# Senegal Secondary School

## Building opportunity in Djilakh

Architecture Competition

organized by

ARCHSTORMING

in partnership with

lbms
let's build my school

ARCHSTORMING

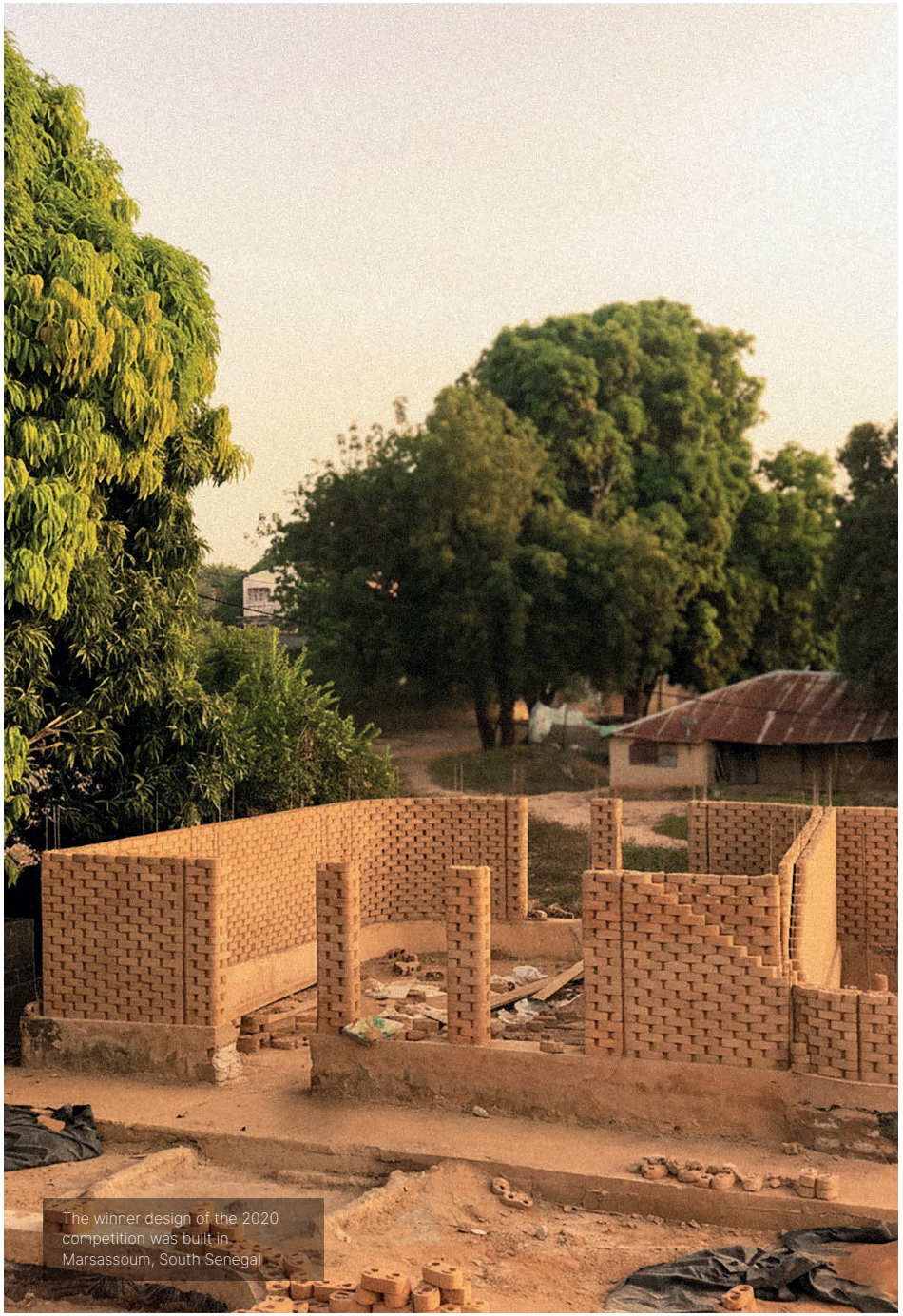
## Organizer

# Archstorming

Archstorming is an international platform that aims to improve the well-being of people in need through innovative and sustainable architecture. Our mission is to **create positive change through architecture** and foster a new generation of socially conscious architects.

