





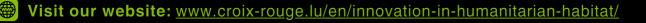
Call for proposals Students Competition Guidelines

TOWARDS A POSITIVE ENVIRONMENTAL IMPACT

A Shelter Challenge

INNOVATION IN HUMANITARIAN HABITAT COLLOQUIUM OCTOBER 27 • NEUMÜNSTER ABBEY •

Luxembourg City, Luxembourg









INTRODUCTION

Luxembourg has a wealth of experience in engineering and architecture through its schools, university, and industry. This locally-developed expertise has since been shared around the world.

As part of the "Humanitarian Luxembourg Hub" project, the Shelter Research Unit of the International Humanitarian Aid Department of the Luxembourg Red Cross is hosting a technical-scientific conference in Luxembourg City on October 27 2023 to provide an opportunity to develop innovative and sustainable solutions for a more efficient and respectful humanitarian habitat.

The technical-scientific event will be accompanied by a design competition to explore the complementarities between the various players and to encourage exchanges between Luxembourg's flourishing new high-tech sector and the humanitarian architecture sector. The aim is to create an innovative and environmentally friendly shelter prototype through a multidisciplinary workshop.

The competition is open to students wishing to develop and present a prototype shelter in collaboration with manufacturers and industry experts in Luxembourg. The three selected solutions will be exhibited in Luxembourg, and the winner will be tested on the field in one of the countries of action of the Luxembourg Red Cross.











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TOPIC PRESENTATION

In Africa, the need for humanitarian shelter is systematically mentioned as one of the three most urgent needs to be met for populations affected by natural disasters or armed conflicts. However, construction methodologies, materials and architectural approaches are still underdeveloped to date.

The Humanitarian Aid department of the Luxembourg Red Cross works in several countries in sub-Saharan Africa, including Mali, Burkina Faso, Niger, and Chad, with shelter and settlement programmes.



In situations involving complex and protracted crises, it is necessary to develop intervention strategies that take into account local building cultures and social aspects, and pay particular attention to the environment, in order to respond effectively and sustainably to the needs of the most vulnerable households.

The project aims to respond to the need for humanitarian construction in Africa by bringing additional engineering and architectural expertise, as well as the technical and professional capacity available in the Luxembourgish market to meet this need.





LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY



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3







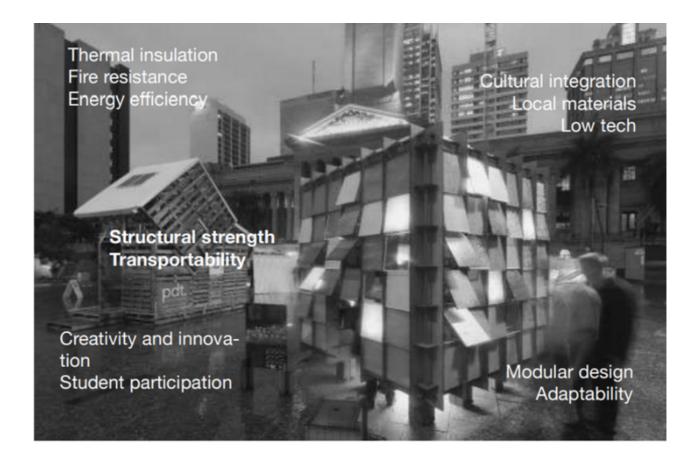
GENERAL THEME

INNOVATION IN HUMANITARIAN HABITAT

Stakeholder Engagement: Bringing together diverse stakeholders, including private sector companies, industry professionals, students, and humanitarian actors. Ensuring their active participation and engagement throughout the program requires effective communication, coordination, and collaboration through a collaborative platform.

Technical and Scientific Expertise: Developing a shelter prototype that meets the required criteria, such as energy efficiency, structural strength, and transportability, requires technical and scientific expertise.

Ensuring that the shelter model is innovative, creative, and feasible may require specialised knowledge and skills at a low cost.











