

ALPS' MAG

GRENOBLE SPECIAL ISSUE

GREENOBLE

A green solution against air pollution

ABO

Water analysis for everyone

GREEN MOV

Monitor and control the flow of people

Design Workshop organized by GIANT campus - Produced by Alps Design Lab - 12 to 16 June 2016

GIANT
INNOVATION
CAMPUS

GREEN FUTURE MAGAZINE \$14.50



« GRENOBLE A CITY
IN THE FRENCH
ALPS ATTRACTS
TOURISTS AS WELL
AS SCIENTISTS
FROM ALL AROUND
THE WORLD. »

EDITO

GIANT Innovation Week pilot

In its second phase, the GIANT campus is looking towards developing a culture of Open Innovation, which seeks a strong and open cooperation between research centres and industry from the beginning of the innovation value chain to identify breakthrough and win-win technology and business opportunities. The pilot edition of the GIANT Innovation Week that took place from June 12 to June 16 showcased the kind of project that would take place in the GIANT “hive” of the Open Innovation Centre to be built in 2019. Together with its members from the EPN campus (EMBL, ESRF and ILL) the pilot utilised the concept of challenge-based innovation, inspired by the ATTRACT project, an interdisciplinary program currently under evaluation by the European Commission to co-develop with research infrastructures and industry breakthrough sensor & imaging technologies (<http://www.attract-eu.org/>).

The pilot edition of the GIANT Innovation Week that took place from June 12 to June 16 showcases a type of project that would take place in the GIANT “hive” of the Open Innovation Centre to be built in 2019.

For one week, students and young researchers from a variety of fields (physics, biology, design, architecture, innovation management) and countries (France, US, Germany) worked together on designing solutions for mobility and tourism in a region of potentially high pollution, exploiting existing detection and imaging technologies and the specific expertise in their respective field of studies. Guided by design and creativity professionals, they used tools such as video, storyboards and mock-ups, to come up with a vision and scenarios for solutions and potential applications. The contributions in this magazine summarise the work of the three student groups. They give a flavour of the creativity, stimulated by bringing together people with very different backgrounds.

THE WORKSHOP

Innovation challenge to harness detection technologies to solve local challenges in mobility, pollution and tourism

Keywords to describe the project:

Detector technologies, photons, neutrons, pollution, mobility, tourism
Description of the project (aims, experimental techniques, recommended background):

ESRF, EMBL and ILL develop and own a wide range of state-of-the-art neutron and photon detection technologies, to respond to the very demanding requirements of their experimental facilities and other synchrotron and neutron research infrastructures.

Students will be challenged to concoct ideas to exploit these new technologies, solving important challenges outside of the research infrastructures themselves.

The Innovation Challenge will focus upon Grenoble and its location in the Alps with targeting solutions to local mobility, high pollution and tourism.

The challenge deliverables, using tools such as video, storyboards and mock-ups, will be vision and scenarios on the potential applications.

CONDUCT OF THE WEEK

June 12 - 14.00 - 18.00
Objective: understand the vision and objectives of our partner and explore the field of study.

- Presentation of Alps Design Lab (Roger)
- Presentation of the project (experts from scientific partner)
- Presentation of the context and workshop objectives (experts from scientific partner + Roger)
- Group creation and distribution of study fields
- Mapping the field of study
- Research from third party sources and references

June 13 - 9.30 - 18.00
Objective: definition of context

- Using the mapping performed on day 1, looking for a possible context, desirable or undesirable that would result from the user experience.
- Drafting the narrative thread which leads from the current situation to the imagined situation

June 14 - 9.30 - 18.00
Objective: scenarios

- Mid-workshop revue with the experts from scientific partner
- From the imagined context, research and describe a precise scenario of the solution as well from the point of view of the user as from the point of view of the partner
 - Visual sketches of the solution

June 15 - 9.30 - 18.00
Objective: preparation and realization of the final output

- Presentation design
- Production of visual according to illustrative form of a magazine (template will be given) - argumentation

June 15 - 10.30 - 12.00
Final presentation to the partners

SOMMAIRE

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MONITOR AND CONTROL THE
FLOW OF PEOPLE

GRENOBLE

A GREEN SOLUTION AGAINST AIR POLLUTION

THERE IS SOMETHING IN THE AIR

Grenoble - a city in the French Alps - attracts tourists as well as scientists from all around the world. This popularity swirls up dust

The alps – white mountaintops, green meadows and lots of fresh air. This vision of a beautiful and unique nature panorama and the connected promise of a range of outdoor activities inspires tourists from all over the world to visit Grenoble in the French Alps. But Grenoble is way more than “just” a tourist city, it is also a center of the European Synchrotron (ESRF) and Neutron research (ILL), home to a range of innovative industries and research facilities - all this in a picturesque city located in a green valley surrounded by a breathtaking alpine panorama.

Breathtaking describes Grenoble well – in more than the symbolic meaning: the city is suffering from a rising level of air pollution. The location in a valley combined with 3 highways passing by and a lot of local commuters and old-fashioned heating methods leads to a fine grey smog hovering over the city, blurring the image of the alpine idyll. Since air pollution is not only an aesthetic but also a health issue, a sustainable solution is more than needed. It's no surprise that it's causes, properties and impacts have become an active field of research. So, why not combine the direct fight against air pollution with questions of fundamental research? And where better to do so than in Grenoble where both – the problem and the examination tools – are close at hand?



A GREEN SOUTION AGAINST AIR POLLUTION

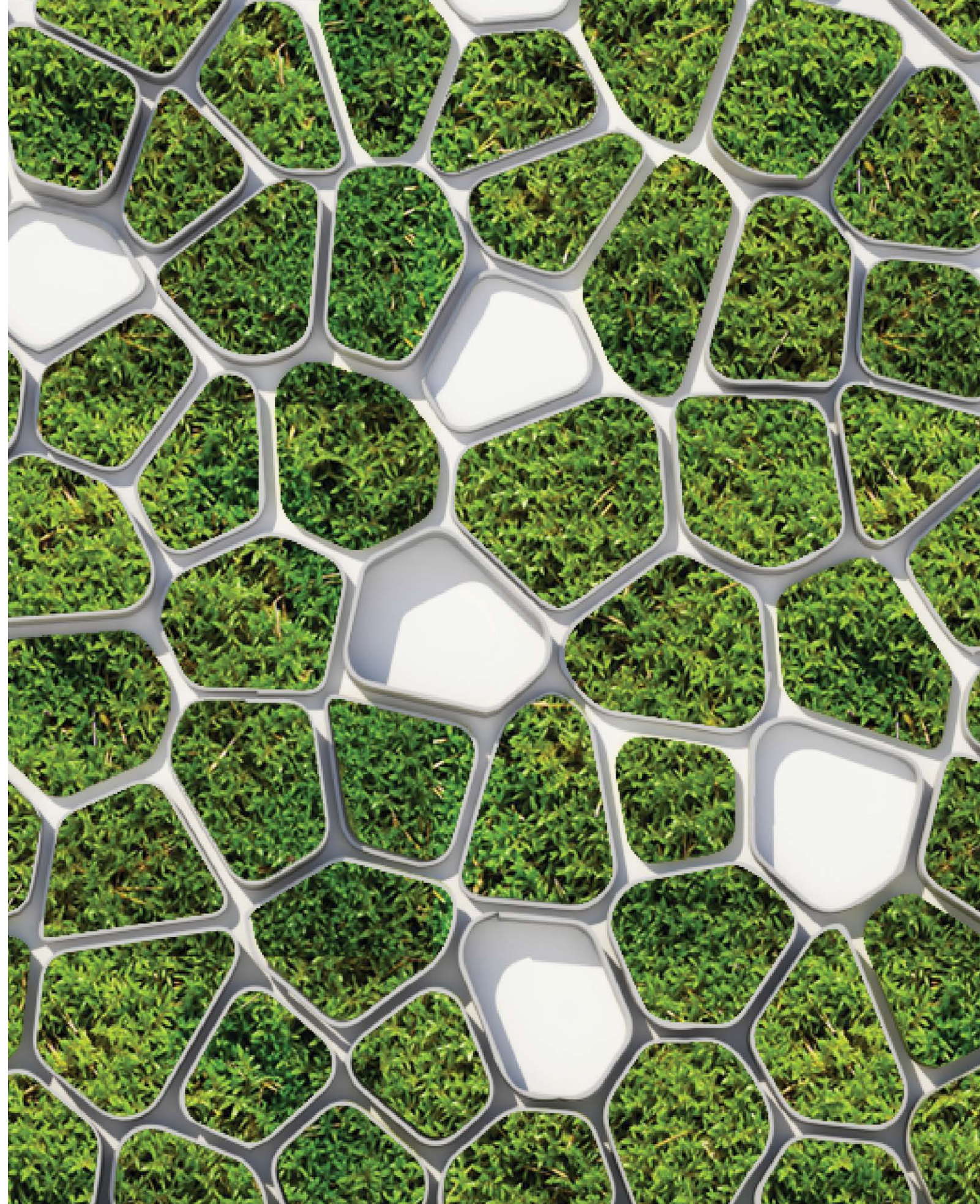
However, “air” is not a single element or molecule, “air pollution” is an umbrella term for a variety of different molecules and particles. The most common and best known are: Carbon Dioxide (CO₂), Sulfur Dioxide (SO₂), Oxides of Nitrogen (NO_x), Volatile Organic Compounds, Particulate matter (PM, “fine particles”) and ground level Ozone (O₃).

They can either further react and form acids (acid rain) or directly be inhaled, which can lead to a variety of symptoms like respiratory problems or headaches and may lead to chronic lung diseases, a raised risk of

lung cancer and cardiovascular diseases. The WHO estimated in 2014 that about 7 million premature deaths are caused by air pollution every year.

