

Into the New Normal: Architecture & Design Strategies for the Future of Public Space

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INTRODUCTION

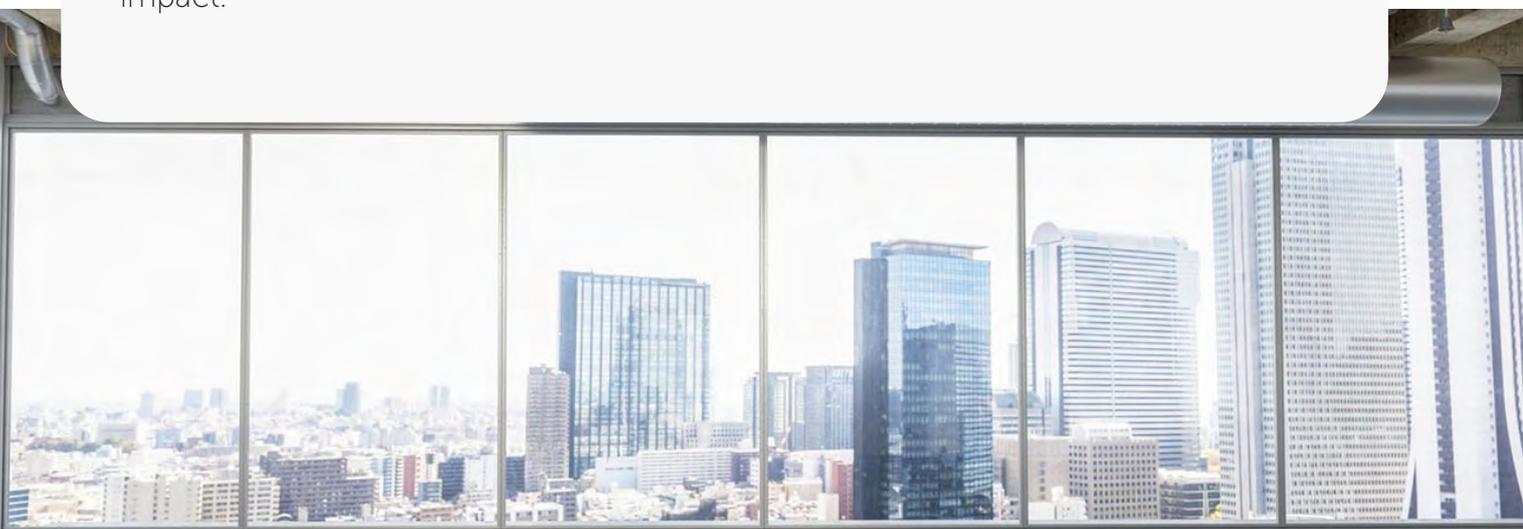
Into The New Normal: Preparing For The Future of Public Space

In most countries, [over 70% of people](#) don't yet feel comfortable resuming their "normal" out-of-home activities due to COVID-19. What does this mean for those who create public spaces like hotels, and commercial spaces such as offices and stores?

It turns out that COVID-19 is not the passing virus we'd hoped for, but a pandemic on a scale we haven't seen in over 100 years. Affecting everyone in every industry moving forward, the pandemic changes how we work together in office environments, as well as how we enjoy downtime in hotels. Looking to the future - even after the immediate impact of COVID-19 is over - the way we build and maintain cleaner spaces and boundaries will never be the same.

Despite the pandemics' far-reaching and long-standing effects, there are commonalities that architects, interior designers and builders can draw upon to prepare their projects today for the "new normal" already upon us. From the building materials we use to the layouts and designs we choose, it's up to architects, interior designers, and GC's to fit out spaces that take into account user sentiments alongside professional health and safety guidance for safer, more sustainable and sanitized environments.

This ebook provides actionable insights to help your project cater to the new normal. Learn about new smart building materials you need to use. Consider the fine line between openness and privacy. Rethink the crossover between cleanliness, safety and sustainability. The New Normal is here - and now is the time to plan for its lasting impact.



