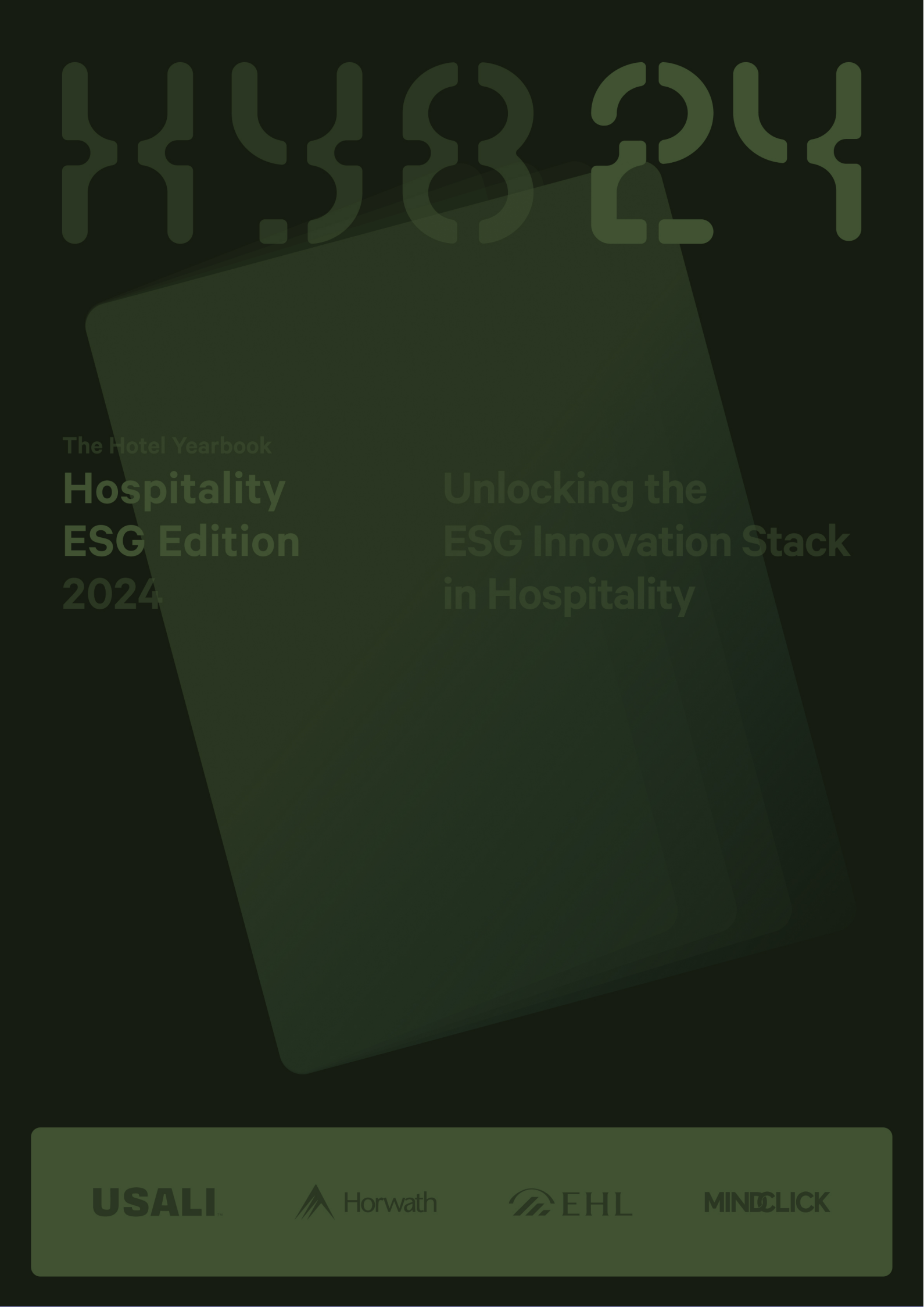

The Hotel Yearbook

Hospitality ESG Edition 2024

Unlocking the ESG Innovation Stack in Hospitality

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Redefining Hospitality: A Vision for Sustainable and Innovative Design

