

For the individual and sustainable transport

b-igloo	What is bigloo? Wich solutions provides Making individual sustainable transport easy Installation Where and How	...3
b-igloo	// Bicycle and user security //	...9
b-igloo	With alternative energy sources	...10
b-igloo	A new way of getting the message across Media, advertising supports and systems	...11
b-igloo	Development, financing and aids	...14
b-igloo	Installations project	...15

This documentation has been prepared by the Communications Department of MA-SISTEMAS S.L., and is **CONFIDENTIAL**. MA-SISTEMAS S.L., reserves all rights, especially the right of reproduction and distribution, as well as that of translation. No part of this documentation may be reproduced or processed, copied or distributed via the use of electronic systems, without the prior written consent of MA-SISTEMAS S.L. With the exception of technical errors or modifications, MA-SISTEMAS S.L., takes no responsibility whatsoever for errors contained in this documentation. We reject any kind of claim for direct or indirect damages which may be produced as a consequence of the supply or use of this documentation, insofar as is permitted by law.



What is bigloo?

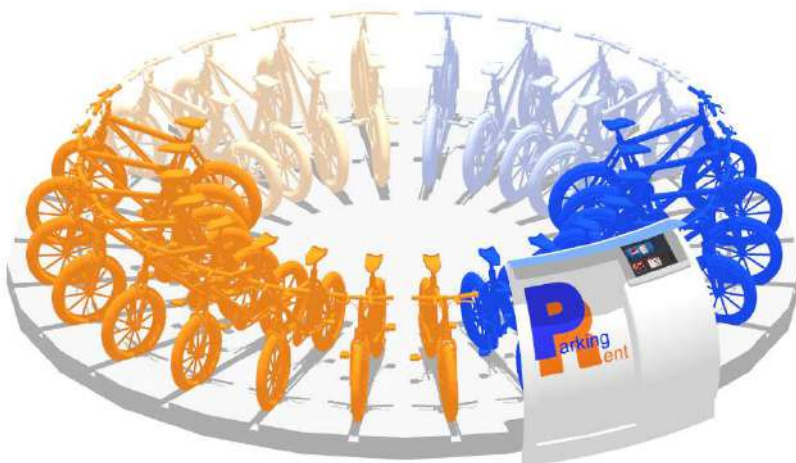
b-igloo is an **automatic, intelligent** system of storage, parking and management, which receives and returns the bicycle at street level in less than **10 seconds** and which also allows storage of items necessary for the use of the bicycle such as a backpack, safety helmet, reflective elements, etc.



b-igloo is the **fastest and safest system on the market for the safekeeping of bicycles**, introducing an added advantage, the locker space, which allows the safe storage of the rest of the items transported, or “à la carte” personalisation of rented bicycles.

Its user-friendly, functional street furniture offers the possibility of installing different public services such as interactive information, automatic vending and advertising or additional facilities (repair and servicing of the bicycle).

Parking and retrieving bicycles is carried out via Bigloo parking **cards** that contain a **chip**, which stores user information, authorisations and restrictions.



The system facilitates all the management, customer service and attention to incidents tasks, guaranteeing perfect maintenance conditions and making **b-igloo** the best system for the application of parking and/or bicycle rental networks and, therefore, **the best system to provide individual, sustainable, ecological transport.**

- **Security** because the bicycles are stored in independent locked containers to which only the owner of the bicycle has access. Their use increases user safety when travelling.
- A **safety deposit** space because the container in which the bicycle is stored can be used to store any object with total guarantee.
- **Comfort** because bicycles are stored and retrieved at street level, it is operated using an RF card, it resolves traditional street parking problems (padlocks, saddle removal, punctures, etc.) and avoids accessibility problems within buildings (lifts and stairs).
- **Protection** because the bicycles are stored in a space that is unaffected by the weather, the action of other vehicles and vandalism.
- **Multi-purpose** because the size of the container means that any type of bicycle can be stored, as well as accessories (saddlebags, children's seats, etc.).
- **Speed** because the mechanics of the system are controlled by hardware and software that enable operation of the unit and removal of the bicycle in under 10 seconds (it can be done in under 4 seconds in 50% of cases).
- **Intelligent management** because it offers bi-directional management, operation services (occupation level, user profile, operation statistics, etc.), anti-entrapment devices, detection of unauthorised loads, system shut-down in the case of intrusion or vandalism and video recording of stored objects.
- **Eco-friendly** because it is manufactured using recyclable materials, steel, aluminium and glass and because each parking operation consumes only 0.01 Kw of power, which means that with 1 € it is possible to perform 625 operations. Because your installation can help reduce CO₂ emissions by 1.000 tonnes / year.
- **Ergonomic** because it has been designed as a "friendly machine" capable of transmitting its usefulness before having been used. The curved shape has been designed to facilitate bicycle storage and removal and the rounded exterior makes it difficult for someone to climb onto the roof of the module. The shape given to the interior platform makes it very easy to introduce all kinds of bicycle and also has an area for smaller objects on the floor.
- **Easy to use** because it has been fitted with an intuitive user interface, signs and symbols and optimum bicycle accessibility.
- **Freedom** because it helps children with the learning process in terms of concepts such as independence and responsibility.
- **Respect for ones surroundings** because b-igloo has been designed to fully incorporate itself into its surrounding environment.
- **Other possibilities** such as: bicycle rental points, public bicycle systems, recharging of electric bicycles, cleaning facilities, automatic sale of parts, general and road information.
- **Sustainability** because it encourages bicycle use. It is committed to a parking system that provides the comfort demanded by users of both traditional and electric bicycles for their development as a non-polluting means of transport that contributes to the improvement of our quality of life.





