

SPACECRAFT DESIGN

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NON ARCHITECTURE

We can consider “architecture” everything that has already been designed and/or built. That would define a realm of conventional solutions, often repeated in a self-referential system. We imagined a counterpart, a “non architecture”. A world of unexplored designs and countless possibilities, that if found, could enlarge and change permanently the boundaries of architecture. A universe of chances and opportunities never challenged by architects before. A limitless field of investigation that includes everything that is not architecture, yet.

Non Architecture Competitions aims to find unconventional and unexplored design solutions in the field of architecture. The second phase of competitions is structured in 9+1 themes: a Research Ecosystem with the purpose of exploring each theme from different perspectives. All competitions have their focus on tackling the big issues of tomorrow, by seeking nontraditional approaches in the architect’s work.

INTRODUCTION

The “Spacecraft Design” is a design competition developed to explore the creative potential of architectural design through one of the most iconic architectural drawings: the axonometric projection.

Architectural representation plays a fundamental role in how a project is perceived by the audience. In order to enable the viewer to act as the intermediary between image and imagination, building and drawing, reality and representation, architectural representation should be more than a rigid drawing toward objective reality, but rather a multifaceted interpretative lens.

Axonometric drawings are a powerful tool for visually communicating complex spatial arrangements. Their unique viewpoint allows for highly descriptive drawings that represent three-dimensional space on a two-dimensional surface.

This competition is an opportunity to experiment how an axonometric can communicate a project today. What kind of design choices can better respond to the issues raised in the extended brief and how can one drawing communicate the concept in the most effective way? You only have one axonometric projection to answer those questions.

COMPETITION BRIEF



The aim of the “Spacecraft Design” competition is to develop one drawing to communicate a conceptual design. The participants are asked to design a vehicle that responds to the requirements of the brief and one axonometric projection to represent it, with absolute freedom of interpretation, technique and level of abstraction. Even the concept of axonometric itself can be questioned in order to craft the most expressive way to represent the design.

This is a competition where you develop your skills as a communicator, designer and space thinker.

We are not interested in the construction details, we want to see the space organization. The drawing can highlight functional aspects of the vehicle, showing a deep understanding of one or more design aspects. It can focus on the aesthetic qualities either internal or external, showing space configuration and specific projects characteristics, or it can only display structural elements and overall massing. The elements shown in the entry are flexible and adaptable to the participants interpretation. The entry is completely flexible and adaptable to the participant's perception.

Please read the submission requirements for further information.

SPACECRAFT DESIGN

Participants of this competition are asked to create a design concept for a space-ship. This time we challenge all designers to imagine and design the shape of a futuristic vehicle for space travel: a Spacecraft. Being the main topic about mobility in space, designers are free to decide if they want to focus their proposal exclusively on external design or in the internal design of the vehicle. Presented concepts are free to explore in a critical way the different interpretations of such topic, from practical approaches to more dystopian/utopian scenarios.

Space travel is getting real and in the future will be all about experience. The further we might travel, the longest we will be living a spaceship as an actual domestic space. That calls for some architectural design. What could space transportation of the future look like? What could the complete user experience for space travel be?

Submission can address some of these questions. The proposal submitted could be a device, a space shuttle, a capsule or something completely different. The program dimensions are not given, and they can be arranged by the participants to better suit their design. There is only one fixed parameter: the proposal must provide a means of transportation in space. See the presentation requirements for more details.