AXIS 1: Technical innovation in Sustainable Humanitarian Habitat

- Innovative approaches to humanitarian shelter design and construction.
- The impact of technology on humanitarian shelter
- Affordable and clean energy
- Recycling and reuse technology and processes
- The valuation and protection of heritage
- The absorption capacity of humanitarian shelter sites
- Specific issues to be addressed in Sustainable Humanitarian Habitat

This axis focuses on the technical aspects of shelter provision in humanitarian contexts. It explores innovative solutions, sustainable building materials, 3D-printed housing, digital mapping, off-grid energy solutions, and other eco-friendly techniques. It also addresses the challenges of using technology in humanitarian contexts, such as finding affordable and clean energy solutions, and the lessons learned from previous crises.











AXIS 2: Humanitarian architecture and engineering in Sustainable Humanitarian Habitat

- Humanitarian engineering and architecture
- The management of Sustainable Humanitarian Habitat
- Challenges and opportunities for the development of Sustainable Humanitarian Habitat
- The role of engineers and architects in humanitarian contexts, and the unique challenges they face when designing and building in difficult environments (site follow-up, design follow-up, teaching, finding the best solution, etc.)
- Case studies and best practices to integrate local knowledge and cultural sensitivity into design processes/construction

This axis emphasizes engineering and architectural issues in the design, construction, and management of the Sustainable Humanitarian Habitat. It explores the role of engineers and architects, the unique challenges they face when designing and building in difficult environments, and the importance of integrating local knowledge and cultural sensitivity into design processes.





6







AXIS 3: Resiliency, health, security, and Sustainability in Humanitarian Habitat

- Addressing health, resiliency, inclusiveness, clean water, and sanitation needs in humanitarian shelter situations
- Psychological and social considerations in humanitarian shelter design and delivery
- Supporting livelihoods and economic empowerment in Sustainable Humanitarian Habitat
- Bridging the gap between humanitarian shelter and continuous development

This axis focuses on the long-term resiliency and sustainability of shelter responses in humanitarian contexts. It explores the need for shelter solutions that are gender-sensitive and inclusive, addressing the specific needs and vulnerabilities of women, children, and marginalized groups. It also explores how shelter responses can be designed to support the economic empowerment and livelihoods of affected communities, and how they can be integrated into longer-term development goals. Furthermore, it also focuses on the psychological and social considerations in Sustainable Humanitarian Habitat.











AXIS 4: Partnership, participation, and collaboration for effective humanitarian shelter response

- Partnerships and collaboration for effective humanitarian shelter response
- Exploring the importance of community engagement and participation in the humanitarian shelter process
- Exploring the methods for promoting ownership and sustainability
- Greenwashing and business ethics
- Sustainable Humanitarian Habitat and cooperation between stakeholders

This axis emphasizes the importance of partnerships and collaboration in effective humanitarian shelter responses. It explores how stakeholders can collaborate easily to ensure a swift and effective response to humanitarian needs. It also addresses the role of blockchain technology in improving supply chain management, tracking building materials, reducing risks and fraud, and ensuring transparency.











GUIDELINES FOR STUDENT CONTEST PARTICIPATION

Eligibility criteria

The contest is open to **Master's level students in Architecture or Engineering**, as well as **Bachelor's level students** who are on track to graduate during the 2023/24 academic year. Inter-university groups are welcome to participate, provided that each student indicates their affiliated university on the registration form.

Registration

To complete the registration process, students should email us at <u>aide.international@croix-rouge.lu</u> and attach the completed registration letter available on our website <u>www.croix-rouge.lu/en/innovation-in-humanitarian-habitat/</u>. For detailed information regarding the processing of personal data related to registration, we encourage students to review our information notice on the processing of personal data included after the registration letter.

Prizes

Following the event, the **three selected projects will be exhibited**. The **winning prototype will be tested in the field** in a country where the Red Cross Humanitarian Aid Department is active, with priority given to the Sahel region. The winning team will be **awarded a prize** of €5,000.







