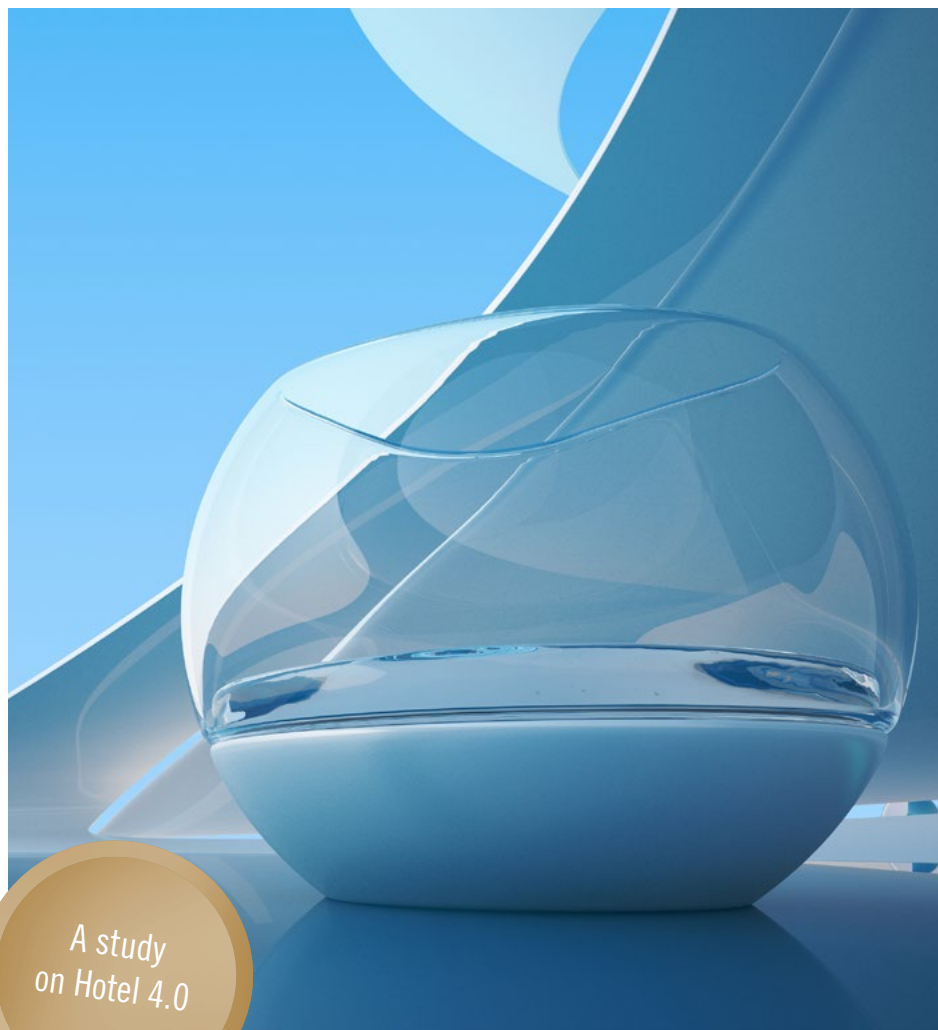


The Hotel of the Future

OR IS THE FUTURE ALREADY HERE?



*A study
on Hotel 4.0*

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The Hotel of the Future

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THE HOTEL OF THE FUTURE

Dinosaurs take care of the check-in

A self-propelled luggage trolley that transports your luggage for you. Rooms with temperature or lighting that can be changed with voice control. A luggage room with luggage compartments operated by a huge industrial grab arm. And at the reception, a dinosaur robot takes care of the check-in - with face recognition!

What sounds like scenes from a science fiction film is already a reality at the [Henn na Hotel, Maihama Tokyo Bay](#). In the age of the digital revolution, such developments represent only the beginning of a new hotel era. Let's explore together what the hotel of the future will look like, and how the forerunners of the industry are already using innovation today.



HOTEL 4.0

The future begins *now*

There seem to be no limits to the imagination - thanks to the new technologies that are about to fundamentally change our world. The "Internet of Things", i.e. the creation of "thinking" objects, in particular will revolutionise our lives.

But there are also signs of social change: People are working more and more independently of locations and, at the same time, feel at home in many places. In this context, the hotel of the future is particularly important as a new "home-away-from-home." It must ensure that guests are always networked wherever they go so they can act in this new world. At the same time, guests want to temporarily decelerate, i.e. they want occasional time-outs from their fast, online existence.

These are the challenges facing the hotel of the future. It must find solutions that combine the tremendous advantages and possibilities of the digital revolution with the human needs for peace and balance. Visions and courage are needed here, instead of small, cautious changes! Hoteliers who do not react adequately and quickly to these emerging trends will miss the boat.

Whatever you do: Don't view the hotel of the future as a threat, but rather as an opportunity! What will happen here in the coming years is nothing less than the realization of dreams that used to be reserved for the science fiction genre. And you're in the middle of this exciting new world.

When does this future begin? Now!



THE GLOBAL HOTEL INDUSTRY IN FIGURES



550 BILLION US DOLLARS

is what the global hotel industry generated in 2016.

386,144

That's how many star-hotels exist worldwide.

17.07 BILLION US DOLLARS

That's how much revenue Marriott International, the largest hotel group, generated in 2016.

38.233

That's the combined number of hotels owned by the ten largest hotel groups in the world.

970.828

This is the combined number of rooms held by the ten largest hotel groups in the EU.

<http://www.delta-check.com/de/sc/>
<https://de.statista.com/themen/78/hotel/>

<https://bit.ly/20o8FtA>

THE BIG QUESTION:

How are we going to live?

If you really want to understand the hotel of the future, you have to ask yourself first: What will our lives be like in 20, 30 or 40 years from now?

And who are the people who move through this world, who travel in it? What technological trends are coming? And how can we meet them? We need to have a better understanding already now of what it means to live in a world where self-propelled cars and smart robots are part of everyday life. Whoever develops a feeling for what the future holds can also better predict the hotel of the future!

Let's first outline some of the most important trends.

Megatrend – Globalisation

The world is getting smaller. New mobility is already reducing distances and blurring national and cultural borders. People collaborate worldwide and have mobile access to shared digital workstations. An unprecedented global culture is emerging. Business meetings or dinners on the other side of the planet are already commonplace for many people today. The networked world is creating new, complex rules, and we are just at the beginning: only 2% of all students do not study in their country, only 3% of all people do not live in their country of birth, only 1% of all American companies have foreign activities, and only 9% of all investments worldwide are foreign investments.

Even this beginning globalisation is accompanied by a strong urban densification, whose forecasts appear surreal.

Megatrend – Urbanisation

By 2050, three quarters of all people will be living in cities! There are already more than 25 cities with more than 10 million inhabitants. The number of such cities will grow, as will the number of their inhabitants: In China, metropolises are being built within a very short time, where more than 100 million people will soon be living.

The world's largest city has more inhabitants than the world's second largest country in terms of surface area. With 37 million inhabitants, the Tokyo metropolitan area is considered the largest city in the world and thus has slightly more inhabitants than Canada.

Eight of the ten largest cities in the world are located in Asia. With 20 and 21 million inhabitants, New York and São Paulo are 'only' a little over half the size of the leader, Tokyo. India's megacities are also growing rapidly. Within seven years, its urban population grew from 290 million people (in 2001) to 340 million (in 2008). By 2030, this population might possibly reach 590 million people.

Lagos, with 17 million inhabitants, is one of the fastest growing cities in the world. Every year, around 730,000 people move to this megacity. Up to 30,000 people per square kilometre are living in Nigeria's largest city. By comparison: Germany's most densely populated city, Munich, has just 4,713 inhabitants per square kilometre.