Our humanitarian architecture competitions showcase **real projects that address critical issues** such as disaster relief, poverty, conflicts and diseases, while serving the fundamental needs of shelter, warmth, access to clean water, education, and community building.

**Sustainability is the core of our competitions**, both in terms of design and construction, challenging our participants to find innovative construction methods, use locally sourced materials, and adopt collaborative easy-to-build techniques, among others, that can be understood and applied by local communities.



The winner design of the 2020 competition was built in Marsassoum, South Senegal

# introduction

**In 2020**, Archstorming partnered with the NGO Let's Build My School (LBMS) to launch the **"Senegal Elementary School"** competition, which led to the construction of the winning project in Marsassoum (Casamance). The school had a **lasting impact** on the community by improving access to education, generating local employment, attracting international volunteers, and introducing a new construction material, the stabilized compressed earth blocks produced on-site, that boosted the local economy by reducing construction costs and reliance on imported materials.

**Now, in 2025**, Archstorming is returning to Senegal together with LBMS to take on a new challenge, **designing a secondary school in Djilakh,** a village in the Thiès region of Senegal which, despite having 4,000 inhabitants, lacks a secondary school—discouraging many children from continuing their education.

This new competition represents an opportunity to address some of the most pressing **challenges in humanitarian architecture**: how to create sustainable, climate-appropriate, and cost-effective educational infrastructure using local materials, simple construction techniques, and community participation.

One key aspect will be the use of **earth-based construction**, a material widely available on-site and ideal for thermal comfort in Senegal's climate. Another important challenge is the design of an appropriate **roofing system**, as current solutions often undermine the thermal performance of earth buildings.

Just like the 2020 competition led to the development of locally produced compressed earth blocks that are still used in the region today, this project invites participants to imagine holistic **solutions that could have a lasting impact** on the community and become a model for future construction in similar contexts.

lbms
let's build my school

# The NGO: Let's Build My School

*Archstorming is partnering for the second time with Let's Build My School (LBMS), an organization founded by the Lebanese architect based in Dakar Leila Meroue in 2016 to build schools in developing countries.*

Besides building facilitues made from **locally sourced, sustainable, and recycled materials**, LBMS focuses on building techniques that do **not require specialized technical skills**. This way, local communities can replicate the construction process independently, even after LBMS has left. The organization also produces clear instruction manuals that can be shared with workers, students, and any member of the village interested in learning.

LBMS strongly believes in creating **long-term, measurable impact**: increasing school enrolment, ensuring the buildings serve their purpose, and creating employment opportunities by teaching practical construction skills. By delivering climate-adapted facilities, they help alleviate poverty and promote the development of underserved communities in a sustainable way.

A group of participants in the 2020 competition travelled to Senegal to help build the school

# case study: “Senegal Elementary School” 2020 Competition

*The 2020 competition with LBMS aimed to replace a deteriorated and precarious school in Marsassoum, a remote town of around 7,000 people in southern Senegal.*

The original classrooms were built with bamboo walls and zinc roofs, vulnerable to the heavy rains and often collapsing during the wet season—causing classes to be cancelled and students to miss their academic year. LBMS’s goal was to provide a safe, durable learning environment in place of these temporary structures.

The **winning project**, designed by SOM Studio from Colombia, **was built in 2022** and became the Sambou Toura Drame School. It includes seven classrooms, a library, director and teacher offices, toilets, and outdoor spaces such as an orchard and animal area.

The school had a **transformative impact**—not just by improving access to education, but also by revitalizing the community. Dozens of volunteers from around the world joined the local workers in the construction effort, creating a powerful cultural exchange.

One of the **competition’s key legacies** was the introduction of **stabilized compressed earth blocks** with rounded edges, designed by the winning team and produced locally using a simple press they also developed and brought to the construction site. These blocks have since been adopted in other local buildings, helping reduce construction costs, support the local economy, and empower the community.

# the context

*Senegal: an educational crisis*

Senegal is one of the most politically stable countries in West Africa, yet its education system still faces major challenges, especially in rural areas. With a **literacy rate** of just 43%, many classrooms are overcrowded, and the widespread **lack of secondary schools** leads to **high dropout rates**—38% of students leave school before completing primary education. **Gender inequality** remains a serious issue, as many girls are withdrawn from school to assume domestic responsibilities.

