

Waterlight Graffiti®

A creation by **Antonin FOURNEAU**



Technical Manual

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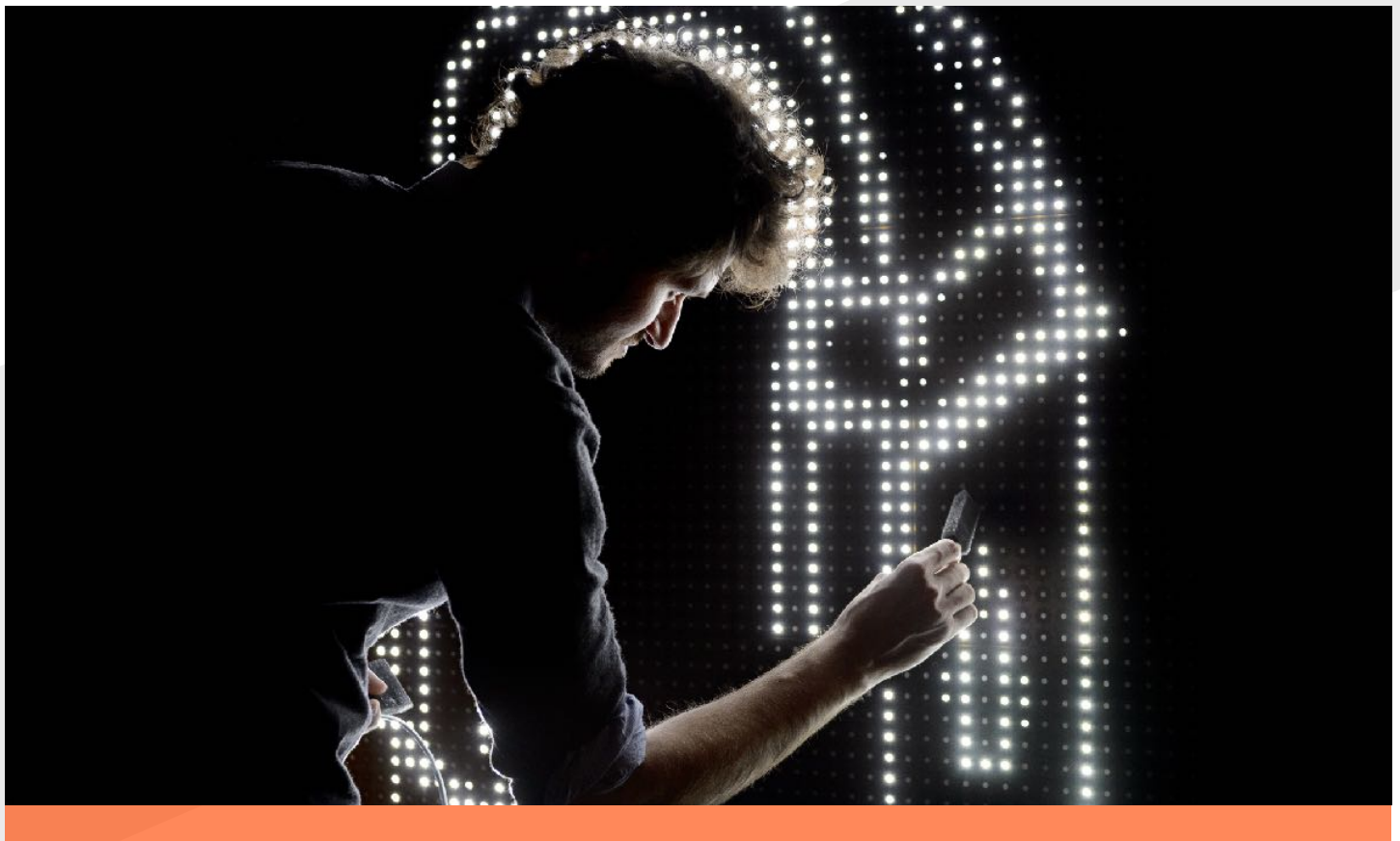
Waterlight Graffiti



Waterlight Graffiti is an interactive installation in the form of a wall composed of a multitude of LEDs that light up when their surface is in contact with water. You can draw or write with a brush, sponge or spray. The brightness is determined by the amount of water applied: the more water there is, the more intense the brightness. As the water evaporates, the LED light decreases in intensity until it turns off to give creativity a new free space.

This innovative and exclusive surface offers an alternative approach to the practice of graffiti, drawing and writing you a full liberty to your imagination. Waterlight Graffiti offers a new form of expression and interactivity in the urban space, a new experience adapted to all and all sensibilities.

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General Information



The installation of WLG is quite simple.

Depending on the size of the chosen wall, it takes about 2 to 4 hours to install. The best condition is to set up the day before. If for technical reasons, the installation should take place the same day, we must be present at least 4 hours before the start of the event and have the blueprint of the structure or pictures with details before to validate the structure.

The dismantling of WLG is even faster.

It can be done directly after the end of the event if necessary (about 2 hours).

Installation and dismantling are operations carried out exclusively by our technicians and included in the quotation.

Short-term project (less than one week).

Our technicians are present throughout the event to manage and present WLG.

Long-term project (more than one week).

As Waterlight Graffiti is a reliable and simple installation, our technicians are only available for installation and dismantling. They are present on the first day of the event to form the team planned by the organizer. In this way, WLG can be managed, presented and maintained independently during our absence. We are of course fully available during this period, if necessary.

For large scale events.

We ask the organiser to also provide a team of mediators to help us manage the flow of visitors.

WLG can be installed both indoors and outdoors.

WLG is perfectly visible and usable in daylight. However, the impact on visitors is more intense in the dark (night or room without lighting).

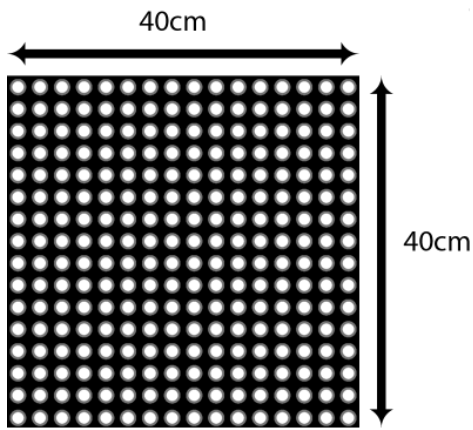
The use of WLG is totally secure for the event location.

The drawings are made with absorbent tools (sponges and foam brushes), slightly moistened, without any risk for the ground. For places with specific hydrometric and safety standards (museums, historical buildings, etc.), in order to comply with them, there is the possibility of putting a protective surface on the ground, which is the responsibility of the organiser, although it is a tiny quantity of water that can drop on the ground.

LEDs operation.

The LEDs remain lit for about 2 to 5 minutes, depending on the humidity in the area. Drawings can be "erased" more quickly by drying (paper towels only).

Pannels and wall Waterlight



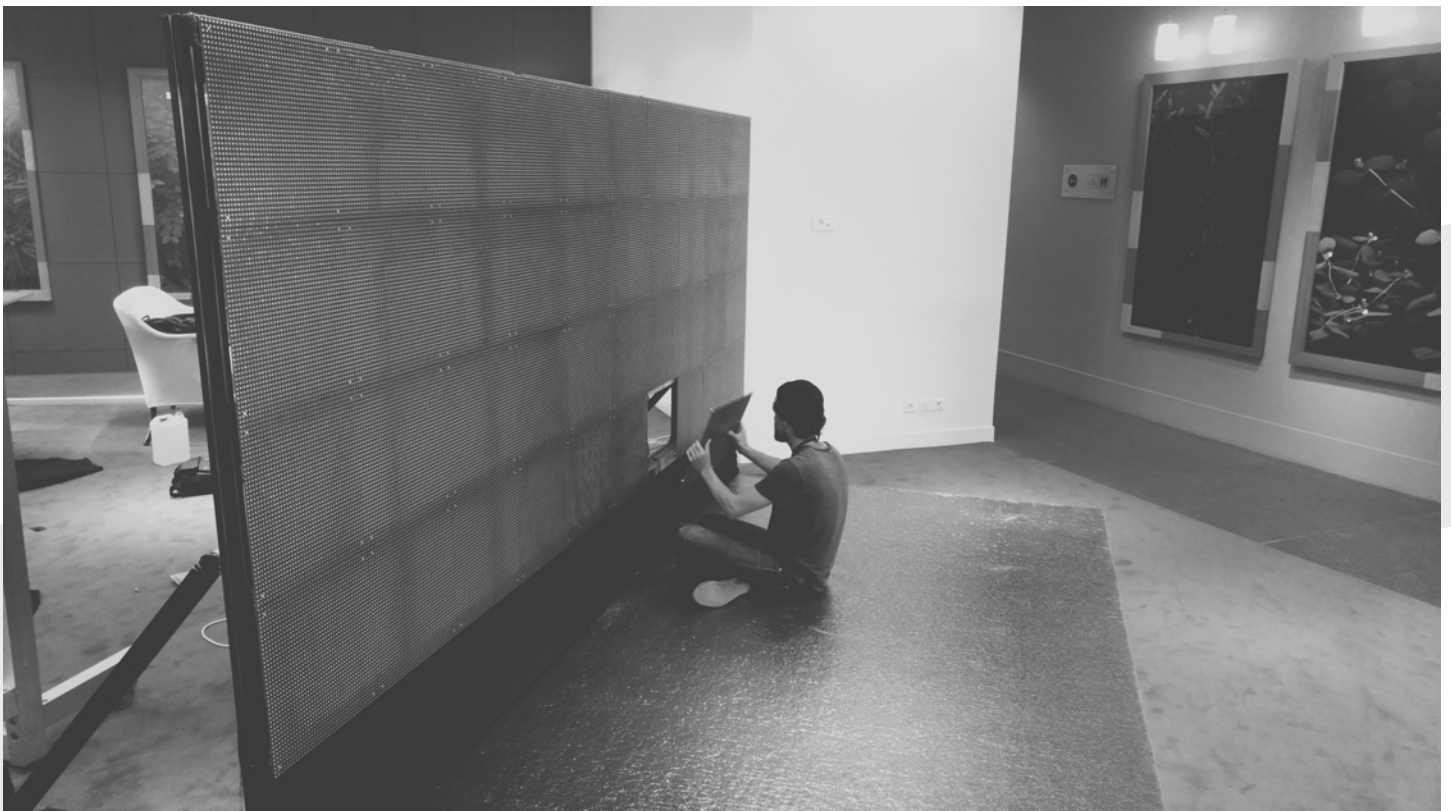
A Waterlight Graffiti (WLG) wall is composed of 40x40cm panels.