PART I — How Building Materials Will Evolve Post COVID-19

As we shift toward the “New Normal”, traditional building materials will be replaced for better and more advanced “smart” materials. [Smart building materials](#) are different from traditional materials in that they are specially designed with numerous properties and can be controlled by some external stimuli such as temperature, magnetic or electric fields, and moisture.

Rapid advancements in smart building materials like [Smart Glass](#) are improving building safety and sustainability standards worldwide, with adoption set to increase dramatically after the COVID-19 outbreak. From alloys to metals and glass, the global smart materials market is poised to grow by \$48.48 billion between 2020 and 2024.

Architects, designers, and builders should start thinking about the aftermath of this rapidly spreading virus now and how it will transform the spaces we’ve become so accustomed to. While this specific COVID-19 pandemic may fade, awareness of the spread of infection will not. There are many ways smarter building materials including Smart Glass can equip us for a brighter and more stable future in built environments.

Safety & Well-being

Our most vital public spaces such as [hospitals and healthcare](#) facilities will take the spotlight following the coronavirus outbreak. There is already a newfound focus on how to best create easy to sterilize interiors while ensuring environments boost well-being and optimize healing. In these spaces, switchable glass partitions can replace curtains to help [stop the spread](#) of infection.



Our most vital public spaces such as hospitals and healthcare facilities will take the spotlight following the coronavirus.





[Switchable glass](#) partitions are an example of a smart material, glass that is activated to change transparency with electricity. These types of partitions are more [hygienic](#) than curtains, while also providing the option for privacy when needed, helping doctors and nurses check on patients quickly and at the same time allowing patients to rest and heal in a private setting.

In the plumbing space, [shape memory alloys](#) (SMA) are another emerging smart building material contributing to improved safety standards through its unique ability to alter its mechanical and physical characteristics in response to temperature change. SMA valves are the reason that fire sprinklers can respond so quickly to rising temperatures in a building caused by a fire. Exposure to heat causes the SMA component to expand. Once the transitional temperature has been reached, the element expands quickly to the point at which a bolt breaks and activates the sprinkler automatically.

Sustainability

A bittersweet silver lining to the COVID-19 outbreak is the [reduction of levels of pollution](#) across the globe. The building industry is [responsible](#) for 40% of the total amount of carbon dioxide emitted worldwide. It's clear we have a large part to play in reducing our carbon footprint. Fortunately the types of smart building materials we use going forward can help. Switchable glass installed or applied to a building's facade can contribute to reducing energy consumption. To make homes and large commercial buildings more energy-efficient, solar control [PDLC](#) films can be used on doors, windows, and partitions to block IR light, which creates heat. [SPD](#), another type of active glass smart material, can be used to shade. SPD blocks up to 99.5% of incoming natural or artificial light within seconds of shifting voltage. Both such building materials keep spaces cool, in turn, lowering HVAC costs and creating greener buildings.

“ To make homes and large commercial buildings more energy-efficient, solar control PDLC films can be used on doors, windows and partitions to block IR light which creates heat. ”



[Low-E glass](#), prevents energy loss by creating a “thermal barrier”. The Low-E window coating is a thin metal or metallic oxide film that’s fixed to the glass’ surface. This microscopic layer allows light to penetrate the glass, but blocks most ultraviolet (UV) long-wave energy, which we feel as heat. Switchable glass technologies paired with Low-E glass can further optimize spaces and make them smarter. Home improvement contractors platform, Modernize, [notes](#) that smart glass has the potential to save a building owner 20% of energy costs.

Even the most common construction material, cement, has growing sustainability potential. [Piezoelectric materials](#) are capable of transforming mechanical strain and vibration energy into electrical energy. Plain cement paste lacks satisfactory piezoelectricity and is not efficient at harvesting electrical energy. But in recent years, many techniques are improving the piezoelectric capacity of cement-based composite including adding carbon fibers into cement paste and forming a new composite through incorporating [lead zirconate titanate](#) (PZT). These advanced methods for improving the energy harvesting potential of cement are paving the way for more renewable and sustainable buildings.

