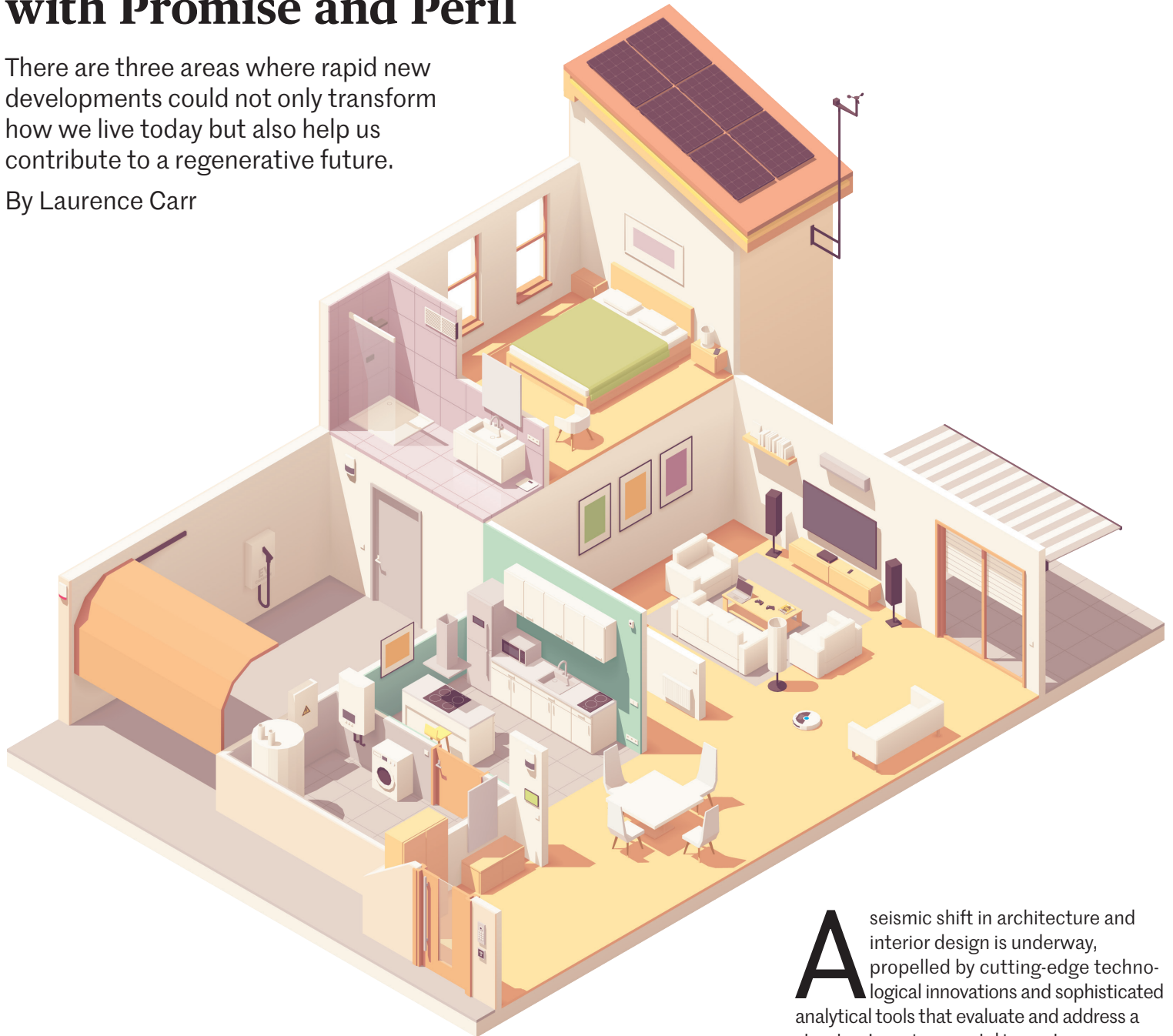


## Home Technologies with Promise and Peril

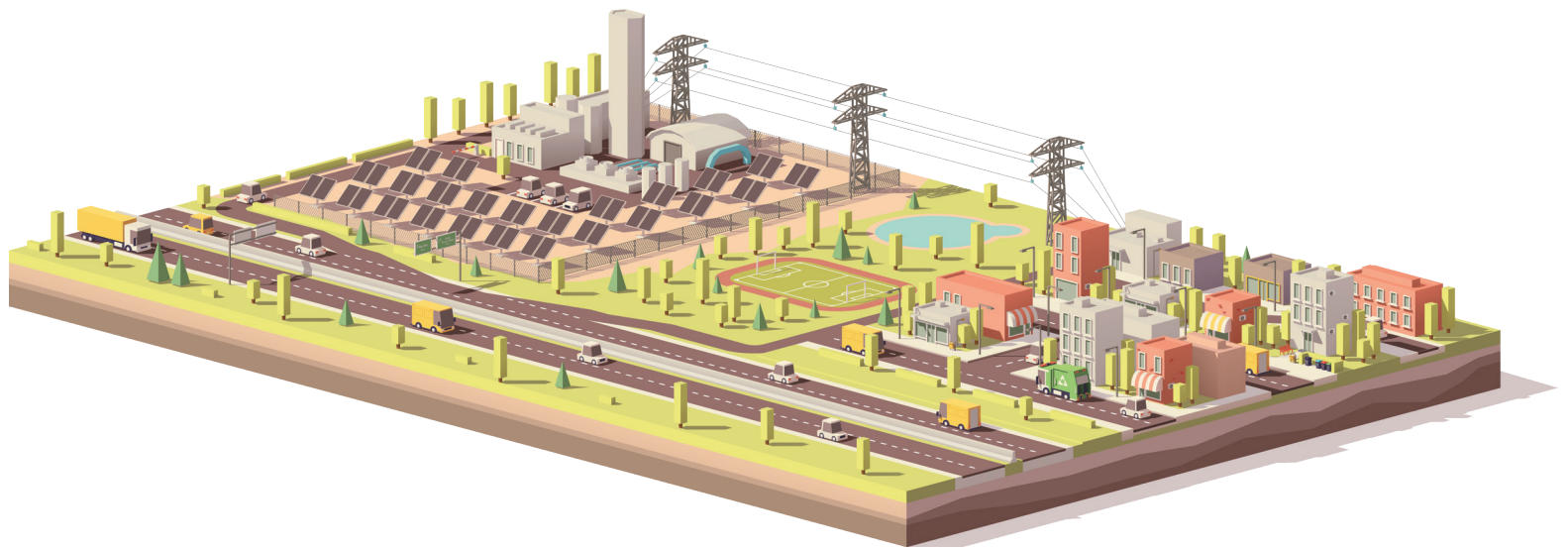
There are three areas where rapid new developments could not only transform how we live today but also help us contribute to a regenerative future.

By Laurence Carr



**A** seismic shift in architecture and interior design is underway, propelled by cutting-edge technological innovations and sophisticated analytical tools that evaluate and address a structure's environmental impact, energy efficiency, and carbon footprint.

As a passionate advocate for regenerative interior design, I'm continually exploring groundbreaking technologies that can redefine how we craft sustainable and >



stunning homes with my design studio team. Today I want to highlight three innovations poised to revolutionize residential design:

**MICROGRIDS** are a game changer, offering homeowners the autonomy to produce and store renewable energy, liberating them from conventional grids and fossil fuels. Rooftop solar panels aren't the only way to generate clean energy that powers entire lifestyles while reducing carbon footprints—some parts of the United States now offer community solar projects, and in a few years we might even see windows that can turn sunshine into electricity. This self-sufficiency could redefine how we perceive energy consumption in our homes, fostering resilience and sustainability.

**BIOTECH**, another frontier in design, promises transformative materials with unparalleled sustainability benefits. Picture walls constructed from mycelium, a fast-growing fungus with exceptional

carbon absorption and insulation properties. Furniture crafted from bioplastics derived from agricultural waste offers durability without environmental harm. These innovations have the potential to dramatically diminish the environmental impact of interior design materials.