This format allows us to adapt our services by adjusting the length or height of the wall according to the specific requirements of the request (nature of the project, location, duration, budget, number of visitors...).

Our "standard" is a wall 4m wide x 1.6m high, which is suitable for most projects. Its surface allows to make draw large drawings allowing two or three people to draw simultaneously.

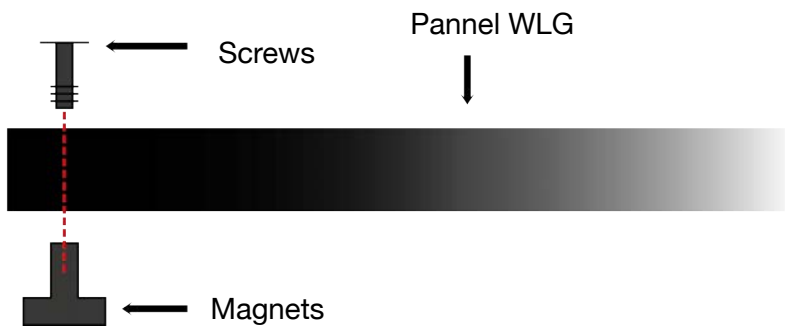
For large events, we recommend larger walls (6x2m, 8x1.60m, etc.), to allow a larger number of visitors to draw at the same time, while limiting the waiting time.

As a WLG plate is 40x40cm in size, the size of a wall must be a multiple of 40 centimetres.

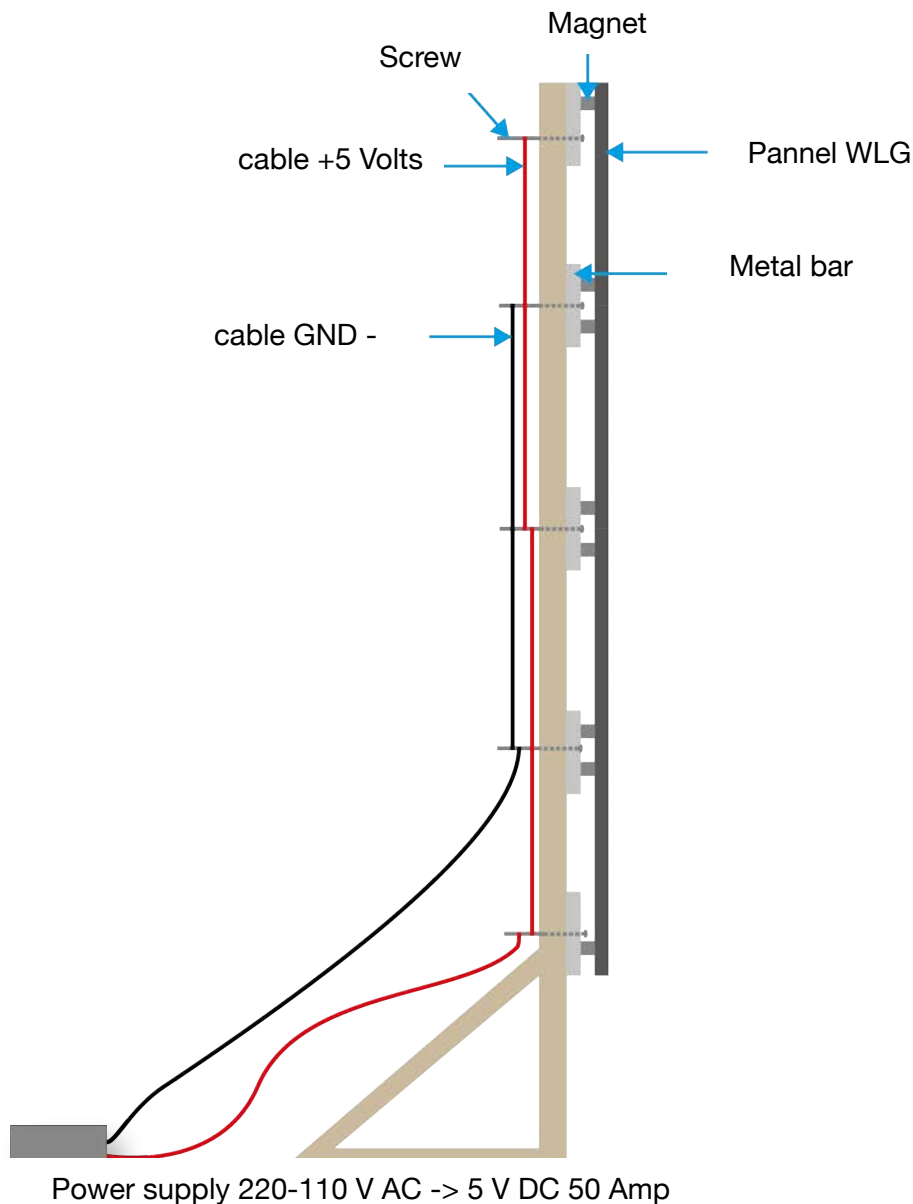


Pannels hanging system

The structure of Waterlight Graffiti is equipped with metal bars to allow the WLG panels to be hung and electrically powered, which are equipped with 4 screwed magnets to hold them to these bars (we supply these screws and magnets).

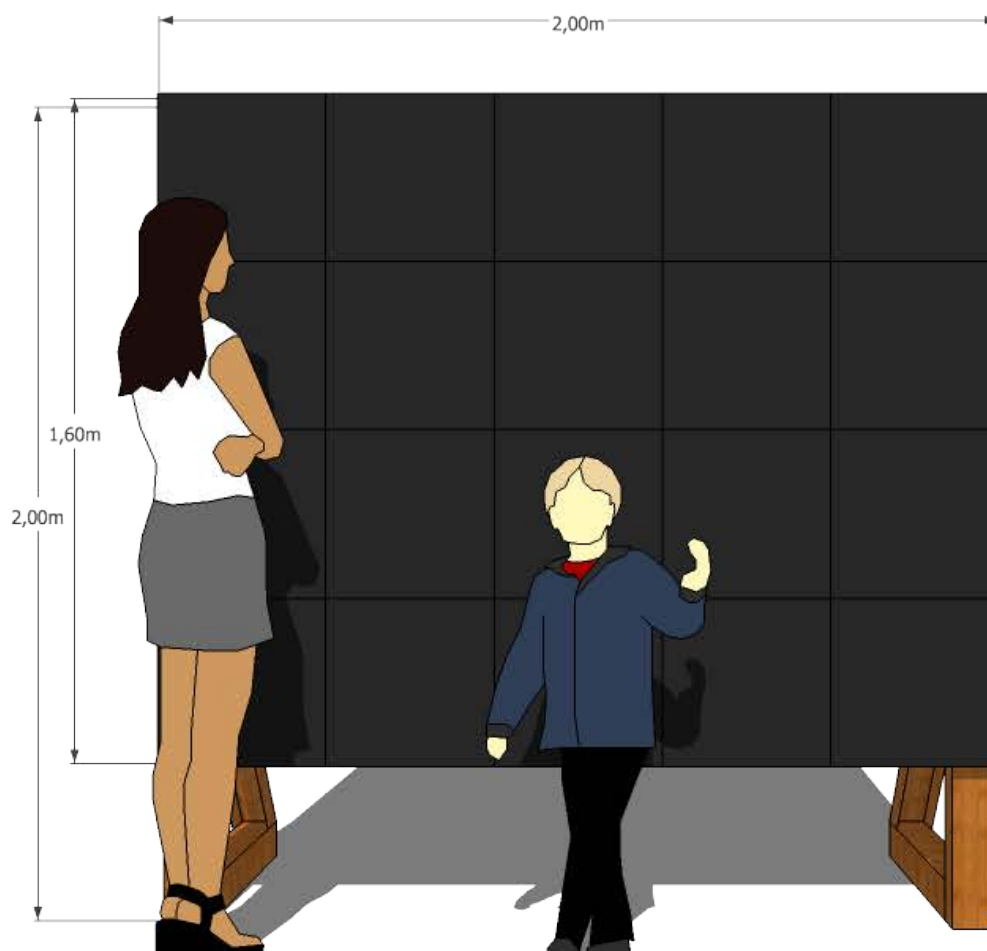
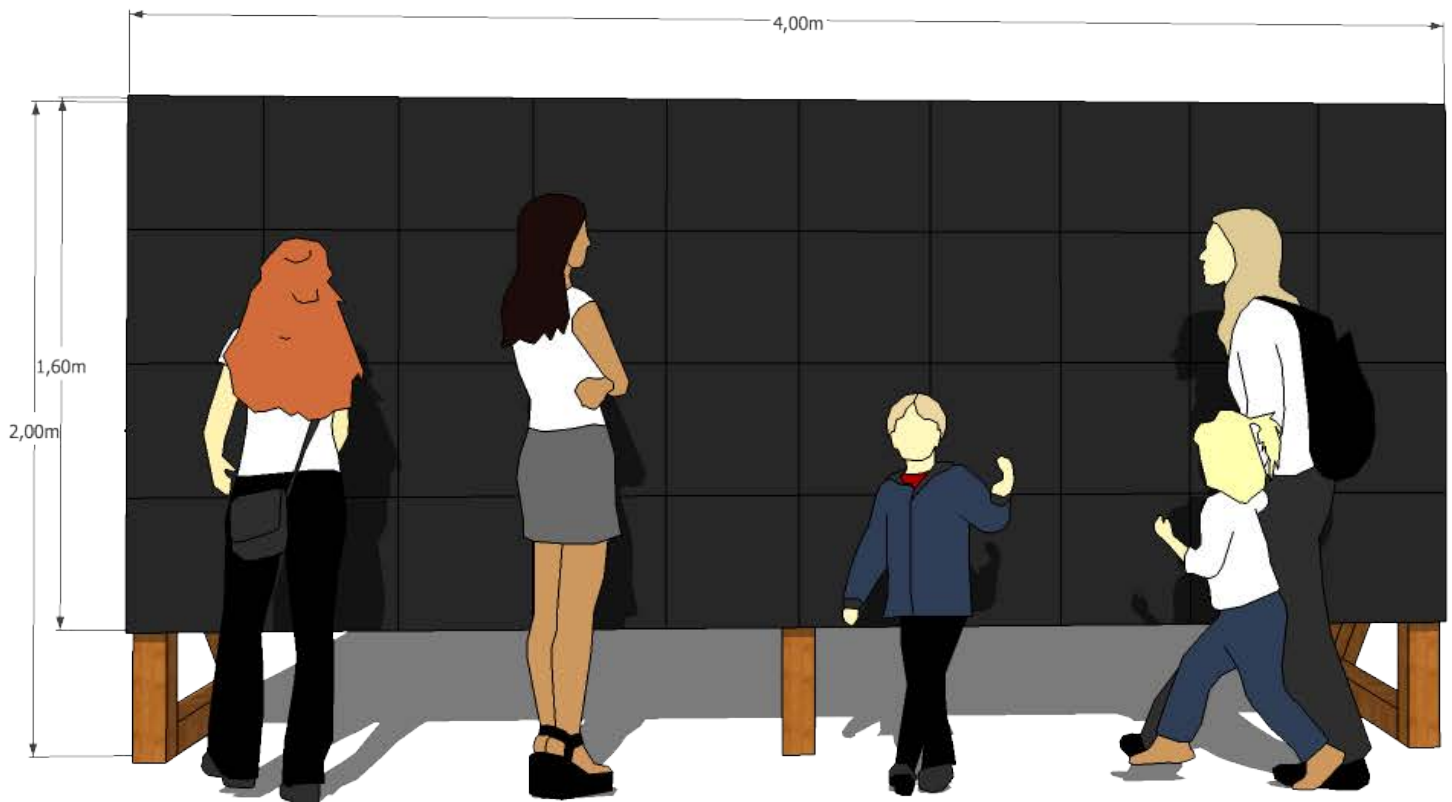