Fast-forward to the future and we can even see PDLC smart glass or SPD smart glass combined with translucent concrete. Translucent concrete is made just like regular concrete, except it’s infused by plastic or quartz fibers. The result means daylight can be scattered throughout the building, offering energy efficiency and sustainability. Paired with a layer of smart glass film applied to the interior face of the [translucent](#) concrete, a wall could essentially switch off on demand.

Smart building materials represent a large and still widening group of materials with growing interest for architects, designers, and builders. With new applications and improvements being developed every day, the future of public safety and sustainability post COVID-19 rests in our hands.

PART II — Office Interiors After COVID-19: Is Open Plan Over?

Could open plan offices be a thing of the past? It doesn't have to be. Contemporary architecture and interior design favors vast, expansive spaces over poky or tight. But in the New Normal where six-foot social distancing is expected, architects and interior designers need to walk a new fine line between openness and privacy. Nowhere is that more clear than in the place many of us spend most of our waking day - the office. We can look to the future of office design to help us create better public spaces across the board.

Open concept offices are a design trend that makes the [promise](#) of more collaborative and productive teams, despite evidence showing that employees actually prefer spaces that have the option for privacy. A 2018 study by [Harvard Business School](#) found open offices actually reduced face-to-face interaction by about 70%. Not to mention they facilitate the spread of germs. A [study](#) of 1,825 Swedish employees found people took more sick days when private office spaces were eliminated and traded for open concept office interiors.

“

Money spent in the workspace will be spent differently after COVID-19.

”

Nassim Hadjoudj, office partition solution expert at Clestra Hauserman

Despite proven preferences for privacy, or greater exposure to germs, this is still an office design concept that many prefer, and therefore, it will not become completely obsolete. As we flatten the curve in response to COVID-19, it's a prime opportunity to rethink how we create the safest, most effective use of [office space](#). After all, minimizing the spread of infection in the workplace will be our new top concern – especially for open layouts that need to adapt quickly for a returning workforce. This calls for designs that keep privacy and [smart materials](#) in mind, taking into account boundaries and barriers, but also encouraging collaboration and transparency. What does this look like in practice for architects, designers and builders?



Africa Israel HQ, Tel Aviv

Before anything else, we can expect office designers to turn to glass that is easy to clean over designs loaded with fabrics that are difficult to disinfect. CEO of interior construction company [Falkbuilt](#), Mogens Smed said, “most fabrics in office interiors won’t be usable anymore, I guarantee it. Glass partitions are a solid solution for dividing spaces, and making them [Smart Glass](#) walls takes it to the next level as there is no need for privacy curtains”.

“

Most fabrics in office interiors won't be usable anymore
- I guarantee it.

”

Mogen Smed, CEO of Falkbuilt

Leading workspace and office partition solution expert Nassim Hadjoudj, from [Clestra Hauserman](#), said “money spent in the workspace will be spent differently after COVID-19.” It will go to advanced technology, sustainable materials and modifiable build outs that are really agile”.

From new types of [Smart Glass](#) partitions, dividers and pods, here are the key ways architects and designers can create the option for privacy, while maintaining a collaborative atmosphere in open office interiors. Think open plan, but better.

Office Partitions

Glass [office partitions](#) are the easiest and most basic way to divide up space, without having to completely remodel the office layout. “Once we go back to the office after COVID-19, there won’t be a big reduction to the size of the office, but people will have more space between them,” Nassim said. Glass partitions create distance between employees, while at the same time providing dynamic working spaces that increase productivity and optimize floor plans. When paired with switchable films instead of germ harboring fabrics, privacy is available instantly as glass can turn opaque on-demand. These types of office walls are also easier to install when social distancing measures are in place. “Office partitions typically require less manpower to assemble, meaning less staff on site at any one time. This will be a key consideration in life after COVID-19” Mogens said.