Making individual sustainable transport easy



The bicycle parking and rental service is set within the framework of *new European trends towards enhancing urban mobility*, which has been warmly received by citizens and is even helping to change their habits and the means of transport they use.

b-igloo establishes a network *system, via “automatic storage” terminals* that allow citizens either to collect a rented bicycle to use for a certain time, to deposit one from the same or from another station, or to park their own bicycle. The flexibility of the system, the fact that it is quick to set up or dismantle and remove, guarantee a perfect service that is quite capable of adapting to the needs and requirements of the present and future.

It is the perfect alternative to private motorised transport and complements public transport systems.

The complete system consists of:



• **Control centre.** We offer the possibility of carrying out all the control and management of the network. On specified dates clients receive information on:

- User registrations and withdrawals on web.
- History files on uses, frequencies, incidents, etc.
- List of deposits and transfers.
- Flow and demand studies.

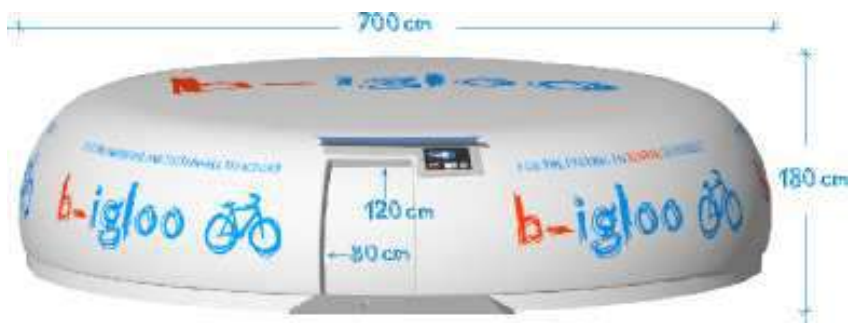
• **B-igloos.** Automated bicycle storage. Possibility of full maintenance 16/24 hours. This includes maintenance tasks for the installation and bicycles, as well as the transfer of bicycles to cope with demand.

• **Bicycles.** Designed for city transport, they include all the necessary accessories for safety and for the transport of objects. Identification is carried out via radiofrequency TAC, which facilitates operations and reduces the time of each operation.



Installation

The basic dimensions of the installation are 7.0 m. diameter and a maximum height of 1.90 m. The access space and the level floor of the platform allow bicycles of up to 1.20 m. in height and with handlebars of 90 cm to be parked. The installation includes the supply and assembly of the system, servicing and the necessary elements for its management



b-igloo includes all the systems required for identification and control during bicycle loading/removal, via radar systems and artificial vision. Software developed with high-level computer languages allows the use of broadband communications to control the history of operations, monitoring and control of images, checking of alarms, modification of data in the memory, the state of the container cells and to perform a series of general tests to check on the state of the installation, **remotely and in real time.**

TECHNICAL CHARACTERISTICS:






- Capacity: 24 units
- Dimensions: 700 cm. Ø, 190 cm. H.
- Access dimensions: 900 cm. x 1200 cm.
- Maximum power : 1100 W
- Voltage: 220/240 V. 50 Hz
- Anti-vandal protection G1G2 and G3 reinforced with steel
- Server connection: 3G/GPRS
- Management: Parking / Rental / Mixed %
- User access: RFID card and others on demand
- Load recognition:
 - Microwave radar
 - Artificial vision, CCD
 - TAC RFID
- Other security devices:
 - Reopening of door F<150 N
 - Mechanical blocking when not in use
 - Uninterrupted power supply
 - Alarm and communication 3G/GPRS
- Enclosures:
 - Polyester resin reinforced
 - Precast reinforced concrete
 - Installation on other local
- Possibility of alternative energy installation



The user interface is simple and intuitive. It includes graphic monitors, which give permanent information regarding the state of the system and the network. The use of RFID cards facilitates the speed of operations thanks to remote recognition and software developed to forecast the operation to be carried out.