Luckily, plants are naturally available filters and purifiers that could be readily used to minimize air pollution. They take in CO₂ and release O₂. Out of the many possibilities available moss, lichens, and algae are the readily available solutions. Mosses that usually grow on forests and wet are relatively easy to grow and adapt. They have been shown to be very effective in absorbing nitrogen and removing pollutants present in air to fight against air pollution. Mosses take in water and nutrients from the atmosphere, storing whatever compounds happen to be present in the local environment by converting them into biomass with the help of bacteria.

They act as a live indicator of the air pollution as they survive exclusively on the air and water for their growth. Mosses not only help in minimizing the air pollution but they provide a cheaper cost-effective solution to map and monitor the levels of air pollution as they do not need any complex monitor system/equipment.





MOSS - NATURAL AIR FILTER AND BIOLOGICAL MODEL SYSTEM

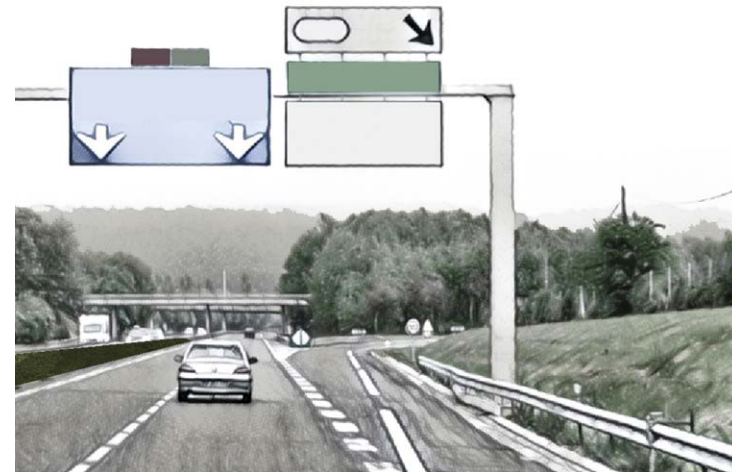
On selected spots in the city these natural filters will be combined with a fully equipped weather monitoring station: temperature, sun exposure, barometric pressure, humidity and conventional filters to collect reference data about several pollutants. An automated UV-absorption spectrometer, calibrated to measure the zone level and a scattering based particle sensor will directly display a roughly estimated pollution level as a change of light color (low, medium, high). The collected data will be transmitted to local weather forecast stations and help to predict high air pollution days. Extra humidity sensors in the moss segments will control an automatic watering system, which is directly connected to the city water supply.

In regular intervals (e.g. every month) samples from the moss and the reference filters will be taken and brought to the ESRF research site to be analysed. Methods like X-ray fluorescence imaging, (transmission/fluorescence) tomography, mass spectroscopy, chemical analysis etc. can be employed to gain further knowledge on how the plants take up the pollutants, where and how much of them are incorporated to the plant system and if any structural changes are occurring.

The reference data from the permanent monitoring will serve as a valuable pre-knowledge to interpret the measurements. The proximity of the moss stations to the research site will facilitate a fast transfer, cryo-methods can therefore be applied.

This long-term study will give a unique opportunity to gain insight in the biological, chemical and physical mechanisms of the uptake of nutrients (and pollutants) of mosses. The large and well monitored sample set can moreover serve as training data for the development of new imaging, sample preparation and image analysis methods. A cooperation with the Grenoble University for teaching purposes can be considered.





GREENOBLE

MAKE THE CITY GREEN

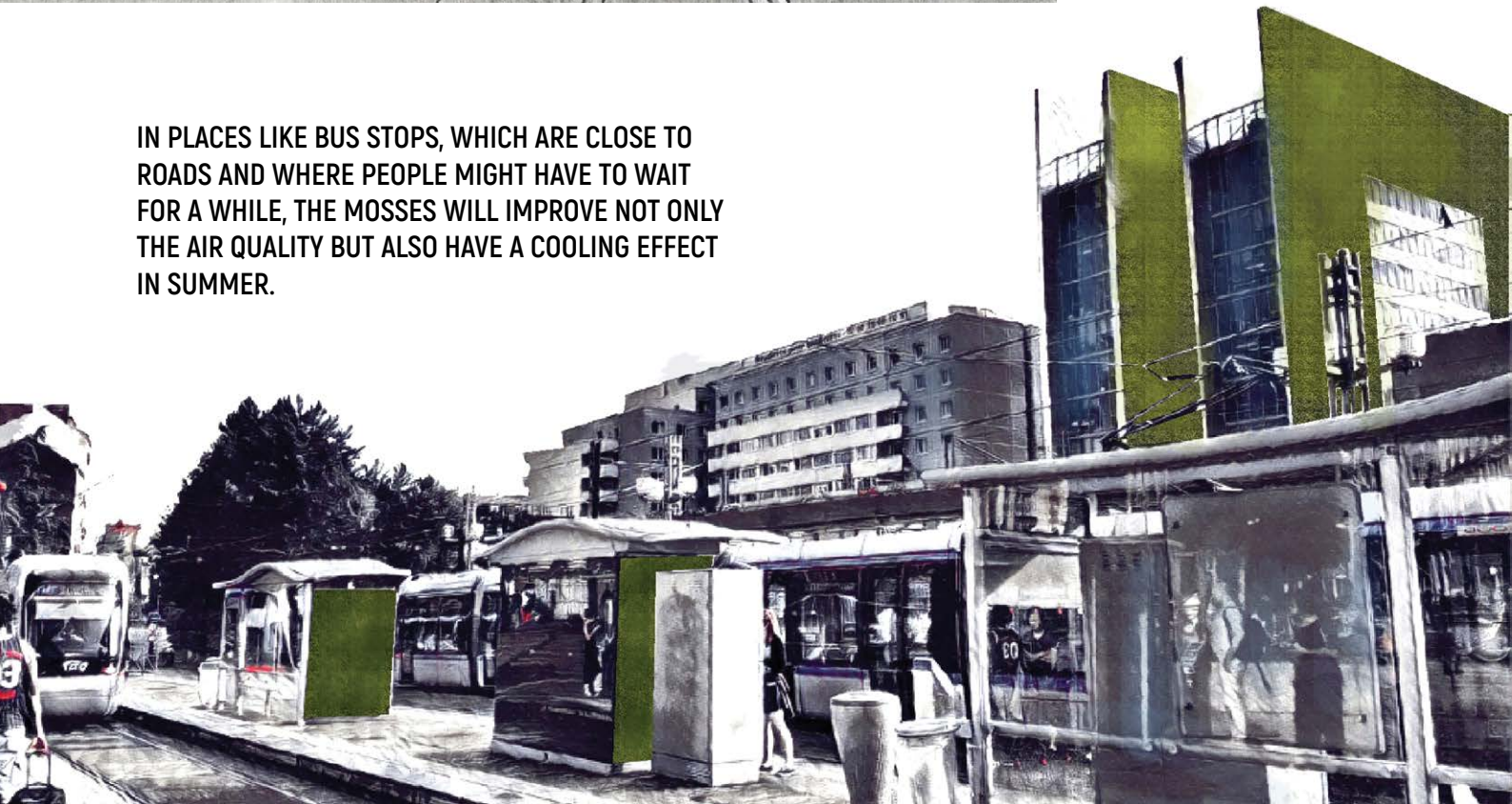


THE MOSS ELEMENTS CAN BE EASILY INSTALLED IN VARIOUS PUBLIC PLACES AND ALONG ROADS AND HIGHWAYS, WHERE MOST OF THE POLLUTION IS PRODUCED. THE POSSIBILITY TO GROW MOSS ON VERTICAL SURFACES MAKES IT ESPECIALLY SUITABLE FOR THE USE IN AN URBAN SETTING.

CURRENTLY UNUSED FACADES WILL BECOME PART OF A NEW NATURAL AIR FILTER SYSTEM: GREENOBLE.



IN PLACES LIKE BUS STOPS, WHICH ARE CLOSE TO ROADS AND WHERE PEOPLE MIGHT HAVE TO WAIT FOR A WHILE, THE MOSSES WILL IMPROVE NOT ONLY THE AIR QUALITY BUT ALSO HAVE A COOLING EFFECT IN SUMMER.



GRENOBLE WILL BECOME A «GREEN CITY», RAISING LIFE AND AIR QUALITY FOR IT'S INHABITANTS AND VISITORS.