Dividers

Dividers sit between desks and tables to block eye level and below, leaving an open-air space above. These agile solutions are suitable in both individual and communal office areas. Instead of eliminating community or shared tables for instance, we can use dividers to minimize the spread of infection while still allowing for open collaboration. Dividers are easy-to-install and cost-effective, and when laminated with [LCG® Switchable Glass](#), employees can adjust the transparency of the glass on demand. Controlled by a simple button at the edge of the desk, the glass can turn on and off (clear or opaque), adding the option for privacy when desired.

Pods

Pods and free-standing workspaces are an emerging format consisting of easy to assemble and quick to rearrange office walls and partitions that can form rooms of all shapes and sizes. Considering the uncertainty we all face, it's difficult to plan an office for one or even two years away. We must create adaptable spaces and pods lend themselves perfectly. There's even a growing trend for companies to lease pods. In this way materials can be reused and sent to another building, responding to an economy shaken from the pandemic and a growing need for a sustainable office interior design solution. The possibilities of pods are endless and we're just starting to see innovative builds and designs emerge into the marketplace. Pods typically comprise of easy to clean glass, and sound isolating materials, which will now be smart materials that are easy to disinfect.



Image credit Clestra Hauserman

Sure, open plan “as we know it” might be over. But that’s a good thing. [New agile office interiors](#) will be more adaptable and sustainable, minimize the spread of infection, all the while providing employees with the openness they need and the privacy where and when they want it.

For more on the impact of COVID-19 on building, interior design and architecture, visit our [COVID-19 Resources Hub](#).

Need a quote? Contact Gauzy's Smart Glass Experts today.

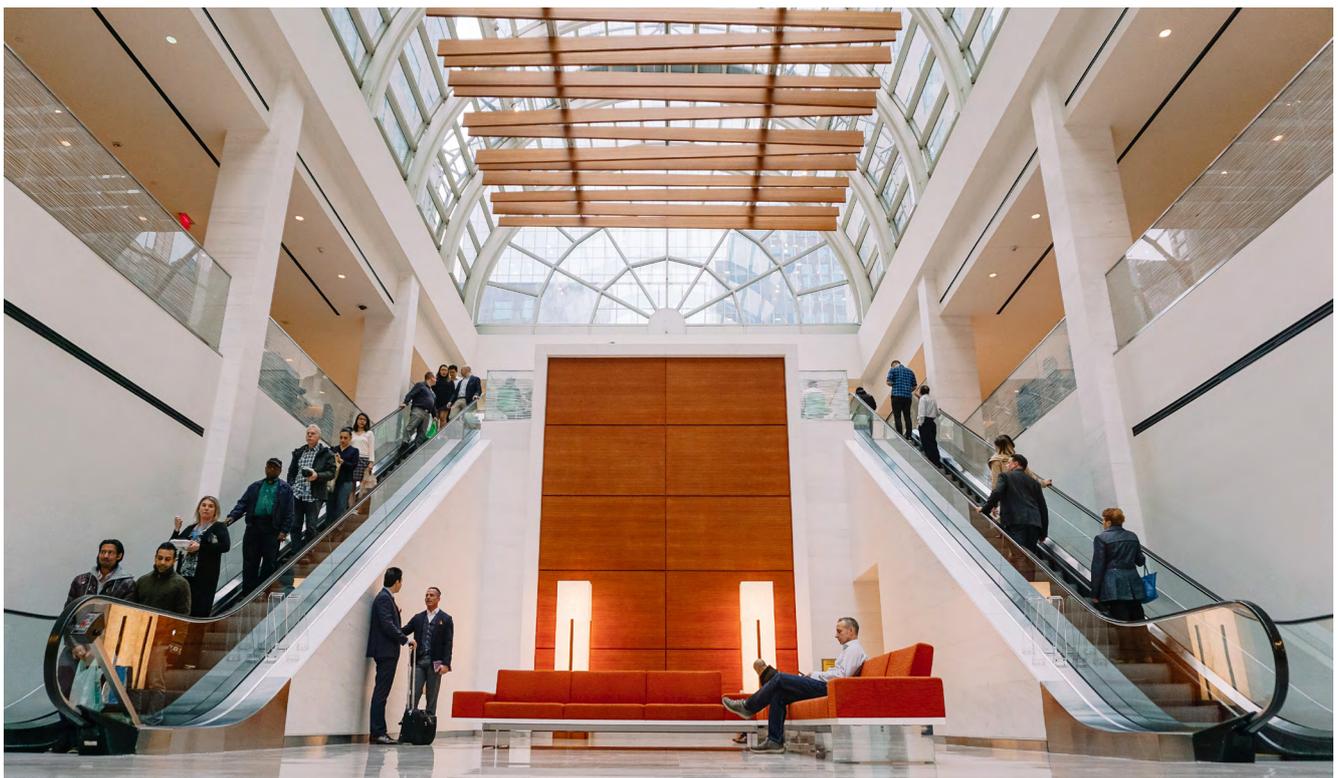
[Click here to Contact Us](#)