Structure - Side View



Examples of Waterlight Graffiti walls

A Waterlight Graffiti (WLG) wall is composed of 40x40cm LEDs panels.



Organizer obligations



- ✓ Except in exceptional cases or events in Paris, the organiser must provide a self-supporting structure to hang Waterlight Graffiti (WLG) panels.
- ✓ The requested structure is a simple construction to realize.
- ✓ The organizer is free to choose the aesthetics and the solution chosen to build the structure.

We bring the necessary equipment to install the Waterlight Graffiti pannels (power cables, power supplies), however, it is necessary to provide an electric drill, metal drill bits, screwdriver, screws, nuts and washers not galvanized, electrician's tape, metal file, electric grinder with metal cutting disc and grinding disc, in case of modification of the structure if it would not match the indicated dimensions. Concerning the drawing tools (sponges, foam brushes, sprays, dishwashing products for cleaning the plates), they are also available, depending on the duration of the event.

Note that some solutions can simplify this step, such as renting an aluminum structure. If the exhibition space allows the use of one of its walls as a support, the process is easier.

Apart from the structure, the organizer only has to provide demineralized water used to draw on WLG, paper towel rolls to erase, dry the drawings more quickly, if the place is too wet. Then, depending on the duration of the event, sponges, foam brushes and sprays.



Waterlight Graffiti wall 10 metres long and 1.60 metres high with roof



Turnkey service (no client intervention).

For events in Île-de-France, with a 2m or 4m installation, we have a structure at your disposal that allows us to offer you a turnkey service. For events in France, it is possible to move this structure subject to acceptance.

To be planned by the organizer & technical team

For assembly and disassembly :

- Electric drill with battery, metal bits, electric screwdriver, screws, nuts and washers not galvanized, electric grinder with metal cutting disc and grinding disc.
- 2 large tables for the assembly and disassembly of the work.
- Access to electricity close to the structure planned for WLG.
- An electrical multi outlet power supply.
- 1 light spot if the place is not lit.

For outdoor events :

- Provide a large protective tarpaulin in case of rain, if the structure does not have a roof.
- A shelter (tent) or quickly available with a minimum ceiling of 2.40m to be placed next to the structure in case of risk of rain.
- Security/guarding service to monitor the installation at all times.

During the event :

- Fences or belt barrier stanchions cordon along the entire length of the wall to moderate access to the work and allow the public to see it from a distance.
- Paper towels to dry the WLG panels and allow the LEDs to be extinguished more quickly (the quantity will be specified according to the size of the wall and the duration of the event).
- Several pedestals or cocktail tables or tables (number to be defined according to the size of the wall) to place the drawing tools during the event.
- 1 large bin to dispose of used paper.
- Sprays filled with demineralized or distilled water, used to wet the sponges and draw on WLG (the quantity will be specified according to the size of the wall and the duration of the event).
- Drawing tools (sponges, foam brushes). For all requests for customized drawing tools, it is then up to the organization to plan it.
- Presentation cartel of Waterlight Graffiti and its creator.

This material is OBLIGATORY. This list is subject to change depending on the project and a detailed list will be provided to the organiser when the contract is signed.

For events outside the European Union, we ask the organizer to send us an official invitation from his company, addressed to the members of our team who will come to the event. This letter is intended to facilitate the entry procedures into the country concerned.

The Structure

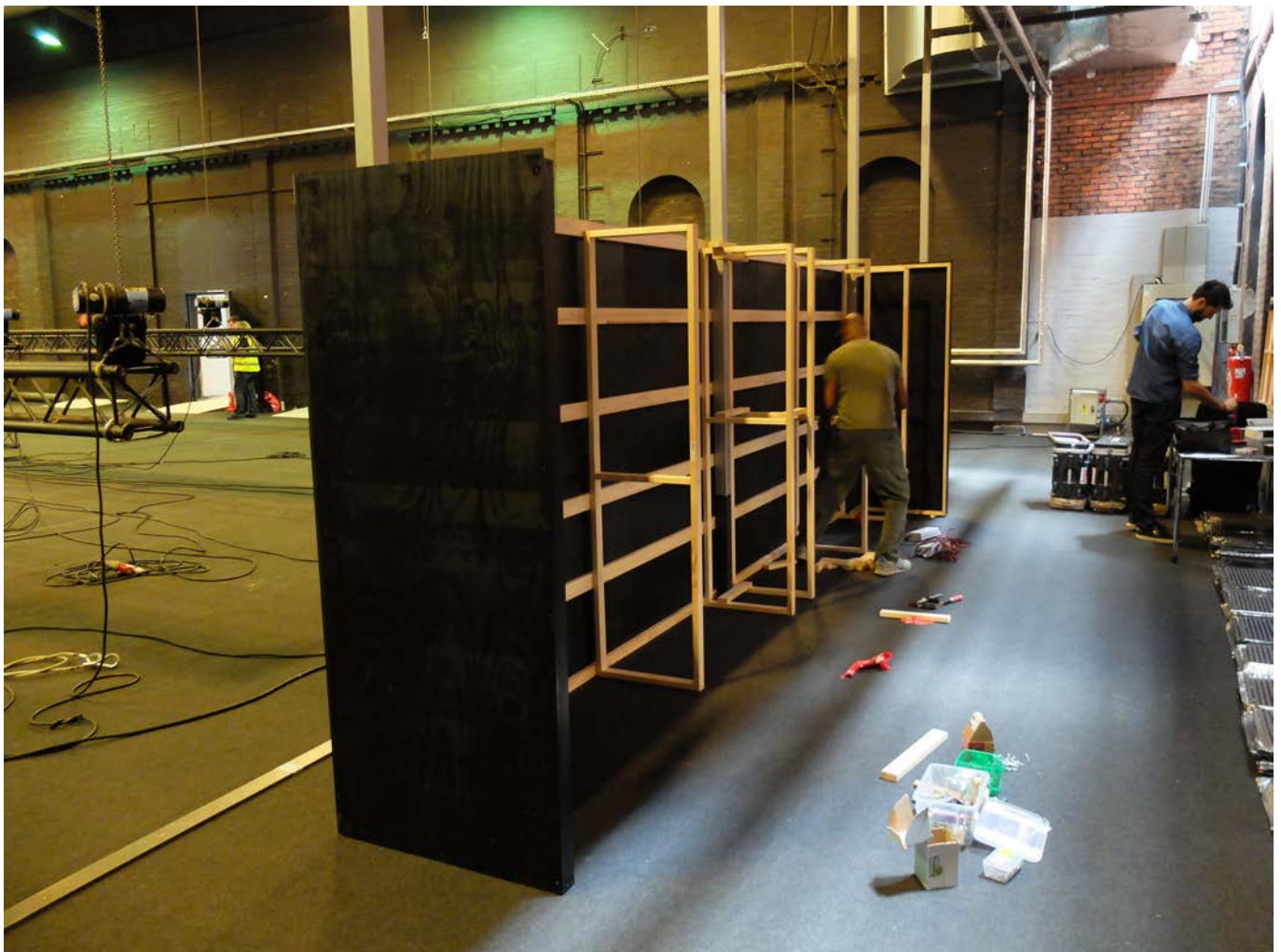
In the case of a service where it has been agreed that we provide the structure, please ignored this chapter.

We ask the event organizer to build a structure to hang the Waterlight Graffiti (WLG) panels. This structure is essential and must be perfectly designed to avoid any problems during installation by our technicians. You are relatively free to design this structure, however we ask to receive a construction plan before our arrival, which we must validate before any assembly. If you use one of the plans sent as an example, it is nevertheless imperative to ask us for confirmation before proceeding with the construction.