But that also means: We're running out of room. We need new solutions to accommodate more and more people in limited space. Probable urban scenarios are mobile housing units. These are transportable modules that can be expanded at any time and modified in size and shape as required - e.g. by unfolding additional rooms at the push of a button. There will also be buildings on the water and modern vertical villages will to shape the image of future megacities. In terms of our topic, that means: Mobile hotels that float on water or hang freely in space from wire cables will soon be part of our reality.

Small cities fit in these hotels

An incredible 7,351 rooms make the [First World Hotel in Malaysia](#) the largest hotel in the world. But not for long: [Abraj Kudai in Saudi Arabia](#), which is still under construction, will be the new giant among the mega-hotels with over 10,000 rooms distributed over 12 towers after its completion. Who is supposed to rent all these rooms? The thousands and thousands of pilgrims who arrive every day in nearby Mecca. The five uppermost floors of the two highest towers are reserved exclusively for the Saudi ruling family. Their top is adorned by an enormous dome building, which is modelled in the style of an Arabian desert fortress.

The megatrend of the “individual we”

One megatrend is already emerging socially: the “individual we.” This apparent contradiction can be explained as follows. On the one hand, there is a strong desire for self-realisation and individuality. This can be seen, for example, in the fact that half of urban dwellers live in one-room apartments. On the other hand, we want to create a counterweight to this pronounced individuality and at least occasionally experience strong “we” experiences. Examples of this already today are coworking spaces and rooms for common recreational experiences:

“In addition to the need for more specific services adapted to the individual, away from the mass market, [individualisation] creates a new longing for the WE. This is expressed by the numerous attempts at cooperative life: From co-living, co-gardening and co-working to the share economy. A new self-organised sociality is emerging in which individuals freely agree upon things.” — Oona Horx-Strathern



The visionary:

London-born Oona Horx-Strathern has been a trend researcher, consultant and author in England, Germany and Austria for over 20 years. As a trend consultant, Oona Horx-Strathern has written and worked for many international companies, including Unilever, Beiersdorf, Philip Morris and Deutsche Bank.

HOTEL CITIES WORLDWIDE

273
US DOLLARS

This is the average hotel room rate in TEL AVIV making it one of the most expensive cities in the world for business travellers (2017).

358
METRES

This is the height of the Gevora Hotel, the tallest hotel in the world in DUBAI.

80%
OCCUPATION

This value makes LONDON and DUBLIN the leaders in Europe.

19,4
MILLION GUESTS

This puts BANGKOK in first place among the cities with the most international overnight guests in 2016.

<https://de.statista.com/themen/78/hotel/>

<http://www.guinnessworldrecords.com/world-records/tallest-hotel#>

<https://de.statista.com/statistik/daten/studie/38563/umfrage/teuerste-staedte-fuer-geschaeftsreisen-de-nach-hotelkosten/>

Megatrend – Demographic change

Will we soon be “Forever Young”?

Demographic change will also influence the world of tomorrow - and this applies not only to extreme cases such as China. Especially in western countries, the trend is visible: Fewer children and more active older people will shape society. But “ageing really makes us younger”, says Oona Horx-Strathern. 50 is the new 40 - and people behave accordingly: “They travel, they educate themselves, seek their identity, their passions. They appropriate the world in many different ways.” For hoteliers, that means: In the future, more offers must be created for the super-active 50+ guests.

Demographic change also has decisive consequences for our future: It must be accessible and universal. Living environments, architecture and everyday objects must be equally usable for young and old.

The years we have added to our lives have given rise to the desire to live them in the highest possible quality. As a result, the definition of health is undergoing an important expansion, says Horx-Strathern:

“In the new cooperative individual culture, health is not only the absence of illness in the medical sense. Health has to do with an experience of vitality, balance and body-sense.”

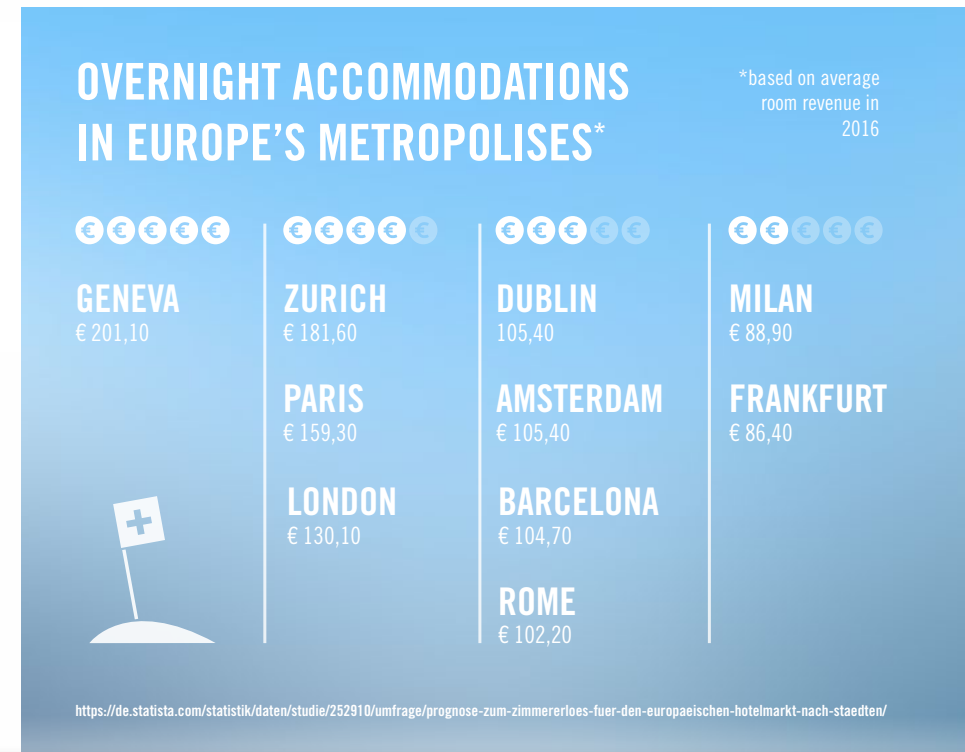
The hotel of the future must take this new concept of health into account, e.g. by integrating wellness and diagnostic elements into the hotel bathroom of the future.

Megatrend - Smart Home

Feng Shui meets Star Trek

We are increasingly becoming “room creatures.” We already spend about 95% of our time in rooms. A global trend that is continuing (cf. Zukunftsinstitut 2016). Which is precisely why a feeling of well-being wherever we happen to be staying is gaining in importance. We need refuges, places to switch off, where it’s possible to relax and release our individuality. This is precisely the function that will increasingly predominate in our bedrooms and bathrooms of the future - and in hotels. But how, exactly, would this look?

To start with, all room elements - from the carpet to the bathtub - must be perfectly coordinated. Smart technology options come next: different atmospheric moods to provide relaxation. A perfect room climate promotes health and tranquillity. Mobile and modular furniture structures rooms and makes them usable in different ways. Everything in the room and in the bathroom will be digitally networked and controllable - the new “Internet of Things.”



Happy 111th birthday!

Experts previously assumed that people could live to a maximum age of 125 years. An Israeli researcher is now questioning this limit: Chaim Cohen, professor at Bar Ilan University, published a review with colleagues that claims it will soon be possible to live up to 140 years. But that’s not all: Even the existence of a biological age limit is being questioned. German researchers such as James Vaupel, director of the Max Planck Institute, consider the study to be reputable. So, will we have birthday cakes with more than 100 candles? Well, have fun blowing them out!



Megatrend - Digitalisation

Housework? R2-D2 does it

This new digitally linked life will not only influence our relaxation phases, but also our everyday tasks: Robots will soon be doing all the housework in our smart homes. Our lunch will be prepared in a 3D-printer in no time at all.

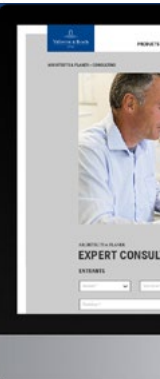
*Prototype of the "Foodini": At the push of a button, out pops a freshly "printed" pizza.
(Image © Natural Machines on designboom.com).*

Expert advice

Do you have questions about Hotel 4.0, the bathroom of the future, or finding support for planning a project?