The Built Environment

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Synopsis
In her article, Yasmine Mahmoudieh outlines the transformative journey of hospitality design towards a future where sustainability, technology, and experiential aspects are seamlessly integrated. The industry is at a pivotal point, ready to redefine how hospitality spaces are created and experienced. This evolution goes beyond meeting environmental standards; it focuses on enhancing guest experiences while ensuring economic sustainability. Key to this transformation is the adoption of innovative, eco-friendly practices that not only improve operational efficiency and reduce costs but also align with the values of contemporary travelers. The combination of advanced technology and sustainable materials is set to create spaces that are not only environmentally conscious but also elevate guest comfort and satisfaction, thereby securing the industry's financial future.

The hospitality industry, a cornerstone of global tourism and leisure, stands at a critical juncture, transitioning towards an era defined by sustainability and innovation. This paradigm shift, far more profound than a mere trend, is driven by escalating environmental concerns and rapidly evolving consumer preferences. As the world grapples with climate change and resource depletion, the industry is being compelled to redefine the very notions of luxury and comfort, framing them within the context of ecological responsibility and sustainable practices.

This transformative phase in hospitality goes beyond the adoption of energy-efficient practices and green policies. It involves a holistic re-evaluation of how hotels are designed, built, and operated, placing sustainability at the core of business models and guest experiences. Traditional materials and methods are being reconsidered, making way for innovative alternatives that promise lower environmental footprints without compromising on quality or aesthetics.

Emerging technologies are playing a pivotal role in this transformation. Advances in areas like 3D printing, renewable energy, and smart building systems are not just enhancing operational efficiency but are also opening new avenues for creative and sustainable design. These technologies are enabling architects and designers to push the boundaries of what's possible, blending form with function in exciting new ways.

Equally important is the evolving design philosophy in the hospitality sector. There is a growing recognition that the design of a space can significantly impact the health and well-being of its occupants. This realization is giving rise to design approaches that emphasize natural light, open spaces, and biophilic elements, creating environments that resonate with guests on a deeper level.

Moreover, changing consumer expectations are shaping the future of the industry. Today's travelers are more environmentally conscious, seeking accommodations that align with their values. They are not just looking for a place to stay; they seek experiences that are both luxurious and sustainable. This shift in consumer mindset is catalyzing the industry to innovate and adapt, offering experiences that are both indulgent and responsible.

In exploring these facets - innovative materials, emerging technologies, design philosophies, and changing consumer expectations - this article aims to paint a comprehensive picture of the future of sustainable hospitality. It looks at how the industry is rising to the challenge of balancing luxury with sustainability, creating spaces that are not just environmentally responsible, but also culturally relevant and deeply engaging. As the industry stands at this crossroads, the choices made today will define the trajectory of hospitality for years to come, setting new benchmarks in sustainability, guest experience, and economic viability.

THE ROLE OF TECHNOLOGY IN SUSTAINABLE DESIGN

Emerging technologies like 3D printing with recycled materials are reshaping sustainable hospitality design, allowing for intricate, customized designs that minimize waste. Building Information Modelling (BIM) and energy-efficient HVAC systems are enhancing the sustainability of hotel designs.

- *Design Philosophy and Multi-Sensory Approach* - Sustainable hospitality design is increasingly adopting a multi-sensory approach, creating environments that engage all the senses and enhance the guest experience. The integration of natural elements and sustainable materials creates immersive, resonant spaces.
- *Consumer Expectations and Sustainable Hospitality* - Consumer preferences are shifting towards sustainability in hospitality. A Booking.com report shows a growing demand for eco-friendly accommodations, indicating a significant market shift towards sustainable practices in hospitality design and operations.

LONGEVITY AND INNOVATION IN DESIGN

Sustainable design in hospitality also emphasizes longevity. Innovative designs that withstand time reduce the environmental impact of frequent refurbishments. The enduring nature of well-thought-out sustainable design is exemplified by the Intercontinental Hotel in Berchtesgaden.

