combined for maximum effectiveness:

- Coupling with the usage schedules of each facility (school, media library, sports facilities, offices, technical facilities, etc.): each one has its own schedule that must be taken into account to refine the management of the facilities;
- Heating/ventilation/air conditioning: taking into account current and future outdoor climate conditions (weather forecasts) for optimized settings;
- Control and regulation of air quality (CO2, VOC), humidity...
- Selective distribution of alerts and alarms according to their nature and criticality (warnings, technical failures, intrusion, smoke/fire, etc.)
- Lighting control (sports facilities, parks and gardens, parking lots, etc.)
- Attendance (agents, providers, public...)
- Etc.

Unconnected buildings: involving teams

The unconnected building is the most common. If it is not possible or too expensive to connect it, all is not lost! Indeed, it is possible to use a well-tested tool: team intelligence. Problem: humans don't speak REST APIs, HTML, or JavaScript... Their API: natural language, the one they use every day, in their native language.

We need to address teams in a simple way, with precise contextual notifications.

"Tomorrow the gym will be in use at 8AM, and the night is announced cold. Do not forget to set the heating to economic position 2 before leaving this evening. Please confirm that the set point is taken into account" and allow them to go and get the information themselves when they need it ("What is the temperature in the gym?").

Poorly connected buildings: SMS and light IoT

Properties or buildings are equipped with old generation systems, allowing to perform local tasks (turning on the heating) and sometimes to notify some status changes (thresholds, alarms, etc.) by means of SMS. Here, the SMS can be used as a natural language API, and some connected sensors will complete the installation: environmental data (CO2, VOC, temperature, humidity, shock, presence...), remote start/stop devices, sub-metering, etc. Allowing for the creation and customization of numerous scenarios.

Well-connected buildings: enriching and complementing the existing BMS

Modern buildings are equipped with a centralized technical management solution (CTM) or building management system (BMS). This supervises and controls various services such as heating, ventilation, etc.

In this case, it is possible to connect to the BMS/BCM interface to control it according to the situation (calendar, weather forecast, attendance, etc.)