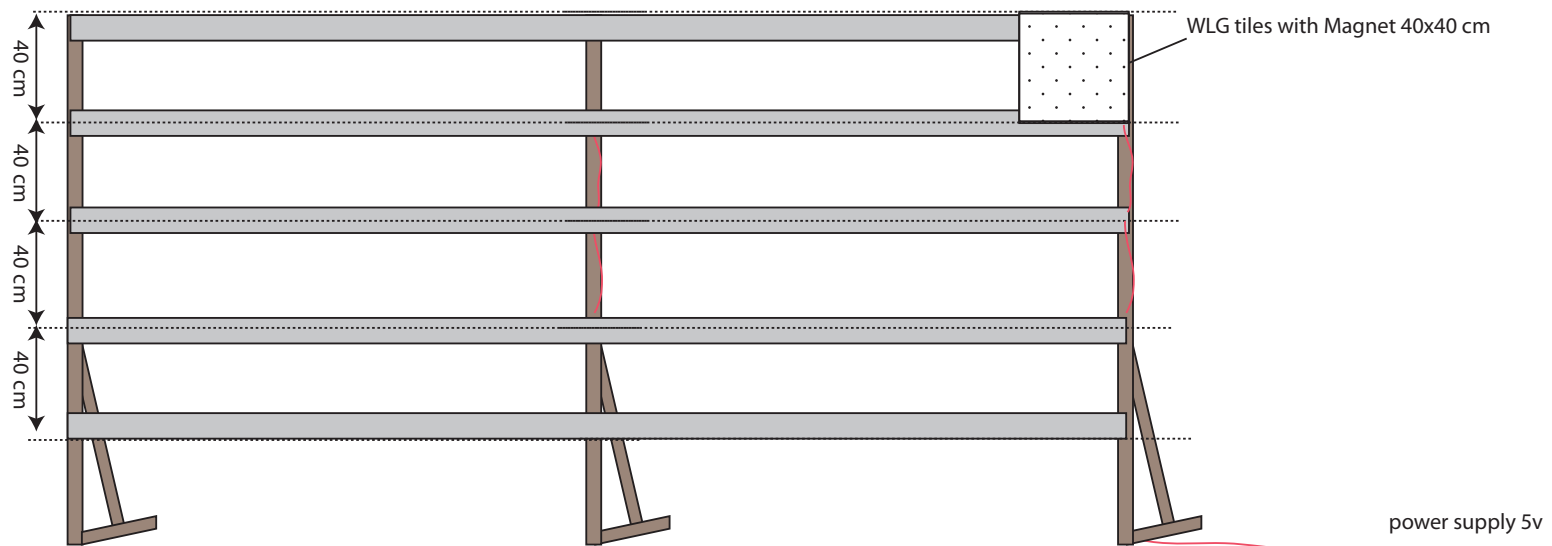
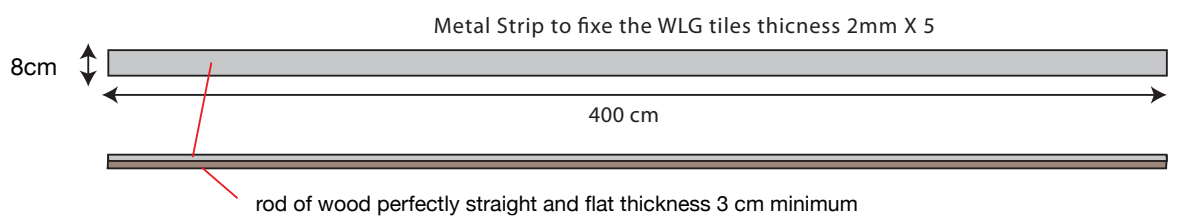
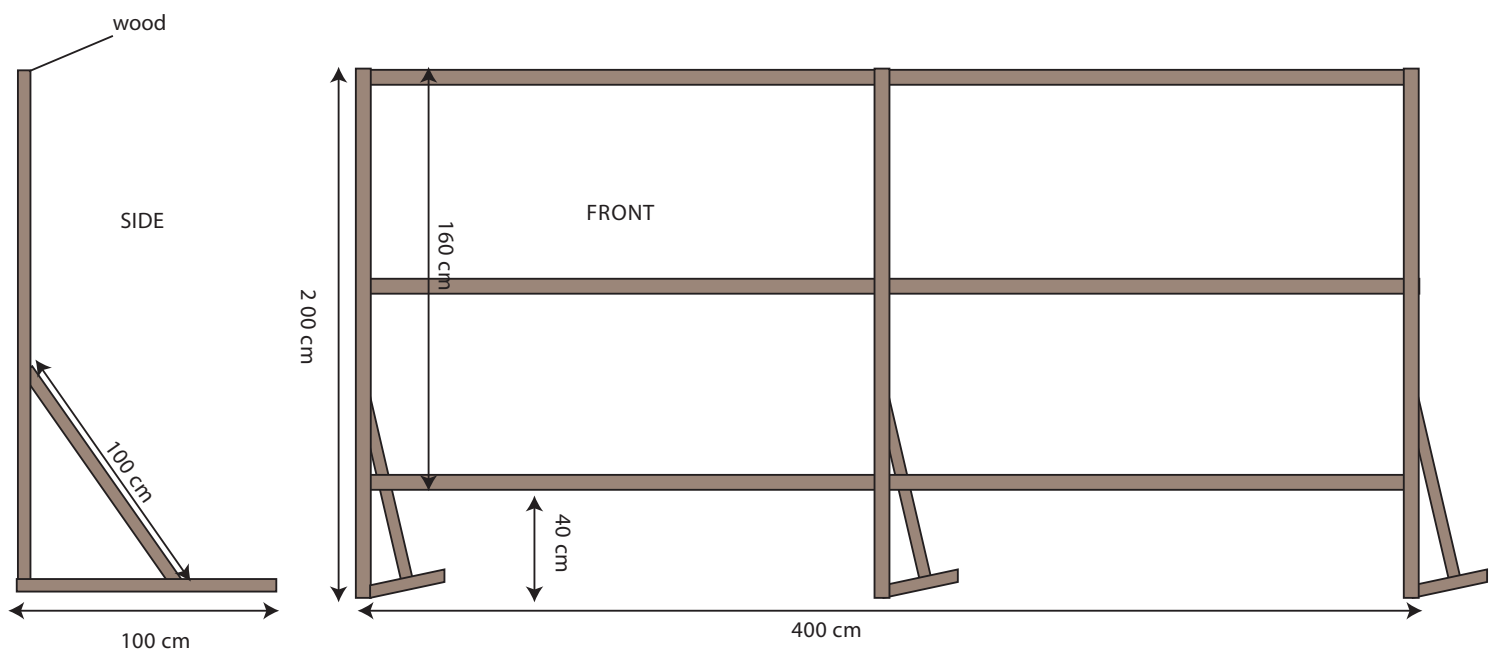
The structure must be perfectly straight and level with the ground.

The structure must be sufficiently strong and must not be wobbly (it is advisable to use weights to weight the structure).

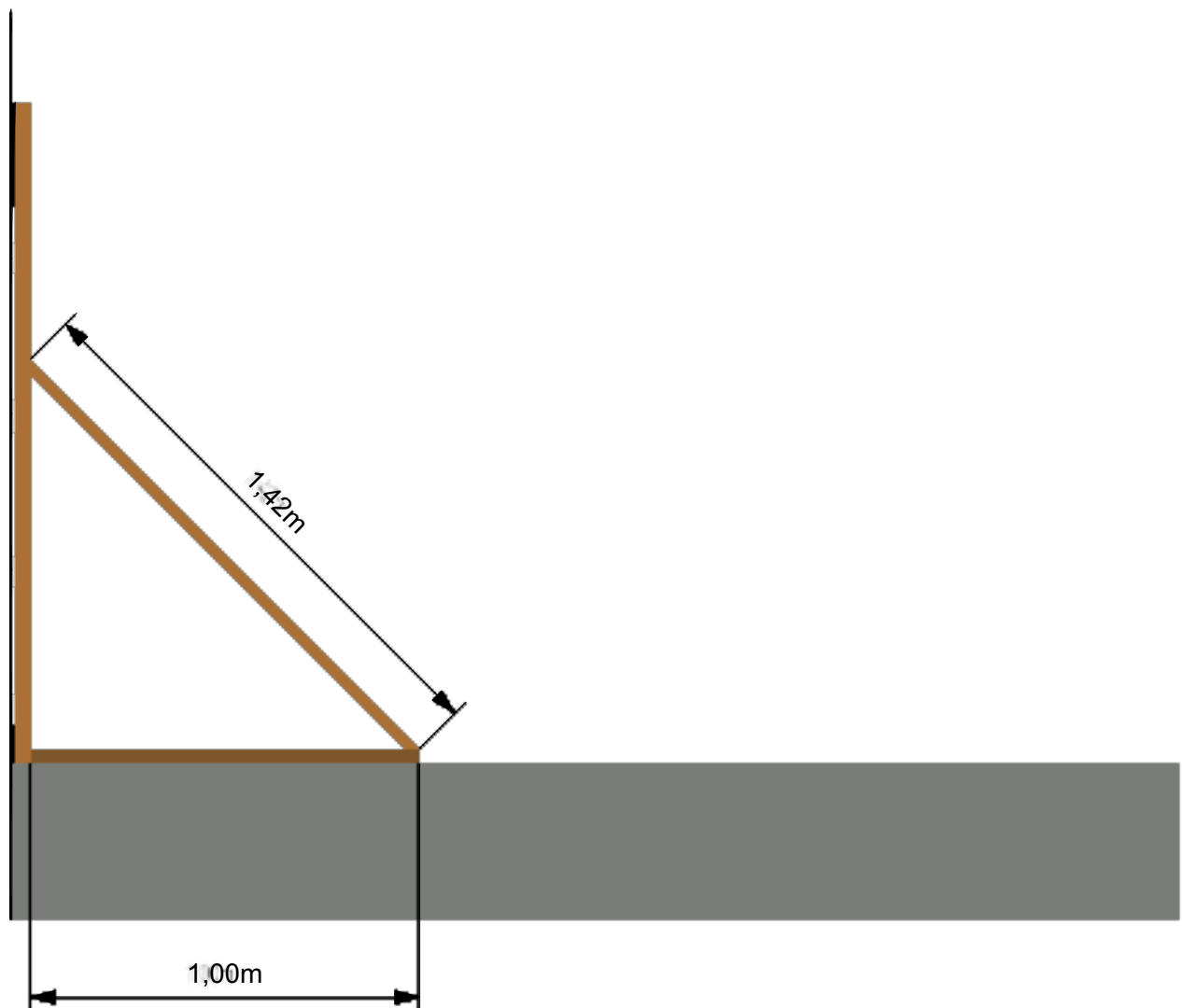
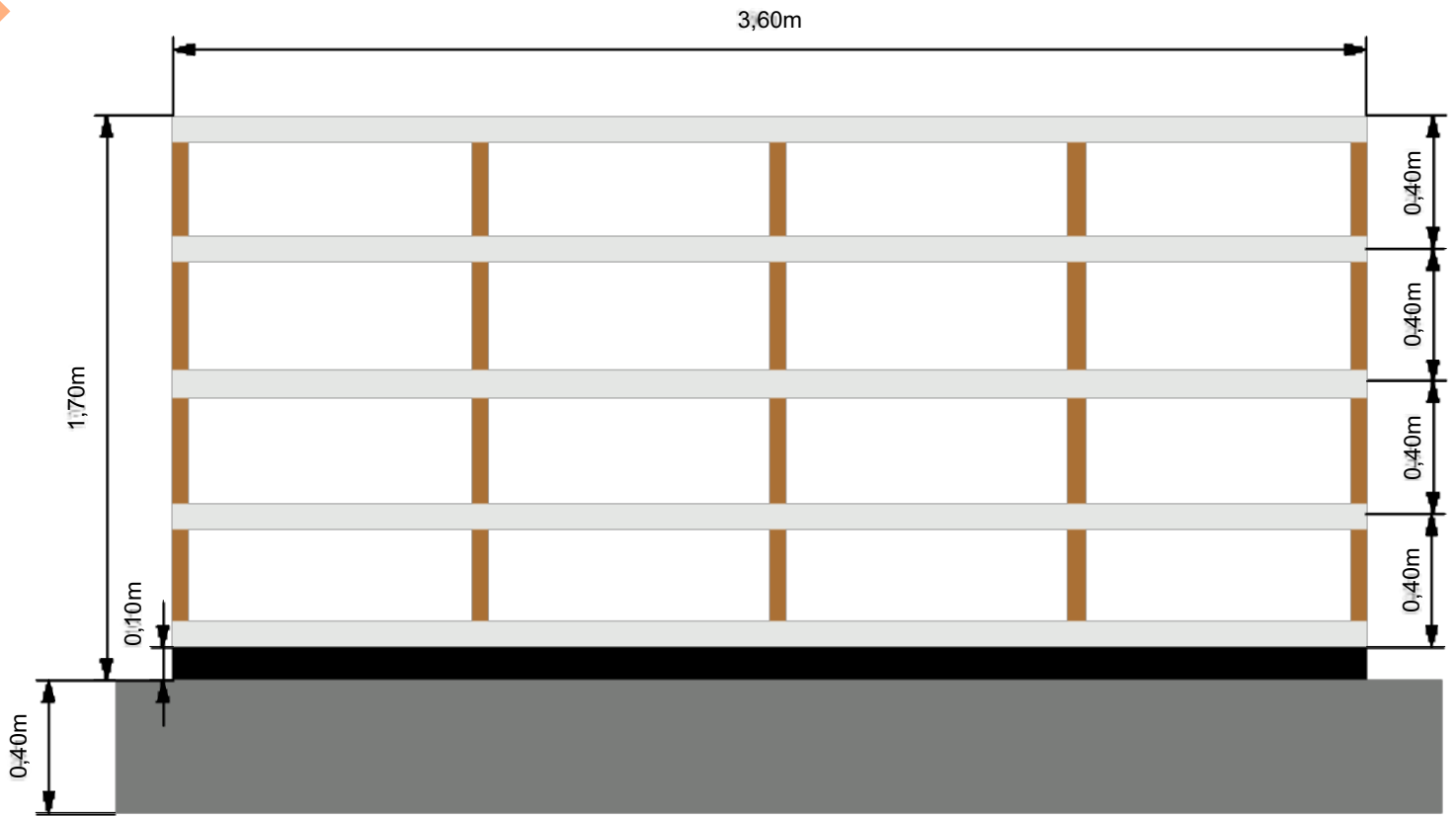
The structure must not be made of metal to avoid any risk of short-circuiting.