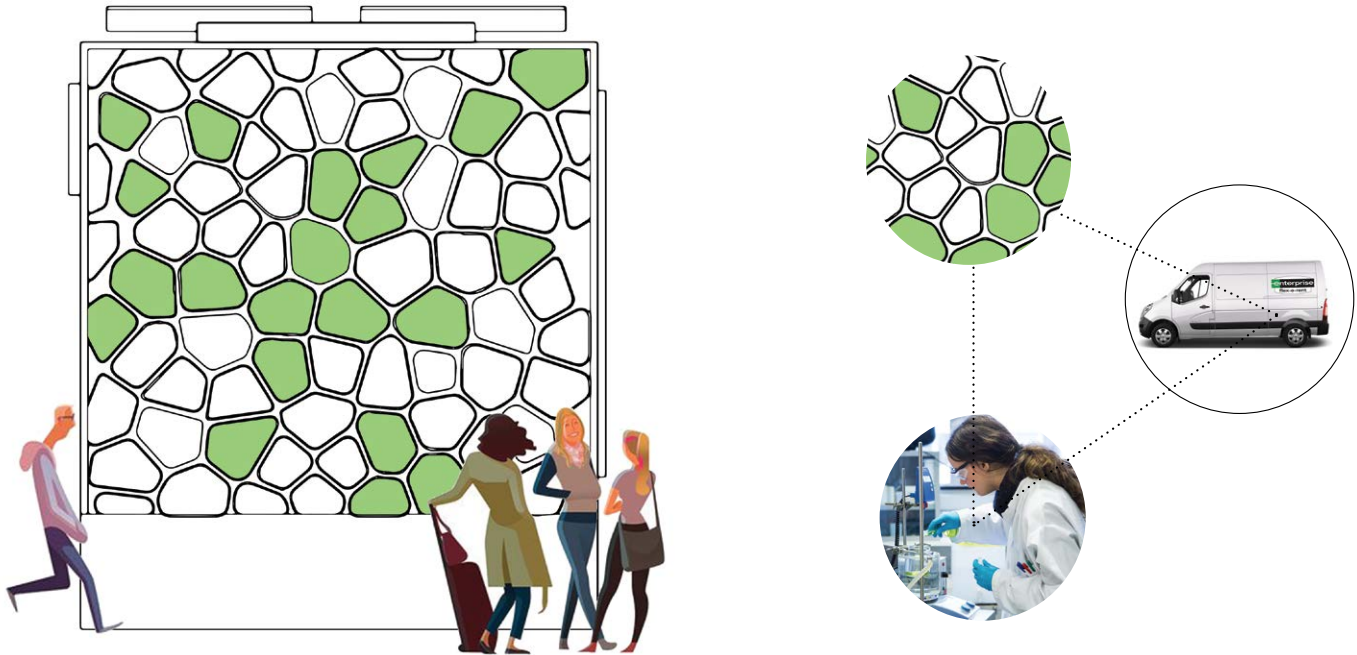
The monitoring stations will be easily integrated into everyday city life. It will double as a recreational area, offering fresh clean air, shadow and cooling. People can relax on the included benches and enjoy a “miniature forest” everywhere in the city. Since the surface of moss is manifold larger than of a tree taking up the same space, one moss element will have the air purifying effect of several common city trees.

In regular intervals, a sample will be taken from the moss. The sampling

procedure will be clearly defined, so the comparability of the different measurements will be guaranteed.

The sample will be directly cooled and transferred as fast as possible to the research site, which is a unique possibility in Grenoble due to the close co-localisation of city and research facilities. The cooling is necessary to ensure that the measurements are as close to the natural situation as possible. In the lab, the scientists have the possibility to perform various tests. The examination with x-rays will be accompanied by parallel chemical testing for pollutants. The classic filter system at the moss stations will serve to define reference values and additional knowledge.

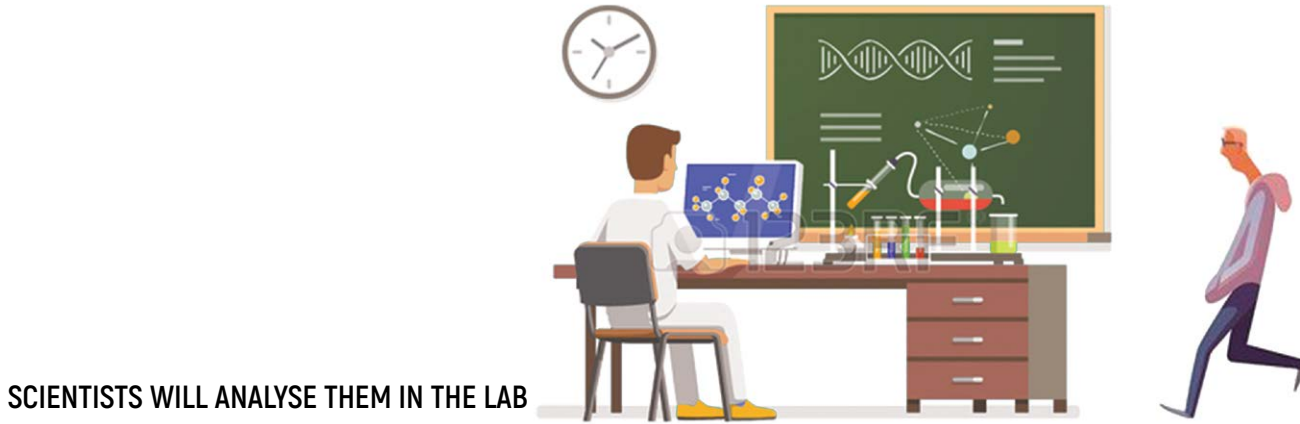
All data needs to be contextualized with the permanently monitored weather and environmental data collected at the stations. The long-term data collection will enable a thorough study of biological features of mosses as well as the development of pollution in Grenoble.



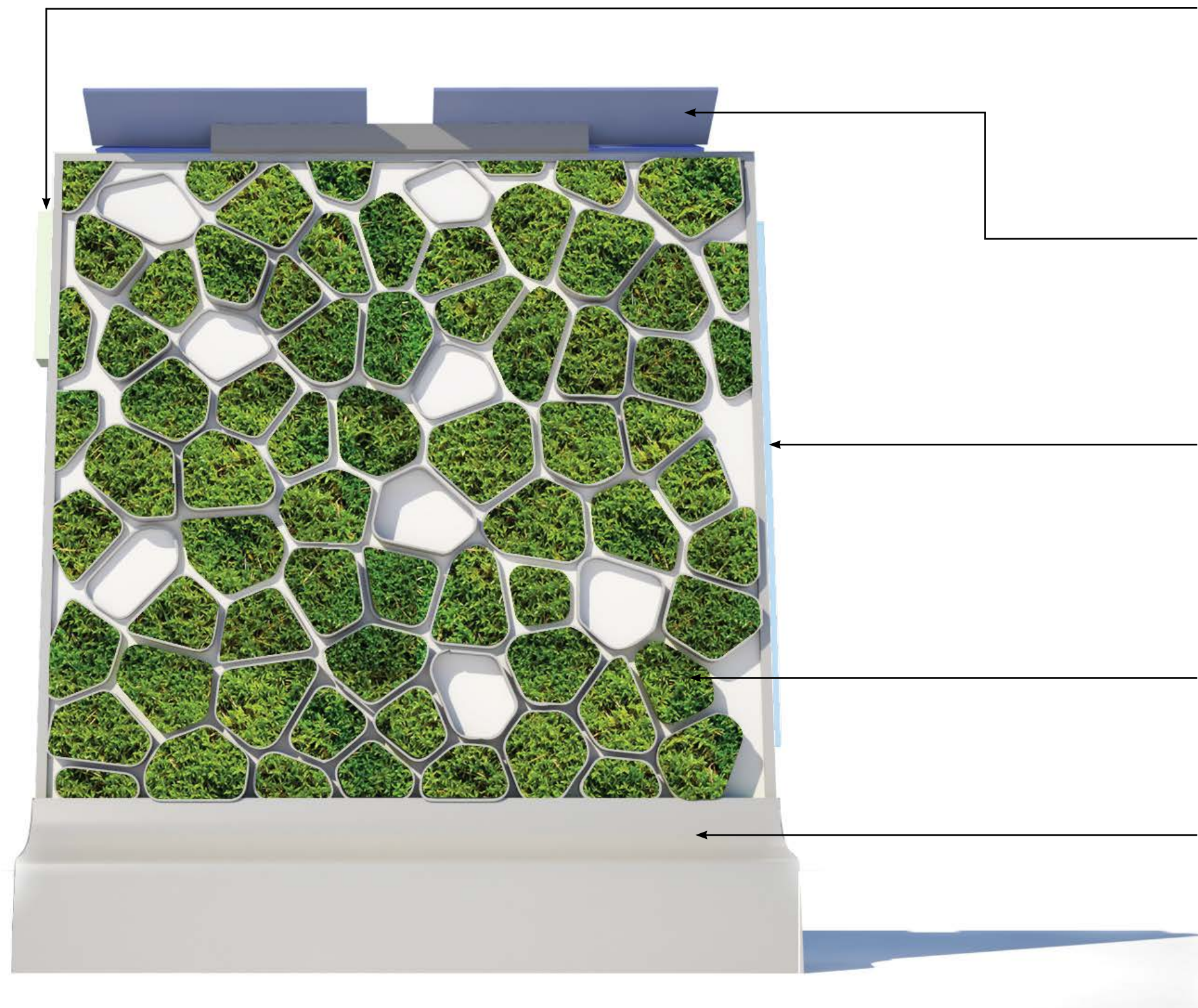
THE STATIONS ARE EASILY INTEGRATED IN EVERYDAY CITY LIFE. SAMPLES WILL BE TAKEN AND MONITORED