**SMART HOME TECHNOLOGIES**, such as those offered by industry leaders like Lutron and Savant, mark the dawn of intelligent spaces—and this intelligence can be used for purposes beyond convenience. Smart homes can optimize lighting, climate control, audio, and shades, enhancing energy efficiency and even offering backup during grid failures. Designers can seamlessly incorporate these fixtures within their platforms, creating a harmonious fusion of sustainability and cutting-edge technology.

However, while these technologies hold immense promise, they do come with challenges. Microgrid installations, for

instance, require significant up-front investment (although tax incentives and subsidies can help with that in some locations). Biomaterials are still evolving, and questions regarding their long-term durability and safety haven't been resolved. Smart home technologies raise valid data privacy and security concerns, necessitating robust safeguards for user trust.

As designers committed to sustainability, it's our duty to embrace these innovations while acknowledging their complexities. Engaging in collaborative research, partnering with scientists, engineers, and manufacturers, and advocating for supportive policies are crucial steps. By doing so, we can pave the way for homes that not only captivate aesthetically but also contribute to a healthier planet for generations ahead. **M**

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Laurence Carr is the founder and CEO of Laurence Carr Inc., a regenerative, multifaceted interior design firm, and the founder of Studio Laurence, a sustainable luxury home goods brand that specializes in zero-waste product design.