Graphic instructions

Using





- 1  Close your card to the reader
- 2  Enter your code
- 3  Select an option
- 4  Park / Remove your bike
- 5  Press OK to finish *Accept!*

Parking


To return rented bicycle

- 1  Firstly enter the rear wheel
- 2  Respect the limits of height of the bicycle and height of the luggage
 - 1,20 m
 - 0,3 m
 - 2,00 m
- 3  Place the luggage in a bag / backpack always lying in the tray at the base
- 4  With the card or closing the rear wheel to the door
 - !beep!! OPEN
 - !beep!! CLOSE
- 5  Enter the bike to the bottom. You hear one "beep".

Warnings / Recommendations

-  Allowed charge: a bike + 15 Kg
-  Not allowed charge: people, animals, motorcycles, mopeds and fuels
-  Persons under 14 years are not allowed
-  Phone for incident

Press the button to reopen the door



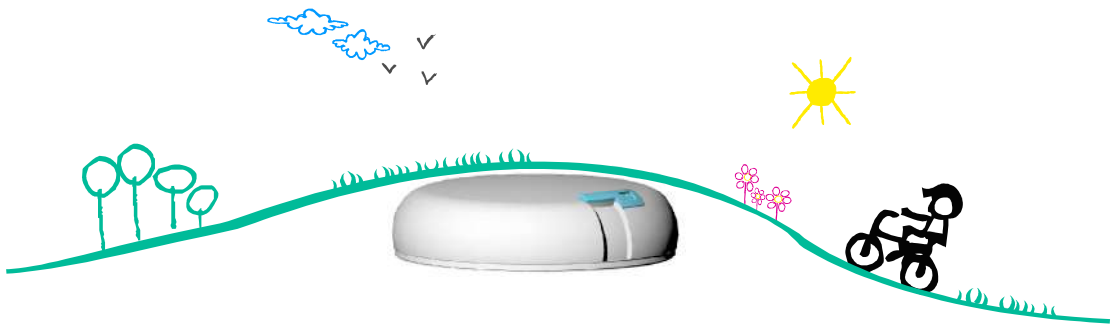
Instructions manual for the user

Installation is flexible, with multiple resources, adapting to each individual case and opening a range for the **designer**, to be shown or could be integrated.



1. Without Civil work :

Completely finished, with the closing of polyester resin.

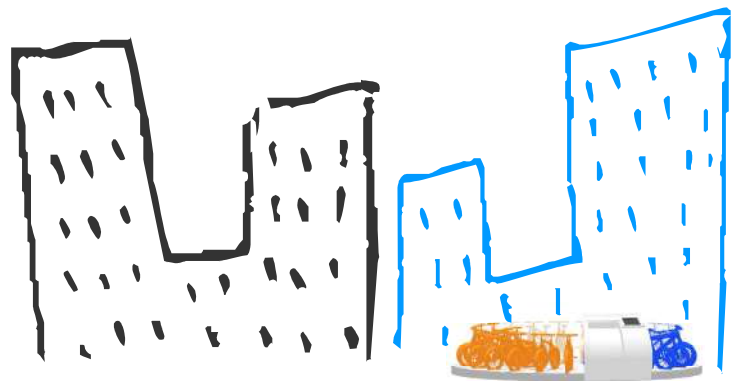


2. With prefabricated structures:

It can be covered with a landscaped hill or dome. It would even be possible to create a play area on the roof.

3. Only machinery and system:

Or simply supply you the machinery and installation for integration into another building.



The bicycle and all its accessories are protected from vandalism and the inclemency of the weather, which ensures all its components, accessories and stored things to be in good condition.

Bikes for rent: Protection and maintenance programmes guarantee the parking to be in good condition the whole time. Bigloo can offer helmet with an automatic disinfecting function, reflective bands, lighting with being recharged and remained at stops, and all the necessary elements to provide a secure individual transport system.