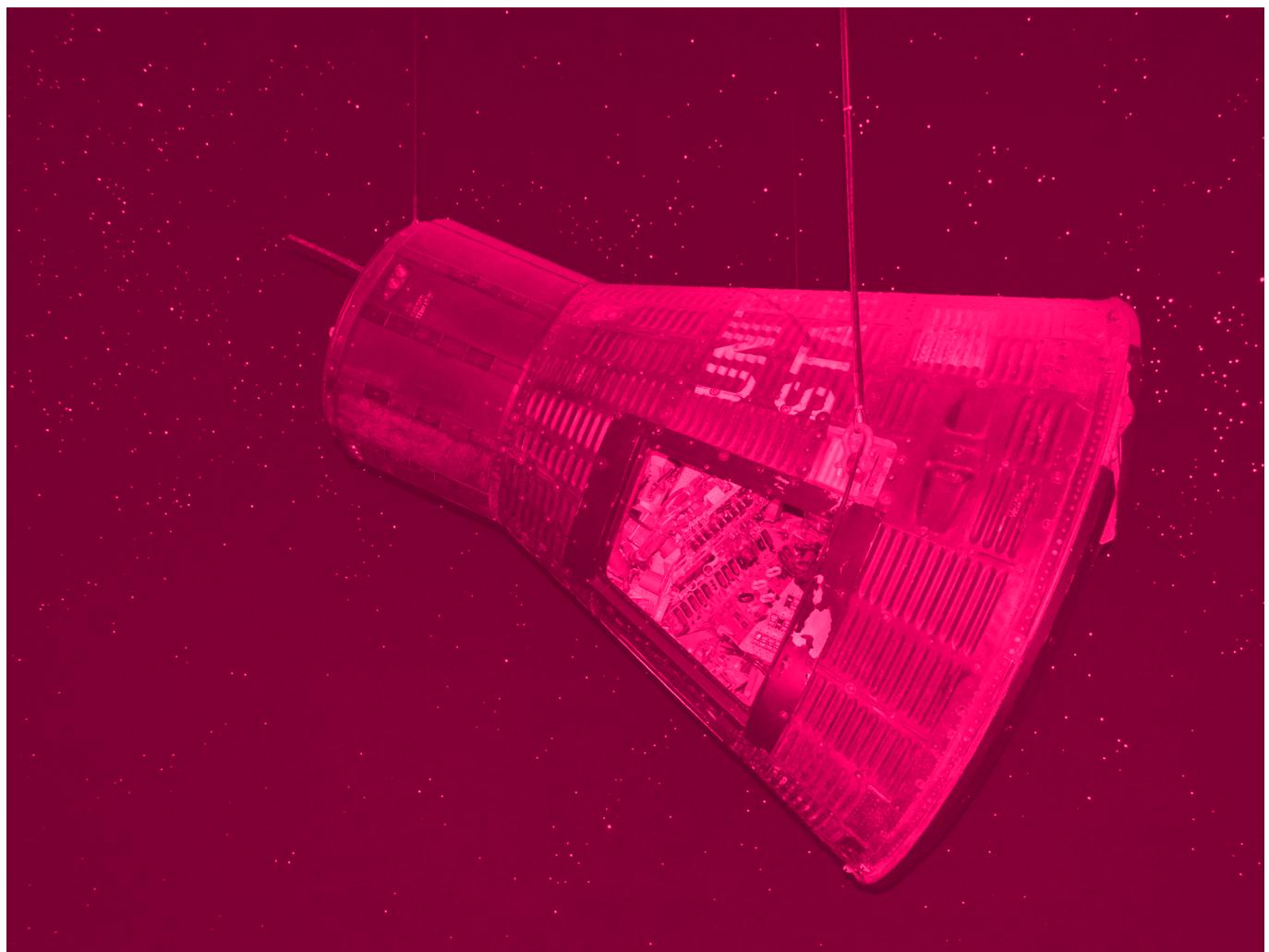
WHAT'S NEXT FOR SPACE TRAVEL

Humans have always looked at the heavens and wondered about the nature of the objects seen in the night sky. With the advances in electronics and other technologies in the 20th century, it became possible to send machines and animals and then people above Earth's atmosphere into outer space.

Ever since the first launch of a Space Shuttle on April 12, 1981, the space exploration has been inspiring generations. Space exploration, allowed the investigation, by means of crewed and uncrewed spacecraft, of the reaches of the universe beyond Earth's atmosphere and the use of the information so gained to increase knowledge of the cosmos and benefit humanity. Achieving spaceflight enabled humans to begin to explore the solar system and the rest of the universe, to understand the many objects and phenomena that are better observed from a space perspective, and to use for human benefit the resources and attributes of the space environment. All of these activities - discovery, scientific understanding, and the application of that understanding to serve human purposes - are elements of space exploration.

A spacecraft is a vehicle or machine designed to fly in outer space. A type of artificial satellite, spacecraft are used for a variety of purposes, including communications, Earth observation, meteorology, navigation, space colonization, planetary exploration, and transportation of humans and cargo.

The reason for human and individual nations' investment in space exploration has dramatically shifted since the 20th century Space race. The 21st-century has been characterized by a race to send humans into space, motivated by protecting human life from catastrophic events and leveraging the resources of space.