*Djilakh: an urgent need*

**LBMS identified Djilakh as a priority** for intervention because, despite having over 4,000 inhabitants and two primary schools with around 400 students each, **it lacks a secondary school.** This discourages many students from continuing their education and leads to a high dropout rate.


*New model: education for real-life*

For this project, LBMS also aims to implement a **new educational model** tailored to the community's reality—introducing practical subjects such as local trades, agriculture, personal finance, and essential services. The goal is to equip students with skills that can directly improve their lives, rather than focusing solely on academic pathways that most will never have the opportunity to pursue.

# the challenge

## designing a new secondary school

The goal of this competition is to design a new secondary school in Djilakh, which will share the site with an existing primary school. Projects should be:

- **Affordable**, using materials that are locally available and cost-effective.
- **Simple to build**, so they can be constructed by local workers with minimal technical training.
- **Durable**, ensuring the school's longevity and minimizing maintenance needs.
- **Climate-appropriate**, capable of withstanding Senegal's extreme weather conditions—such as heavy rains during the wet season and high temperatures during the dry season.
- **Culturally responsive**, integrating with the local context and fostering a sense of ownership and pride within the community.
- **Adaptable and expandable**, allowing for future growth if new needs or funding arise.
- **Sustainable**, both environmentally and economically, through the use of passive strategies and low-carbon materials.

Participants are encouraged to propose creative solutions that address the recurring challenges faced by LBMS in their previous projects. One of these challenges is the **roofing system**, which should improve thermal comfort, be low-cost and be producible using local skills and locally available materials—potentially serving as a model for future projects in the region.

# the site

## location & characteristics

The new secondary school will share the site with an existing primary school in Djilakh. The site is located on the **outskirts of the community**, it is **flat** and easily buildable, with access to both **electricity and water.**

**Access to the site** is provided by an unpaved dirt road running along its eastern side (right-hand). The current entrance to the site is marked on the image, but participants are free to **relocate it as needed** in their proposals.

**The new secondary school should be built on the eastern half (right side) of the site**, next to the access road, in the area marked in blue on the site image.

**The three structures** currently located in the middle of this blue area are abandoned and in very poor condition, and **will be demolished prior to construction**. Therefore, for the purpose of this competition, participants should consider this area of the site as empty and available for the new development.

However, the **trees** located in the center of this area must be **preserved**. These trees, along with the buildings to be demolished, are clearly indicated on the following page for reference.

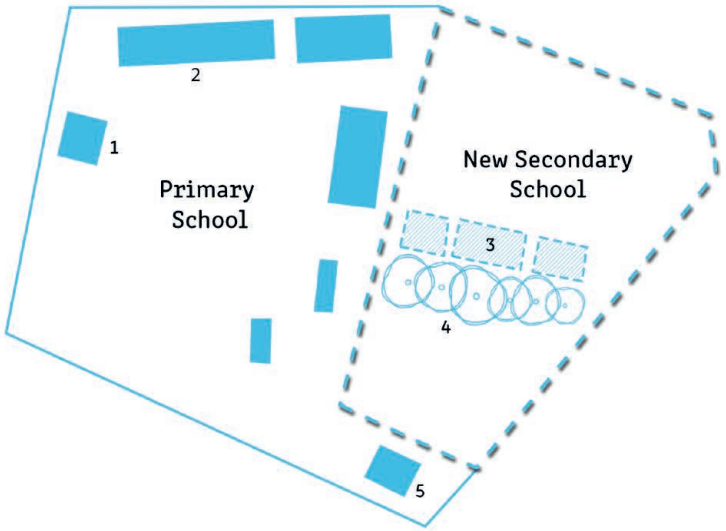
On the western side (left) of the plot are the **existing primary school facilities**, which are currently in use and must not be affected by this project.