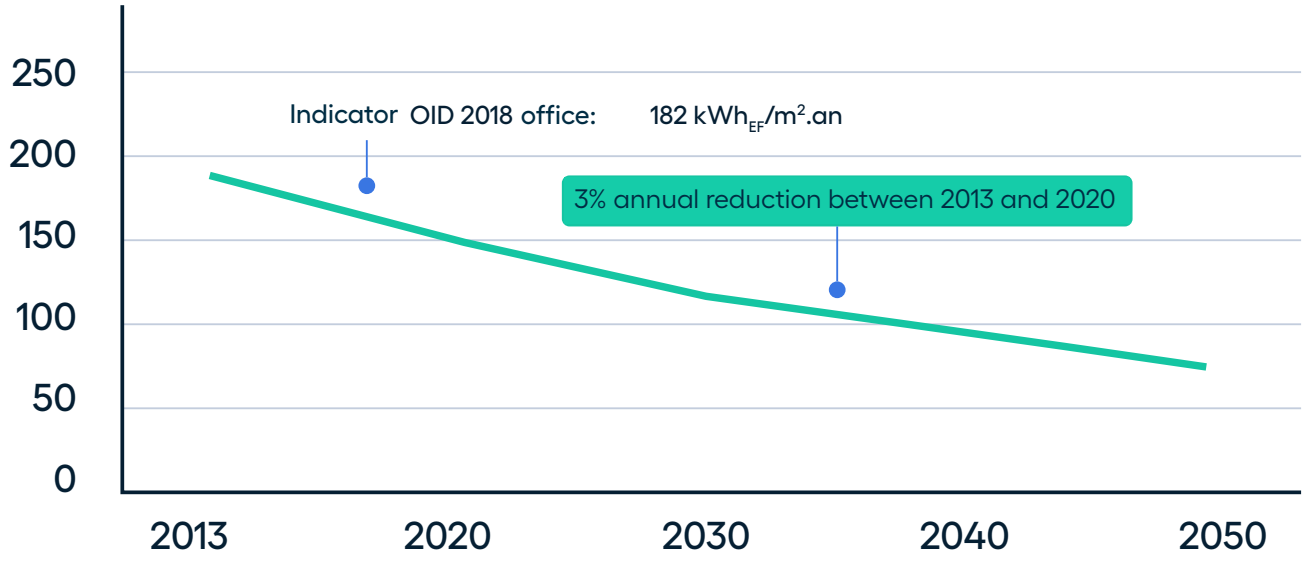
REDUCE ENERGY CONSUMPTION

The tertiary and BACS decrees

Following on from the decree of 23 July 2019 on obligations for actions to reduce final energy consumption in buildings for tertiary use, known as the "tertiary decree", on 20 July 2020 the official gazette published a new decree on the automation and control system for non-residential buildings and automatic heat regulation, better known as the "BACS decree".

This decree makes it mandatory to equip tertiary buildings with automation and control systems by January 1, 2025. The objective is to contribute to the achievement of the energy efficiency objectives set by the tertiary decree. More specifically, the BACS decree defines four functions.

1. **Measure and control:** Record and analyze hourly energy consumption data of technical systems and adjust their parameters accordingly. Store data on a monthly basis for five years;
2. **Inform** the operator of the status of the building in relation to baseline values; detect efficiency losses and point out opportunities for energy efficiency improvements;
3. **Interoperate** with the various technical systems of the building (on this point, the decree remains very vague, probably rightly so);
4. Enable **manual shutdown and autonomous management** of the technical systems for which it is responsible.



Target trajectory of energy consumption change (source: IDO 2018)

Real-time analytical reporting allows to understand the technical nature of behaviors and possible anomalies (e.g. correlation of data of different nature).

The use of data visualization and business intelligence solutions on the market (in this case Power BI from Microsoft) makes it possible to build interactive and personalized dashboards, adapted to each organization.

The city: a real estate heritage characterized by its diversity

The territories have a vast real estate heritage that is characterized by:

- The large number of public buildings under its responsibility (for cities, about one building per 400 inhabitants);
- The diversity of building destinations: administrative, cultural, sports, educational, associative, religious, health, cemetery...
- The city's heritage has been built up over a very long period of time.

Implementing the tertiary and BACS decrees is therefore a daunting task: the combination of budgetary, time and technical constraints make it difficult for city departments to untangle.

Energy management of real estate

The departments in charge of the city's real estate assets have very different constraints from those of their counterparts in charge of office buildings or shopping centers (also affected by the tertiary and BACS decrees), and are faced with several options for management solutions:

Individual or global?

The large number of buildings to be addressed makes a building-by-building approach virtually useless: the time, budget and operational constraints will be too great for a surgical approach to be effective. A solution capable of managing all the main premises is needed.

Specialized or multipurpose?

A specialized BACS-compatible building control solution may seem like an obvious choice, allowing you to benefit from the business skills of your supplier or integrator. On the other hand, it will constrain the use of the solution to its framework. In addition, city departments run the risk of having to multiply the number of tools: management of energy, water, air, lighting, mobility, parking, green spaces, signage, access control, etc., which is neither simple nor economical.

Automated or with a human component?

The implementation of digital technologies is the typical answer to every new problem. But why not also trust in what is the ultimate in biological technology: human intelligence, coupled with an ounce of common sense?

To control an older building with an unconnected heating system, wouldn't it be enough to set up a dynamic notification system with content that indicates the actions to be taken, with the possibility of confirmation? The manager of a gymnasium will receive clear messages about how to adjust the heating based on the schedule of the equipment and external information such as weather forecast and outside temperature.

Finally, the BACS decree could be an opportunity for the territory to reduce its bills, decrease its environmental impact and enhance the daily life of its agents.

The actions allowing to divide in hald the energy footprint of a building correspond:

- **For 2/3 to isolation improvement;**
- **For 1/3 to the optimization of the piloting!**

HEALTH: CO2 AS A CONTAINMENT SENSOR

Good ventilation reduces the risk of respiratory disease. Yet, a CO2 concentration higher than 1,000 ppm leads to a (reversible) decrease in cognitive abilities.