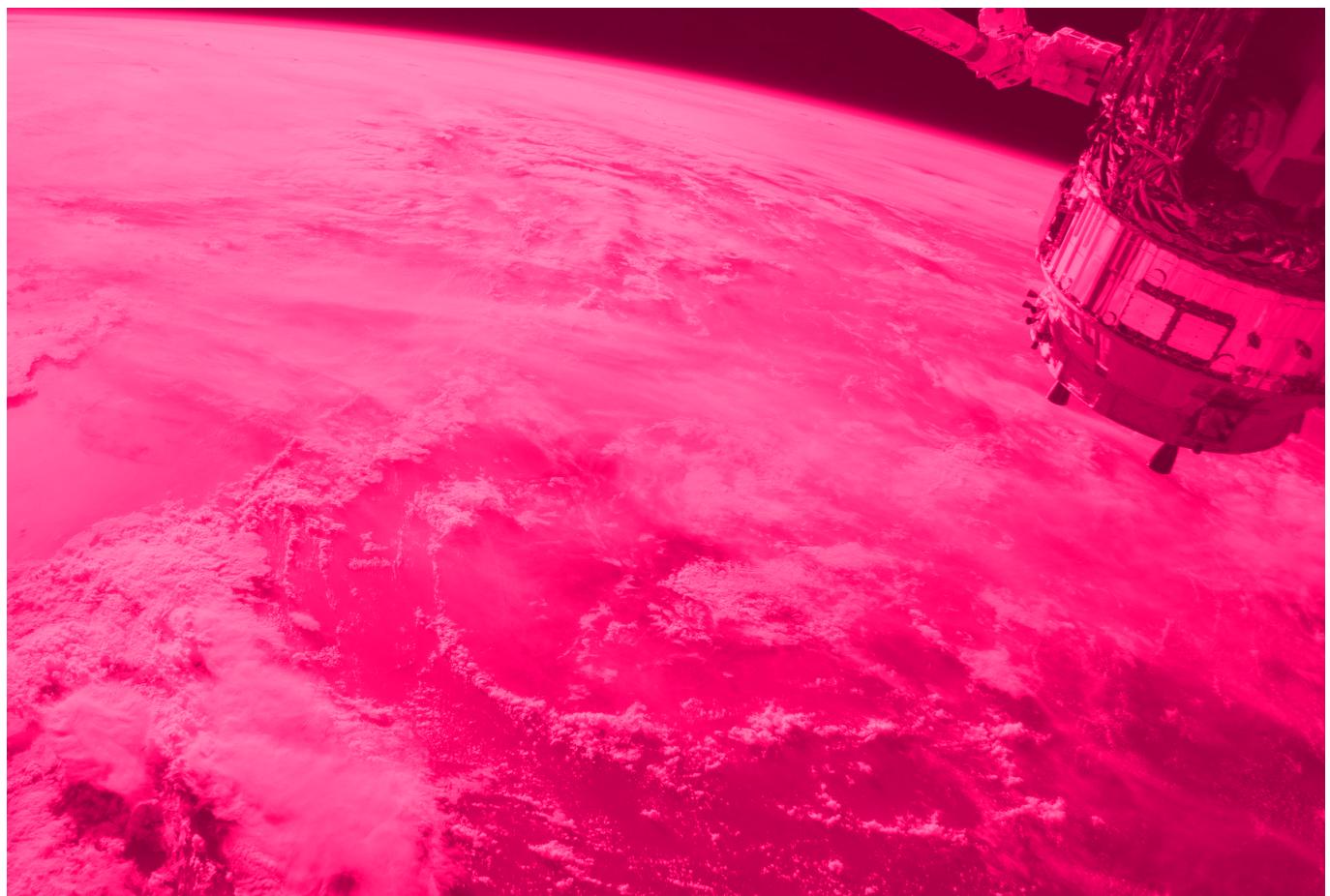


It has been argued that space colonization is a means of ensuring the survival of human civilization given a planetary disaster. Colonizing other planets allows for the dispersal of humans and thus increases the likelihood of survival given a planetary disaster. Furthermore, the availability of additional resources that can be mined from space could potentially expand the capabilities of humans and largely benefit society. Leveraging these resources and moving high polluting industries to space could reduce the emissions on earth and ultimately lead to finding cleaner energy sources. The primary blockers to colonizing space include technological and economic challenges.



Many private companies are currently working to make space travel more efficient in hopes to reduce the overall cost of space travel, and thus space colonization. SpaceX has been a dominant leader in this push for efficient exploration with the release of the Falcon 9, a reusable rocket. NASA's Artemis program aims to land another man and the first woman on the moon by 2024 and eventually establish sustainable space travel by 2028. The Artemis program is NASA's stepping stone to their ultimate goal of landing on Mars.