Examples of Structures



Examples of Structures



Installation of metal bar

- The structure must be equipped with non-galvanized metal bars in order to hang the WLG panels, which are equipped with magnets.
- These metal bars must necessarily:
 - Have a minimum height of 8cm (max 13cm) and a minimum thickness of 2mm.
 - Be perfectly flat and plated to the structure, and of the same thickness over the entire length. If the metal bars are not all at the same level, the WLG panels will not form a completely flat wall and some plates will overlap.
 - Be made of raw, non-galvanized steel to allow magnetization (test with a standard magnet). It is necessary to ensure a good magnetization.
 - Be parallel and horizontal in absolute terms by using a spirit level, and not in relation to the ground level if it has irregularities.
 - Not to be painted or varnished. In case, the metal bars have a **layer of insulating material, it is necessary to grind or sand the bars every 40 centimetres by 8 centimetres wide** to remove any oxide or rust layer. (see next page)
 - It is imperative to fix screws along the entire length of the metal plates regularly so that they do not move, while **avoiding that these screws are positioned in the same place as the magnets** of WLG panels.

The metal bars must be placed according to the diagram below.

It is important to respect the distance between each bar, at the risk that the WLG panels cannot be magnetized to the bars.

The example below concerns a 1.6m high wall with 4 rows of WLG panels.

Warning: the distance between the bars of the first and last floor is not the same as for those in the middle.





As indicated, the bars must be sanded every 40 centimeters by 8 centimeters wide to remove an oxide layer or any protection that would block the good electrical conductivity of the bars, as the WLG panels are powered by magnets.

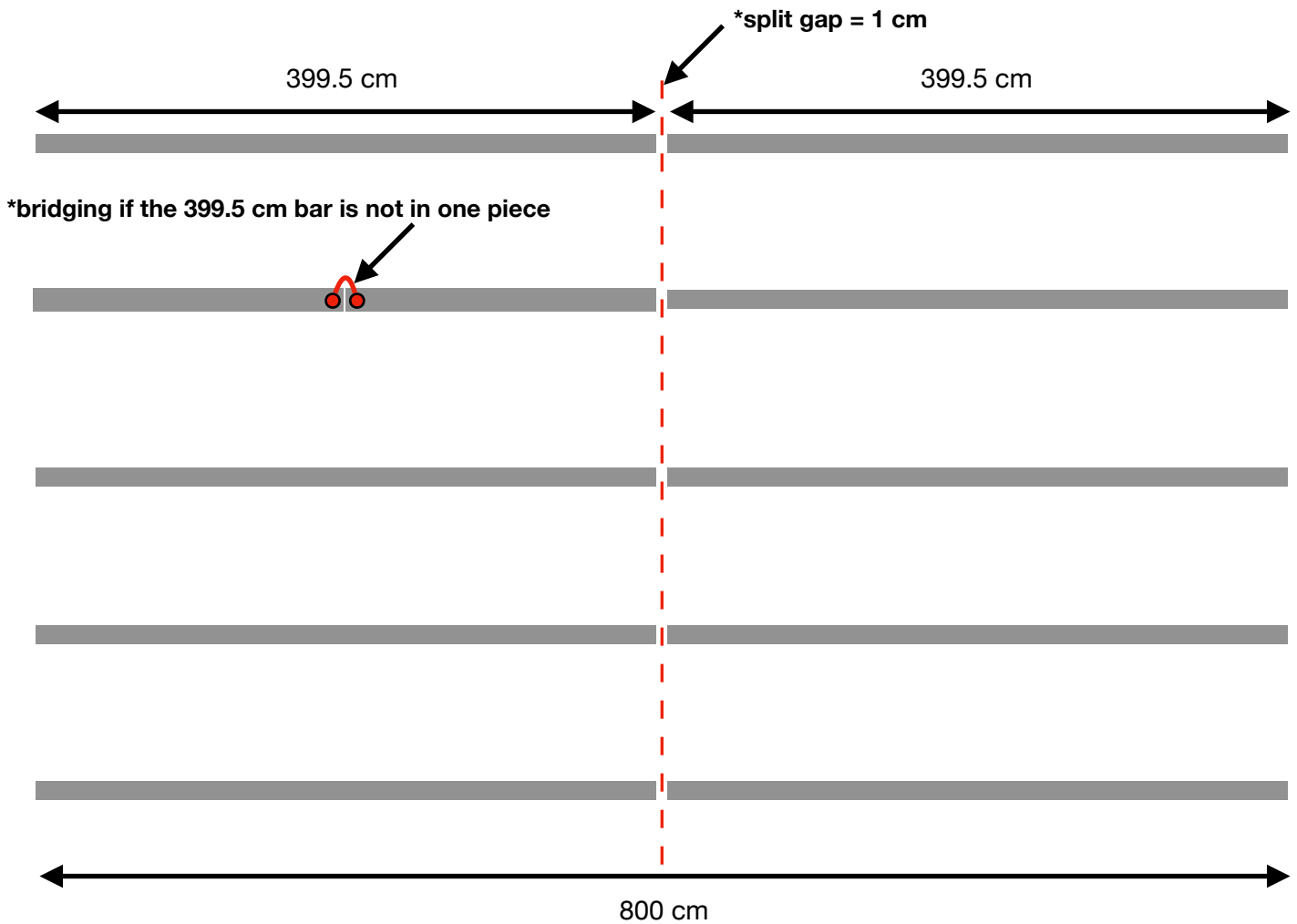
Repartition of metal bar

For structures of 4m or less than 4m, it is imperative that each bar is in one piece, without separation or with electrical bridging via bolts* between the bars.

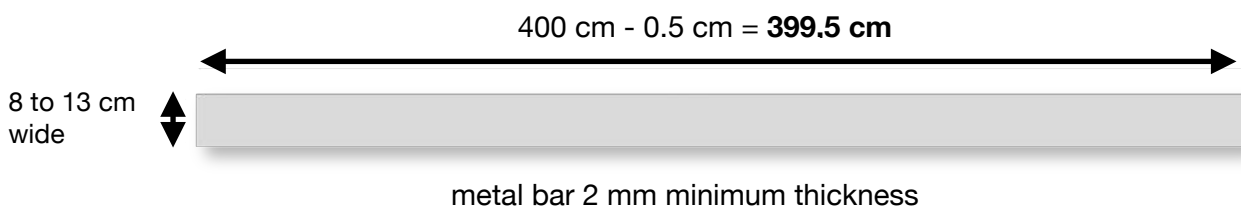
For structures longer than 4m, a space must then be provided between the different sections, so that the bars are not in contact (maximum 1cm).