STUDENTS COMPETITION CALENDAR Towards a Positive Environmental Impact -A Shelter Challenge











1. Objectives:

- Contributing to either one or several sub-themes, within the general thematic "Innovation in Humanitarian Habitat".
- Submitting empirical and methodological research and conceptual documents which emphasize topics linked to the implementation of sustainable Humanitarian Habitat management.
- Basing the research on qualitative or quantitative methods.
- This conference also aims to enable the meeting of humanitarian actors, industrial experts, professionals, and government representatives active in Luxembourg and the EU region in general.

2. Criteria for habitat solution submission:

- The proposal must provide a dignified and durable solution from the emergency to a durable house for a family of six members. It must respond to the characteristics of the family structure of the region.
- Community mobilisation and respect for local culture and materials should be an active part of the proposal.
- The proposed solution must comply with the minimum international recommendations recognised in the humanitarian sector.
- The proposal should consider the comfort and dignity of the beneficiary family.
- The minimum expected durability for the emergency period is one year.
- The proposal must protect its occupants from wind, rain, temperature, and other climatic challenges particular to the region.
- The inclusion of environmental impact reduction measures (added value to proposals that consider the whole life cycle of the proposed solution) will be required.
- Considering energy efficiency criteria will be deemed an added value.









1. Key numbers

- Family of 6 members.
- 3,5 m² per person in emergency contexts.

2. Reference sources

- Shelter Cluster <u>https://sheltercluster.s3.eu-central-</u>
 <u>1.amazonaws.com/public/docs/crbf_kit_abri_sahel_3.pdf</u>
- Sphere Standards https://spherestandards.org/

3. Support

- An information session will be scheduled at a later date.
- You can submit any questions by email before the information session.
- The creation process will be accompanied by a series of Q & A sessions delivered by the Shelter Research Unit.



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First revision (optional)

Length: 2 pages and a graphic document 1-2 pages (digital version)

Final submission of papers

1. Material description reports: 1500 words maximum (must include the budget and Materials Bill of Quantities and Specifications).

2. Graphic document: must include all the necessary graphic documents, a full set of drawings and the final package to build a shelter in a visualisation panel (A1 sheet).

3. Digital architectural model: 3D visuals will be considered to bring extra value to the evaluation of the project.

4. References:

Bibliography

Times 14 in bold, text in Times 12, according to the following model:

- Book: author's name and initial of the surname, date of publication, the title of the book, Publisher, Place of publication (eg Mintzberg H. (1994), The Rise and Fall of Strategic Planning, Dunod, Paris.
- Article: author's name and initial of the surname, date of publication "Article Title," Journal Title, Vol. x, No. x, p. xy, publication date (example: G. Koenig (1996), "Karl E. Weick," French Review of Management, No. 108, pp. 57-70, March-April-May).



13







Evaluation criteria

Submissions should be sent by email to <u>aide.Internationale@croix-</u> rouge.lu.

Entry Criteria:

- 1. Accepted if the full paper meets the conditions
- 2. Rejected

Structure of papers:

- Language: All contributions are expected to be delivered in English
- The title of the paper
- Name(s) of the author(s) (with their e-mail contacts)
- Challenges of the topic
- Response to the proposed problem
- Viability of the proposal
- Design coherence
- Main results (expected or obtained)
- Bibliographical references









Formatting requirements

All submitted papers must adhere to the following guidelines. Failure to do so may result in the conference organizers exercising their right to refuse publication of the paper at the conference.