ECONOMIC BENEFITS OF SUSTAINABLE HOSPITALITY

Sustainable practices offer significant economic benefits in the hospitality industry. Contrary to assumptions of higher costs, sustainable designs often result in long-term savings and improved ROI. Eco-friendly hotels benefit from reduced operational costs and increased appeal to environmentally conscious travellers.

SUSTAINABLE MATERIALS AND CONSTRUCTION

The choice of construction materials significantly impacts the hospitality industry's environmental footprint. Concrete, traditionally favoured for its durability and versatility, contributes to about 8% of global CO2 emissions, as per Chatham House. This has led to the exploration of sustainable alternatives that offer similar benefits but with lower carbon costs and less environmental impact.

INNOVATIVE SUSTAINABLE MATERIALS

In addition to concrete alternatives, the industry is adopting materials like 'Good Carbon,' 'Made of Air,' and air-purifying ceramics such as Active Air from Iris Ceramica. These innovative materials contribute to better indoor and outdoor air quality and offer unique aesthetic appeal.

1. MADE OF AIR (MOA)

- Composed of 90% atmospheric CO2, obtained through carbonization by pyrolysis, and 10% of plant-based binders.
- Made of Air technology allows products to obtain flame retardant and recyclable composites that can be modeled into panels and three-dimensional shapes, or they can replace fillers for plasterboard or polymer fillers for injection molding.

2. YI BRICK

- Using the waste of non-degradable ceramic to create eco-materials for the interior design and construction industries.
- This permeable brick is composed of more than 90% recycled ceramic. It has a wide variety of potential applications, including for pavements in cities prone to water-logging and as a heat absorbant material.

3. ECO RANGE

- ECOrange is an innovative way to combine layers.
- The core is made of recycled plastic bottles (post-consumer plastic 75%)
- Can be used for baffles to absorb or direct sound and light.
- Can easily manipulated to make various accessories.

4. OTTAN MATERIAL

- OTTAN collects food waste such as fruit peels, expired grains, vegetable residues, and garden waste such as tree leaves or grass from local retailer companies, producers, municipalities, and greenhouses.
- After they gather all kinds of natural wastes, they prepare the waste by cleaning, drying, and grinding to create natural raw materials and mix them with green resins before injecting them into molds to create minimal yet multi-purpose products.

5. BUILD MATERIAL 0.8.

- The material has the strength of concrete, prevents CO2 emissions (less waste incineration and transport), and is biodegradable. End-of-life can be reprinted.
- The mixture consists of 98% circular and circular biobased raw materials from sewage and drinking water treatment: calcite, cellulose (Recell), and Kamera. Plus a few percent alginates (primarily biobased) and water.

6. EGGSHELL CERAMIC

- The material has the look of ceramics but the weight of cardboard, which makes it a versatile material.
- The material can easily be recycled into calcium water, which can be used as a nutrient for lime-loving plants.

7. OURCARBON:

- OurCarbon is a carbon-based material made from organic waste that was diverted from landfill and transformed.
- OC is made in a passive process that fixes the biogenic carbon in this organic material.

TOXIN-FREE MATERIALS AND HEALTH CONSIDERATIONS

The focus on health and well-being is steering the hospitality industry towards toxin-free materials. Reducing exposure to harmful substances found in common building materials is critical for guest health. Materials like mycelium and toxin-free paints and adhesives are gaining importance for creating healthier indoor environments.

ALTERNATIVES TO CONCRETE

The shift towards sustainable building practices in the hospitality industry is driving the exploration of eco-friendly alternatives to concrete, renowned for its high carbon impact. These innovative materials not only offer environmental benefits but also align with the industry's commitment to sustainable development.