THEY ARE TRANSFERRED TO THE CLOSELY LOCATED RESEARCH SITE



SCIENTISTS WILL ANALYSE THEM IN THE LAB



SENSORS

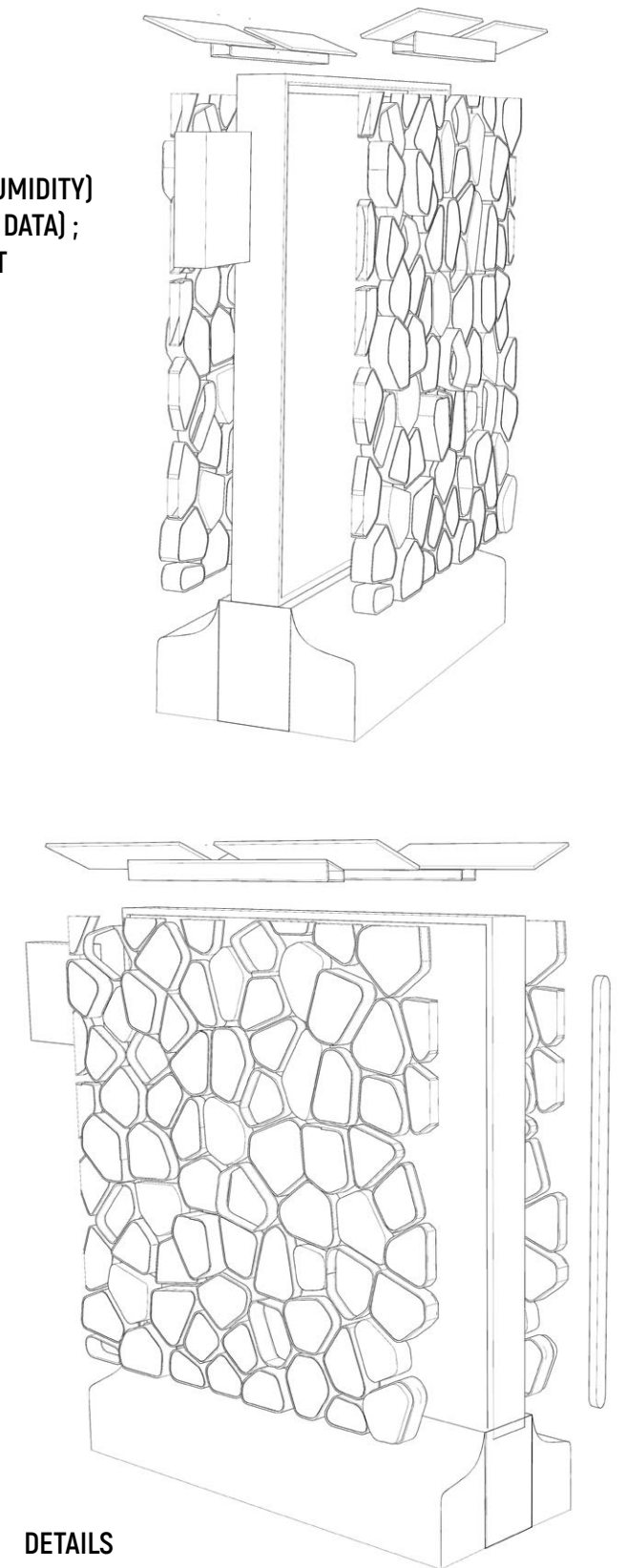
- * TEMPERATURE
 - * WATER CONTROLLED (HUMIDITY)
 - * AIR POLLUTANTS (TRACK DATA) ;
- CHANGE A COLOR OF LIGHT

SOLAR PANELS

LIGHT

MOSS

SEAT



DETAILS

Greenoble is a concept combining a fight against the problem of air pollution with a long-term research proposal to better understand air pollution and biological processes in mosses. The system is tailored to the city of Grenoble with its research campus and synchrotron facility. It therefore will have double benefit: increasing quality of life and furthering scientific progress - which might be breathtaking on its own.



A-BO

WATER ANALYSIS FOR EVERYONE

AN INVISIBLE DANGER

A PROBLEMATIC NATURE

Nature is wonderful. However; beautiful things can hide danger. River water can seem innocent to the eye; but can contain dangerous substances.

When hiking, sometimes the only source of drinkable water is river water. Sometimes it's really hot and all that can help is a short swim, but is it worth risking one's life?

Testing the water can be a tricky thing, a messy thing, an inaccurate thing. Water testing kits require knowledge, manipulation and precision that one might not have or cannot achieve in nature's conditions.

When one is far from the resources we've come to expect, sometimes we need to worry about dangers long forgotten. Water quality testing is a vital technology when travelling in nature.



POLLUTION IN GRENOBLE

IT'S IN YOUR HOME!

Hazardous water is more common than may be thought. In the summer of 2016, farmers in the vicinity of Grenoble began dumping dangerous animal waste into the river, leading to contamination with dangerous E. coli bacteria. Authorities didn't discover the contamination until several people fell ill with gastroenteritis.

The home is a place of safety. It is where you go to relax and to forget your worries. Water plays an important role in creating this sense of security. Think about it: you get home, take a deep breath, and relax. Maybe you wash your hands to get rid of the day's grime, or need a drink of water. Perhaps you take a watering can around to your colorful violets, then feed your children some soup you made from scratch yesterday, using water from your faucet. Finally, you take a long, hot shower, before falling into bed, ready for another day to come.

But what if you couldn't do this? What if all those simple tasks were putting you in danger?

Imagine a new world. In this one, getting water is a game of Russian roulette. Maybe the lead in your pipes is slowly leaching out and poisoning you. Maybe today the toxic waster from the factory down the road finally got into your well, and you've started drinking ammonia. Or maybe a contaminated source is bringing bacteria into your home. You can't drink your water; maybe you can't even touch it.

You see, this world is not a fantasy. This is our world. Even in developed countries water gets contaminated, by decaying infrastructure, corporate greed, or just plain accident. It can be years before a test finds the problem; sometimes it can be even longer before the public is notified or steps taken to contain the pollution. In the meantime, your water is killing you and you don't even know it.

Is there bacteria in your water? Nitrates? Arsenic? Lead? These are questions you need answered. We trust infrastructure to keep us safe, but sometimes it fails - even in what seems to be the most secure areas. You need the power to check for yourself, and to know, not trust, that your water is clean.



A-BO

THE A-BO ALLOWS US TO SEE THE INVISIBLE.

It can detect a variety of potentially harmful substances commonly found in water, all in one easy-to-use product. You choose the most common contaminants in your area, be it lead in an old city or nitrates in an agricultural region, and insert the relevant disposable detectors into the A-Bo. Fill it with water, and in minutes the A-Bo gives a full report of the toxic chemicals or metals that may be present. Given a longer time, dangerous bacteria like E. coli or staphylococcus can also be detected.

Once the water analysis is done, the results are displayed on the screen in a simple format: potable, bath able, and dangerous. A detailed explanation of the water content is available via an app, and this information is also sent to a database that tracks water content by location. We can then alert customers potential contaminants in the area and compare results to official tests.

This allows the user to analyse water safety both in their everyday life, at home, work, or school, and in more uncertain conditions. When hiking, A-Bo is compact and generates little waste, allowing you to test your water source before you risk the dangers of drinking.



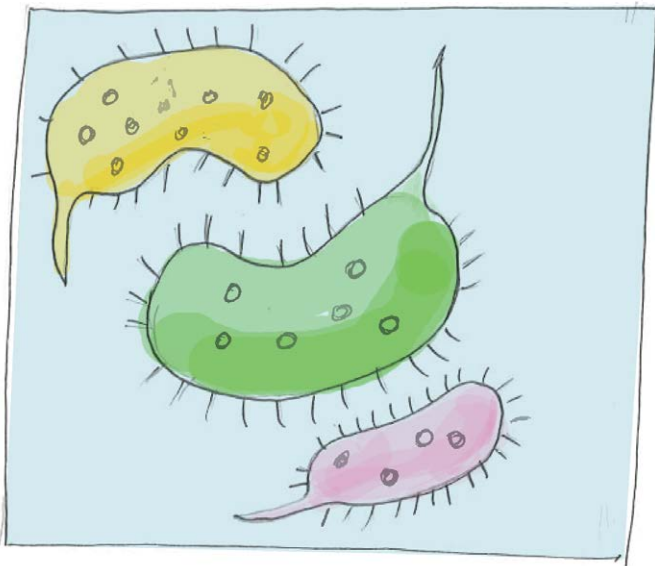
SCENARIO



1) A MAN BACKPACKING THROUGH THE MOUNTAINS COMES ACROSS A RIVER.



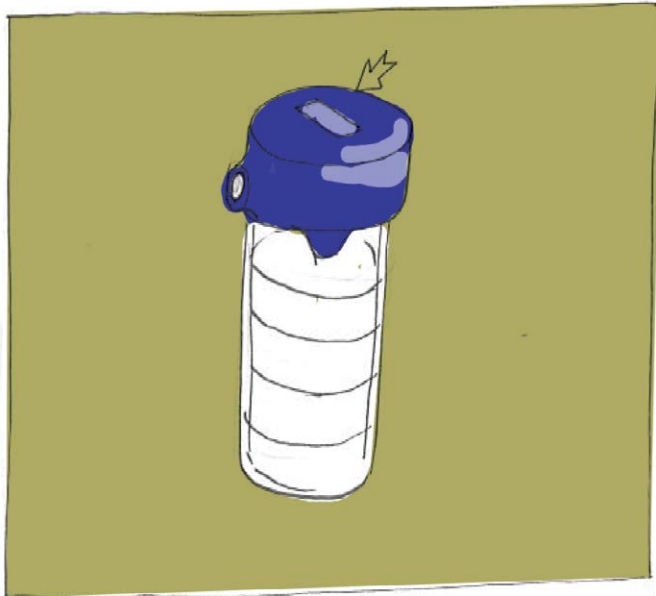
2) THE MAN WANTS TO CAMP IN FRONT OF THE RIVER, DRINK ITS WATER AND GO FOR A SWIM.