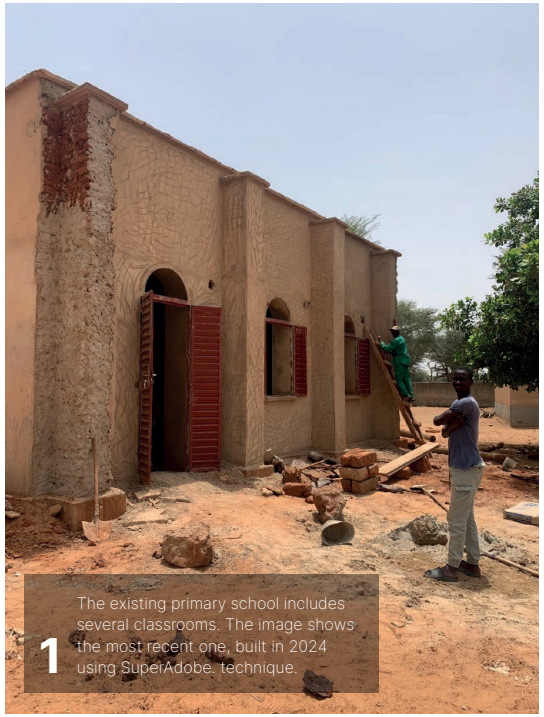
## coordinates

**14.524793, -16.884327**
(click here to go to Google Maps)

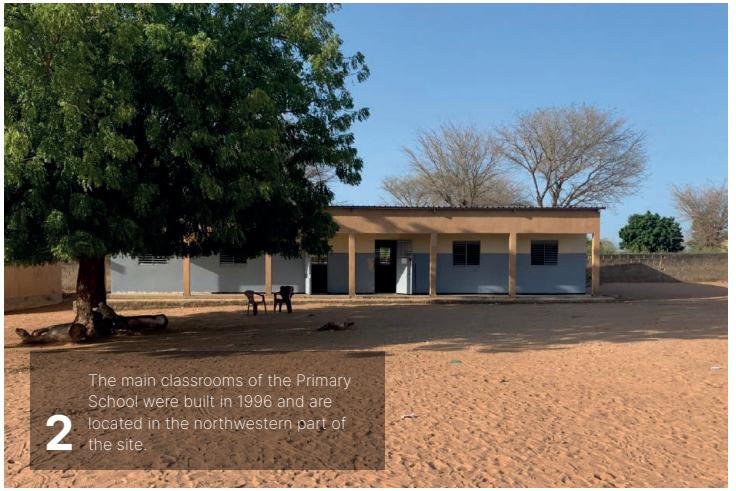
# the site

## existing buildings

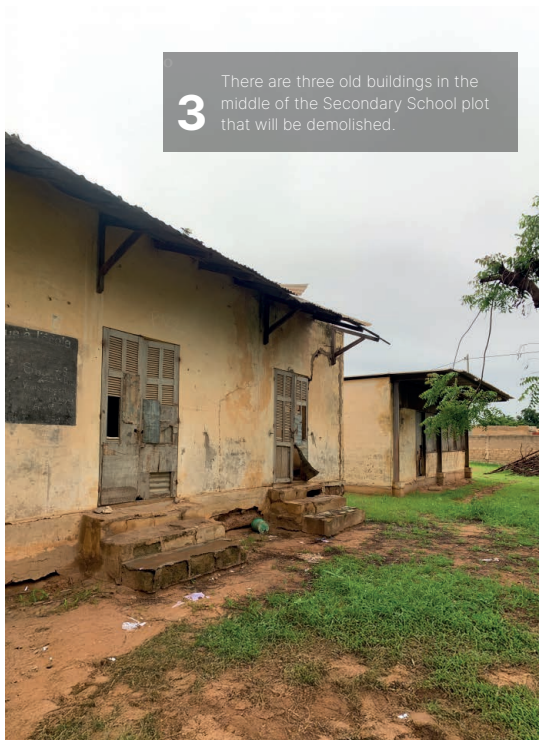


1 The existing primary school includes several classrooms. The image shows the most recent one, built in 2024 using SuperAdobe. technique.

