



Calzavara Multifunctional Urban Structure

Summary

Calzavara and Desall invite you to participate in a new contest dedicated to the design of a telecommunications structure, which combines its primary function with elements of urban furniture and ambient intelligence services.

Official page: <https://bit.ly/CalzavaraUrbanStructure>

Company Description

Calzavara is an Italian company renowned globally for revolutionising the concept of telecommunications infrastructure. With a legacy spanning over 50 years, Calzavara has consistently led the industry by transforming traditional telecommunications structures into architectural masterpieces that seamlessly blend functionality with aesthetic appeal. From the outset, the company's vision has been to integrate telecommunications structures harmoniously into urban landscapes, thereby revolutionising the concept of connectivity. Today, Calzavara stands at the forefront of innovation, spearheading the development of multifunctional structures designed to accommodate not only antennas but also a comprehensive array of enabling technologies for the Smart City. This commitment to excellence, coupled with Italian design elegance and unwavering engineering innovation, forms the cornerstone of Calzavara's success as it continues to shape the future of telecommunications infrastructure worldwide.

What we are looking for

Calzavara is looking for fresh concepts and designs for **multifunctional urban furniture structures**. These structures will house mobile phone antennas and other radio devices while also functioning as attractive and/or functional aspects.

The “macro” mobile cell phone antennas will always be at the top, while the radio devices will typically be put in an accessible area near the base (lower section).

Given the structure's urban destination, the remaining parts can be designed to host **ambient intelligence services** such as cameras, advertising or informational LED screens, advertising decorative elements (e.g., banners), lighting, electric charging for cars or scooters, and **urban furniture elements** such as benches, bicycle racks, and so on.

Guidelines

To ensure the proper development of your projects, carefully consider the following guidelines:



Project type

You are invited to create a **multifunctional urban structure** that will house mobile telephony antennas. The antennas can be **hidden** inside the structure or made **apparent** as part of its design. Please refer to the downloadable *Material files* for examples of multifunctional urban constructions, as well as antenna and radio device dimensions.

Style and aesthetic

The new structure must be innovatively designed, with a modern aesthetic fit for **urban installation and global dissemination**. The construction must be **essential**, taking into account the cost of the resources that will be used to build it.

The structure may incorporate the aesthetics of **urban furniture** (such as a streetlight pole) or a **single ornamental piece** (such as an “urban sculpture” placed along an avenue, in a garden, or in the centre of a roundabout).

There are already buildings in the firm inventory that resemble trees, such as pine trees, palms, and cypresses. As a result, such solutions are not eligible for consideration in the contest and will not be accepted.

We remind you that antennas can be **hidden inside the structure** or **apparent integrated** parts in the structure’s design, which plays a significant role in its aesthetics. In any scenario, the antennas must be located at the top. For more details, see the downloadable *Material files*.

Features/functionality

The structure’s primary function is to host **mobile phone antennas on its highest point**, but it can also provide urban-related functionalities such as informational panels, displays with traffic information, parking availability, or other types of information, surveillance services (cameras), lighting, advertising (LED screens or banners), electric charging services (car chargers, scooters, bicycles), and so on. The constructions may also incorporate urban furniture components such as benches, bicycle racks, green areas and so on.

When selecting functionalities, evaluate the rising needs of the urban population and what unique services and functions these buildings could supply. When selecting **functional pieces or devices** to use, make sure that they are **all readily available on the market**.

Dimensions

The antennas must be located at the highest point of the construction, which will have an overall height of between **15 and 25 metres**. You can use a pole or a portion of the main structure to get as high as possible.

Technical Information

Three sectors totaling 360 degrees of antenna emission will be housed in the structures you create. The antennas are usually mounted in a consistent pattern on a single pole above 15 metres in height, with each antenna pointing outward and spaced 120 degrees apart.

Each sector is made up of:

- **Two or more antennas** positioned at the top of the structure, either level with each other or one above the other, to provide the best possible signal coverage. The hosted antennas are of the macro type for either 4G or 5G, and they can be combined into a single 4G/5G combo antenna or separated (the two options are alternatives to each other).
- **Two or more radio devices** placed either behind or beneath their individual antennas, or at the base of the structure (within a technical cabinet, for example).

A basic explanation of the two distinct elements is provided below:

The antennas

As previously stated, the antennas may be:

1. Combo Antennas for 4G/5G

Every antenna can be thought of as a parallelepiped with the following measurements: 2010 mm x 498 mm x 198 mm (HxLxW).

2. Antennas for 4G and 5G

Think of the antennas in this instance as two distinct antennas, one for 4G and one for 5G. The approximate measurements of the 4G antennas are 2009 x 469 x 206 mm (HxLxW), and the approximate measurements of the 5G antennas are 841 x 521 x 217 mm (HxLxW).

Radio devices

Each antenna has a **radio device** unit that transmits radio waves. The radio device unit can be thought of as a parallelepiped measuring 500 x 500 x 180mm (HxLxW).

In summary, each structure will have **three sectors**, each including at least **six antennas** and **six radio device units in total**. For installation examples, please see the downloadable *Material files*.

Installation and Maintenance Notes

When designing the structure, keep in mind that antennas and radio devices will require frequent maintenance. As a result, make sure both places are easily accessible and have plenty of room surrounding them.



Materials

If your design includes covering the antennas, only utilise materials that **allow radio waves to propagate**, such as **polycarbonate**, polyester nets, or **fibreglass**. **Steel or carbon-containing materials cannot be placed in front of the antennas.**

Structures are typically constructed of **hot-dip galvanised steel**. Use **UV- and weather-resistant materials** that are appropriate for outdoor locations.