Click here to go to our contact form:

pro.villeroy-boch.com/hotel4_0



Self-driving cars will take us safely to the next meeting. Messages and news will no longer be on our smartphones but projected into the middle of the room as augmented reality. Online life will get even faster: New events and developments will reach us every second. Offering the right balance between online and offline time will become a major challenge for the hotel industry. We always want to be informed, but at the same time, we also want to be able to take digital breaks.

Fly faster, Bruce!

Do you know the science fiction film "The 5th Element"? In it, Bruce Willis plays a driver of an air taxi who pursues the police at breakneck speed. The film was released in 1997. And today? Today we are on the verge of launching the first real air taxi. Munich-based start-up Lilium has developed a prototype that can take off and land vertically thanks to its swivelling electric motors. Five guests can be transported, and prices should be above-average. You still can't really believe that? Then, take a look at this: In Dubai, police are already hunting criminals by flying car. Bruce Willis needs to step it up a gear!

Megatrend - Sustainability

The colour of the future? Green!

With all the possibilities that this new world offers: There are limits to man's influence. In a future where climate change and a scarcity of natural resources shape life, nature will also be a trendsetter. In building construction, natural and self-cleaning materials will be used. Practically everything will be recycled. Re-using grey water for washing machines and toilet flushing dramatically reduces water consumption. Vegetables will be almost exclusively produced locally, including being grown vertically on the buildings of the future. In the hotel industry, the "zero emission" hotel is becoming a planning requirement. The "zero emission" bathroom of the future makes an important contribution to this.



HOUSEKEEPING FACTS



36–61 %

THE PERCENTAGE OF GUESTS WHO CHECK OUT FROM A HOTEL EVERY DAY ON AVERAGE.



31.5 MIN

THE AVERAGE TIME TO CLEAN A ROOM VACATED BY A GUEST.



20.5 MIN

THE AVERAGE CLEANING TIME FOR A ROOM IN WHICH A GUEST CONTINUES TO STAY.



7 %

THE PERCENTAGE OF ROOMS NOT CLEANED PER DAY BECAUSE GUESTS DON'T WANT TO BE DISTURBED.



2,16 %

THE PERCENTAGE OF ROOMS VACATED BY GUESTS WHO HAVE LEFT SOMETHING BEHIND.

<http://blog.roomchecking.com/12-little-known-facts-about-hotel-housekeeping-and-maintenance>

WHERE VISIONS BECOME REALITY

This is the setting of the hotel of the future. And there's more: The hotel of the future will be at the forefront of these developments and trends. Because hotels are, by definition, an incubator for new developments. In hotels, divergent lifestyles continually encounter each other: Guests with very different cultural backgrounds collide. Business travellers and tourists with different expectations stay under one roof. Young and old encounter each other, and each has specific requirements for comfort, entertainment and relaxation.

This means: The hotel of the future must cover an enormous range. It must be simultaneously workplace, adventure playground and second home. Holistic experiences and service are in the foreground. Focusing on the individual guest will attain previously unknown dimensions.



AIRBNB – THE HOTEL INDUSTRY NIGHTMARE IN FIGURES



300
MILLION
GUESTS

This is how many visitors Airbnb has had so far worldwide.



**PARIS
LONDON
NEW YORK**

the 3 most popular international Airbnb destinations.



81,000
CITIES

Airbnb is represented at this many locations.



4.85
MILLION
ACCOMMODATIONS

That's how many active advertisements there are worldwide on Airbnb.



€ 1,600
INCOME

That's how much the average host earns on Airbnb each year.



1,400
TREE HOUSES

are available as accommodation on Airbnb



35
YEARS

That's how old the average Airbnb guest is.



3000
CASTLES

are available as accommodation on Airbnb.

<https://de.statista.com/themen/2147/airbnb/>



For rent? I'm living at the hotel!

While the hotels of the past decades were mainly characterised by guest entertainment, in the future they will increasingly be focused on holistic living (cf. Zukunftsinstitut 2016). A large part of our mobile life will take place in hotels:

"And it's not just about surfaces or design details, but about fundamentally intelligent concepts. New (young) urban hotels are being built all over the world in which work and life are being recombined - refuges for the nomads of the global creative class. The new types of holistic, 'healthness' hotels not only take care of the relaxation of their guests in the old wellness style, but they also play a role in guests' mental and spiritual concerns. Hyper-urban loft and lounge concepts are spreading to country and landscape hotels and experimenting with new combinations of nature, ecology and coolness."

— Oona Horx-Strathern

Money isn't an object?

Then treat yourself to an overnight stay in the Royal Penthouse Suite at "President Wilson" in Geneva, the most expensive hotel room in the world. The price per night is between USD 61,000.00 - 84,000.00. With 12 bedrooms, 12 bathrooms, several living rooms and a dining room for 26 people, the suite offers plenty of space - something Michael Jackson and Bill Gates have appreciated. Also included in the price: Bulletproof doors and windows, a billiard room and a Steinway grand piano, a 103-inch flat-screen TV from Bang & Olufsen (price USD 130,000.00) as well as a private chef and a butler. It's a real treat!

Big Brother is watching you – but in a good way

The hotel of the future can collect unprecedented amounts of information about its guests and thus improve guests' stay. Highly developed sensor technology helps to understand exactly what people need: Is the guest sick? Is the guest stressed? Does the guest want to be left alone, or does the guest feel like talking? Based on these sensor data, the hotel of the future reacts - e.g. with anti-jetlag lighting, morning birdsong, news when showering or relaxing sounds to fall asleep. The smart hotel knows what the guest wants.

The big question: On or off?

"Connected dis-connected" - that is the motto of the future. Travelling people prefer to have both at the same time: they don't want to miss anything, but they want to be able to switch off their hectic digital life at any time. The hotels of the future must make this balancing act possible by providing an equilibrium between online and offline times. They need to provide retreats where digital noise stops until the guest is ready to get involved again:

"Connectivity, this great power that connects everything together, creates a great counter-longing: to be finally "dis-connected." Switching off, escaping the terror of eternal accessibility, the agonising complexity of connected life, experiencing the environment again in a directly haptic and sensual way. [...] It's about new, sophisticated integration of technology into the sensual world."

— Oona Horx-Strathern



Rooms with a beach view? Also available as virtual reality

Surrounded by coral reefs and exotic fish for lunch, but floating high above the clouds at dinner? Virtual environments make it possible. They expand or overlay our reality by adding additional "layers" to it. Your balcony view isn't what you hoped for? You want more palm trees and blue water? Using augmented reality, you can add any elements to your view. Or do you want a completely different scenery (virtual reality)? Then simply wake up to a view of the Himalayas. You can take entire tours to the exotic places of this earth this way - all comfortably from your hotel room.

And, of course, you can also go with your family or friends on the discovery tour or join other guests if you want. It is more than an appealing promise: to live out one's inner exploration instinct without any danger whilst broadening one's own horizon.

INTERESTING FACTS FROM THE HOTEL INDUSTRY



1,300 YEARS

That's the age of the oldest hotel in the world, the "Nishiyama Onsen Keiunkan" in Japan.

41%

of hotel bookings are business trips.

AROUND 20,000

That's how many 5-star hotels there are worldwide.

45%

is the percentage of 3-star hotels worldwide.

72%

This was the level of hotel occupancy in Europe in 2017.

<http://www.delta-check.com/de/sc/>

<https://www.creditdonkey.com/hotel-industry-statistics.html#demographics>

<https://www.travelbook.de/uebernachten/hotels/in-japan-das-ist-das-aelteste-hotel-der-welt>

<https://de.statista.com/themen/78/hotel/>

Home away from home – Does it work?