The distribution of the bars varies according to the size of the requested WLG wall, we will indicate to the organizer's technician where **the separation should be placed***.

Example for a wall of 8x1.6m :



●: Non-galvanized steel long screw with flat head for electrical connection.



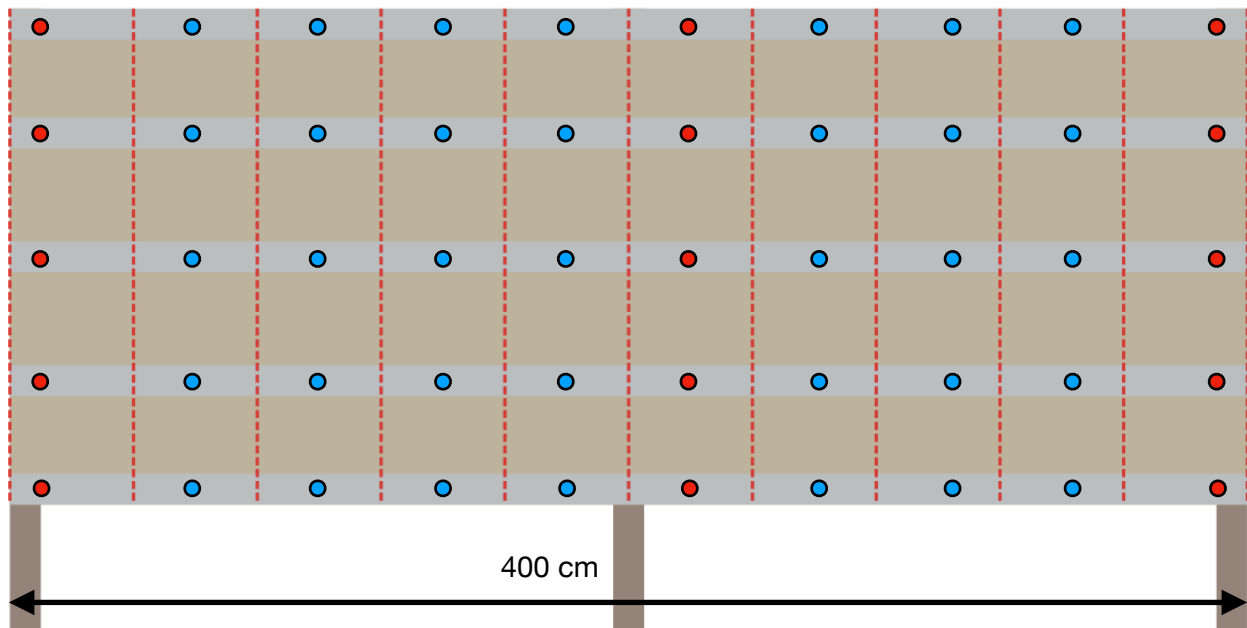
Fixation et Alimentations électriques

The WLG plates are powered by the metal bars. We connect the power supply cables to the metal bars that conduct the electricity. To do this, we need to attach these cables to screws. The easiest way is to fix the metal bars with flat-head steel or stainless steel (not galvanized) screws long enough to protrude over the back of the structure and add 3 washers and 2 nuts. The easiest way is to fix the metal bars with flat-head steel or stainless steel (not galvanized) screws long enough to protrude over the back of the structure and add 3 washers and 2 nuts.

These screws must:

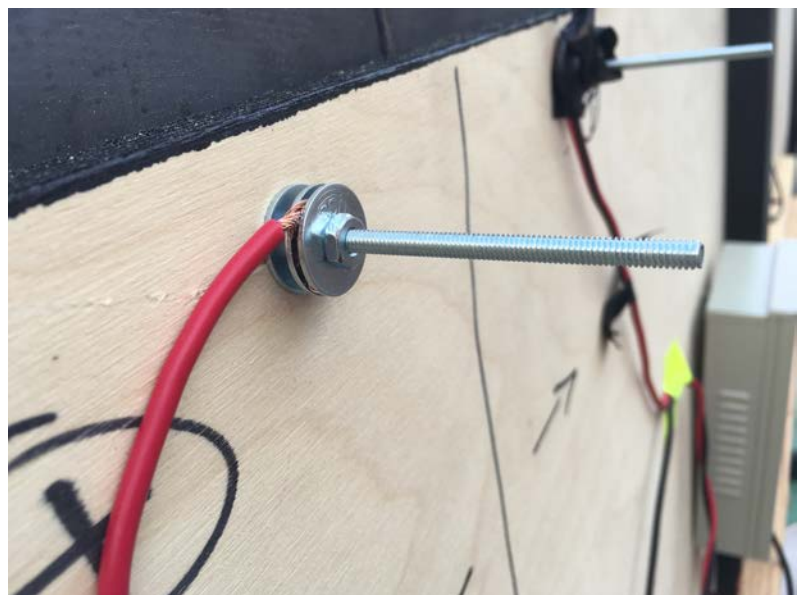
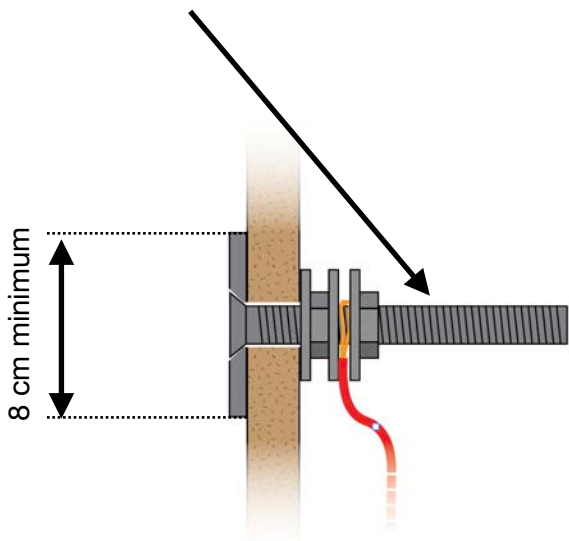
Be in the middle and at the ends of each metal bar.

Do not interfere with the installation of the WLG panels : The WLG panels are 40x40cm and hang on to the bars with magnets fixed to the 4 corners of the plates. It is therefore necessary to ensure that the screws are not located in the same locations as the magnets.



● : Flat-headed wooden screw for fixing metal plates to the structure.

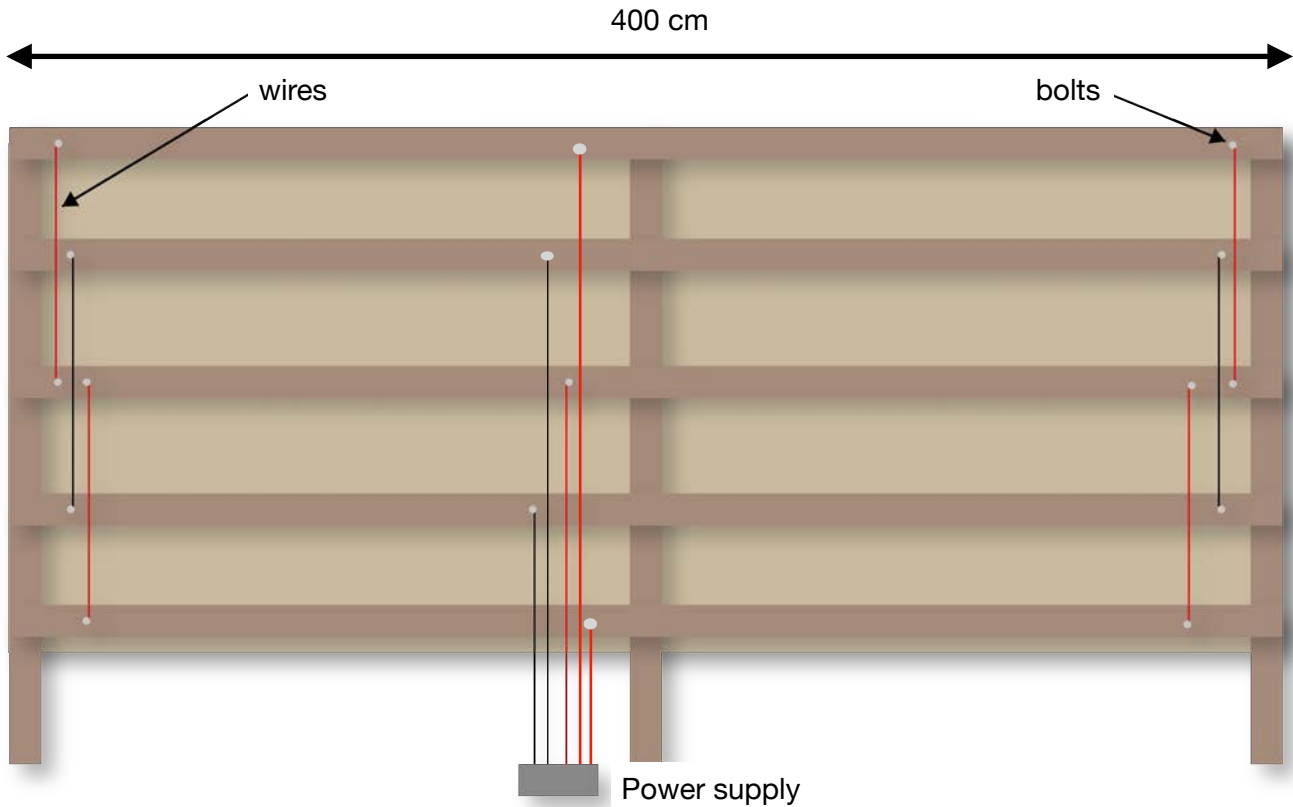
● : Non-galvanized steel long bolt with flat head for electrical connection.