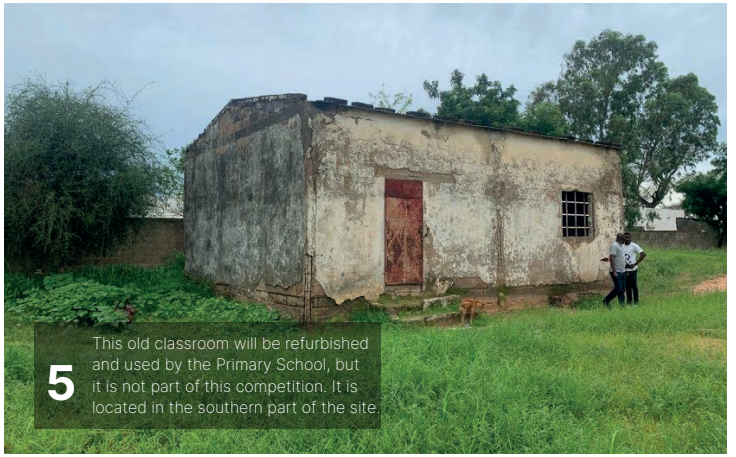


2 The main classrooms of the Primary School were built in 1996 and are located in the northwestern part of the site.



3 There are three old buildings in the middle of the Secondary School plot that will be demolished.

4 There are six big trees in the middle of the plot. Ideally they should be preserved.



5 This old classroom will be refurbished and used by the Primary School, but it is not part of this competition. It is located in the southern part of the site.

# the program

The new secondary school in Djilakh will accommodate approximately **160 secondary school students**.

The program is simple and it is focused on providing quality learning and support spaces for the local students and staff:

## indoor spaces

- **4 Classrooms**: Each classroom must measure **7m x 9m**, as this is the **official standard** required for the school to be formally recognized by the government. Each classroom must include a teacher's desk and a blackboard. Additionally, each classroom should be easily divisible into two smaller spaces to allow for group separation when teaching activities require it.

- **Administrative Area**: **Director's Office & Professors' Room**. These two spaces should be located next to each other and together measure **7m × 9m** (the official classroom standard). This configuration ensures that, if needed in the future, the combined area could be repurposed as an additional classroom, providing flexibility for the school's long-term needs.

- **Multipurpose Hall**: A communal space that serves as a library, meeting area, and venue for cultural activities.

- **Storage Room:** A space for storing school supplies, cleaning materials, and other essentials.

- **Restrooms**: Separate toilet facilities for boys and girls, each with four stalls, and a shared washing area with at least four sinks located at the restroom entrance. The system must be based on a **septic tank**, and given the warm climate and the nature of this system, it is recommended that the restrooms be placed in a **separate structure**, detached from the rest of the school.

## outdoor spaces

- **Orchard / Animal Area**: A small space for growing vegetables and raising animals like chickens or goats. It can support school meals, generate income, and serve as a hands-on learning area for students to develop basic farming and animal care skills.

- **Playground**: An open space for recreation and group activities.

The **surface area** of all indoor and outdoor spaces is left to the **participants' discretion**, except for the classrooms and the combined administrative area, which must each measure 7 m × 9 m. For this purpose, participants should consider both the number of students (160) and the realistic, **efficient use of resources**—avoiding oversized spaces that could lead to unnecessary construction costs. The **approximate budget** for the construction is **€48,000 - €60,000,** so proposals must remain feasible and cost-conscious.

The design must be **flexible and modular,** allowing for future expansion if additional funds become available or new needs arise. New constructions should be easy to add while maintaining coherence and functionality.

# materials

The site is approximately one hour from the nearest paved road and is accessed via a poorly maintained laterite road. While deliveries are possible, they can be difficult and expensive. This makes **on-site production** and **minimizing the need for transported materials** a key factor in the project's feasibility.

Given these constraints, LBMS is especially interested in the use of **earth-based construction methods**. LBMS has tested techniques such as unfired earth bricks (locally known as banco bricks), stabilized earth blocks, superadobe, and is currently experimenting with rammed earth. These materials rely on local soil and can be produced on-site, helping to reduce construction costs and boost the local economy.

**Wood** is generally discouraged due to termite issues and the high cost of treated or imported options. **Bamboo** is being explored as a possible sustainable alternative, though its use remains experimental for now.
In addition to earth, participants may consider using other materials such as **iron, concrete, metal and others**, provided they align with the project's goals of sustainability, cost-efficiency, and local availability.

Participants are encouraged to **research and propose** creative, durable, and context-appropriate material combinations that can be easily understood, implemented, and maintained by local builders.