If the hotel won't come to the living room, then the living room will just come to the hotel

The future study of the Fraunhofer Institute predicts that we will be constantly on the move by 2052. This applies not only to us but also to buildings such as the hotel of the future. Floating hotels allow us to explore the oceans. Autonomous and even flying hotel capsules take us from point A to point B. The transport route itself is becoming the new mobile form of living. The safety factor also benefits from this: In the event of danger, floating hotel islands can move with the water, or your mobile hotel capsule will fly you to a safe place in no time at all.

If your guests do not like to leave their own four walls, a solution is also in the pipeline here: Simply bring your own mobile apartment and dock it to the hotel. You can enjoy the advantages of a hotel - being cared for and accessing many services; on the other hand, you don't need to pack and unpack suitcases or adapt to a new environment. The idea "home-away-from-home" is literal here.

The slightly different "houseboat"

The cruise ship "The World" has only permanent residents instead of tourists! The 165 apartments in different sizes can be purchased like a home or rented on a long-term basis. The ocean-going yacht has been sailing the world's oceans continuously since its maiden voyage in 2002. The route is determined democratically by the inhabitants through a vote. The same applies, for example, when choosing the fuel or the colour of the Christmas decorations. Another special feature is the regularly offered expeditions: Under the guidance of expert guides, the Antarctica or East Greenland can be discovered, for example.

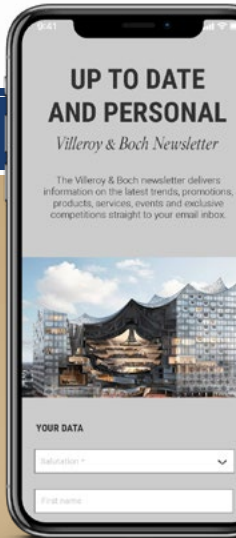
Newsletter for planners and architects

Our newsletter informs you about current trends and developments in the hotel sector and presents innovative ideas and concepts from industry experts.

Are you interested and don't want to miss anything?

Then register now!

pro.villeroy-boch.com/news_ap



When guests have sticky fingers

Hotel managers can tell you a thing or two about it: Some guests take towels or bathrobes with them. But this annoyance to a hotelier is only the tip of the iceberg! Creative thieves, uh, guests take practically anything that isn't nailed down: Batteries from remote controls. Or the whole remote control. The TV. The light bulbs. The coffee maker. And the hairdryer.

But it gets even stranger: In France, a guest tried to smuggle a stuffed boar head out of the hotel. In Italy, three men in jumpsuits carried a piano out of the hotel in broad daylight - and were never caught. And a serial offender took cutlery in another hotel until he had stolen a complete set. The dreaded mattress robber seems almost unimaginative by comparison.



THE 10 MOST FREQUENTLY STOLEN HOTEL ITEMS



<https://www.wellness-heaven.de/wellness/studie-diebstahl-hotels/>

And breakfast growing on the hotel façade

The hotel industry will also have to cope with increasingly scarce natural resources: Building and energy concepts will already be coordinated during the planning phase. The goal is an autonomous, self-sufficient hotel which produces all important raw materials (energy, fresh water, oxygen) itself.

Futurologists also assume that in 2052 a large number of intelligent materials which react to natural conditions will be in use: weather-sensitive wood, cooling ceramics, façade elements that open or close depending on humidity, and solar-active concrete walls. Hotels will soon also produce food themselves - on the hotel façades and in dedicated rooms with artificial sunlight. In the "PlantLab" in the Netherlands, plants are already being grown using red and blue light-emitting diodes. Nutrients, water and light are supplied to each plant individually. The benefit: Up to 70% water is saved, cultivation is low in CO2 and chemical fertilisers are superfluous.



Hmmm, delicious: Hexapods on crème fraîche

Pizza from a 3D printer? NASA is already working on it: The American Space Agency invested USD 125,000.00 in a pilot project for this. But life is also getting healthier: Algae plantations could provide a large portion of our protein requirements in the future - without animals having to die. Or, if you don't want to go without meat, you can grab synthetic meat from the laboratory: Production is already possible today. Do you think will take getting used to? Then we better not tell you about the planned mega insect breeding farms: The little creepers are rich in nutrients.

"Computer: Please remodel my hotel!"

Architecturally, the hotel of the future will develop to previously unimagined heights. The more crowded cities become, the less surface area there will be. But designs will also change: Concave, flowing and forms that appear infinite make the hotels of tomorrow look almost organic.

However, the most exciting innovation will be that entire hotel buildings will be able to change their shape and function in the future - the 'transformer hotel' is coming: Individual modular rooms, balconies and floors will be able to move in and out as in modular systems - thus changing the complete design of the hotel. Stairs can be transformed into barrier-free entrances and smart furniture creates an office or wellness room out of the bedroom.

"Personally, I think it's much more interesting to be surprised when you're travelling. At home you would never be as brave with colour as in a restaurant or hotel. [...] The secret and the challenge is to create contrasts." — **Gesa Hansen**



Gesa Hansen

The German-Danish designer, Gesa Hansen, was born into a family of furniture designers and architects. After studying at the Bauhaus-Universität Weimar and working for Jean Nouvel, the Parisian-by-choice founded the label "The Hansen Family" in 2009.

The hotel of the future will be a pioneer for new architecture, technologies and design. And guests appreciate being in environments that radiate innovation when they are on the move. The search for personal happiness will become increasingly important in the future. Health and personal well-being come first. And interior design reflects this development. This applies in particular to bathrooms which are no longer just functional rooms for personal hygiene.

THE "FUTURE BATHROOM"

What can't it do?!

The bathroom of the future will become a new oasis of well-being, health and even entertainment as it becomes the focal point of our new living environment (see Das Bad 2034, study Villeroy & Boch 2014):

"The bathroom of the future is adaptive, it must be able to fit different requirements and users. It essentially fulfils three different functions: The bathroom is an atmospheric control room - the appearance, atmosphere and effect of the bathroom changes depending on the situation and user. The bathroom is a health cell - with the help of technology, person recognition and sensor technology, well-being and health are optimally supported. And the bathroom is 'organic' - energy efficiency, recycling and materiality are consistently subject to aspects of sustainability, from planning to dismantling."

— Dr. Alexander Rieck



Dr. Alexander Rieck

Dr. Alexander Rieck, researcher, lives between virtual research projects and architectural reality. At the Fraunhofer Institute for Industrial Engineering IAO in Stuttgart, Rieck heads the joint project "Future Hotel." He also founded the architectural office LAVA with partners in 2007, parallel to his academic career.



The "transformer bathroom" - as individual as you are

"Uniqueness" is the buzzword for the bathroom of the future. In addition to favourite colouring, the height and shape of the taps, washbasins and WC automatically adapt to body size and usage requirements. The shower dries us dry after washing and the mirror can be transformed into a computer display with numerous entertainment programmes (see Villeroy & Boch 2014). The bathroom of the future could look like this or something similar. But: With all the technology and possibilities, the different functions must be intuitively recognisable. After all, nobody wants to read a manual before taking a shower.

In addition to personal adjustments, regional and cultural individualisation of the bathroom is also becoming apparent

"One could almost say the bathroom will 'transcend cultures'. As part of the Fraunhofer joint project 'Future Hotel', we have put forward the thesis that the bathroom will become regionally authentic. What does that mean? In principle, that the destination becomes noticeable through real and virtual design of the room - e.g. information about the surroundings, materials, design elements typical of the location." — Dr. Alexander Rieck

This means, for example, that traditional bathing cultures and rituals will also be taken into account in the bathroom of the future. This ranges from Japanese bathing culture - in which a relaxing tea is served with the bath - to religious Islamic or Jewish washes. The bathroom of the future will adapt flexibly to such uses.



So much more than just cleaning your body

The health-conscious person of the future wants to be fit and satisfied, which is why the bathroom of the future is increasingly becoming the wellness and health centre. Some examples: The rainforest shower with mood lighting, projected scenery, Amazon sounds and fragrant water is not just for cleaning your body - it is a feast for the senses. And using voice command, the bathroom can be transformed into a personal yoga or fitness studio - including a personal trainer via video wall to guides us.