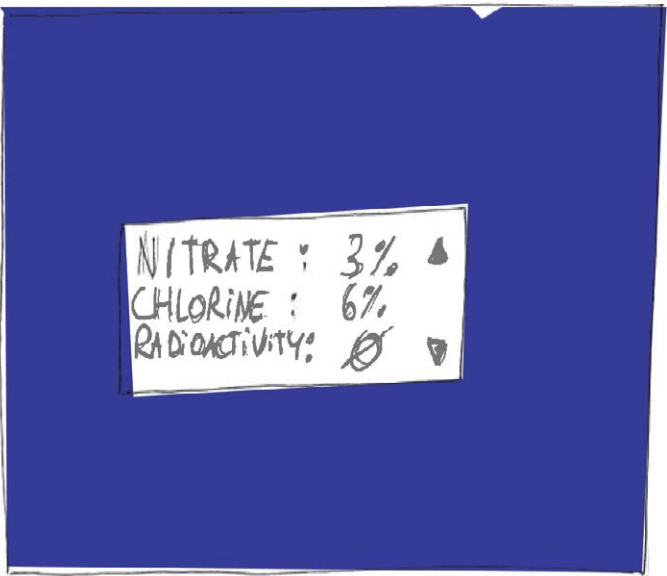
3) IS THE WATER SAFE? ARE THERE DANGEROUS BACTERIA? RADIATION? TOXINS? FILTERING THE WATER IS NOT ENOUGH.



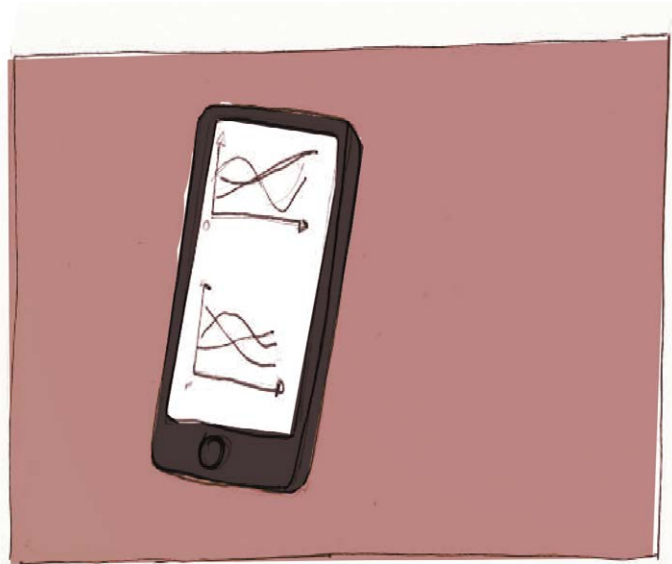
4) THE MAN TAKES HIS A-BO AND FILLS IT WITH WATER:



5) THE DETECTORS IN THE A-BO LOOK FOR HARMFUL COMPONENTS IN THE WATER, AND CAN BE CUSTOMIZED.



6) THE BOTTLE SHOWS THE WATER CONTAMINATED AND UNFIT TO DRINK.



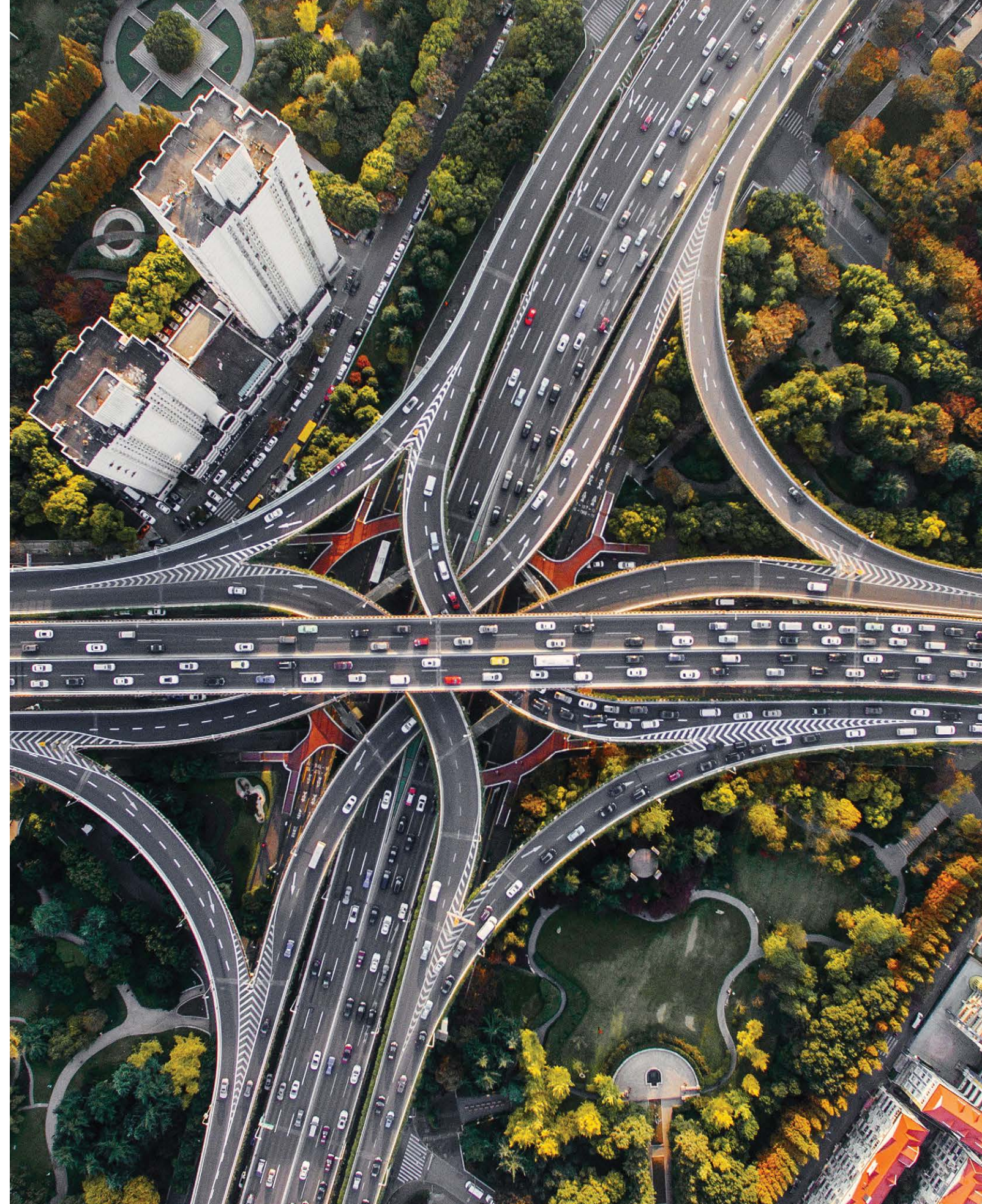
7) THE BOTTLE SENDS THE INFO ABOUT THE SPECIFIC LOCATION TO A BIG DATABASE ACCESSIBLE BY AN APP.

GREEN MOV'

MONITOR AND CONTROL THE FLOW OF PEOPLE GENERATING TRAFFIC IN CITIES

A new approach to manage road traffic by using real-time monitoring and a card control system resulting in mobility improvement and pollution decrease in high-density areas.

Nowadays, the world is facing a major problem concerning the management of traffic, especially during «rush » hours. The main reasons why traffic congestions occur are more cars and poor roads management combine with a lack of proper infrastructure and good practices. Every day the flux of employees that drives from their homes to their workplace grows due to more residential areas built far from the city and more people acquiring vehicles. Therefore, roads and infrastructures must be adapted to prevent congestion, specially at the city entrance and confluence areas. As we know traffic jams generated during rush hours result in a loss of time. However, it isn't the most dreadful consequence. The stuck vehicles generate air pollution, which has a direct and detrimental effect on both health and climate. Preventing traffic jam pollution isn't just only user-friendly, it is our responsibility as citizen.





LOCAL CONTEXT

More specifically in France, the city that is the most concerned by this air pollution issue is Paris. Even if Grenoble is not a very big city, it is the second more polluted city of France because of its location and industrial activities. Located in the heart of the Alps at the confluence of two rivers, Grenoble is surrounded by mountains that block the air circulation and provokes extreme temperatures and difficult air filtering. This location also makes the city expansion very difficult which brings the problem of exploiting new spaces for building new infrastructures.

Every day and specially during rush hour, traffic jams are generated because of the large amount of people circulating at the same time in the same roads. This traffic jam leads to huge quantities of fine particulate matter and contributes to air pollution that can't be evacuated correctly.

The upcoming implantation of new companies in the scientific peninsula of Grenoble will increase the flow of people and therefore the traffic issue. In addition, the parking available will only be able to cover 1/3 of newcomers. A new strategy to monitor and control the flow is needed to resolve these issues.