PART III – Controlling Light And Privacy Without Compromising Safety

Applications previously used for shading and light control are being called into question in the “New Normal”. Why? Fabric blinds, curtains and shades are not sanitary and carry various diseases, according to the Centers for Disease Control and Prevention. In Gauzy’s first e-book, [3 Global Trends Transforming Hospital Design & Improving Safety](#), we explore the risks of fabric curtains in healthcare facilities and hospitals. Now as hotels and hospitality share in the brunt of the pandemic, we explore how the building materials we use can play a role in increasing occupancy rates, improving business’s bottom lines and most importantly - safeguarding guest and customer safety.

Nowhere is the COVID-19 pandemic more pervasive - and persistent - than in hotels and the hospitality industry. Both large and luxury hotel chains and resorts such as Disney, have been [forced](#) to close with staggered and ever-changing reopening schedules. And the boutique and economy hotels that remain open are seeing significantly less guests. [A recent McKinsey report](#) suggests most properties won’t see regular occupancy rates until 2023.

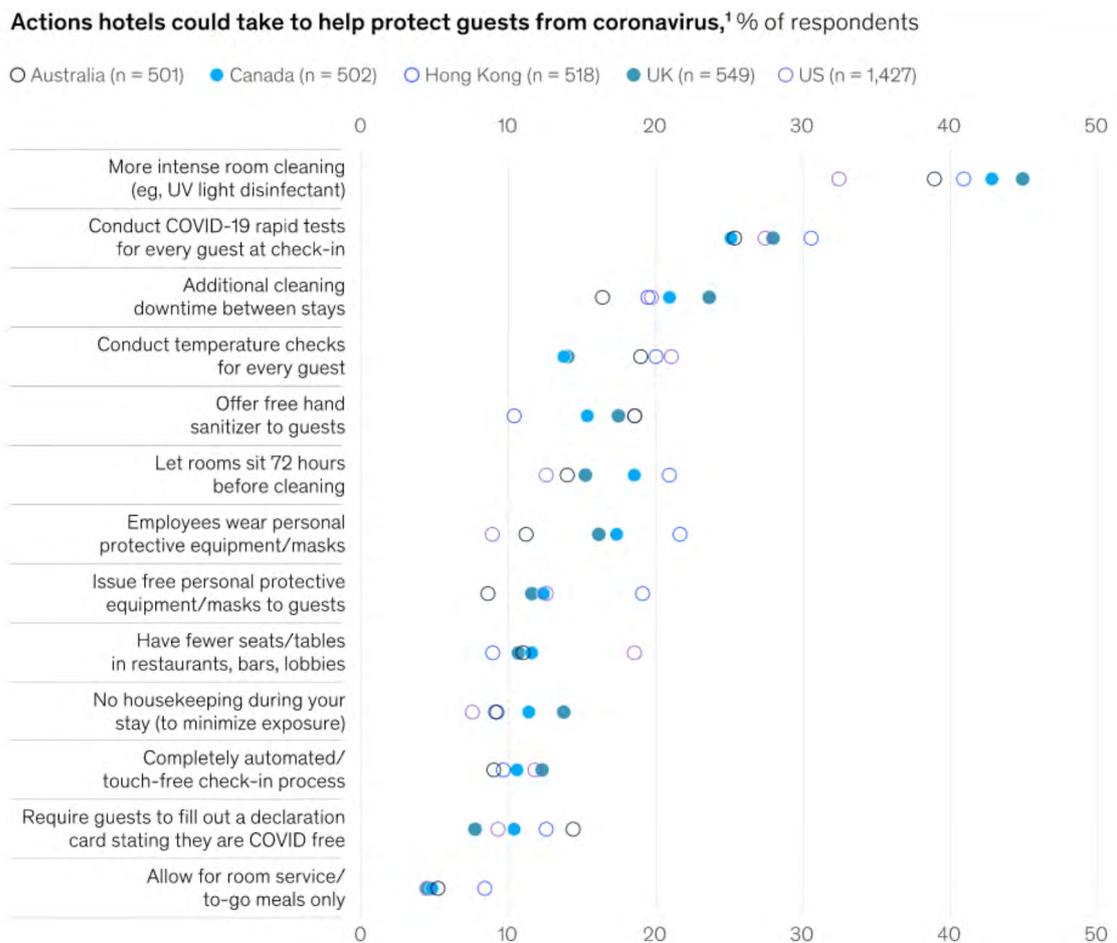
This is not business as usual. In fact, it’s a prime opportunity to renovate existing projects and plan accordingly for future projects. Hotel owners, architects, and interior designers who work in the hotel industry need to consider the necessary safety precautions guests now expect, while at the same time provide a standout experience they’ll never forget.



New Normal Interior Design Trend: Easier-to-Clean Hotels

Cleanliness has long been a factor in a hotel's ratings and customer satisfaction. If a hotel is exceptionally clean, or on the contrary, dirty, a guest will notice it immediately. And now, more than ever, this is a factor guests will not only notice, but actually seek out.

In a [survey](#) of over 3,000 travellers across the US, UK, Canada, Australia and Hong Kong, more intense room cleaning was the top way guests expect hotels to protect them from infection.