In its function as a health centre, the bathroom of the future will offer diagnostic tools above all. Practically anything can be examined - from weight to body fat percentage,

from blood pressure to saliva analysis. Even urine and stool analyses are possible with smart WCs! And the automatic facial expression recognition of the bath mirror can record your mental state and initiates a guided meditation if necessary - of course, only if you want to.

"New technologies and products will make bathrooms increasingly customisable. Example of technical light: LED lighting creates an atmospheric mood, bio-dynamic lighting and anti-jetlag lighting help guests adapt to unfamiliar surroundings. In future, lighting will be controlled by sensors, speech and RFID tags. Adaptive lighting scenes and individually selectable lighting scenarios increase the well-being of the guest." — Dr. Alexander Rieck



Wellness? I do it in my bathroom!

After a strenuous day, when you return to your hotel room, you go straight to the bathroom. As soon as you enter the bathroom, you are surrounded by cosy warmth. Thanks to wearable technology, your bathroom already knows you are coming and preheats accordingly. The lighting has already been dimmed and colour-adjusted. A fireplace crackles on the display walls of your wellness centre whilst the sound system plays quiet jazz. A very delicate smell of aromatic candles enters the room.

Already in the mood, you can put on your preheated bathrobe and lie down in the "regeneration cocoon" (a futuristic couch with a glass hood). You can lie here as if on a cloud, because the couch provides perfect pressure relief with its body shape adjustment. Next, project your favourite book onto the soundproof hood of the cocoon so you can read comfortably while reclining. Or, you can watch the film you've wanted to watch for a while. Or play fun quiz and guess games online against other guests.

While you are so pleasantly entertained, enjoy the integrated massage function of the cocoon couch. It also has hot and cold treatments, for example, to accelerate wound healing. The cocoon built-in sensors which can access many of your vital signs and read them out.

The only thing the cocoon can't do: Put you to bed. You still have to take those few steps yourself - even in the future.

The designer? She's called Nature

When it comes to design, the bathroom of the future is oriented towards nature. There is even a design school of its own called "Biophilic Design." Cool stone walls, wooden design elements and floors reminiscent of moss or rock characterise this style. The goal: To make sober-looking functional elements appear like naturally grown objects. This impression is reinforced with virtual realities that conjure up deceptively real looking plants and forest scenery in the bathroom.

Future trend or trendy nonsense? The standalone bathroom

This is a divisive innovation: Many modern hotel rooms no longer have bathroom walls. The luxury bathtub sits enthroned in the middle of the room on a pedestal and the toilet is in a corner of the room - only shielded by a glass wall. What looks very stylish at first glance can become a real problem at second glance. Namely, when you're not travelling alone.

Even if you love each other very much, you don't want to be able to wave at your partner while he or she is sitting on the toilet. It becomes even more critical when you are sharing a room with your boss to save travel costs on a business trip. Watching someone get out of the bathtub can inspire you to switch companies... But seriously: As always in a hotel, there is a fine line between innovation, design and practicality. And who knows: Perhaps the free-standing hotel bathroom is also an indicator that our privacy habits are changing?

Disappearing in the bathroom with a clear conscience

Sustainable and resource-conserving: In the zero-emission bathroom, guests can shower as often as they like or enjoy a full bath in the whirlpool without having a guilty conscience. The used water is recycled, the vacuum toilet avoids waste water and untreated water is converted into methane gas and used to generate heat. Full-body hairdryers make towels - and thus chemical cleaning - superfluous. Even the building construction saves resources: The raw materials used for the bathroom are produced sustainably. This ensures that everything can be recycled if the hotel is torn down (see Villeroy & Boch).

UNBELIEVABLE FIGURES ABOUT HOTEL BATHROOMS



400–1000 L WATER

This is the amount a hotel consumes per guest per day!



6–8 L WATER

Only this much water flows through special low-flow shower heads, which cuts water consumption in half.



€ 20–80

The price of a low-flow shower head (1 unit).



USD 20,000,00.00

The amount the Marriott hotel chain spends each year in America and Asia on skin care products in the rooms.



5,73 SECONDS

How long it takes on average to fold the end of a toilet roll for the next guest.



3,800,000 - 14,200,000 HOURS

The time used annually to fold toilet paper rolls in hotels worldwide.



10 MILLION BATHROOMS

The number of hotel bathrooms that are cleaned every day.

https://www.realclearscience.com/quick_and_clear_science/2016/12/16/researcher_estimates_the_hours_spent_folding_toilet_paper_in_hotels.html
http://www.dailymail.co.uk/travel/travel_news/article-3036627/Your-burning-hotel-questions-answered.html
<https://www.ahgz.de/unternehmen/jeder-tropfen-wasser-zaehlt,200012207772.html>

Setting the right course today!

Some of the innovations presented here may sound very much like science fiction: But the hotel of the future is becoming a reality faster than we think! For comparison: 20 years ago, we couldn't imagine what the Internet and modern smartphones would enable us to do. But those whose thinking was already future-oriented at that time are among the big winners today - think of Steve Jobs, Jeff Bezos or Elon Musk. That's why hoteliers should also be courageous and think in a future-oriented manner: Anyone who takes a chance today will secure market share in the future. In the words of Oren Harari:

"The light bulb was not invented by the continuous development of the wax candle." – **Oren Harari, 2002, Professor an der Universität San Francisco**

In fact, in a few years' time we will no longer be able to understand what once seemed so strange to us about service robots, mobile hotel architecture and changeable room design! And if you're still sceptical: In the next chapter, you will read about hotels that are already implementing forward-looking concepts and technologies today - and are doing very well.



FORWARD-LOOKING HOTEL CONCEPTS

THE HOTEL SCHANI VIENNA

Future Meets Tradition

The contrasts in the Hotel Schani in Vienna are what make it vibrant: As the first real “Future Hotel” of the Fraunhofer IAO joint project of the same name, it combines tradition and modernity.

The Schani, with 135 rooms, is located near Vienna’s new central train station and is a hotel of the future for travellers from all over the world. It already starts when guests book a room: They can select their favourite room online and use their smartphone to check-in and as the room key when they arrive.

This smart hotel was designed by Archisphere Vienna in cooperation with Fraunhofer IAO (Institute for Industrial Engineering and Organisation) and hotel architect Gabriel Kacerovsky. It opened in April 2015. Since then, its technical innovations with forward-looking ideas offer one surprise after the other. The latest innovation: At the hotel bar or in the hotel shop, guests can pay with Bitcoins. The Schani is also breaking new ground in terms of sustainability. Special rooms are used to test how guests can be motivated to save water: After using a certain amount of water, the lighting changes from green to red to give the guest feedback on their consumption!





Tradition and/or modern?

The Schani is not sticking blindly to the future: On the contrary, the atmosphere inside is pleasantly reminiscent of Vienna at the turn of the century. In the lobby, guests can read the newspaper at marble tables or talk to each other in the “green oasis” garden. A co-working space, in which both hotel guests and business people from outside meet, is located in a re-interpreted Viennese coffee house. The façade also combines tradition and modernity: The hotel façade is decorated with a metal interpretation of Viennese woven caned, such as Michael Thonet developed for his bentwood chairs in the middle of the 19th century.

The Schani looks most interesting when tradition and modernity directly collide. This is achieved, in particular, through skilful architectural breaks in the interior design: In the lobby, the industrial floor and shelves made of multiplex panels convey an industrial character, whilst cement tiles based on historical designs decorate the wall. In the hotel rooms, the style mix continues with suitcase blocks of pine wood and exposed concrete on the ceiling.

A well-thought-out hotel in all respects

But concept and design are not everything: Above all, guests must feel comfortable. All the many small details ensure that stays are more pleasant: Enough power outlets near the bed and couch, storage areas in the door area or a holder at the shower door that dries the towel and makes it easy to grab. The DirectFlush toilets from the Architectura collection by Villeroy & Boch, which incorporate a rimless intelligent flushing system, complete the well-thought-out overall impression.