Consider incorporating creative and eco-friendly aspects, sectors, or architectural elements into a structure made from the aforementioned materials (for example, bamboo, composite material coatings, and other eco-friendly materials).

Photovoltaic panels can be used as partial surface coverings to power low-consumption technological elements. However, because of their high power consumption, the radio equipment/antennas will be unable to be powered.

Submission materials

Provide detailed descriptions and up to 5 images to effectively present your projects. Images should be in 4:3 format, with .jpg, .gif or .png file formats acceptable. The colour mode should be RGB and the maximum size of a single file should be 1 MB.

To better evaluate your proposals, you are invited to upload:

1. At least one render of the project in a 3/4 perspective on a white background.
2. A render with urban contextualization (emphasising lighting effects, if applicable).
3. At least one image including measurements, to provide an idea of the maximum dimensions, internal volumes, and structural features.

You're also invited to use the designated field on the Upload page to attach a .zip file containing 3D files and high-resolution versions of the project images. The maximum file size for the .zip archive is 100MB.

Judging criteria

Entries will be judged based on the following criteria:

Degree of innovation 5/5

Functionality 5/5

Aesthetic quality 4/5

Technical feasibility 4/5

Economic sustainability 3/5



Language

Desall is an international community, so all texts (abstract, description, tags, etc.) must be written in English.

Contest timeline

Upload phase:	22 May 2024 – 17 September 2024 (1.59 PM UTC)
Concept review:	24 June 2024 (1.59 PM UTC)
Client vote:	from 17 September 2024
Winner announcement:	tentatively by the end of November 2024

Concept review (optional)

Participants have the opportunity to request an optional review of their project by the Desall team by the date indicated above. To do so, they must 1) save their project as a draft from the upload page and 2) send a request to the Desall team via email at contest@desall.com or through the contact form. **This review is entirely optional** and only provides an opportunity for participants to receive feedback but does not constitute a necessary condition for participation or provide any advantage in the final evaluation by the Sponsor.

Eligibility and submission

Participation is free and open to creative talents of any nationality aged 18 or older. Participants may submit one or more projects, but only projects published on the website www.desall.com from the upload page dedicated to the contest will be accepted.

Award

1°: €5000

The selection of the winner by the Sponsor will be the result of an unquestionable evaluation and it will take into account originality, feasibility and consistency of submitted projects with the presented brief.

Extra Award (option right fee)

€2000

Throughout the duration of the option right, the Sponsor offers an additional opportunity to all participants by setting the compensation of €2000 for the purchase of the licence for the economic exploitation of projects not recognized as winning proposals.

For more information, log in and read the **Contest Agreement** from the Upload page. For questions about the brief, use the “Have a question” button or write to contest@desall.com



Submission Guidelines

Project images: the first image attached from the upload page will also be used as the preview of the project in the gallery. In order to better present your project and draw the attention of the sponsor, we suggest you to choose a content that provides an overall idea of the whole project in one single image, briefly including all the contents that will be further presented in the following images.

We also suggest you to use all five image slots available from the upload page of the contest and - where possible - to present several views of the project giving also an indication of the main dimensions of the product.

For product design contests in particular, we suggest you to include at least one image with your project on neutral background and no writings.

For the rendering and presentation of your project, the use of copyrighted images, even if slightly edited, is prohibited.

In case of using materials owned by third parties (ex. stock images, stock videos, texts, etc.), make sure you are granted all the licenses needed for participating in the contest, as further specified in the Contest Agreement.

In case of submitting multiple projects or concepts, you have to repeat the upload procedure for each project: do not submit multiple projects with a single submission.

You are required to upload at least 1 image; image ratio: preferably 4:3; allowed file formats: .jpg, .gif or .png; colour mode: RGB; maximum file size: 1MB.

Descriptions: we suggest you to use the appropriate fields, “Abstract” and “Description”, to include all textual information about your project. We discourage you to include textual description inside your images, as they might result difficult to read (at all events, we suggest you to include at least one image - if possible - with your project on neutral background and no writing). In the “Abstract” field you have maximum 500 characters to include a short summary of your project while in the “Description” field you can include all the remaining information.

Additional material: in addition to the project images, you are invited to attach further materials in a .ZIP archive (NO other file extensions are allowed, such as .RAR) through the “Archive File” field on the upload page. Among the various materials, you may include CAD files, PDF with further descriptions on the project, photos of any models or prototypes, high-resolution images of the project images and 3D files (preferably in .stp or .igs format - you may also include a PDF 3D file for a rapid visualisation). The maximum size of the .ZIP archive is 100MB. You may also attach a video presenting your project through the “Video File” field from the upload page, including it inside a .ZIP archive with a maximum size of 50MB.

Concept revision: revision of your project by the Desall team. In order to request a revision, upload your project including the description and save it as draft (SAVE DRAFT) from the upload page and send your request to the Desall Team via e-mail or through the contact form. The revision is NOT mandatory: it serves only as a further opportunity for the participants but does not constitute a condition for participation, nor does it constitute any advantage in the final evaluation.

Hidden option: only in case of public gallery contests, you can submit your project with “hidden” design privacy option, provided that you submit your project within the first half of the upload phase. By doing so, your project will remain hidden for all other users until the opening of the Community Vote, if any. At all events, your project will always be visible for the Sponsor regardless of the submission date. This option is automatically disabled once the first half of the upload phase has expired: you can find the deadline for activating this option in the Optional deadlines paragraph inside the brief.

You can find further instructions on how to create your account, how to submit your project and other information in the [Tutorials](#) and in the [FAQ](#) sections.