¹Question: What are the actions that hotels could take to help protect guests from coronavirus that would make you more likely to stay at a hotel for leisure?
Source: McKinsey Consumer Leisure Travel Survey; surveys conducted Apr 10–30, 2020

Credit McKinsey Consumer Leisure Travel Survey

The good news is, the materials we choose to use when building, remodelling and renovating can make cleaning hotels faster and more cost-effective. How?

- On [average](#) it can take 43 minutes to clean a room after a guest has checked out and 23 minutes to clean a stayover room. This doesn't leave much time (if any) to properly clean fabric. If this [Inc. article](#) is anything to go by, some hotels don't clean drapes properly because of the effort it takes to pull them down, replace them and put them up again. It's [recommended](#) that curtains aren't just dusted, but completely deep cleaned at least once every three months.

- Fabric curtains are harder to sanitize compared to other materials like glass or wood and can rapidly become contaminated with microorganisms. Not to mention they are frequently touched by guests and employees. In high end hotels specifically, fine quality linens can require expensive specialized cleaning protocols and can lead to curtains shrinking or becoming damaged, which requires additional replacement costs.
- Finally, regardless of whether curtains or shades are damaged or dirtied during their lifecycle, it's recommended they are replaced every six years. In the long term life cycle of a hotel, this adds an ongoing costly expense.

There's no doubt that fabric materials typically used to provide privacy and add to the allure of hotel interior designs can play host to harmful disease spreading bacteria and prove difficult and costly to sanitize. For a standard 100-bed hotel the annual expense for hotel curtains can quickly reach almost \$130,000. The industry should shift to smarter technological solutions for light control and privacy that are easier to maintain and limit guests exposure to germs.