“

In 2014, the highest levels of pollution were verified around the main routes that give access to Grenoble downtown

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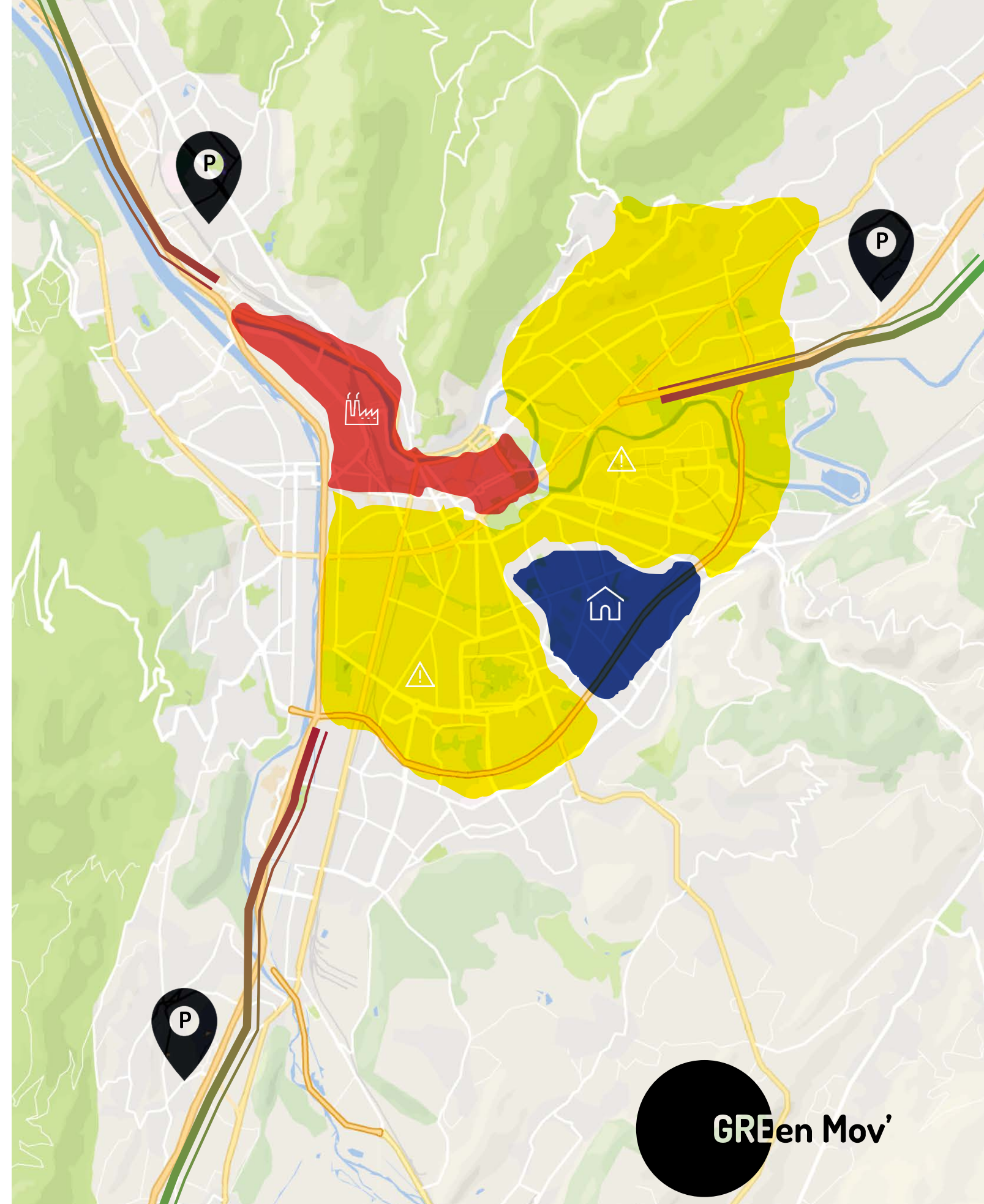
THE PROJECT

Dealing with traffic is the key point to curb down pollution and improve mobility. This mean that as long as the infrastructure won't be able to support the flux of people, traffic jams will get worst and pollution will continue to increase. Instead of focusing on optimizing the existing car flow by redirecting or building new larger infrastructures, our solution intends to reduce that flow by combining complementary solutions.

More precisely, since the lack parking places in strongly related to traffic, controlling the number of people allowed to use parking lots, we control the number of cars driving to Grenoble.

In order to regulate Grenoble's traffic and parking unavailability, we propose a 3 phase system consisting on a new highway organization using priority selection that allows vehicles carrying multiple people to access to a speed way. A park and ride service installed in the highways at the city entrance just before the traffic jam zone which brings the possibility to change from your private vehicle to public transportation. With these regulations we want to promote car sharing. Last but not least, we propose to establish a credit system to limit parking time in function of the different zones and pollution rates.

In a nutshell, the general idea is to build strong incentives to use other ways of transportation or car-sharing. Two kinds of payoffs are proposed: financial and comfort. The financial benefits for the user will range from free parking to public transportation cost reduction. The comfort advantages will consist in faster travelling and faster parking.



GMOV' CARD

Every person willing to use public infrastructure such as highways and parking places owns a GMov RFID card that stores the following information: Residential zone, working zone, time credit (the time left you are allowed to park out of your residential zone), and cash credit (used to pay the parking fees).

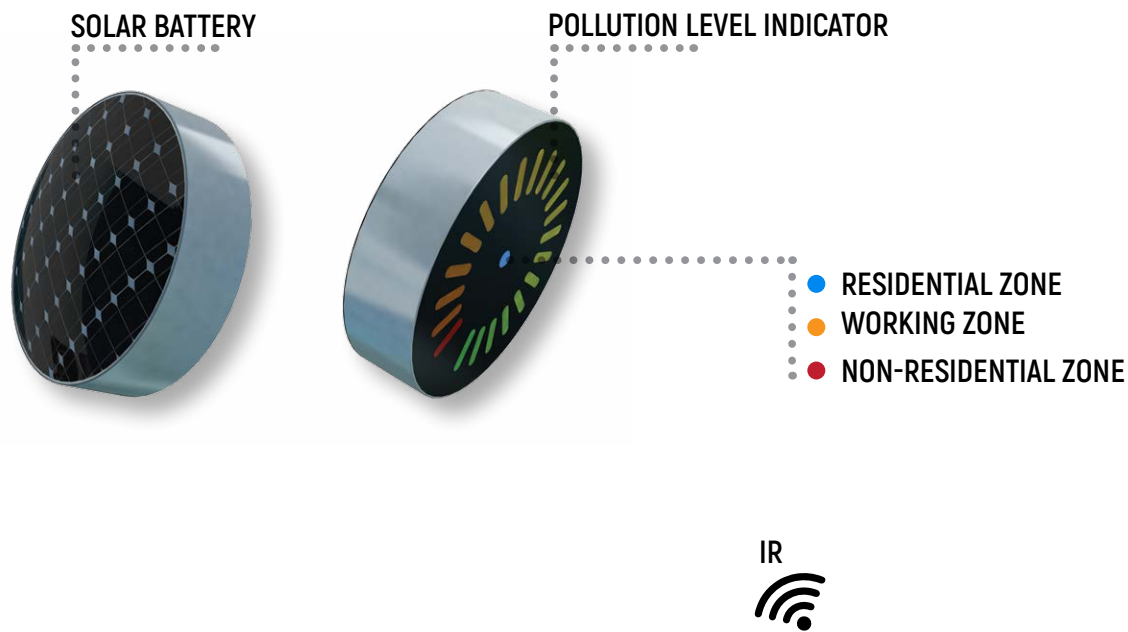
Thus, this card has 3 main functions: store the information of your parking time left out of your residential area, store your cash credit left and control the number of passengers in a vehicle to have access to speed ways.

Everyone would have a GMov' card, but credits should be given accordingly to one's situation. Hence, it has to be determined by further studies (political, environmental and ethical issues).



CANDICE FOREST
12343 12346 98474
ZONE 1A TIME 20
ZONE 3W CASH 100





G'BOX

Installed inside vehicles, this device detects GMov' cards inside the car and reads the information stored. By default, all cards in the vehicle are read and will share the fees. It will also be possible to select the GMovs' cards that will share the fees (and those that are in the vehicle, but not concerned). It also read the information of pollution level from a network of antennas. Then, it diffuses both the number of GMovs' in the car, the pollution level and the potential costs.



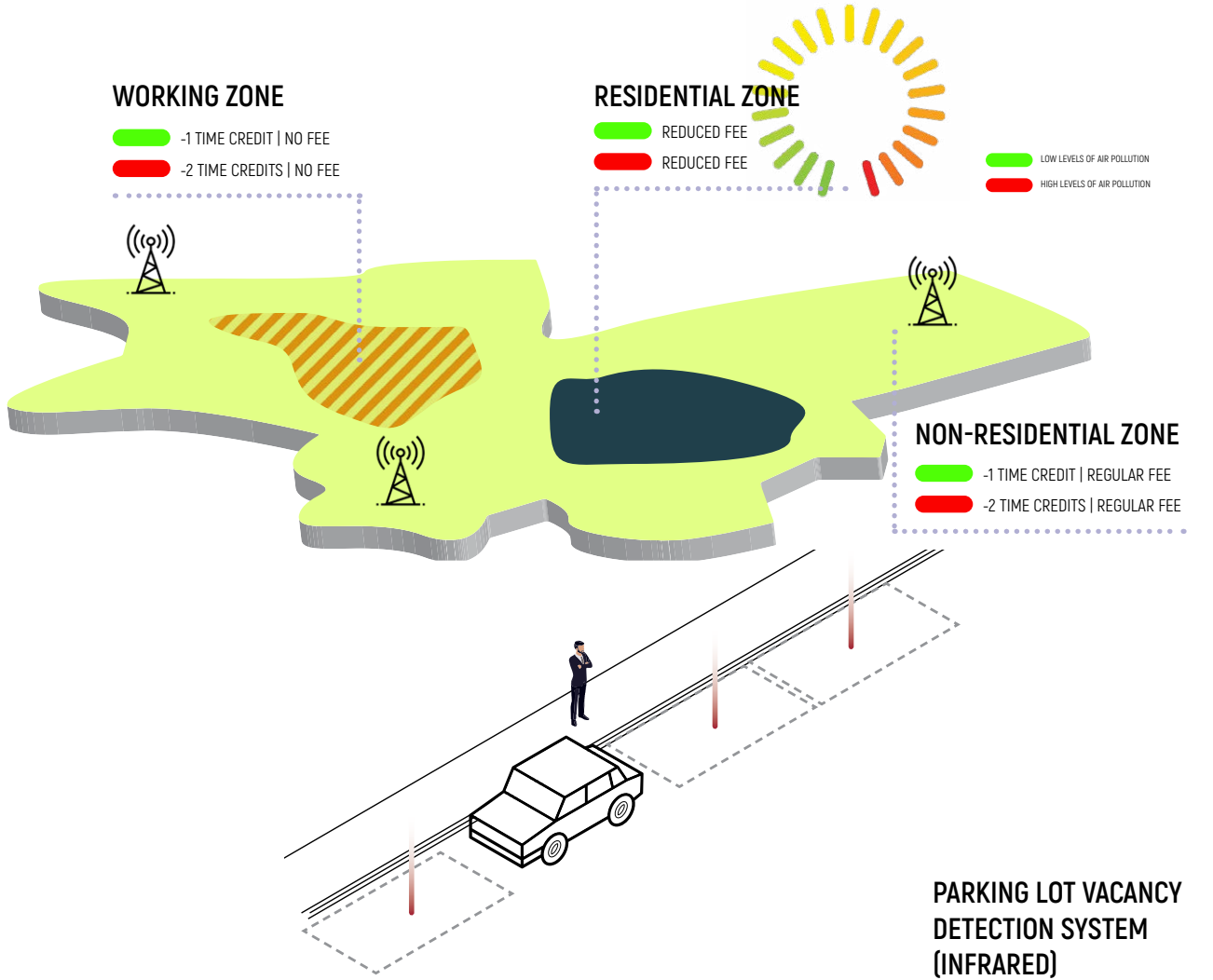
PARKING MANAGEMENT SYSTEM (PMS)