HOTEL SCHANI: *THE FACTS*

PROJECT NAME: Hotel Schani

LOCATION: Vienna, Austria

COMPLETION: 2015

BUILDER: H5 GmbH & Co. KG

OPERATOR: Hotel Schani GmbH

MANAGING DIRECTOR: Benedikt Komarek, hotelier

PARTNERS: archisphere Gabriel Kacerovsky

ARCHITECTS: ZT-GmbH





CRANE HOTEL FARALDA NDSM

Luxury at 50 m height

A hotel, accommodated in a former industrial crane? Welcome to the Crane Hotel Faralda NDSM in Amsterdam. Three luxury suites are available for well-to-do guests looking for the unusual.

Without a doubt, the highlight of the Faralda NDSM Crane Hotel for guests is: the 360° view over Amsterdam - when you get around to enjoying it!

Faralda is known for being an exclusive hang-out for famous DJs and rock stars who do more than sleep here! One can hardly imagine a better place for decadent parties: This extraordinary hotel is housed in a heritage loading crane located in a former shipyard in the north of the city. The idea for the project came from Edwin Kornmann Rudi, who had the crane rebuilt at his own expense over a period of four years. Today, the steel giant houses three sophisticated suites, which cost around USD 1,200.00 per night.

This is industrial chic

The four-year conversion proved to be a feat of technical and conceptual strength. The 50-metre-high industrial crane was completely dismantled, all individual parts were restored and reassembled corresponding to its use as a designer hotel. The new elements complement the original parts with a red steel sculpture. With visibly welded steel plates and portholes, the design is reminiscent of nautical objects, such as ships or drilling platforms. An external lift on the crane shaft connects the various levels.

The interior designers from Studio Heem in Haarlem designed the three luxury suites in contemporary design inside the crane shaft. In the former driver's cab, an intermediate ceiling was installed, which created a two-storey unit with separate living room and bathroom on the lower level and a sleeping area on the upper level. Two identical containers above and below the cab each accommodate a suite. The suites are 35 to 45 metres high and offer an impressive panoramic view.

A spa pool on top of a crane

Faralda also skilfully combines luxury and clear functionality when it comes to bathroom culture. The bathrooms are equipped with Villeroy & Boch products from the collections Loop & Friends and Aveo. Depending on the suite, guests can sit in a La Belle bathtub or relax in a free-standing Squaro Edge 12 bathtub.

The undisputed highlight, however, is the outdoor spa pool at the top of the crane. At a height of 50 meters, the SportX-Line pool by Villeroy & Boch provides a 'once-in-a-lifetime' bathing experience. The pool can be used by all tenants of the three suites. There is an incomparable view over Amsterdam, especially when illuminated at night.



CRANE HOTEL FARALDA NDSM: THE FACTS

PROJECT NAME: Crane Hotel Faralda NDSM, Amsterdam

LOCATION: Amsterdam, Netherlands

COMPLETION: 2013

BUILDER: Edwin Kornmann Rudi

GENERAL CONTRACTOR: Talsma Scheepsbouw

ARCHITECT: IAA Architecten, Enschede/NL

CONSTRUCTION ENGINEERS: VDNDP bouwingenieurs bv

SALVAGE WORK: Koninklijke Saan B.V.

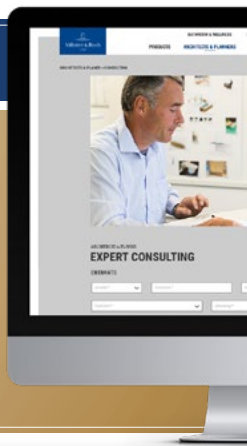
TECHNICAL PLANNER: SIDstudio, SDC Verifier, Constructiebureau Tentij BV, Cargotec, Gerd Jacobs

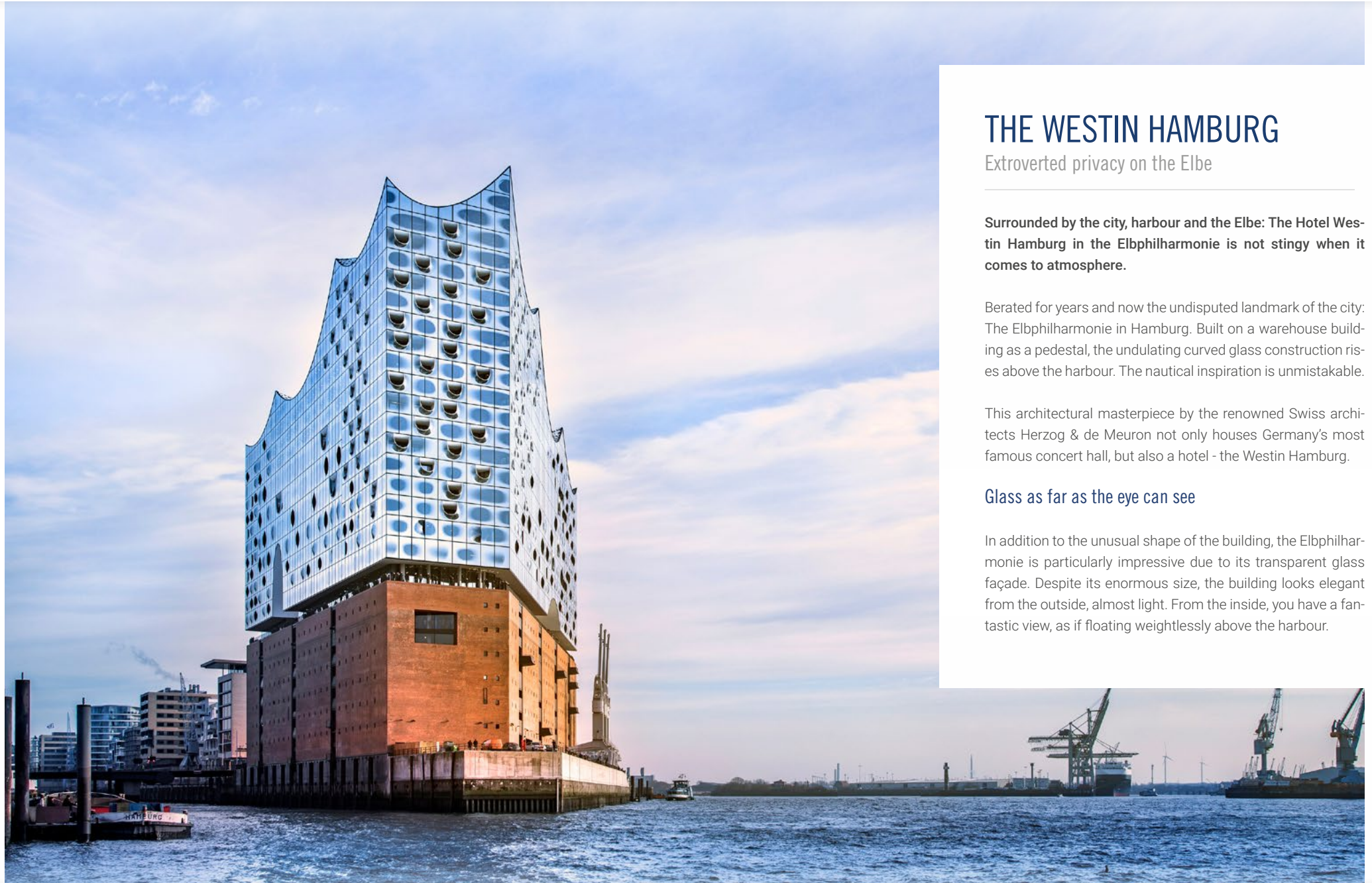
Expert advice

Do you have questions about Hotel 4.0, the bathroom of the future, or finding support for planning a project?

Click here to go to our contact form:

pro.villeroy-boch.com/hotel4_0





THE WESTIN HAMBURG

Extroverted privacy on the Elbe

Surrounded by the city, harbour and the Elbe: The Hotel Westin Hamburg in the Elbphilharmonie is not stingy when it comes to atmosphere.