# construction techniques

LBMS places a strong emphasis on building systems that **empower communities and foster local autonomy**. For this reason, construction techniques must prioritize durability, simplicity, and community involvement, using methods that are easy to learn and maintain with the skills and tools available locally. This enables the knowledge and abilities gained during the project to be reused in future construction within the village, creating long-term value beyond the school itself.

Techniques should be executable with simple, accessible tools and **without the need for heavy machinery**, taking into account the site's limited logistical conditions. Moreover, **future repairs or maintenance** should not require special parts or highly specialized labor, ensuring the community can manage the building independently over time.

**Sustainability** should guide all construction choices. **Passive design strategies**—such as natural ventilation, shading, and daylight optimization—are key to reducing energy needs and improving indoor comfort, particularly in Senegal's hot climate.

**Thermal performance of the roof** is a major consideration. While earth-based walls offer natural insulation, much of that benefit can be lost through poorly designed roofs. Participants are encouraged to propose **roofing systems** that are well-insulated, affordable, and feasible to build with local resources and labor.

In sum, the construction method must reflect the reality of Djilakh: remote location, limited access to industrial materials, and the need to engage the community in both building and maintaining the facility over time.

# the climate

Djilakh is located in Senegal's Thiès Region (Sindia Commune) which features a **semi-arid** (subtropical steppe) climate. This context significantly influences architectural and construction strategies for the secondary school.

## temperature

- The area has a year-round **average temperature** of 25 °C (78 °F).
- The hottest month is **July**, with average daytime highs of 33 °C (91 °F) and nighttime lows of 24 °C (76 °F).
- The coolest month is **January**, with nighttime lows of about 17 °C (63 °F) and daytime highs around 31 °C (87 °F).

## rainfall

- The **rainy season** runs from mid-June to late October, peaking in August, when monthly precipitation can exceed 130 mm (5.1 in).
- The **dry season** extends from November to mid-June, with almost zero rainfall in months like April.

## sunlight & humidity

- Djilakh enjoys between **12 and 13 hours of daylight** daily, with high levels of sun exposure throughout the year.
- **Humidity** levels vary significantly, ranging from about 33% in January to around 78% in September, making parts of the year feel hot and muggy.

## wind

- **Moderate wind speeds**, generally between 10–20 km/h, help support natural ventilation when properly harnessed in building design.

## design implications

- **Earth-based materials** are well suited to buffer temperature changes, but **effective roofing insulation** is crucial to avoid heat buildup in the dry season.
- **Overhanging roofs and good drainage systems** are essential to manage heavy rainfall during the wet season.
- **Ventilation strategies** such as cross-ventilation, shaded verandas, and generous ceiling heights can greatly improve indoor comfort.
- **Building orientation** and solar protection elements should be considered to mitigate direct sun exposure and optimize passive cooling.

## sources

- Weather Spark
- World Data
- Weather Atlas
- Climate Data

# key design principles

The following principles summarize the key requirements outlined throughout this briefing. They compile the main aspects that participants should keep in mind when designing the new secondary school in Djilakh, ensuring the project is functional, sustainable, and impactful for the local community:

1. **Passive & Climate-Responsive Design**: The design should optimize natural ventilation, daylight, and shading to enhance indoor comfort throughout the year. Overhangs, verandas, and well-insulated roofing should protect against heat and heavy rains while maintaining energy efficiency.

2. **Use of Local & Low-Impact Materials**: Prioritize earth-based and other locally available materials to reduce transport costs, stimulate the local economy, and lower the environmental footprint.

3. **Simple, Durable & Replicable Construction**: Construction methods should be easy to learn, require minimal tools, and allow local workers to execute, maintain, and replicate the system for future community projects.

4. **Functional & Flexible Learning Spaces**: Spaces must fulfill the program requirements efficiently, support various educational activities, and allow for future expansion if new needs or funding arise.

5. **Community Engagement & Cultural Sensitivity**: The secondary school should become a source of pride for the community, respecting local identity and traditions while fostering interaction and participation.

6. **Safety & Comfort for Children**: Prioritize a secure, child-friendly environment with safe circulation, comfortable interiors, and shaded outdoor areas that support learning and well-being.