To reduce the flow of people in Grenoble, we have decided to limit the number of times each person can park. This means that if we work 5 days a week, we will limit the parking to 3 days a week (for example) and people has to find a different way to come to work such as using public transportation, bicycles, walking or sharing vehicles. To promote sharing, the system takes in count the number of people (cards) in the car and splits

the credit, which means that a car shared by 4 people is able to park every day of a week.

The second rule of this system is that the city is divided into zones. Everyone that owns a GMov' has limited parking time-credit to use in both his working zone and all zones where one doesn't live, and unlimited credit in one's home area. In order to deter people to take their cars during a highly polluted day, the third rule consists on a linear correlation between parking credit and level of pollution. The more pollution, the more time-credit and money you lose. There are different ways to count those credits. One would be to charge the parking according to an affine function: each time you park, since you've taken your car, you are charged a fixed amount of time-parking-credits and money. Then, you are charged according to the time you stood parked. Both prices would increase with the pollution level. Another would be to only charge the time parked according to the pollution level.

To make this system work, detectors at the entrance of big parking lots will read the data of the GBox and later charge the GMovs' accordingly. Small RFID detectors will be put under the individual parking places.



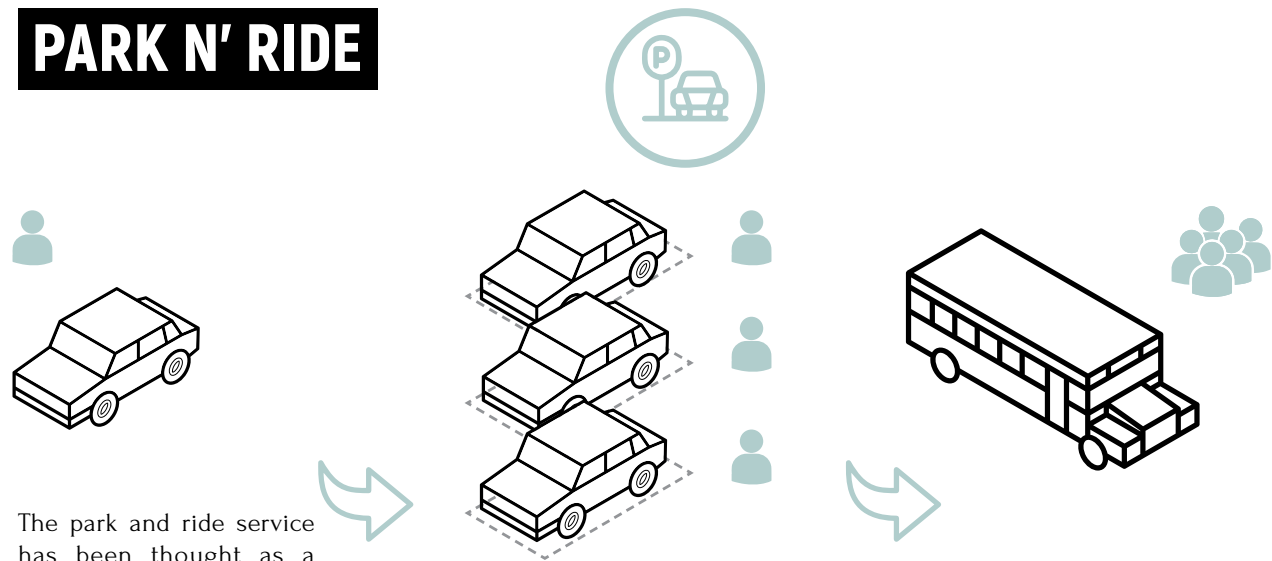
SELECTIVE HIGHWAY

The selective highway is a way to reward the people that uses car-sharing. In fact, drivers that are not alone in their car they will be granted the use of a special way. It will be faster, since there are less vehicles for the same amount of people. It also reduces the risks and the duration of traffic jams on this road. For this system to be effective, we need to control people on the selective highway to ensure that the car-driver isn't alone.

We propose an automated check based on the GBox: as long as the GBox is connected to 2 or more GMov' cards, it will send a signal. This signal will be read by detectors fixed on gantries. If the machine isn't able to detect the GBox signal that proves that the car is shared, it will flash the car and a huge fine will be delivered to its owner. With this system, we can check the number of people in cars on all the selective highway without having to slow the flux of people.



PARK N' RIDE

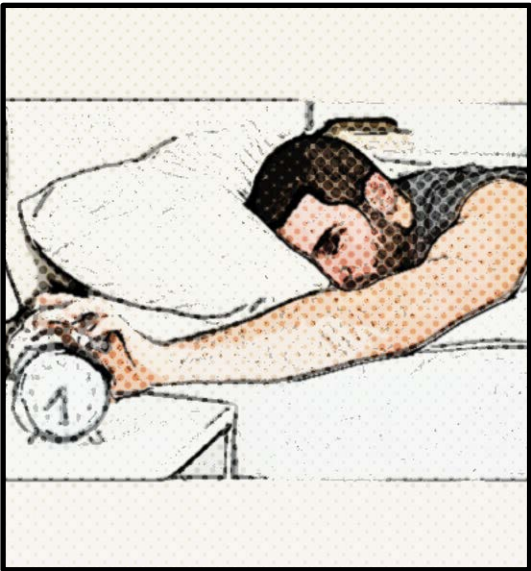


The park and ride service has been thought as a way to limit the number of cars in the funnel areas in the highways coming to Grenoble and, thus, as a solution to traffic jam. It works with the GMov' concept of limiting the number of cars that can access common parkings in the city. If you ride and park alone in the city, you will burn fast your parking credit and will have to park outside (meaning, in the park-and-ride upstream the entrance of Grenoble). In the opposite, if you are sharing your car, you will not only pay less credit for your parking but you will also be able to use the special part of the highway, reducing you travelling time. Park-and-ride can be used as a meeting point from where you will use the car of another co-worker or share your own. But in case you wish to stay alone, you can take a bus by that will deserve industrial areas (peninsula for example). You won't need anymore to waste time to find a parking spot in a crowded area.