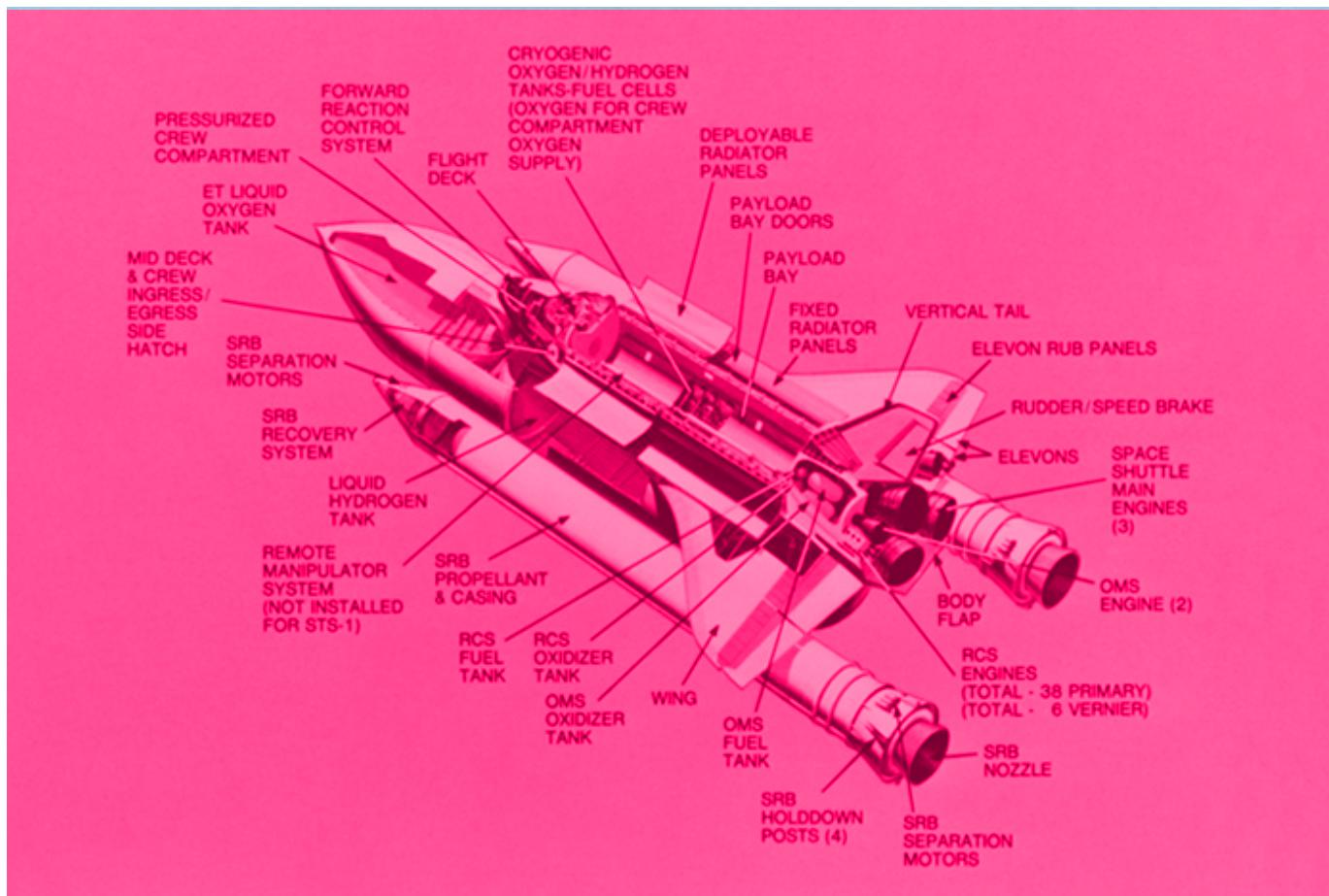
If space travel truly does become cheaper and more accessible, it's possible that private citizens will routinely visit space and gaze upon our home world - either from space capsules, space stations, or even space hotels.



Considering areas or compartments in a spacecraft, it depends on the mission, but to generalize, they are composed by command deck, mission deck, support module (life support and other engineering systems are here), engine module, and crew spaces.

As an example, you can find a detailed cutaway [drawing](#) that imagines the inside of Elon Musk's Big Falcon Spaceship. SpaceX plans to build and use the vehicle for the first crewed Mars missions. Copyright of Nick Oberg

The competition's approach is rooted in the concept of space mobility through the design of a futuristic vehicle. In this competition we are searching for creative ideas and not technical solutions.



ABOUT THE EVOLUTION OF THE AXONOMETRIC

Among the tools available to designers to illustrate their thoughts, the most meaningful is the axonometry.

The origin of axonometric representation dates to the ancient times. Despite the fact that perspective was the main pictorial technique since its formation, axonometric drawings were consistent throughout centuries.