In the Covid-19 context, the quality of indoor ventilation becomes essential. Sars-Cov-2 can be transmitted by aerosols, microdroplets emitted when breathing and talking. An effective method to reduce aerosol contamination is to ventilate the space.

In enclosed spaces, CO2 is produced by human respiration and its concentration indicates the quality of ventilation. The higher the CO2 level, the less the room is ventilated and the higher the possible viral load produced by its occupants.

In the open air, the CO2 concentration is around 400 ppm (parts per million). The link between the quality of the air in a room and its CO2 concentration is specified by the following values (cf. standard EN 16798-1 (www.afnor.org):

- Less than 950 ppm: excellent air quality;
- Between 950 and 1,200 ppm: average air quality;
- Between 1,200 and 1,750 ppm: moderate air quality;
- Over 1,750 ppm: low air quality.

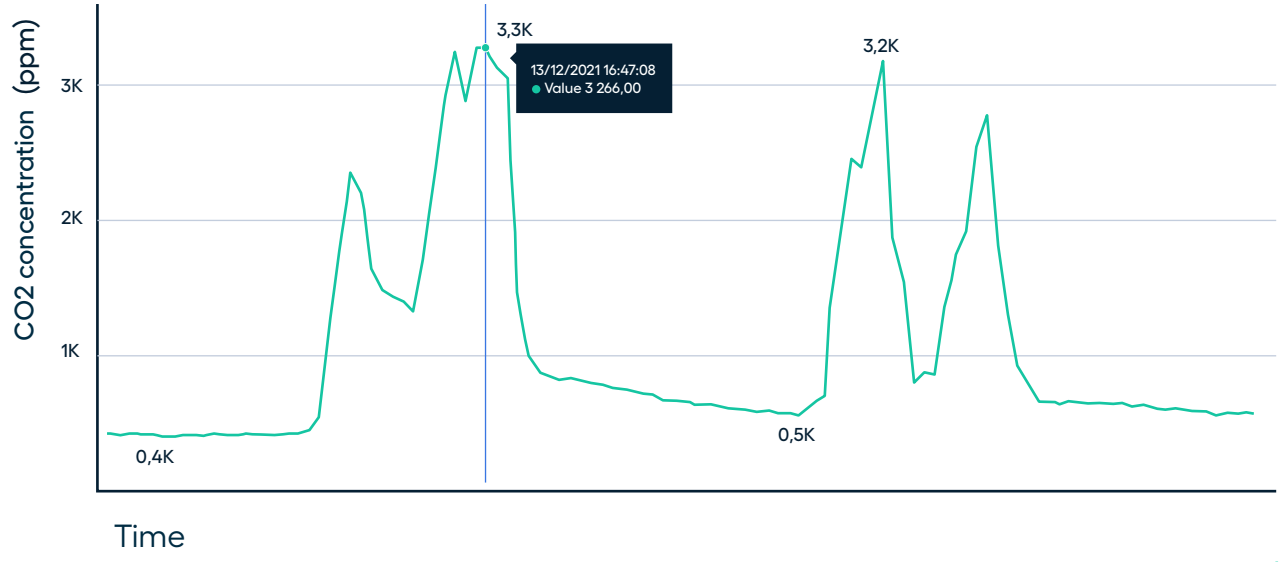
Even stricter thresholds during the Covid crisis

In its opinion of April 28, 2021, the High Council for Public Health (www.hcsp.fr) recommends an even lower threshold: "a concentration of CO2 higher than a threshold of 800 ppm must lead in all cases not to occupy the room and to act in terms of ventilation / air renewal and / or reduction of the number of people admitted to the premises of an ERP (Establishment Receiving the Public).

Variation of the CO2 level in a closed space

A picture is worth a thousand words... below is an example of the variation of the CO2 concentration in a meeting room on a Monday and Tuesday. There are about 20 people in the room and the measurement step is 30 minutes.