- **Ferrock:** A revolutionary material, Ferrock is made from waste steel dust and ground silica glass. It stands out as a carbon-negative alternative, absorbing more CO2 than it emits during its production. Ferrock exhibits remarkable strength and flexibility, surpassing traditional concrete. Its faster setting time on construction sites enhances practicality, especially for projects where time is of the essence. The material's robustness, coupled with its environmental credentials, makes it an ideal choice for sustainable construction.
- **Rammed Earth:** Rammed earth construction, an ancient technique, is gaining modern appeal for its sustainability. It involves compacting dampened subsoil between formworks, creating walls that are not only strong and durable but also have a distinct, layered visual appeal. This method is particularly suitable for creating unique building facades or interior walls, lending a natural and organic aesthetic to structures. Rammed earth is valued for its thermal mass, helping to naturally regulate indoor temperatures.
- **Straw Bales**: Utilized both as insulation and structural support, straw bales are a compelling alternative to conventional building materials. They are exceptionally fire-resistant and provide excellent insulation properties, contributing to energy efficiency in buildings. However, they require careful consideration in humid climates due to their susceptibility to moisture and rot.
- **Timbercrete:** Timbercrete, a blend of waste sawdust and cement, offers a lighter and less carbon-intensive alternative to traditional concrete. The incorporation of sawdust reduces the overall cement content, thereby lowering the material's carbon footprint. Timbercrete is versatile, suitable for a range of applications from walling to paving, and contributes to waste reduction by utilizing sawdust, a byproduct of the timber industry.

- **Hempcrete:** Hempcrete, a bio-composite material made from hemp shives mixed with lime, sand, or pozzolans, presents a sustainable and carbon-negative option. The hemp plant captures atmospheric CO2 as it grows, offsetting the emissions associated with the production of lime. Hempcrete provides comparable strength to conventional concrete and is renowned for its insulating properties, contributing to energy efficiency in buildings.
- **Greencrete:** The term Greencrete refers to a variety of eco-friendly materials designed to mimic the structural properties of concrete. Typically made from recycled materials like used plastics and polystyrene, Greencrete has been instrumental in rapid construction projects, such as a 40-bed ICU built in South Africa to handle a surge in COVID-19 cases. Easily sourced from landfill sites, Greencrete represents a sustainable solution that repurposes waste into valuable construction material.

Despite the enduring popularity of concrete, especially for substructure construction, the search for sustainable substitutes is gaining momentum. Materials like ferrock, ashcrete, timbercrete, and hempcrete tend to have a lower carbon footprint and help recycle waste materials. While sourcing these materials can sometimes be a challenge, their availability in certain regions is encouraging construction companies to adopt more eco-friendly practices. As production of these materials increases, they are expected to become more accessible, offering greater utility and reinforcing the shift towards sustainable construction in the hospitality industry.

CONCLUSION

The future of hospitality design is anchored in the harmonious integration of sustainability, technology, and experiential elements. The industry is on the cusp of a significant shift, poised to redefine the creation and consumption of hospitality spaces. More than just achieving environmental benchmarks, this progression is about enriching the guest experience and securing economic sustainability.

Adoption of innovative, eco-friendly practices is key, as they not only lead to operational efficiencies and reduced costs but also resonate with the values of the modern traveller. As we move forward, the interplay of advanced technologies and sustainable materials will not only shape eco-conscious spaces but also enhance the comfort and satisfaction of each guest, solidifying the industry's economic future.

In this evolving landscape, the hospitality sector must balance environmental stewardship with the demands of guest experiences and business outcomes. It's a journey toward spaces that offer more than a place to stay—they offer a place that stays with you, contributing to a sustainable future for all.

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In addition to having her own design / architecture practice, Yasmine is also the founder of myKidsy.com. Yasmine pioneered myKidsy.com, the first marketplace to find and book kids activities.. mykidsy helps time poor parents to engage their children in meaningful and fun activities during their most important part of their life. Mahmoudieh drew on her own experiences as a mother and extensive business knowledge as one of the world's leading architects to create myKidsy.com. myKidsy is the first online marketplace for parents to book kids activities. myKidsy is currently looking for top sales, marketing and operational leaders that have a proven success record from other tech companies and like to join an emerging start up which aim is to combine a successful business with doing something good for society. Yasmine opened her first studio in Los Angeles at the age of 26, after she graduated from UCLA where she studied architecture and design.Her work can be found across Europe, the United States, into the Middle East and Asia, and even in the skies above working for Airbus.

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