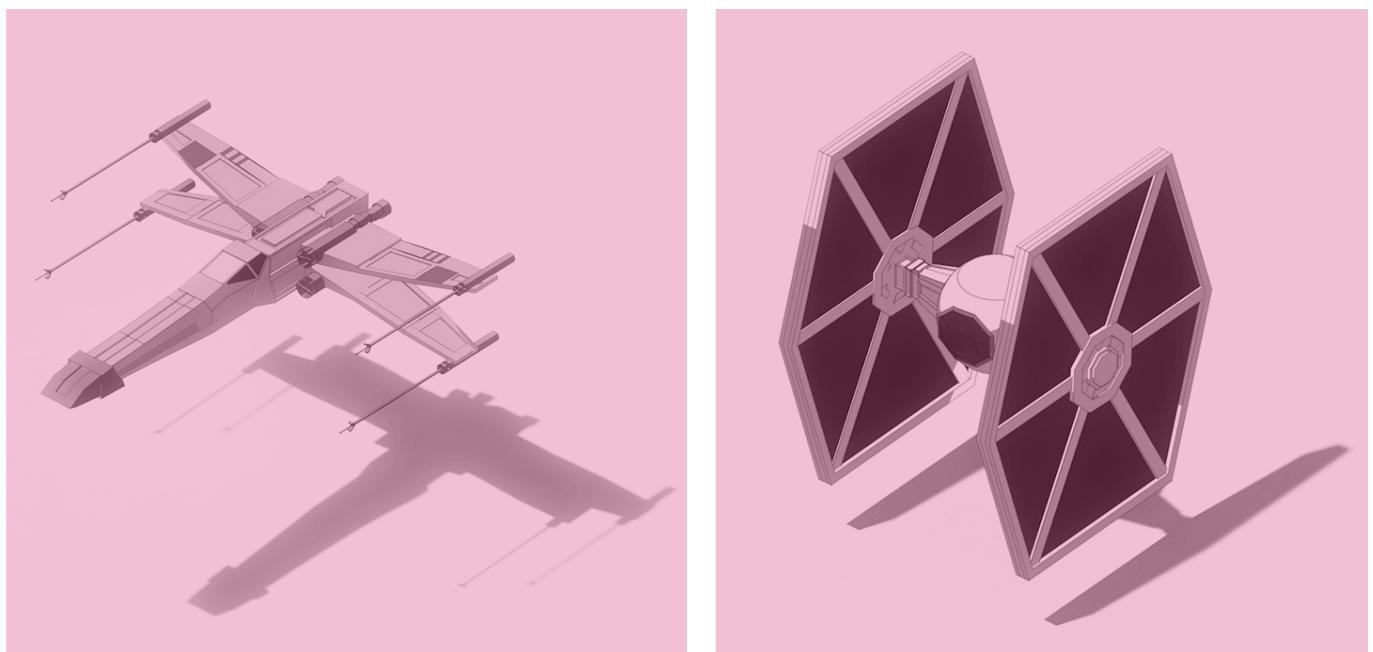
Sketches drawn to take note or to explain an idea are often axonometric views. Drawings provided in assembly instructions - for example, those used for Ikea furniture, Lego bricks and in most manuals for industrial products - are exploded axonometric projections. The fundamental purpose of every image is to depict a three-dimensional subject - an object or a space - on a surface with only two dimensions.

Drawing is the project medium. The first way to make an idea tangible is to sketch it on paper, as the sketch will conveniently store and convey the idea. But this is not the

only reason. Through the act of drawing, the idea takes shape and is made plain both for a potential audience and for the thinker himself.

More recently, after the boom of computer graphic rendered images, architectural representation is now looking for something less realistic but more evocative. Instead of impressing the observer with an imitation of reality, a new wave of architects are using axonometric to denote their abstraction, they do not hide their artificiality but, even though they are digitally produced, still embody the value of their hand-drawn ancestors.

As testified by its use throughout art history, axonometry is associated with technicality and feasibility; it embodies the aesthetics of the design thinking, the visualization of the project vision. Axonometry stands both for concreteness—as a mathematical depiction of a subject—as well for abstraction—as a detachment from the habitual perception. Axonometry is the scientific reproduction of a mental space, solid-state imagination.



RULES



PRESENTATION REQUIREMENTS

The drawing must be presented in an A3 and the Spacecraft should be contained in an area not bigger than 20m x 25m x 50m, and must consider the transportation of humans aboard. Graphic scale of the object must be placed on the drawing in some way.

The axonometric projection must respect the following colour pallet:

Non Architecture Blue (RGB 22,23,138);

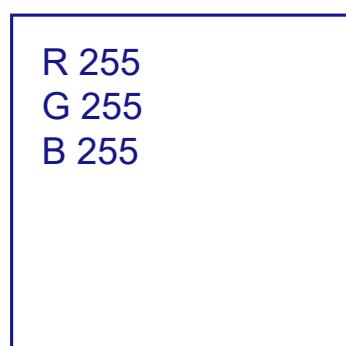
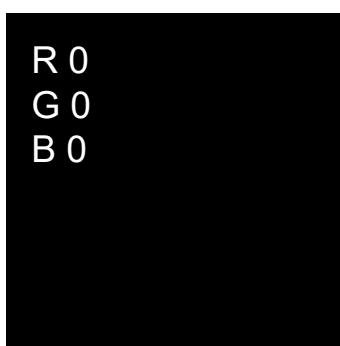
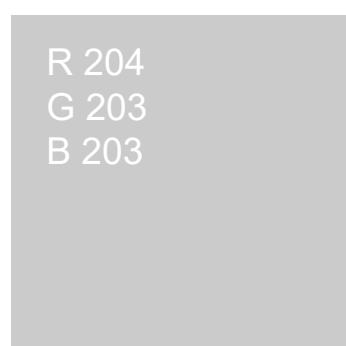
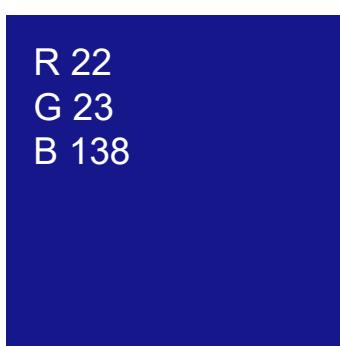
Non Architecture Grey (RGB 204, 203, 203);

purple (RGB 255,0,104);

black (RGB 0,0,0);

white (RGB 255,255,255).