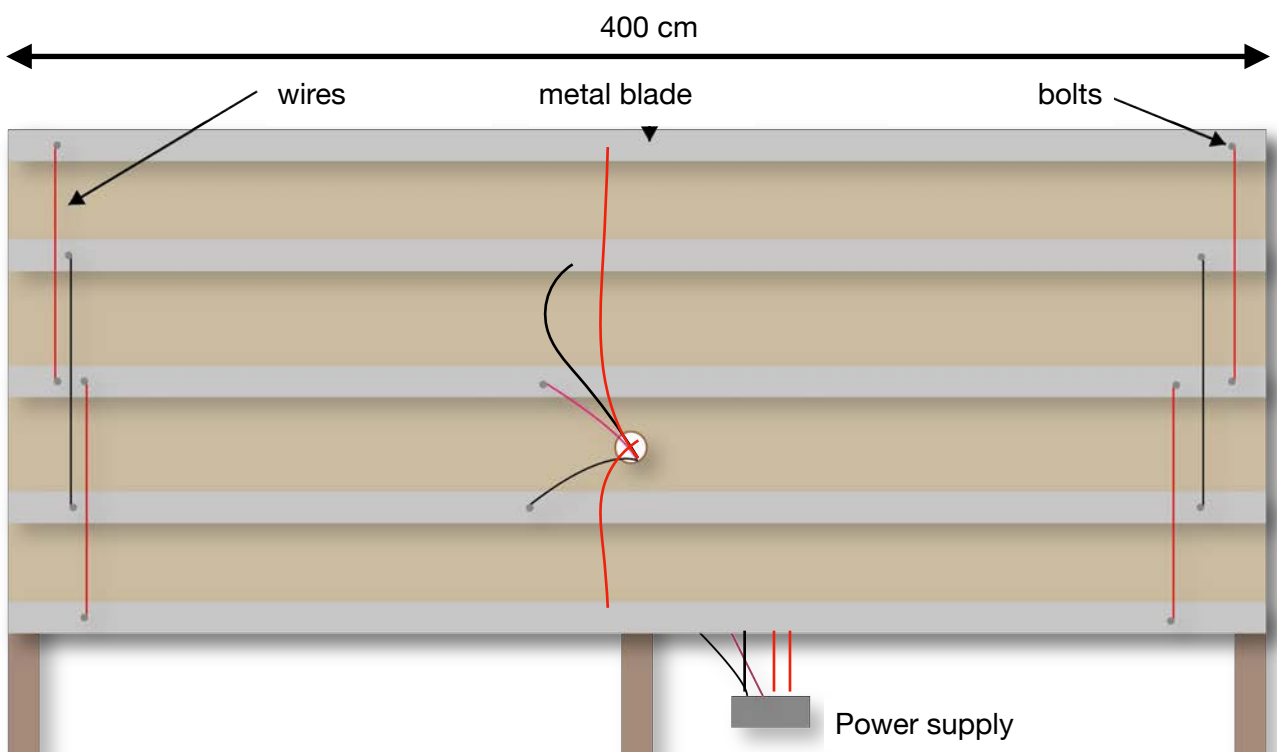
Electrical system

For installation, we connect the electrical cables to the rear of the structure for ease of access and maintenance, so that the WLG wall is completely clear at the front. However, exceptionally, it may be considered for technical constraints, a connection on the front of the structure.

ELECTRICAL WIRING BY THE FRONT



ELECTRICAL WIRING BY THE REAR



Transport and Equipment

Transport is by flight cases with wheels measuring 60x56x32cm. Each flight case can contain a maximum of 21 WLG panels and weighs a total of approximately 32kg.

EXAMPLE: For a 4mx1.6m wall, you need to count 3 flight cases:

2 flight cases with WLG plates (42 WLG plates including 2 in replacement).

1 flight case with the equipment (power cables, power supplies, magnets and WLG screws, sponges, sprays).



The flight cases are stored between Paris and Marseille, in FRANCE. They are sent via a transport company about two weeks before the event. For destinations outside the EU, an ATA Carnet must be established before the flight cases are sent.

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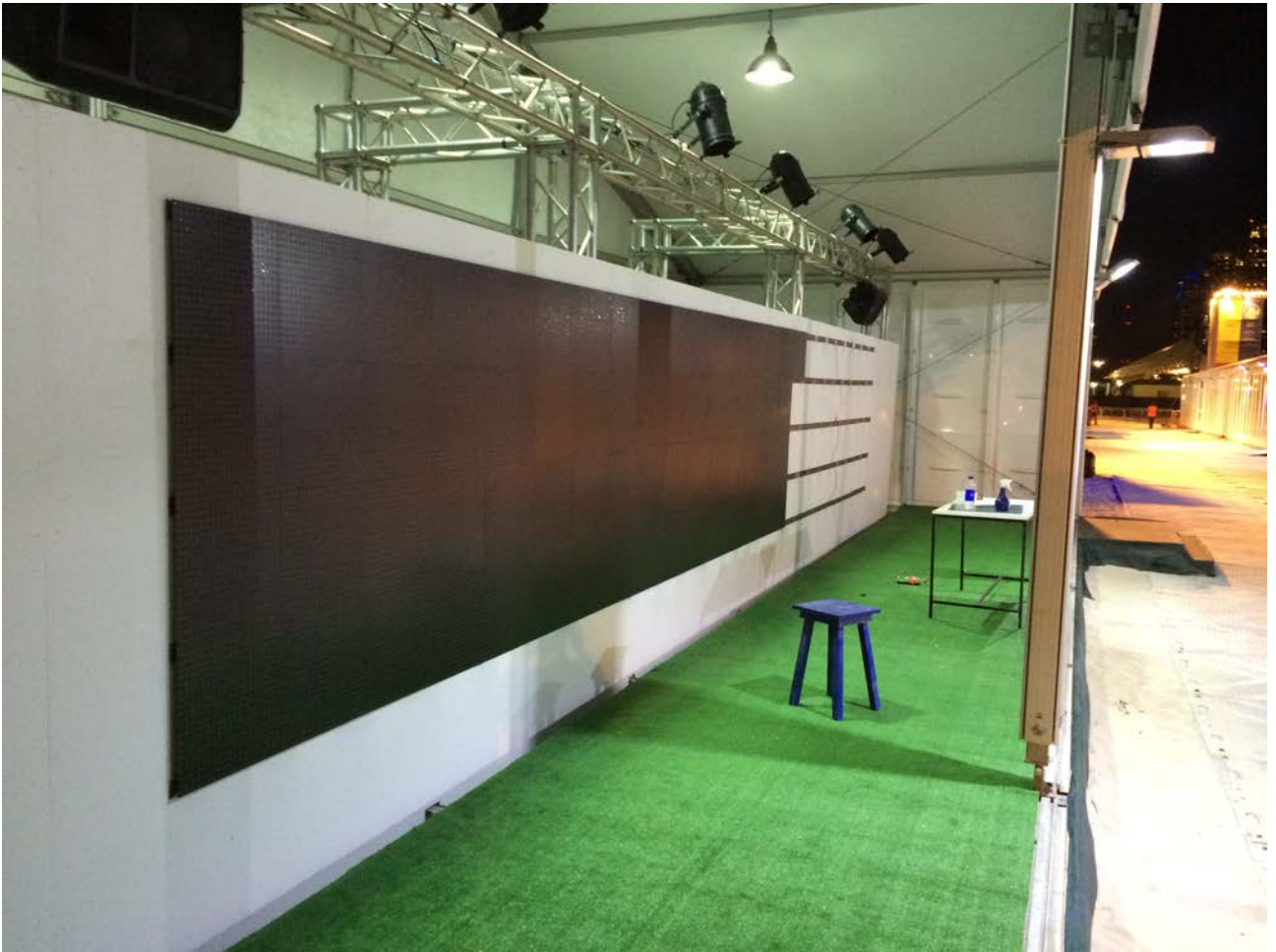
Equipment WLG

- Electrical cables (audio type).
- Power supplies (220V AC to 5V DC - 60A - 300W).
- Tools (for mounting WLG plates and electrical connections).
- Drawing tools (sponges, sprays, paper towels, demineralized water bottle, for practical reasons, the organizer may be asked to provide some).
- WLG magnets (to hang WLG panels).
- WLG screws (to screw the WLG magnets to the plates).