Classroom built by LBMS using Super Adobe

# evaluation criteria

Submissions will be judged by the jury based on their successful response to the following key aspects:

1. **Design Concept & Community Impact:**
   - Is the architectural concept strong, coherent, and innovative?
   - Can the design generate positive impact beyond the school itself—such as introducing new construction techniques or supporting local economic development?

2. **Functionality & Program compliance:**
   - Does the design effectively address the spaces and uses required in the competition program?
   - Are the spaces well organized to support a functional, inclusive, and efficient environment for students, teachers, and the broader community?
   - Does the proposal reflect a realistic understanding of the local climate, available materials, and construction capabilities?

3. **Architectural Quality & Contextual Fit:**
   - What level of architectural merit does the proposal show in terms of form, spatial quality, light, and atmosphere?
   - Does it foster a safe, welcoming, and inspiring learning environment?
   - Is the design well integrated into the physical, social, and cultural context of Djilakh?

4. **Alignment with Key Desing Principles:**
   - Does the project meet the key design principles of the competition including affordability and sustainability, simple and replicable construction, passive and climate-responsive design, use of local materials, safety for children, and potential for future expansion?
   - Are passive design strategies effectively integrated to enhance thermal comfort and environmental performance?
   - Is the proposed roofing solution affordable, thermally efficient, and easy to build using local resources and labor?

5. **Presentation & Communication:**
   - Is the proposal clearly, coherently, and visually presented?
   - Does the submission effectively communicate the key ideas and added value of the project?

# volunteer trip

Let's Build My School (LBMS) offers participants of the competition the opportunity to join the construction of the winning project through a volunteer trip to Djilakh, Senegal.

This trip is not only a chance to contribute to a meaningful project, but also an **unforgettable personal experience**—fostering mutual learning, cross-cultural connection, and shared purpose.

### *Cultural exchange*

The trip will provide a unique chance to experience life in rural Senegal while making a direct impact. Volunteers will stay with local families or in community accommodations, creating an authentic and immersive cultural exchange. Living alongside the community, participants will gain a deeper understanding of local traditions, challenges, and everyday life.

### *Learn hands-on techniques*

The construction work will be carried out in collaboration with local workers, allowing volunteers to learn hands-on techniques—particularly earth-based construction methods—and to actively contribute to the building of the school.

### *Explore the region*

Beyond the work on site, volunteers will have the opportunity to explore the surrounding region, visit nearby towns, and enjoy the natural and cultural richness of Senegal.

# awards

We are offering a total of 10,000€ in cash prizes, distributed as follows:

*1st PRIZE*
**6,000 € + Construction**

*2nd PRIZE*
**2,000 €**

*3rd PRIZE*
**1,000 €**

*SPECIAL HONORABLE MENTIONS*
**2 × 500 €**

*10 HONORABLE MENTIONS*

*50 FINALISTS*

All winning projects and finalists will be published in various architecture magazines, blogs, social networks, and our website. All participants will receive a digital certificate of participation.

# calendar

Key dates, including registration periods, submission deadline, and winners announcement, are outlined below:

Early Bird Registration
**September 23rd - October 29th**

Standard Registration
**October 30th - December 3rd**

Extended Registration
**December 4th - January 7th**

Final Call Registration
**January 8th - February 4th**

Submission deadline
**February 4th**
**11:59 PM, PDT time zone (GMT-7)*

Winners announcement
**February 26th 2026**

# registration

**Instructions**: To register for the competition, visit the official website and complete the registration form. Upon completion of the form, you will be redirected to the payment page where you need to complete the payment to finalize the registration process.

By paying the competition fee, you and your team (1 to 4 members) will gain access to the competition.

The registration fees are per team and they are tiered based on the date of registration as follows:

- Early Bird Registration: €70 + VAT
- Standard Registration: €90 + VAT
- Extended Registration: €110 + VAT
- Final Call Registration: €130 + VAT

* VAT charged 21%.

We accept Visa, Mastercard, Discover, and American Express credit or debit cards. Payments can also be made through PayPal. Please note that we will not have access to your credit card details. Once the registration and payment process is completed, no refunds will be issued.

# materials

Immediately after completing the payment, you will receive **two (2) emails** sent to the **email address provided during the payment process** (not the one used in the registration form).