These are the **ONLY COLOURS** you can use. You are free to combine more than one colour and use them creatively and as you better see fit.

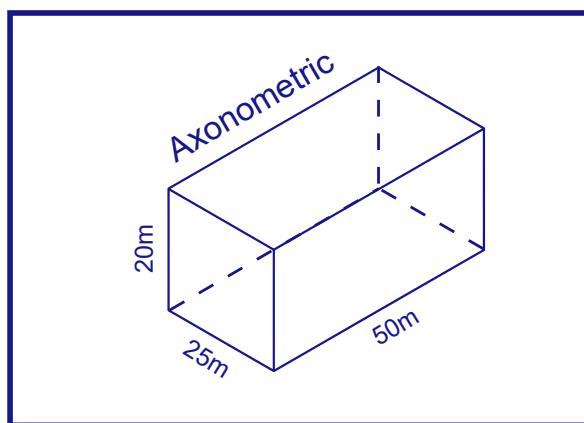


We are not interested in the construction details; we want to see the space organization and use. Therefore, walls can be full colour, no need to add stratigraphy. Same goes for other technical details, they can be as simple as just one line.

The Spacecraft can be composed of multiple levels, represented in an exploded axonometric projection, but all the levels must be presented in the same A3.

We highly recommend to refrain from adding text to your axonometric. In case you find it absolutely necessary, please keep it down to a few words and use the fonts given below:

A3



Main Info: Arial 13pt

Secondary info: Arial 10pt

Non Architecture is also unconventional in its submission requirements. The participants are asked to submit **1 ZIP folder, named with the registration code and the title of the project (CODE_Title)**, containing:

O1. The Axonometric (.JPEG)

File name: "CODE_Title of the project_Axonometric".

O2. A team document in Word (.DOC), containing / the title and subtitle of the project (maximum of 10 words)

And the team's info in the following format:

/ Name + Surname of each team member (separated clearly),

/ Nationality (multiple options can be added),

/ Institution/company (company or university attended, to be included just in case you want it to be visible once your project is published).

There is no need to create a team name.

One team should consist of 1-4 people.

File name: "CODE_Title of the project_Team"

USE THIS TEMPLATE

03. A Word document with **keywords** (.DOC), containing 5 keywords, at least 1 from the given list (page 10-11), that better explain your project,

File name: "CODE_Title of the project_Keywords"

USE THIS TEMPLATE

AXONOMETRIC

.JPEG
A3, 300 DPI
4961 x 3508 DPI
MAX. 7 MB
LANDSCAPE

CODE_Title of the project_Axonometric

TEAM DOCUMENT

.DOC
Team member info

↓ TEMPLATE

CODE_Title of the project_Team

KEYWORDS DOCUMENT

.DOC
Keywords

↓ TEMPLATE

CODE_Title of the project_Keywords

CODE_Title.zip

The **CODE** refers to the **5-digit number** you receive during the registration process (same as the order number, in a format of #12345), it is going to serve as your **registration code for the competition**.

An example of naming the files correctly:

CODE: #56789

Title of the project: My Spacecraft

01. The Axonometric: 56789_My Spacecraft_Axonometric

02. Team Document: 56789_My Spacecraft_Team

03. Keywords Document: 56789_My Spacecraft_Keywords

ZIP folder: 56789_My Spacecraft

Please, do not use the # in the file names.

/ You need to come up with your own project title and replace “My Spacecraft” in the example.

THE EVALUATION OF THE PROJECTS IS ANONYMOUS, so do not include your name, your registration code, or any other reference to you in the images. After being evaluated by the jury, the projects will be reconnected to their authors through the submission code. Additional details on the team members and on the projects will be required during the submission procedure.

IMAGE REQUIREMENTS:

/ A3, landscape (horizontal), 300 dpi (equals 4961 x 3508 px),

/ High Quality (for example, in Photoshop JPEG output quality: 8, or 80-85 in Gimp is recommended),

/ 7 MB maximum file size.

If the submitted images don't respect these criteria, may lead to the disqualification of the team.

FORMATTING REQUIREMENTS:

- / There is no need to entirely fill the A3 size image or to add a frame.
- / The images do not demand for any kind of specific technique of representation, as long as they respect the given guidelines. Be creative!
- / We highly recommend you to not add text to the images, please use the #KeyWords in the Word Document for further explanation. The projects should be explanatory enough through the graphic material, without the usage of flowing text.
- / It is compulsory to use the provided Word templates to create your Team and Keywords Documents.
- / In case the Team and Keywords Documents are submitted in any other format than a Word file (.DOC), its content might be excluded from publishing.
- / The language of the submission is ENGLISH, any text written in a different language will not be taken into account during the evaluation.