It can be seen that the "empty" level (400 ppm) is reached during the night from Sunday to Monday, then that the curve follows quite precisely the presence of the public, with a marked lunch break and a rather slow descent during the night. As for the high values (3300 ppm), they are much too high with regard to the recommendations in force.

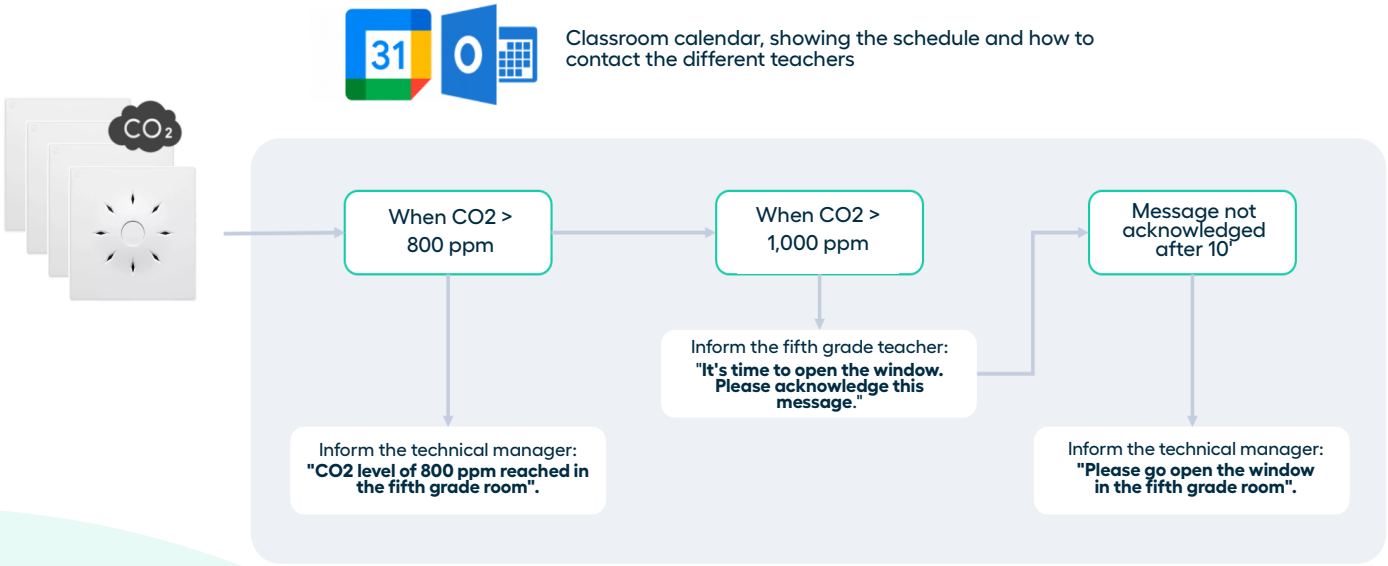


Measuring is good but adding action is better

The data can be stored for periodic reporting to identify premises with recurring problems. Two problems remain: 1) someone has to be in charge of running these reports on a regular basis, and 2) immediate situations are not addressed as people remain exposed to containment.

If critical areas are crossed, it is necessary to act quickly and to warn the people able to act locally, or even to directly control a ventilation or air purification system if the room is equipped with one.

For example, in a school, the technical manager will be made aware of the crossing of a first threshold, then the teacher as soon as the level requires it, by simply asking him to open the window - and if he has not confirmed this action after a few minutes, the technical manager will be asked to perform the operation by himself.



SERVICE TO RESIDENTS: HOME CARE

The majority of French people are in favor of keeping the elderly in the comfort of their own home as long as possible:

- It is less expensive: a retirement home costs on average 2,200 euros per month, which is difficult for many families to afford;
- It preserves social ties: 90% of elderly people who leave to live in a specialized facility would do so against their will, and would like above all to be able to keep their social activities and their neighborhood.

Digital technology: an effective aid to home care

Staying in the familiar surroundings of one's home and delaying entry into a specialized home: this is the wish of most elderly or dependent people and their families. This is often possible, as long as the consequences of the loss of autonomy are anticipated.