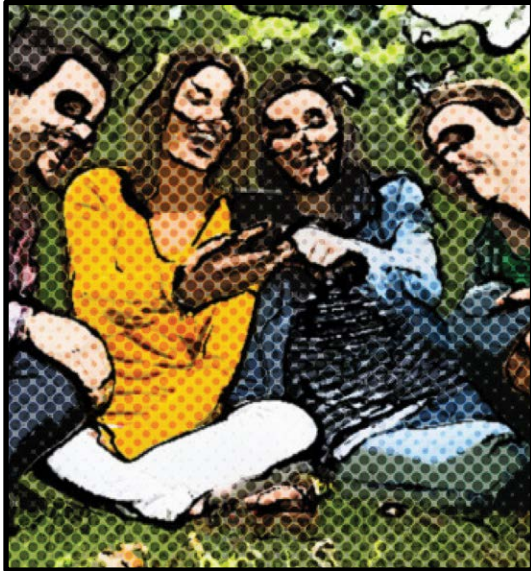


WHAT WE EXPECT

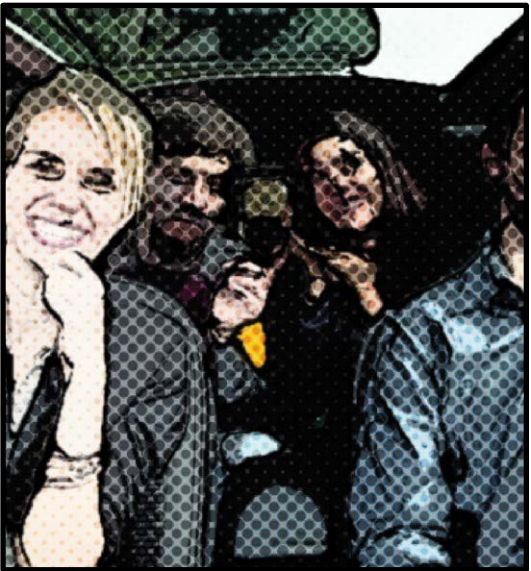
CASE 01 : CAR SHARING



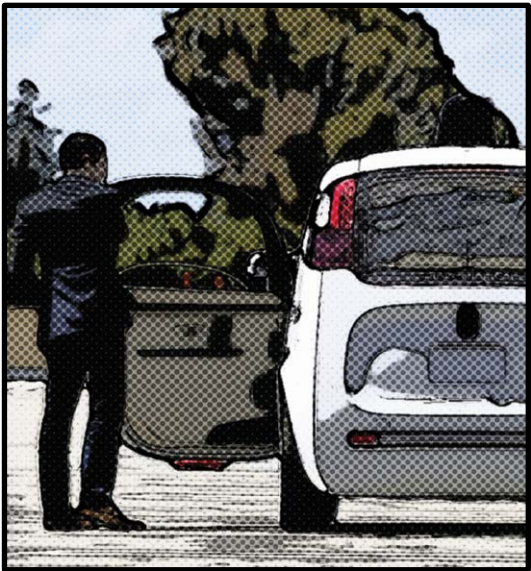
1 - MICHAEL LIVES IN VOIRON AND DRIVES EVERY DAY TO WORK



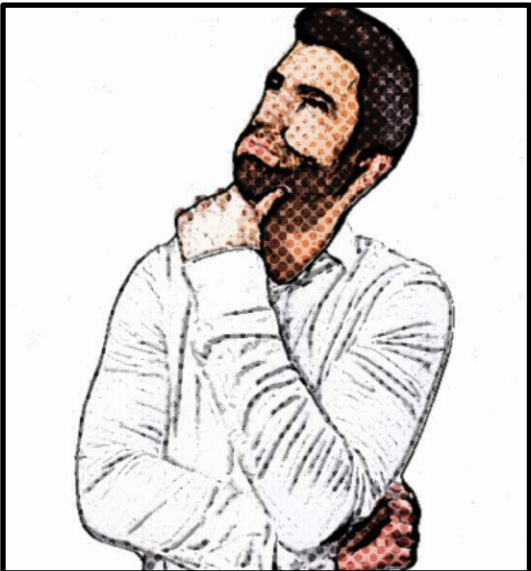
2 - HE LIKES TO SOCIALIZE AND ALWAYS PROPOSES CAR SHARING TO HIS COLEAGUES



5 - TODAY HE SHARES HIS CAR WITH THREE OF HIS FRIENDS.



6 - WHEN HE ARRIVES TO WORK, HE KNOWS HE CAN PARK AT A LOW COST.



3 - THUS, HE MAY HAVE ACCESS TO THE SPEED HIGHWAY. THANKS TO GREEN MOV! ;)



4 - UNLIKE THE OTHERS, HE WON'T BE STUCK IN TRAFFIC.



7 - HE SAVED TIME, MONEY AND BEYOND THAT, HE GAINED GOOD CONVERSATIONS.



8 - WELL DONE, MICHAEL!

WHAT WE EXPECT

CASE 02 : PARK AND RIDE SERVICE



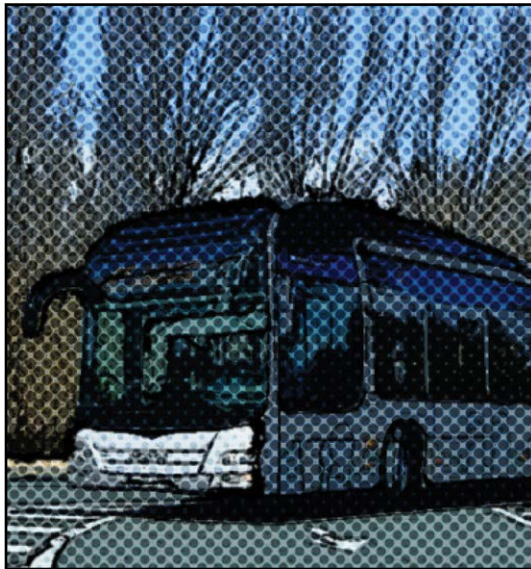
1 - FRANCINE, WHO IS IN A RUSH THIS MORNING, DRIVES ALL ALONE.



2 - SHE IS GETTING TIRED ABOUT TRAFFIC JAM AND SHE REALISES THAT SHE DOESN'T HAVE MUCH PARKING CREDIT LEFT.



3 - SO, SHE DECIDES TO USE THE PARK AND RIDE SERVICE TO FINISH HER RIDE BY BUS.

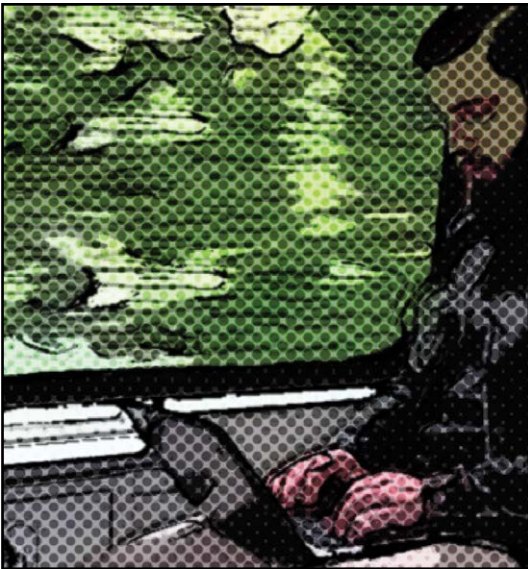


4 - THE BUS TAKES THE SPEED HIGHWAY AND SHE ARRIVES ON TIME TO WORK.

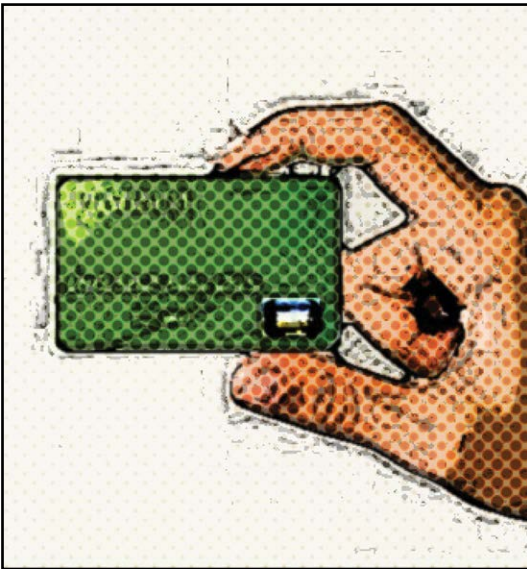
CASE 03 : THE "GRENOBLOIS"



1 - ED LIVES AND WORKS IN GRENOBLE. HE HAS A CAR BUT HE PREFERS TO USE PUBLIC TRANSPORTATION



2 - TAKING THIS OPPORTUNITY, HE NOW CAN RESPOND EMAILS AND ALSO MEET PEOPLE.



3 - AT THE END OF THE SAME YEAR, HE STILL HAS SOME PARKING CREDITS ON HIS G'MOV CARD.



4 - CHANGING IT WITH A TAG DISCOUNT MAKES HIS LIFE EASIER. HE'S THE KING OF THE WORLD.

THE MEMBERS OF THE THREE TEAMS



GRENOBLE

HANNA DIERKS

After her bachelor degree in physics at the Humboldt University of Berlin, she is currently writing her master thesis in experimental physics at the Technical University of Berlin. She is focusing her studies on analytical X-ray imaging, namely fluorescence microscopy. She is fascinated of the wide field of application X-ray methods have, especially in the life sciences. In her opinion, interdisciplinary approaches and cross-discipline exchange between scientists, engineers, designers and policy makers is important to ensure the transfer of scientific knowledge to the broad public and inspire innovations.

LAHARI YERAMALA

I came from India to Grenoble to do my PhD at EMBL (European Molecular Biology Laboratory). At EMBL I studied the structure of the proteins using X-ray crystallography and cryo-electron microscopy to gain a better understanding of various molecular mechanisms in the cell.

VANESSA LOUMON

I am architect. I am studying actually Design and Innovation for Architecture at the Ensag | Grenoble.
I am passionate about the crafts that touch the art and the creation.
Design and Architecture allow me to respond to the need to tell stories, to trace living environments and to regain a pride to inhabit or crystallize a future.



ABO

RACHAEL SKYE

Rachael attends Massachusetts Institute of Technology in the United States, where she is working towards a bachelor's degree in Materials Science and Engineering. She is currently working as an intern at the Institut Laue-Langevin, implementing a system for the cooling of electronics for the neutron detectors.

LÉO SEXER

After a Bachelor in sculpture and installation from HEAD university of art and design, Geneva, Léo Sexer went to follow his passion for industrial design at ENSCI - Les Ateliers, national school of industrial design in Paris. Alongside his studies, he worked as an independent designer with Craftmans for several luxury brands. His interest for science and technology led him to experience working with scientists at the CEA.

DANA SHOUKROUN

Originally from Belgium, graduated with a physics masters degree from Manchester, UK and currently doing a Nuclear Engineering MSc. Working at the ILL on neutron detection, she has experience in medical imaging and industrial X-rays imaging. She hopes for a future in research and aims to get a PhD in medical physics.



GREEN MOV'

CLÉMENT MALLET

Clément is a pure product of Giant ; formed as an engineer in Grenoble, he is currently learning Management and Strategie in Innovative fields at GEM. At the same time, he is working for Giant, trying to promote the world of Sciences.

MELISSA RIVADENEIRA

Holding an engineering degree, Melissa is currently doing a specialized master in Technology and Innovation Management in a sandwich course with ESRF. By combining her technical background with her business knowledge she is able to propose new concepts and strategies.

DOUGLAS OLIVEIRA

Brazilian architect and currently a design student at Grenoble National School of Architecture, Douglas is quite interested to public spaces design. With a curious mind, he intends to design projects capable of transforming the cities we live in, in a greener, healthier and people-centered environment in the future.