TOTAL ANNUAL COST FOR CURTAINS IN A 100-BED HOTEL

\$25,000

Purchase Cost



\$99,200

Cleaning Costs



\$4,166

Wear/Tear/Replacement Costs



\$128,366

THE SMART GLASS ALTERNATIVE:

While the initial cost for smart glass partitions is more expensive, the short-term and long-term ROI is far greater as smart glass does not require maintenance besides standard glass cleaning and disinfection.

Source: [Purchase Cost](#) [Cleaning Cost](#) [Replacement Cost](#)



Setai Hotel, Tel Aviv

Wow Hotel Guests With Sanitary Switchable Glass Solutions

Compared to fabric, glass windows and partitions are easier to sanitize with bleach and ethanol and more cost-effective, helping hotels improve their bottom line. In the aftermath of COVID-19, glass partitions have the potential to put hotel guests at ease and therefore improve vacancy rates.

Previously, switching out fabrics for glass meant sacrificing privacy. But now, new [Light Control Glass \(LCG®\)](#) nanotechnology, also known as PDLC, Smart Glass and Switchable Glass, is changing that.

[The Setai Hotel](#) in Israel features the first fully functioning LCG® Privacy Blinds worldwide, in 80 private guest rooms. The blinds create a versatile partition between the washroom and bedroom, while eliminating traditional curtains, which accumulate dust and require maintenance. Besides providing guests with an added “wow factor,” the Switchable Glass solution is particularly ideal for bathrooms and moist areas where mold and mildew build up. This is where curtains are the most expensive to clean and maintain. Switchable privacy glass is cleaned just like regular glass, making it a smarter and more versatile glass partition solution.

In communal spaces such as conference rooms and lobbies, [Smart Glass](#) allows guests the option for privacy when they need it and openness when desired. To give the whole hotel the Switchable Glass facelift, new architectural grade Suspended Particle Device (SPD) smart glass film is now available blocking up to 99% of light. It's perfect for external facades, creating shade when needed while maintaining a view of the outside scenery.

The future might be unclear right now, but one thing is clear: when travel picks up again it will be hotels that create the cleanest spaces in the smartest ways that'll come out on top.

CONCLUSION – Specifying Safer, Sustainable & More Sanitary Privacy Solutions.

There is no doubt the “New Normal” represents a time of change for everyone. For architects, interior designers and builders, and the industries they operate in, it’s an opportunity to improve the spaces where we spend the most of our time. Light Control Glass (LCG®) is a leading source of Smart Glass technology helping to provide a solution in the journey toward better environments.

Are you building, renovating or remodelling spaces after COVID-19? Keep these key findings at your fingertips:

1

Use Smart Building Materials

Invest now in the infrastructure to future-proof your project. Reject traditional building materials, like regular glass, cement and alloys, if “smarter” more advanced product lines exist.

2

Create Versatile & Flexible Spaces

Reconsider traditional walls and strictly open plan layouts. Focus on using partitions and dividers to create adaptable interiors.