EVERY SUBMISSION THAT DOESN'T RESPECT THE PRESENTATION REQUIREMENTS, MIGHT GET DISQUALIFIED FROM THE COMPETITION.

ELIGIBILITY

Non Architecture Competitions are open to all human beings, from every age and cultural background, working in groups or individually.

Teams can be formed by a maximum number of 4 people. The registration fee is paid per team, regardless of how many members form it. Personal information of all the team members can be uploaded during the submission procedure of the final drawing.

PRIZES

Non Architecture Competitions will award only one winner, selected by the jury collectively, and 7 honourable mentions.

WINNER (1 PRIZE)

- / 1.000 euros
- / Publication in the Non Architecture Competitions books and website
- / Reviews in digital magazines and several architecture blogs

HONOURABLE MENTIONS (7 PRIZES)

- / Publication in the Non Architecture Competitions books and website
- / Reviews in digital magazines and several architecture blogs

NON ARCHITECTURE EDITORIAL PICK (UP TO 6 PRIZES)

/ Publication in the Non Architecture Competitions books and website

FINALISTS (UP TO 36 PRIZES)

/ Publication in the Non Architecture Journal

SPECIAL PRIZE

The organization might establish additional special prizes and awards during the competition development and in the evaluation phase.

Note: The appearance on the involved architectural platforms are subject to the agenda and availability of the external platforms involved.

CALENDAR AND PRICING

20 September 2021 Competition launch.

20 - 30 September	Special registration period (30€).
01 - 14 October	Early registration period (55€).
15 - 25 October	Regular registration period (70€).
26 - 31 October	Last minute registration period (100€).
26 October	Submission opens on our website.
31 October 11:59 PM	Submission closes.
22 - 26 November	Winner announcement.

The timing always refers to Central European Time (CET). To avoid confusion, please check the countdown on the competition page.

REGISTRATION

Thinking about the participants interested in registering for both the competition and the award, we are giving the possibility to register for both at a special price.

Registration Bundles:

x1 Award Ticket: 1 project submission to the award for 10€

20 - 30 September Special registration period (40€).

01 - 14 October Early registration period (65€).

15 - 25 October Regular registration period (80€).

26 - 31 October Last minute registration period (110€).

x3 Award Tickets: 3 project submissions to the award for 35€

20 - 30 September Special registration period (65€).

01 - 14 October Early registration period (90€).

15 - 25 October Regular registration period (105€).

26 - 31 October Last minute registration period (135€).

In order to use the discount, register using the promotion link at the bottom of the competition page. **The award registration fee is intended per project, even if the project was designed by more than one designer or company.** They will all be awarded in case of selection.

The registration fee is per team, regardless of how many members are on the team.

If a team wants to submit more than one proposal to the competition they will have to register each proposal separately and pay an additional fee for each proposal they wish to submit.

For a project to be accepted the team must be properly registered to the competition. All registrations will be done through the **Non Architecture website (nonarchitecture.eu)**, where you have to create an account, log in and choose your payment option.

All the payments will be organized through our Paypal profile, in order to provide the safest procedure to all the participants. Payments will be available for Paypal accounts and credit cards. In case you do not have a Paypal account, the credit card payment will be automatically made available.

After completing the payment, you will receive a first email from Paypal which confirms the transaction. Non Architecture will later accept your payment and provide you with a registration code. **THE REGISTRATION CODE WILL BE THE FIVE DIGITS CODE INDICATED AS “ORDER NUMBER”,** which will be sent to you once your payment is accepted.

Before confirmation email from Non Architecture arrives, your payment will be kept on hold and you will be able to cancel your purchase any time you want without any consequences. After your Non Architecture confirmation is sent, you can't cancel your payment anymore and it is not possible to get a refund of the registration fee.

In case Paypal is not available in your country, contact us at info@nonarchitecture.eu

JURY

The jury will be composed by a pool of platforms and experts specialized in the theme addressed by the competition. They will act as partners in the competition and final jurors of your work.

The jury members are the following:

Annalisa Dominoni e Benedetto Quaquare

Professors of Space4InspirAction at Politecnico di Milano and founders of (a+b) dominoni, quaquare

Vittorio Netti

Space Architecture Consultant at Hassell

Barbara Imhof

Manager Partner and Co-Owner of Liquifer

Valentina Sumini

Visiting Professor at Politecnico di Milano and Space Architect and Engineer Research Affiliate at MIT Media Lab within Space Exploration Initiative and Responsive Environments

CONTACTS

For additional info please check the FAQ on our website:
www.nonarchitecture.eu/faq

During the competition, all participants are permitted to ask questions which help them better understand the project description and/or any other aspect of the competition. Any questions that are not resolved in this document must be made through the [Non Architecture Facebook page](#). This ensures that all participants have access to the same amount of information.