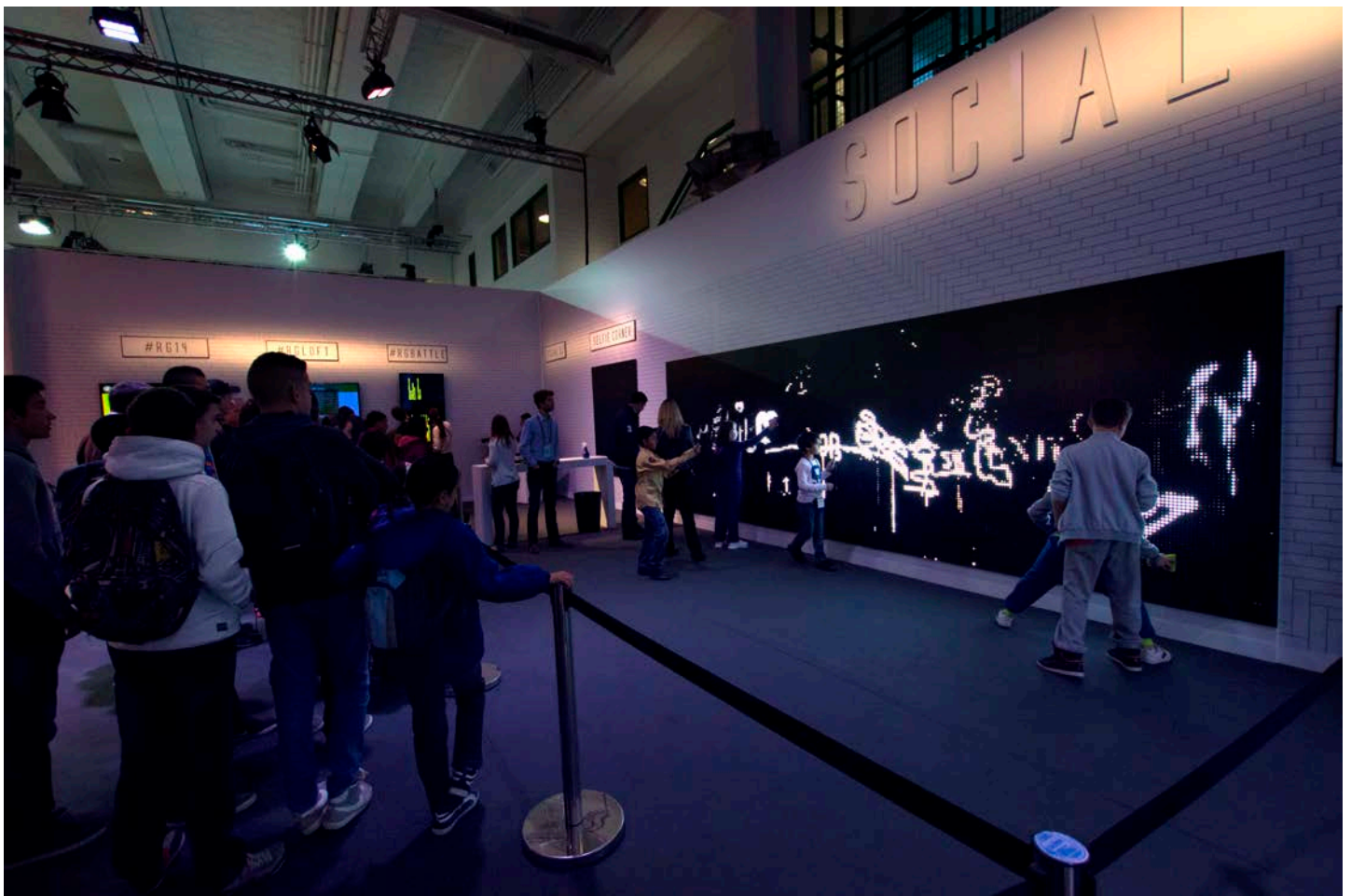
Examples of Scenography





Extra Informations

- For the respect of the work and for its good exposure to the public, no logo or commercial mentions must be placed above or below the wall. Logos or commercial mentions must be submitted to the artist subject to his validation.
- In case of VMC, air conditioning, etc., the work must be placed according to the breath emitted is in another direction.
- WLG is visible and usable in daylight but the most interesting way to present WLG is in the dark (night or room without lighting). Make sure that there is no light source on the back of the WLG to avoid a transparency effect.
- The LEDs remain on for about 2 to 5 minutes (depending on the humidity of the place) but the drawings can be "erased" more quickly, with paper towels only.



Role of Mediators

- Safety barriers or cords must be installed so that there is only one entrance and one exit. Mediators must manage and regulate the flow of visitors but also systematically get back drawing tools.
- Present Waterlight Graffiti and answer visitor's questions.
- Turn Waterlight Graffiti on and off.
- Maintain and rinse drawing tools.
- Maintain the Waterlight Graffiti panels so that the installation works perfectly throughout the duration of the exposure.
- Do not let visitor's alone and use Waterlight Graffiti alone.
- Never leave Waterlight Graffiti without surveillance and always turn off the installation before leaving.
- Be careful of anything that could damage or scratch the plates (rings, watches, bracelet, handbag...) In this case, ask the visitors concerned to not touch with their hands Waterlight Graffiti.
- Be careful of turbulent visitors, and ask them to use WLG gently.
- Check that no user uses anything other than water (soda, coffee, alcohol, tea). Other liquids can soiled the sensors and cause a malfunction of the WLG panels.
- Do not allow anyone to enter while eating or with food in hand, as this may soiled the sensors of the WLG panels.
- Users are formally prohibited from unhooking a WLG panel or accessing the back of the structure.
- Dry and clean the wall after each end of the day. Without this step, the plates get damaged and do not work as well.

Mediators are responsible for the safety and proper use of Waterlight Graffiti.

Any damage resulting from non-compliance with these instructions may be the subject of a request for financial compensation from the event organiser.

Care of Waterlight Graffiti panels

After each day of intensive use, the sensors of the WLG panels need to be cleaned. This need may be visible when WLG panels appear less reactive to water.

To clean the WLG panels, it is necessary to follow the following steps carefully (to be done for each plate):

The panels must be cleaned from the highest to the lowest rows.

Put a dab of dishwashing liquid on a paper towel sheet and slightly moisten the WLG panel.

Lightly rub the WLG panel with the paper towel sheet put it in the trash.

Rub the WLG panel with a new paper towel sheet to remove all the soap.

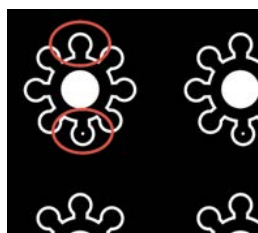
Wet the panels slightly again and then wipe them with a new sheet.

Be careful that there is no soap left on the plates at all (the presence of soap will attract even more dust).

It can also happen that an LED no longer turn off. This is usually due to conductive particles. With the help of a toothpick, with great care, it is possible to remove these particles. Proceed as in the video of the link below, while taking great care not to damage the sensors.

Lien : <https://vimeo.com/131787107>

Password : howtocleanWLG



Do not insist if the LED does not turn off after a few tests, it may mean that the problem is due to one of the components and that it cannot be repaired now. It is then possible to replace the panel in question with one of the supplied spare panels. If there is no more spare panel, and the problem persists, it is also possible to change the position of the panel, to put it in a less disturbing place (ends of the wall).

If one of the panels flashes when you draw on it:

Check that the magnets are enough tightened (do not over-tighten either).

Make sure that there is no rust on the metal bars that would stop conduction of electricity. In this case, it is necessary to remove rust (grind the metal bars).

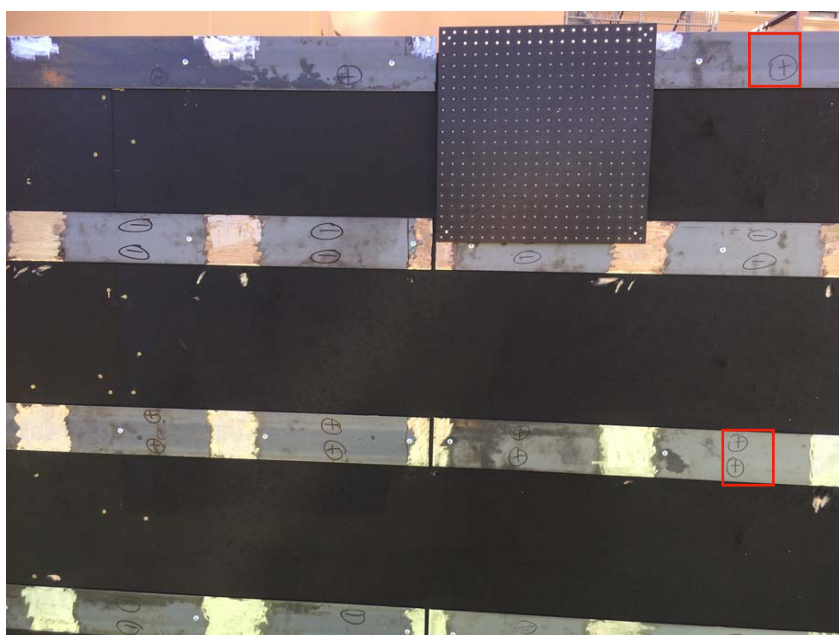
Changing a Waterlight Graffiti

Replacement panels were provided in case one of the panels presented a problem.

Caution: The panels are fragile and must be handled carefully.

Each panel has a polarity direction, a positive direction (+) and a negative direction (-). The easiest way to know in which direction the panel should be hung is to refer to the sign (+) or red dot behind the panel. If the location of the (+) sign or red dot is the same as in the picture below, it means that the positive direction of the panels is at the top and the negative direction is at the bottom.

Be careful about the polarity direction of a panel when changing a panel. The polarity of the panel must correspond to the polarity direction of the metal bar. A symbol (+) or (-) is also present on the metal bars to help you know which way to hang.



To remove a panel, hold it with both hands and pull it gently until it comes off. It is sometimes necessary to remove the adjacent panels to access the panel in question.

Be careful, never place a panel directly on the floor, always use a clean and soft surface to avoid damaging the components. After replacing the panel, store the old panel in its plastic protective envelope and store it in the flight case containing the other spare panels.

When installing a panel, if no LEDs are lit when touching it, the panel must be removed immediately. It is because the sense of polarity has not been respected.

For structures where metal bars have a separation, never install a plate with magnets in contact with both sections (risk of short circuiting).

Changing a Power Supply

In case the wall or an entire section of the wall no longer lights up, the power supply(s) must be changed (Spare power supply has been provided).

Before changing a power supply, please contact us first. If we confirm that the power supply needs to be replaced, this operation must only be performed by a qualified technician to work on an electrical installation.

- Unscrew the +5V and GND cables from the power supply to isolate it from any short circuits. First check that the power supply is switched on correctly with a green light inside.
- If the power supply is on, check that it delivers 5V using a multimeter. Below 4V, the power supply has a problem and must be changed.
- If the power supply does not have any of the problems, the malfunction may be due to the wiring. All cables (power supply and those connected to the WLG wall) must then be checked. Check that there is no abnormal sign (cut, melted part) and that the cables are still properly attached. It is essential to disconnect the power supplies during this step.
- If, after checking the wiring, the wall still does not light up, it is possible that one of the panels has been damaged and causes a general short circuit on the wall. The wall must then be extinguished again and all panels removed. Re-launch the wall and reinstall the panels, one of the panels should turn off the wall when you hang it. Once identified, the defective panel must be replaced.



Maintenance

Maintenance

For projects where WLG technicians are not present, a team of mediators must be provided by the organiser to manage, present and maintain Waterlight Graffiti.



In case of malfunction or doubt, please contact us directly.

If Waterlight Graffiti appears to present a serious problem or danger, turn off the wall immediately and send us detailed information about the problem. Videos and photos are useful in such cases.



production@waterlightgraffiti.com

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Warning !

- Use Waterlight Graffiti only with demineralized water (do not use mineral water).
- Do not use any cleaning products other than dishwashing liquid.
- Do not use drawing tools that could scratch the WLG panels, always use no scratch sponges and foam drawing tools.
- Always rinse drawing tools thoroughly before use and remove dust or residue if they have fallen to the ground.
- If you have to handle a panel, pay attention to the polarity direction.
- Use paper towel to absorb water from WLG panels.
- Do not rub too hard, just spread the water.
-



TURN ON AND OFF WATERLIGHT GRAFFITI

Waterlight Graffiti is powered by one or more power supplies (depending on the size of the wall).

To turn on the wall, connect all the power supplies and disconnect them to turn off the wall.

Contact Us



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Site web: <http://www.waterlightgraffiti.com/>
Facebook: <https://www.facebook.com/WaterLightGraffiti/>
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