3

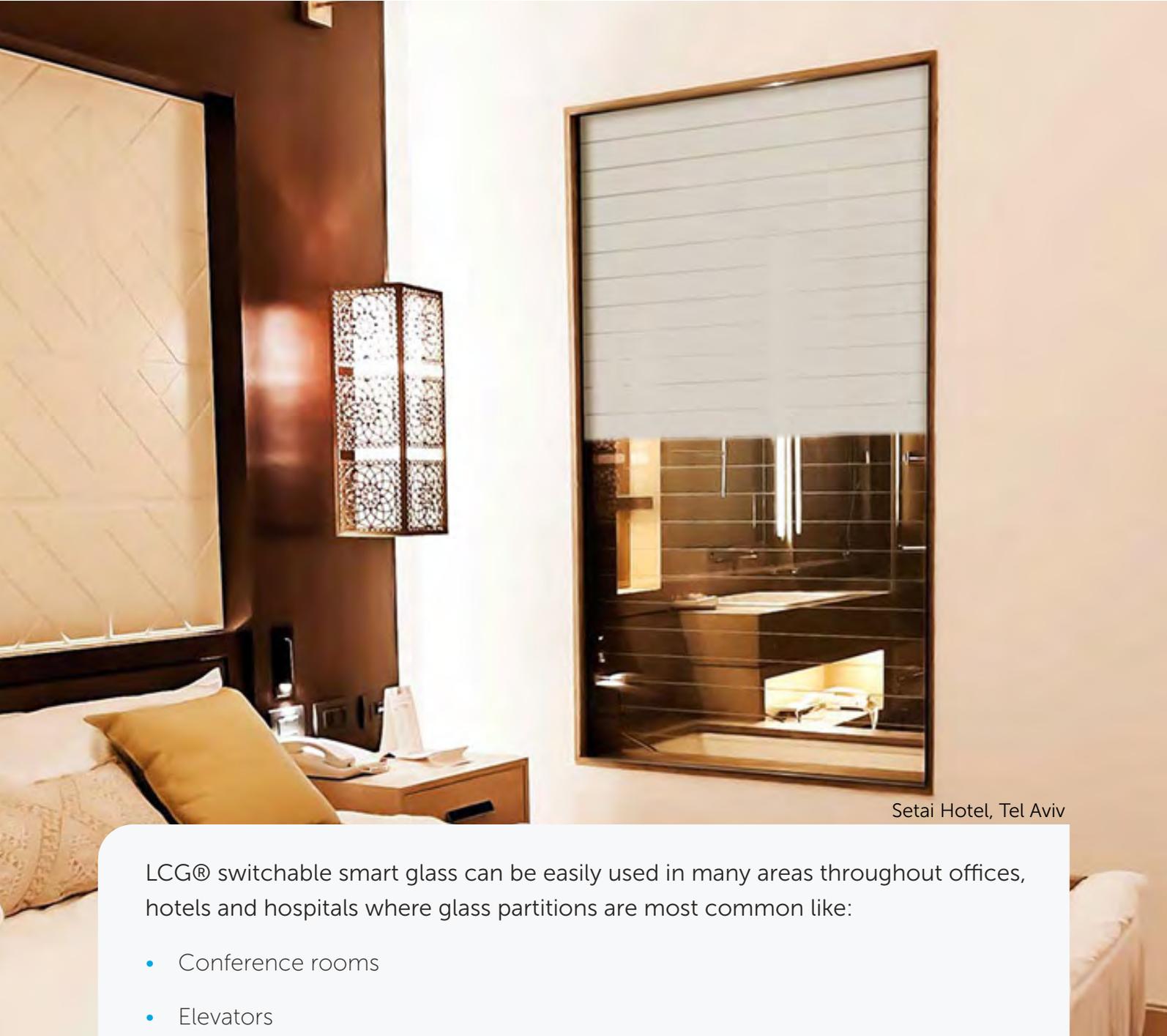
Rethink Privacy & Light Control

Use modern solutions that are easy to clean and provide a dynamic atmosphere. Stop pairing fabric curtains and blinds with glass and use Switchable Smart Glass instead.

4

Specify World-Leading Technology

Ensure you use premium quality materials that have been researched and developed by leading technology companies. Contact Gauzy for a customized quote of LCG® Switchable Glass.



Setai Hotel, Tel Aviv

LCG® switchable smart glass can be easily used in many areas throughout offices, hotels and hospitals where glass partitions are most common like:

- Conference rooms
- Elevators
- Room dividers
- Waiting areas
- Offices
- Consultation rooms
- Lobbies
- Bathrooms

Switchable smart glass by Gauzy is available as a laminated glass for new construction or can be provided as an adhesive film for already existing glass.

[Click here to learn more](#)

Interested in LCG[®] for
your next project?
Contact sales@gauzy.com
for a quote today.