SUBMISSION



Submissions must be done through the Non Architecture website (nonarchitecture.eu), before the submission period ends, the deadline is indicated in the calendar.

The submission surface opens 2 weeks before the submission deadline. It is going to be placed on the Non Architecture website, on the corresponding competition page.

Submission process:

1. Create your ZIP file, containing 1 JPEG image and 2 DOC file.
2. Upload it to wetransfer.com and choose the option “Get transfer link”. Make sure that you save your link for future use.
3. Go to nonarchitecture.eu and fill the submission form, there you need to include the WeTransfer link you created.

By filling the form, your submission is finalized.

No submissions will be accepted by e-mail or any other medium.

You are going to receive **one confirmation email** when you finalize your submission on the website.

We download every project within 24 hours after submission, we don't send a separate confirmation about the download.

EVALUATION

The core values of the competitions are:

- / Effective communication of the design qualities through the drawing
- / Originality of the design
- / Relevance to the building function addressed by the competition

These values will lead the selection of the finalists' projects and they will be used by the jury as a guideline in their decision.

Remember that this is a competition of ideas, an opportunity to experiment and explore the limits of architecture representation. The jury reserves the right to award any proposal that fails at any of the parameters mentioned in these rules, as long as it justifies the breach of the rule in favour of the value of the proposal.

The voting system to choose the winning projects is as follows:

1. Non Architecture competitions team, following the main values of the competition, will make an initial selection of 50 finalist projects in response to the above criteria. The amount of pre-selected projects can slightly vary according to the judgment of the pre-selection team.
2. The members of the jury will study the pre-selected projects privately and give an evaluation for each one of them. Votes will be compared and revised to reach a common agreement on the selection of winners and honourable mentions.

In order to guarantee the authenticity of the awarding process, the prize's selection cannot be appealed.

INTELLECTUAL PROPERTY

All the material submitted to the competition will become part of Non Architecture Competitions' files. Non Architecture will have full rights to publish and promote this material, always making proper mention of their authors. The material might also be used for the platform's merchandising and exhibition purposes. For any other purpose, the authors of the projects will keep full rights over their design and will be asked to grant permission. By submitting a proposal you are giving Non Architecture the right to use the received material in both printed and online publications. Non Architecture Competitions will also have the right to slightly modify any of the mentioned material in order to better adapt it to the different formats and layouts that different publications might have.

ADDITIONAL NOTES

1. Non Architecture Competitions reserves the right to make any changes to this document (dates, deadlines, requirements, etc.) as long as the changes benefit a majority of the competition participants. Any modifications will be announced on the Non Architecture Competitions Facebook page. It is each team's responsibility to check the Non Architecture Competitions Facebook page on a regular basis to follow and incorporate all changes.

2. The purpose of this competition is an intellectual exercise and will not be built. In order to produce a relevant collective research, a minimum amount of 50 registrations has to be submitted. If the registrations are less than 50 by the day of the deadline, Non Architecture Competitions reserves the rights to not proceed with the awarding of the monetary prize but we will proceed with the winners' selections and the book's publication. In this eventuality, all the subscription fees will be reimbursed to the participants.

3. No one has hired Non Architecture Competitions in order to organize this contest. The only purpose of this initiative is to raise questions that could lead to the progress of architecture practice and engage a community of enthusiastic and creative designers in the creation of what could be a new way to represent architecture. The idea and program of this competition have been fully developed by Non Architecture Competitions to serve solely as an academic exercise.

4. Non Architecture Competitions is not held responsible for a breach of contract regarding the publications.

5. Participants are expected to submit original work. Copying somebody else's work or using copyrighted photos, images, architectural/art pieces is strictly prohibited and will result in recalling all prizes and removal from the website, social media and the publication.

THE NON
ARCHITECTURE
TEAM AND ALL
THE COMPETITION
PARTNERS WISH
YOU THE BEST LUCK,
CONFIDENT THAT YOU
WILL APPROACH THE
CONTEST
WITH ALL YOUR
CREATIVITY AND
INNOVATIVE MIND.

INFO@NONARCHITECTURE.EU
WWW.NONARCHITECTURE.EU

CURATOR

non
architecture

RESEARCH PARTNERS

KooZA/rch

A Visionary Platform for Architectural Research

DOM publishers

**in
arch**

**ROMA
TRE**
UNIVERSITÀ DEGLI STUDI

TRUST

Transdisciplinarity for Urban Sustainability Transition

Future
Urban Legacy
Lab


Rhinoceros®
modeling tools for designers

European Urban
Knowledge Network



COMPETITION PARTNERS


ARCH-VIZZ


toffu


CAGE


**ARCHI
BOOM**


**ACT OF
MAPPING**


**明日工坊
Future Scenario**