Digital tools are an essential lever for optimizing the organization, integration and coordination of services. For example:

- Home automation: opening the shutters, turning on the light, regulating the heating... these tasks can be made easier (remote control), or even automated.
- Adapted telephones (with big buttons, simpler, SOS function...), alarm and remote assistance services...
- Connected objects with health indicators and help for the disabled: fall injury detector, help with taking medication, talking watch for the visually impaired, flashing doorbell for the hearing impaired...

Detect

If we take the theme of fall injury detection or difficulty in getting up, numerous pieces of information, when associated with each other, give a sufficiently precise set of indications to warn, alert and intervene in time:

Information related to the general environment:

- Weather forecast
- Heat wave and cold weather alerts
- General calendar (holidays, etc.)
- Etc.

Information related to the person

- Personal calendar (scheduled absences)
- Water consumption
- Opening of the refrigerator, interior and exterior doors
- Presence, motion and fall detectors
- Environmental data of the home (CO2, temperature, luminosity...)
- Remote monitoring devices (connected watch, etc.)

As you can see, there are many options, some of them redundant. It is not necessarily useful to use all of them, but this allows for numerous combinations, depending on the equipment in place, the state of health of the people concerned, the available budgets and the scenarios that one wishes to implement.

In addition, the cross-referencing of information from diverse and independent systems has the advantage of increasing the confidence of remote diagnostics.

Communicate and act

Once "at risk" situations have been detected, it is necessary to confirm them with the person, a relative or to notify a home help service. These communications are sensitive and must meet specific criteria:

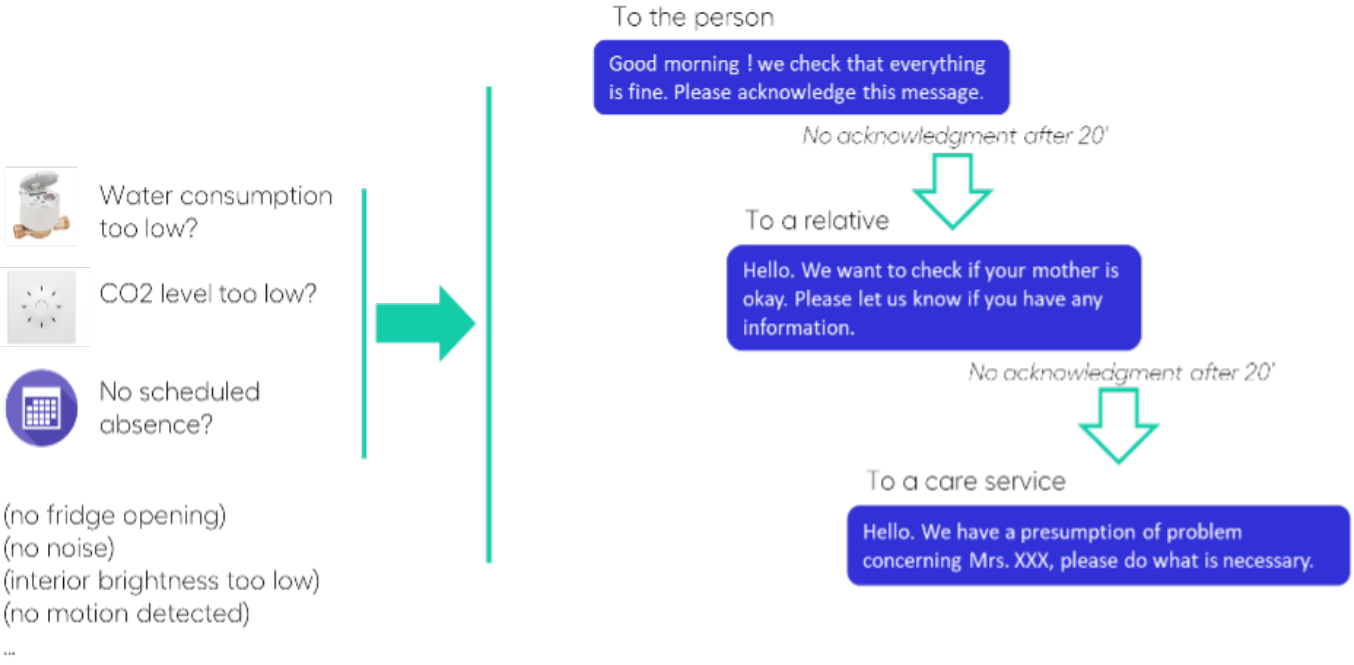
- Discretion, respect of the private life
- Accuracy (avoid false alarms)
- Safety (do not forget real risk situations)
- Simplicity of expression, questions asked and information shared