Your own bicycle: It is guaranteed that your own bicycle can be picked up in the same conditions as the deposit, and it can be provided with as many accessories as you may need to ride safe and comfortably, and introduce the security elements, signals and own lighting. The cyclist park is improved and also the user security to all intents and purposes



Safety for the user

The security provided by this system for the storage of bicycles or any other object deposited therein has been described previously. Such user security has several knock-on effects, specifically:

- It favours a better quality and improved conditions for all bicycles (higher quality range, improved maintenance, better equipment, adapted to specific requirements, longer life, etc.).
- It encourages cyclists to make use of all the equipment necessary to travel safely (helmet, jacket or reflective strips, protection, marking and lighting systems, etc.).
- It reduces anxiety and stress by guaranteeing at all times that YOUR means of transport is perfectly safe, as well as all other objects left inside the module. (No need to be thinking "Is my bike ok?", "How will I find it later?", "Oh no! I left my saddle behind...", etc. or to return and find it has been damaged, parts have been stolen or simply that it is wet.)



These three aspects can be developed further and we consider them to be fundamental for the promotion and rediscovery of the bicycle as a means of transport, both public and private.

We believe that innovation focused on the user is essential. We are developing a service model that is focused on users and their needs, expectations and behaviour; based on the principle that users need to be looked after at an emotional level as well as a functional level.

b-igloo

With alternative energy sources

The street furniture can be supplied with modular photovoltaic energy receivers. In this case the electromechanical elements can be run on 24 V. DC, thus eliminating the losses that occur with traditional DC/AC/DC converters and endowing the installation with better energy efficiency performance than any other of its type on the market.

Solar Powered

This application is particularly suitable for installations set up at temporary events or locations where the power supply is not guaranteed.

Its large top surface area and the space available in its interior for energy storage devices make it capable of meeting the demands of most of the cases studied.



When the installation is connected to mains electricity we convert the bicycle park into a power station – an ideal option for permanent installations and one which can speed up the amortisation of the system through the sale of the power produced.



Eolo Solar Powered

It is a proven fact that strong winds usually coincide with cloudy skies, and bright sunshine with windless days. By using both solar and wind energy, we can improve coverage to meet our power requirement.

In each case an individual project is developed for each installation, guaranteeing in all cases 15 days autonomy at full working capacity. Grants are available for the different types of renewable energies and at the present they cover 40% of the investment.

b-igloo

A new way of getting the message across

The product's biggest attraction is that it promotes **the use of bicycles in a highly innovative, technically advanced way**, offering a modern, futuristic approach to the services, in line with 21st century trends and in attraction locations, **satisfying the interests of all parties involved**.



Moreover, it includes features which endeavour to respond to **the pressing needs of Government Authorities to find private partners** who can supply much-needed funds for development, linking their product to the promotion of a highly-valued means of transport as is the bicycle in terms of sustainable mobility, health and sport.

Advertising suggestions



The street furniture can be **customised** in so far as its colours, textures and graphics to adapt any advertising message around or on it.



The graphic user interface includes a specific “display” to include dynamic, active and multimedia advertising that is programmed online for different time intervals to reach different segments of the population. Information for the general public can be entered partially or totally, online and multimedia. There is enough space on the installation to house up to 9 screens.



Inside the cells there are brackets to insert flyers, coupons, vouchers, etc.

If the system is used for renting out bicycles they can become a mobile advertising medium with a high visual impact. User cards can be printed on both sides in four-colour print. The whole system is managed via a single web page that redirects each of the managers, installations and users, offering general and detailed information of the whole system, and with a large number of daily visits.

The advertising value of the system is further **enhanced by the media coverage received** when new technologies and new systems of individual, sustainable, ecological city transport are introduced.

All this places **b-igloo** at **the forefront of new specialised advertising trends**, making it an excellent means for the introduction of brands in geographical areas.



ADVERTISING SPECIFICATIONS SHEET

FURNITURE CASING

Perimeter 21 ml, range 1.40 m high ceiling surface 30 m²

Optional: Colors of the mass
Integration of texture and volume
Creating Custom Cabinets

CELL STORAGE

Accommodation for advertising flyers, 1 to 9 trays
Tray holder objects 60 x 40 cm. Can accommodate advertising gifts
Lateral cell surface 2.00 m. x 1.20m for advertising attached
Optional: Colors of mass customization, and highlights

BICYCLES

Advertise on mudguards, basket and square.
Optional: Bike Design on demand and / or exclusive.