Berated for years and now the undisputed landmark of the city: The Elbphilharmonie in Hamburg. Built on a warehouse building as a pedestal, the undulating curved glass construction rises above the harbour. The nautical inspiration is unmistakable.

This architectural masterpiece by the renowned Swiss architects Herzog & de Meuron not only houses Germany's most famous concert hall, but also a hotel - the Westin Hamburg.

Glass as far as the eye can see

In addition to the unusual shape of the building, the Elbphilharmonie is particularly impressive due to its transparent glass façade. Despite its enormous size, the building looks elegant from the outside, almost light. From the inside, you have a fantastic view, as if floating weightlessly above the harbour.



It is not difficult to imagine how such special architecture can benefit a luxury hotel. Imagine the sun gently awakening you in the morning because the glass front bathes your room in golden light. When you look out, you can see the Queen Mary 2 moored so closely by that you can almost touch it. And in the evening, you can watch the sun slowly sink behind the picturesque harbour scenery.

It's like taking a shower outdoors

"Transparent living" is the design principle at the Westin Hamburg. For example, the bathroom: In a room that is usually very private, the walls are suddenly missing - there's only glass everywhere. At first this is surprising and shocking, but it also creates a completely new feeling of freedom for the guest. And because the glass walls are one-way, nothing can be seen from the outside and privacy is still guaranteed. Extroverted privacy - this is the formula for the new living and bathing experience in the Westin Hamburg. Hotel designer Tassilo Bost is confident: "These kinds of experiences can trigger an "addiction" – a strong desire to return to this place."

A decision against profitability?

Another interesting aspect of this concept is that profitability concerns were less important in the room layout than the guest's experience. So, in order to offer such a panoramic view in the bathroom, the room must be built along the façade. This is an obstacle to the most efficient use of floor space in the hotel. But this is exactly how hotels of the future differ from hotels of the past: The individual guest experience comes first - instead of efficiency and mass accommodation, the creation of special moments is in the foreground.

THE WESTIN HAMBURG: *THE FACTS*

PROJECT NAME: The Westin Hamburg

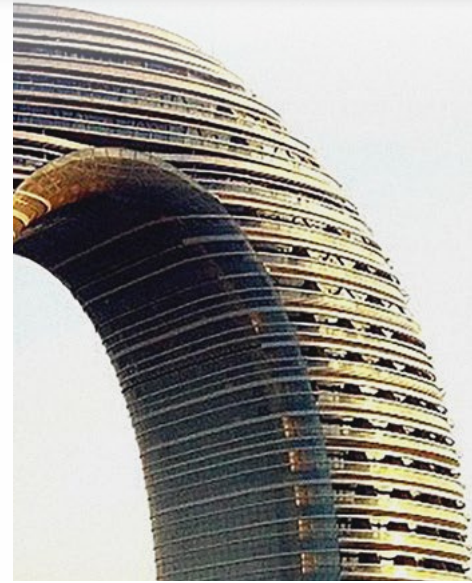
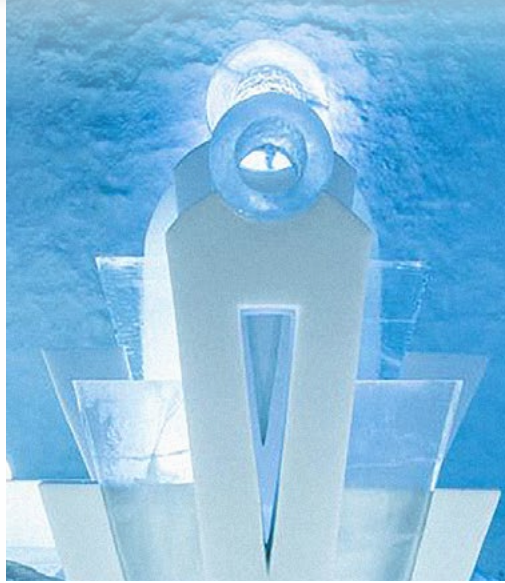
LOCATION: Germany, Hamburg

CONSTRUCTION PERIOD / 2016
COMPLETION:

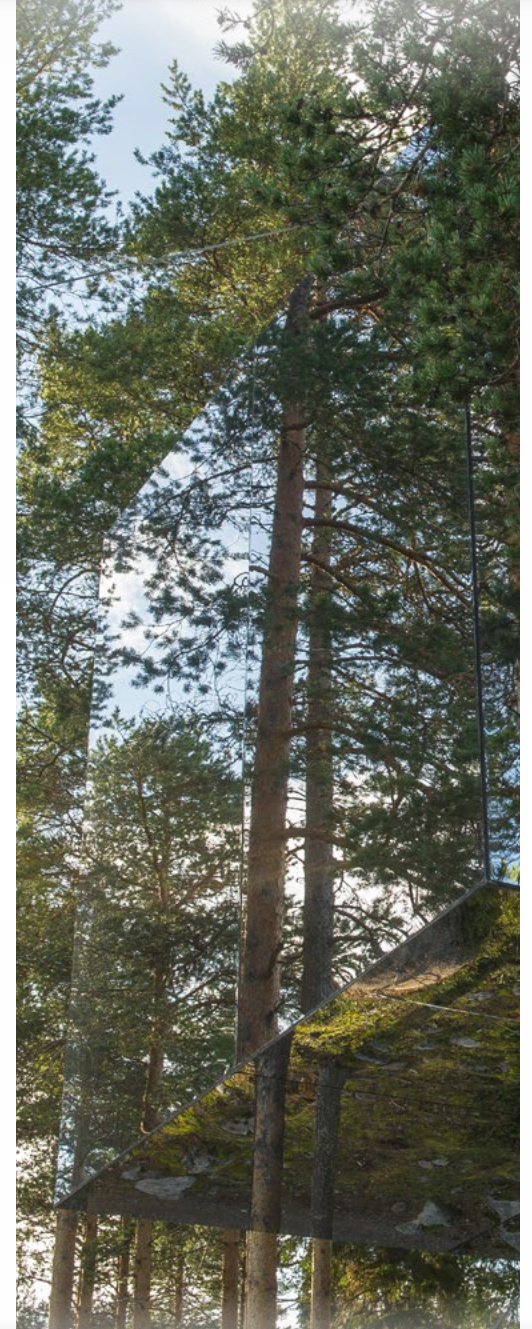
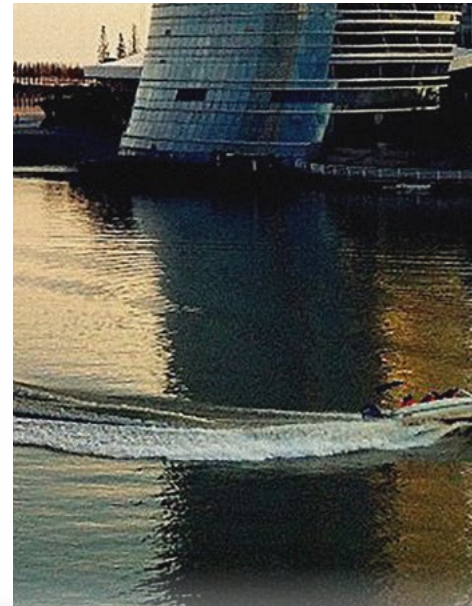
BUILDER: Elbphilharmonie Hamburg Bau
GmbH & Co. KG

ARCHITECTS: Herzog & de Meuron





THE MOST EXTRAORDINARY HOTELS IN THE WORLD





ABRAJ KUDAI

Still under construction, but with 10,000 rooms planned soon to be the biggest hotel in the world: The Abraj Kudai in Mecca, Saudi Arabia.