Make sure to enter an email address you check regularly and type it correctly, as it will be the **only email used for all competition communications**.

1. **Payment Confirmation Email:** This email includes your unique **order number**, which must be used to name your files when submitting your proposal and must also appear in the bottom right corner of your A1 board.

2. **Welcome Email:** This email contains the **password to access the Participants Area**, where you can download all **competition materials**.

Please make sure to **save both emails** throughout the entire competition, as you will need your order number and Participants Area password for submission and access.

# FAQs & eligibility

**For common queries, refer to the FAQ section on the competition website.** During the competition, individual responses will be provided to questions sent via email (info@archstorming.com).

The competition is **open to all**, including architecture students, professional architects, and individuals from other disciplines such as engineering, philosophy, sociology, photography, etc. All nationalities are welcome, we appreciate as diverse participation as possible.

Teams can consist of **one to four (1- 4) members**, all of whom must be at least 18 years old. The registration fee is per team, irrespective of team size.

If a team or participant wishes to submit **more than one proposal**, they must register and pay the fee for each submission.

Jurors, the organization, or anyone directly related to the jury are not allowed to participate in this competition.

# submission

**Instructions**: Submissions must be made through the '**Participants Area' on the competition's website** (not Archstorming's main site), using the specific "**Submit Proposal" button.** Proposals submitted by any other means will not be evaluated.

**Required files**: For this competition, participants are required to submit **two (2) digital files**:

1. A1 BOARD

- **Size & Format**: Participants are required to submit their project on one **A1 format** board (594×841 mm or 23.4×33.1 inches), which can be either landscape or portrait oriented. The board must be delivered in **JPEG or JPG** file with a maximum size of **10 MB.**
- **Content**: The board should contain a variety of **visual aids** (such as diagrams, sections, perspectives, renderings, etc.) and **texts** that contribute to a clearer understanding of the project. The **4-digit order number** included in the payment confirmation email must be clearly visible in the lower right corner of the board.
- **File name**: The file must be named using the **4-digit order number** provided in the payment confirmation email (e.g., 1234.jpg).

2. PROJECT DESCRIPTION (not subject to evaluation).

- **Extension**: no more than **400 words**.
- **Purpose**: It serves as a complementary document that allows participants to provide the jury with additional context about the proposal. This is the space to explain the reasoning behind the design, justify key decisions, and share insights into the creative process.
- **Format**: The description must be submitted in **PDF** format.
- **File name:** the file must be named using the **4-digit order number** provided in the payment confirmation email (e.g., 1234.pdf).

**Deadline: The competition deadline is 11:59 PM on the date indicated in the calendar, in the PDT time zone (GMT-7) – this day included.**

**Language**: All texts, both on the A1 Board and in the Project Description, must be written in **English**.

**Anonymity**: The materials cannot contain any name or reference to participants or teams. To ensure anonymity, only the order number should be included in the files' names and in the A1 Board lower right corner.

# rules & conditions

Intellectual Property: Participants maintain the rights over the intellectual property of their submissions. However, by participating, they grant our platform a global, free, and non-exclusive license to reproduce, publish, and distribute the project in any format and through any dissemination medium. Our platform will make sure to give proper attribution to the project authors. The authors of the project selected to be constructed will give to the competition's partner/collaborator the right to build it and modify it if necessary in order to adapt it to their actual needs.

Use of Copyright-Free Images: Participants are responsible for ensuring that any images or materials used in their submissions are copyright-free. Our platform is not responsible for any copyright infringements made by participants.

Changes to Competition Rules: Our platform reserves the right to change the competition rules at any time, in compliance with current legislation. Any modifications will be published on the website and will be binding for participants.

Right to Cancel the Competition: Our platform reserves the right to cancel the competition due to lack of enrollment or other justified reasons. In such cases, participants will be notified individually and the registration fees will be refunded within 15 days from the notification of the cancellation.

Adherence to Terms and Conditions: Participants are required to adhere to the terms and conditions of the competition as stated on our website. Failure to comply may result in disqualification.

No Responsibility for Third-Party Use: Our platform is not responsible for the use of participants' submissions by third parties, including content that has been shared by third parties or indexed by search engines.

Please note that these rules are a summary and participants should refer to the full terms and conditions on our website for complete information.

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