It is necessary to use all the means of communication available in the context of each person and their loved ones:

- SMS
- Phone
- Social networks (WhatsApp, Messenger...)

Scenario 1 : wake-up detection

The awakening of an isolated person is characterized by a series of markers that can be easily captured and even combined to reinforce confidence in the information.



Scenario 2 : detection of a risky environment

The quality of the environment in a home is qualified by a series of physico-chemical values accessible with discrete and inexpensive sensors. Templates, which can take into account seasonal variations, make it possible to check that everything is correct.

Scenario 3 : health information alerts

In the event of a climatic risk situation, it can be useful to communicate prevention messages, and to ensure that they are taken into account; this information can also be supplemented by practical information, or simply user-friendly messages.

To the person

Good morning ! High temperature expected today. Only go out if necessary. Hydrate regularly. Please acknowledge this message.

No acknowledgment after 20'

To a relative

Hello. High temperature expected today. Make sure your mother hydrates properly. Please acknowledge this message.

No acknowledgment after 20'

To a care service

Hello. In anticipation of the high heat forecast, please ensure that Mrs. XXX will take the necessary precautions.

The data, now easy to obtain from inexpensive sensors and online services, can provide essential information for keeping isolated people at home.

SERVICE TO RESIDENTS: E-FORMALITIES AND E-TOURISM

The residents of a city, as well as those who stay there temporarily, need to interact with the different services of the municipality. This often involves contact with the administration's teams: registry office, tourist office, etc.

These necessary interactions are often assisted and completed by online applications: website, chatbot, pre-application forms, online appointment booking, etc.

Social networks (Facebook, WhatsApp...) now allow us to offer a new digital experience to residents and visitors, complementary to traditional methods (website). Very easy to use, using everyday media, these accesses allow to lighten the work of the municipality's teams and give an even more modern image of the city and its services.

e-formalities

Citizens are required to complete numerous and essential administrative formalities: there are easily close to 50 of them, belonging to about ten themes!

The formalities require the equivalent of one appointment each year per inhabitant and most often require the presence of an agent: for a city of 50,000 residents, this means about 200 interactions per day, a considerable burden for the reception services. Not to mention the exchanges to make appointments, missing documents, missed appointments to reschedule, and all the various questions that residents have.

Citizenship

Children, Youth, Family

Parking and occupation of the public domain

Environment and urban planning

Accommodation

Culture

Community life

Businesses and professionals

Employment and mutual aid

Social networks are the most used means by the whole population to exchange and look for information; the services offered by the city can no longer ignore it and must be included.


HOTEL DE VILLE

e-tourism

Tourism is an essential component of city policy, on par with health, mobility and waste management. It often constitutes a considerable economic lever and is a significant element of image and attractiveness. Enhancing the attractiveness of a city depends not only on its assets but also on the symbolism used to represent it.

The tourist office is no longer only in charge of promoting geographical and cultural sites, but has become an actor in charge of welcoming foreign delegations, managing twinning agreements with partner cities and organizing professional events (MICE: Meetings, Incentive, Conferences and Exhibitions).

In the same way as for access to administrative formalities, social networks are an essential communication channel to accompany visitors and provide them with the information they need for their stay in a natural way: on their preferred network (omnichannel mode) and in the language of their choice (multilanguage).

- Discover
- Eat, sleep
- Get out and travel
- Be a grower, have fun
- Events, visits...