- The first page should include the full name of each author, their position, and the title of the paper.
- The second page should include only the paper title, an executive summary in English, and four keywords.
- Manuscripts must be typed in Microsoft Word with margins of 2.5 cm, paper size A4, and font Times New Roman with a font size of 12 points.
- Parts should follow a simple numeration: 1, 1.1, 1.1.1, etc.
- Submissions should be made to the following e-mail address:

aide.Internationale@croixrouge.lu









Title (Times New Roman 18 in bold)

Subtitle (Times New Roman 14) Author's name (Times New Roman 14)

Abstract (Times New Roman 14 bold): text (Times New Roman 12) Keyword (Times New Roman 14 bold): text (Times New Roman 12)

Introduction and conclusion: Times New Roman 14 bold

text (Times New Roman 12)

Title 1.: Times New Roman 14 bold text (Times New Roman 12)

Titles 1.1.: Times New Roman 12 bold text (Times New Roman 12)

Bibliography (Times New Roman 14 bold)

Book: author's name and initial of the surname, date of publication, the title of the book, Publisher, Place of publication (eg Mintzberg H. (1994), The Rise and Fall of Strategic Planning, Dunod, Paris,

Article: author's name and initial of the surname, date of publication "Article Title," Journal Title, Vol. x, No. x, p. xy, publication date (example: G. Koenig (1996), "Karl E. Weick," French Review of Management, No. 108, pp. 57-70, March-April-May).

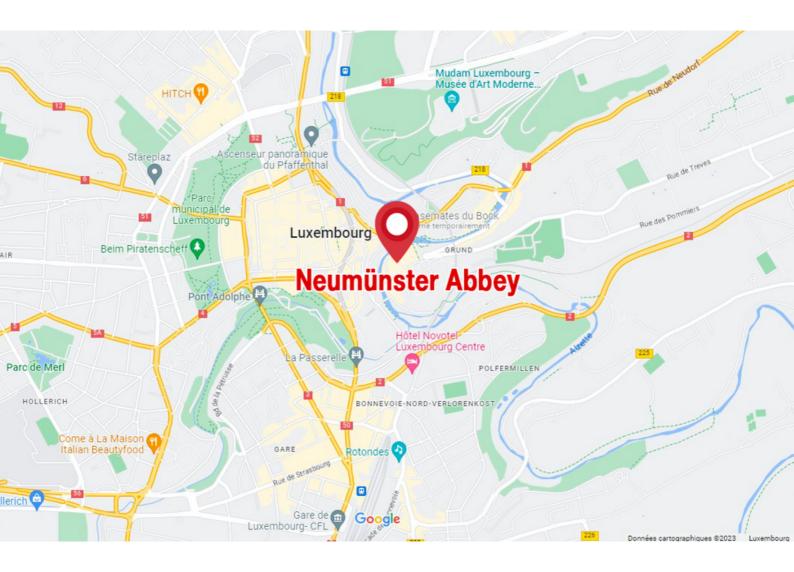








LUXEMBOURG CITY MAP



PNeumünster Abbey

Main venue for the event 28 Rue de Münster L-2160 Luxembourg www.neimenster.lu













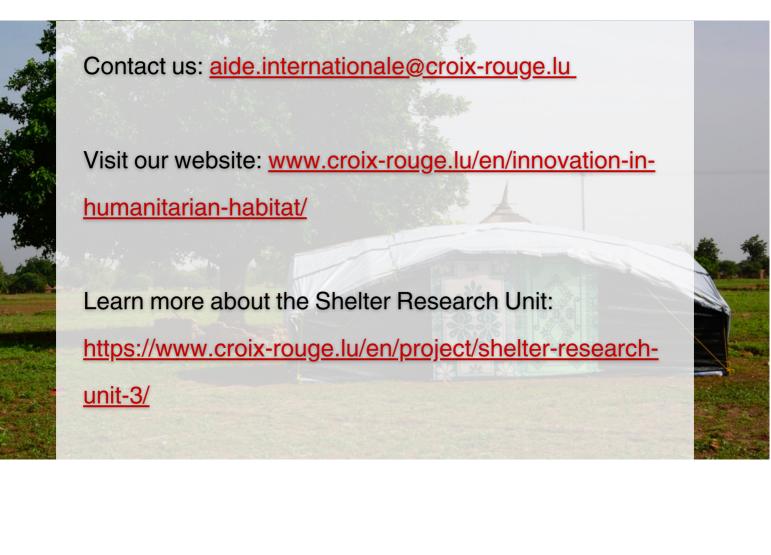
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