OPERATOR DISPLAYS (free access to citizens)

Display Advertising 340 * 122 mm.
Options: Dynamic Advertising
Advertising slots
Personalized advertising to the user
Display information 145 * 106 mm.
Options: Information system and network
Municipal information and / or institutional

CARDS

Originally RFID card 86 mm x 54 mm, printable on both sides in four inks
Options: Barcode reader. For use on time events or as a promotional voucher, can be attached with other advertising.
Bidi reader. Use by mobile.



Development, financing and aids

The philosophy behind these kinds of actions is based on guidelines for sustainable cities, quality of life and contributing to reductions in polluting gas emissions. Their aim is to offer new, innovative services for cities, to improve environment levels and incorporate new alternatives of transport interchange, promoting and developing non-polluting means of transport.

Throughout this year **more than 60 local corporations have promoted and installed systems for the rental of city bicycles**, which have been subsidised by their Autonomous Community and various national bodies, as well as by energy institutes and agencies.

Ver: <http://es.geocities.com/circulaenbici/index.htm>



The plans approved by the government from 2006 onwards are of special relevance since they apply measures for non-polluting transport. The objective of these measures is to carry out actions in favour of urban mobility to achieve important changes in the distribution of means of transport, encouraging a greater participation by the most efficient means of transport rather than the use of private vehicles with low occupation and promoting walking and cycling instead of means of transport that require fossil fuels.

Ver: <http://www.idae.es/>

Amongst the plans at supranational level are the European framework programmes that include specific sections referring to Sustainable Development, global change and the conservation of ecosystems, in which *urban infrastructures which promote the use of non-motorised means of transport are developed and assessed, (key 4 point 4.4.1, 5th FP), as well as the comparative assessment and demonstration of new transport technologies and the corresponding infrastructures, (key 4 point 4.4.2, 5th FP)*. In these programmes the EU contributes to the financing of activities within the specific programmes, providing grants of between 30% and 50% of the total cost.



Ver: www.urbike.net , http://europa.eu.int/comm/research/fp6/pdf/blue_guide_es.pdf

In short, all this places **b-igloo** and its system in a very favourable position for its development and implementation as the solution with the best outlook for the future and one which is in line with new 21st century trends and approaches.

At present , we are working on several functional proposal **studies about a Renting and Parking Points system (RPP) for bicycles** in several Spanish cities and specially, on the ones which have operative biceberg installations

We are using and obtaining data from the following sources for the development of the studies:

- Planned proposals and mobility programmes
- Present and on work cycle lanes network
- Surveys to users in different places, streets, shopping centres and transport exchange

:Furthermore, the following matters are taken into consideration:

- Providing and facilitating an individual and sustainable transport system, by means of the flexible and expandable networked installation of renting and parking system of bicycles
- System amortization means.
- Compatibility with other cards (transport, parking, etc.)
- Compatibility with the present bicebergs.



Advertising suggestion

In general terms, the initial studies consider the installation of **15 to 20 Renting and Parking Points (RPP) with rental bicycles** . **More than 4.500 daily movements are to be expected**. We should add the ones made with a private bicycle and parked in the system. Besides, the increase expected making compatible the present bicebergs to the renting and parking service.

Photographs installations

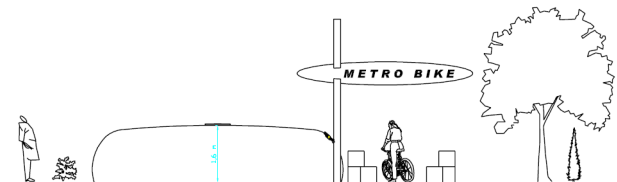


Closing systems, contour and elements

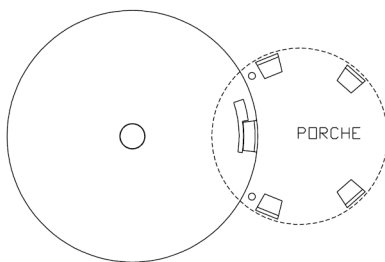
we can make alternative enclosures by means of prefabricated elements that facilitate the integration in the environment, in the landscaping, its covering, and / or the generation of a new space with varied uses, ...pergola, playground, stage, grandstand, kiosk, etc.



or you could create a **singular model** which could be distinguished by the values projected, a reflection of the **"corporate social responsibility"**, an active and voluntary contribution to the social, economic and environmental improvement of your company.



ALZADO BIGLOO + SETA



PLANTA



Zaragoza, March de 2022 V.12