Practical benefits

Far from being a simple gadget, communication on social networks is destined to become the first point of contact for the city's various services. The benefits are numerous and concern all stakeholders:

For agents :

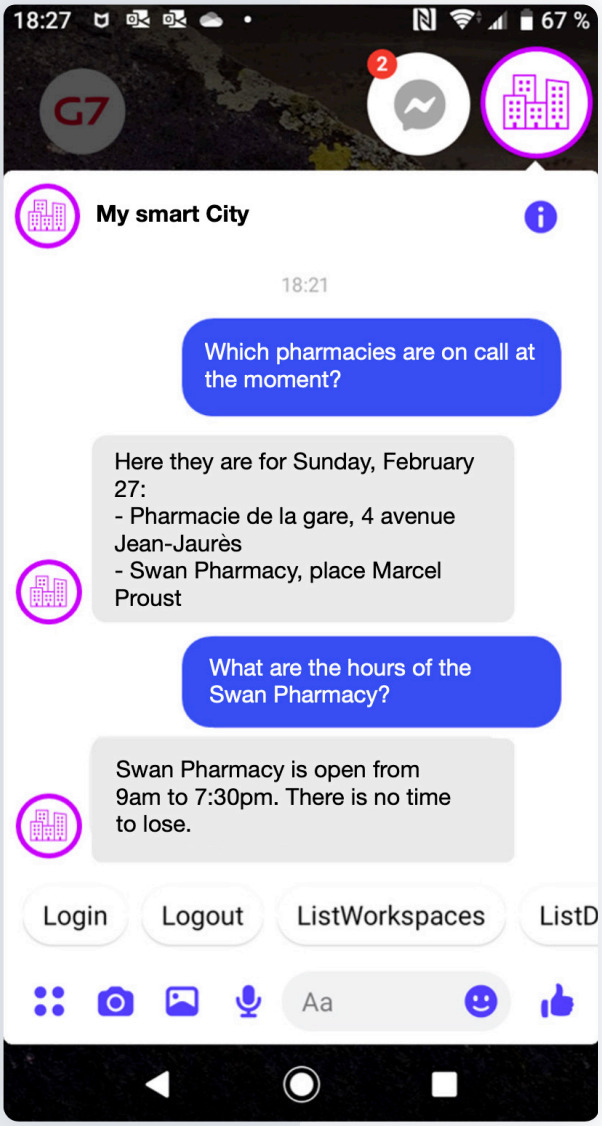
- Simplicity, no new complicated tools to learn
- Efficiency and optimization of repetitive tasks

For residents and visitors:

- Easy contact with city services (his favorite social network)
- Quality of welcome, empathy (multi language)

For the city and its elected officials:

- Modern digital employee experience (employer image)
- Modern image for residents and visitors, visibility (city logo on social networks)
- Out-of-the-box solution with all channels and a large number of languages



OTHER APPLICATIONS

Many applications within the connected territory can benefit from the combination of multiple data and automated decision making:

- Predictive watering of parks and gardens
- Intrusion, alarms...
- Mobility (charging stations, parking...)
- Waste collection
- Lighting
- Sports facilities, swimming pools
- Humidity (basements, common areas...)
- Water management (distribution, water treatment plant, basins...)
- Emergency plans
- Intelligent dynamic signage
- Etc.

EPILOGUE

Connected territories have much to gain by combining data from multiple, often pre-existing, sources to derive real-time decisions that optimize infrastructure use, reduce impacts and provide better services to residents. All while affirming the centrality of agents.

Real estate assets, flow reduction, quality of life, services to residents are some of the application themes that we have outlined.

Many other subjects are also accessible: the imagination and the desire for action of the teams at the head of the communities are in charge.

The Institut Montaigne classifies data mobilization projects into three categories:

- Projects that help control costs, such as energy management of buildings, waste collection, control of water networks, watering, or public lighting.
- Projects that do not necessarily have a profitability objective, such as monitoring and improving mobility, improving air quality, safety, health or risk prevention.
- Projects with the ambition to give a global vision of the territory.

Today, there is no need to undertake complex actions or commit huge budgets to implement most of these projects.

It is this path that we propose to walk together.

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