Planned opening:2020
 Room rates: approx. USD 5,250.00 / night
 Number of rooms: 10.000

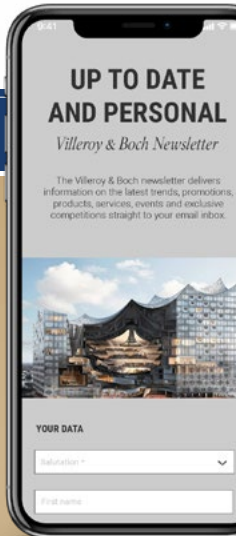
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SHERATON HUZHOU HOT SPRING RESORT

Looks like a horseshoe, but it's a doughnut: Two underground floors connect the Sheraton Huzhou Hot Spring Resort, located near Shanghai, China.

Opened:..... 2013

Room rates:..... USD 400.00 / night

Number of rooms:..... 238 rooms, 44 suites and 39 villas





ICEHOTEL SWEDEN

Re-created every year: The Icehotel in Jukkasjärvi, Sweden. The rooms and suites designed by artists can be occupied from December until the hotel slowly begins to melt in mid-April.

Opened:..... 1990
 Room rates: starting from EUR 160.00 / night
 Number of rooms:..... about 65 rooms



HOTEL ARBEZ

The hotel with a border through it: One half of the Hotel Arbez is located in France, the other half in Switzerland. The border runs through the stairwell, the dining room and several guest rooms. There are beds in which the head sleeps in Switzerland and the body in France.

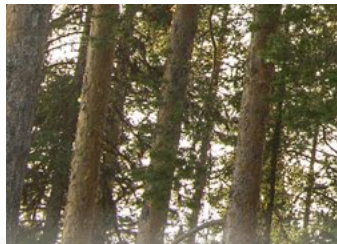
Opened:.....1921
Room rates: from EUR 89.00 / night
Number of rooms:..... 10



THE MIRRORCUBE AT THE TREEHOTEL

Tree house meets high end design: the Mirrorcube. This futuristic cube completely mirrors its surroundings so that it blends perfectly with the forest in Harads, Sweden.

Opened: 2010
Room rates: about USD 560.00 / night for the Mirrorcube





THE MOST BEAUTIFUL CLASSICS





HOTEL ADLON KEMPINSKI BERLIN

Hotel Adlon Kempinski is one of the most historic hotels in the world. Located in the centre of Berlin, the magnificent building celebrated its reopening in 1997.

Opened:.....	1907
Reopened:.....	1997
Room rates:	EUR 290.00 / night (average rate)
Number of rooms:.....	307 rooms, 78 suites
Redesign of public areas:	2016

ATLANTIC HOTEL HAMBURG

The Hotel Atlantic Kempinski Hamburg is located directly on the Außenalster. It was opened on 2 May 1909 as a classic grand hotel for the first-class passengers of famous luxury liners. Even today it has an exquisite grand hotel style with European flair.

Opened: 1909
Room rates: from EUR 169.00 / night
Number of rooms: 188 rooms, 33 suites
extensive renovations: 2010 - 2012





THE HOTEL WALDORF ASTORIA IN NEW YORK CITY

The parent company of the Waldorf-Astoria chain now belongs to the Chinese government. It is closed for renovation until 2021. A large part of the building is to be converted into condominiums.

Opening:.... 1893 on the current grounds of the Empire State Building
 Reopening:..... 1931 (opening at the present Park Avenue location)
 Room rates:currently not available
 Number of rooms:..... 1400



THE BELLAGIO IN LAS VEGAS

The Hotel Bellagio in Las Vegas is best known for its world-famous water show. 1,200 nozzles and 4,000 lamps make the Fountains of Bellagio a unique spectacle.

Opened:..... 1998
Room rates: from USD 189.00 / night
Number of rooms:..... 3,933
comprehensive renovation work:..... 2011 / 2012



THE RAFFLES HOTEL SINGAPORE

Raffles Hotel Singapore is a cultural heritage site with an iconic character. It was built in 1887 in colonial style. Famous guests such as Hermann Hesse, Elizabeth Taylor and Michael Jackson have spent nights here.

Opened:..... 1887
Room rates: currently not available
Number of rooms:..... 115
comprehensive renovation work:2018

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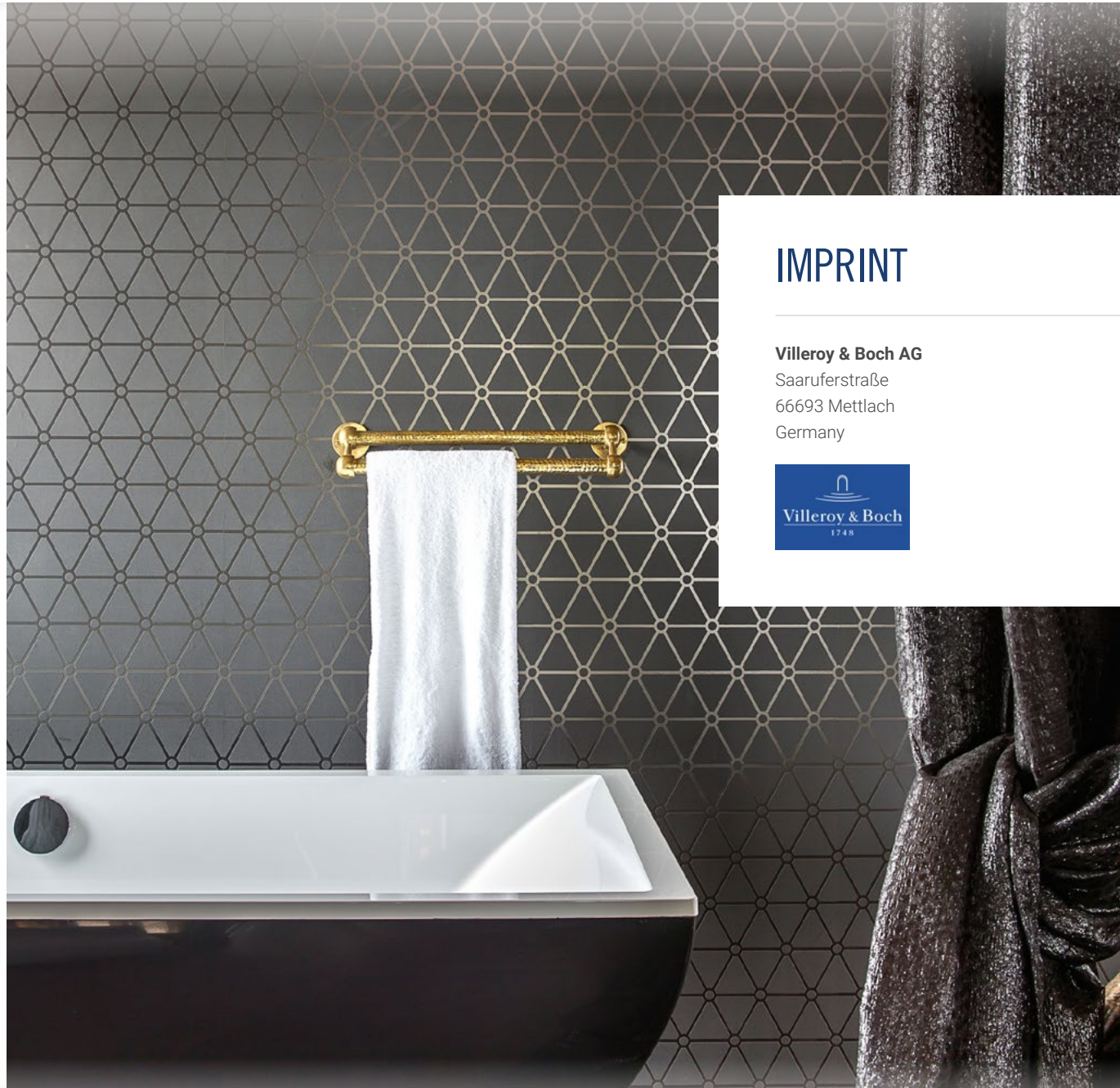
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The Hotel of the Future

A study
on Hotel 4.0

OR IS THE FUTURE ALREADY HERE?

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