

MORE FROM WOOD.

**E EGGER**

**E**

EGGER Group customer magazine

07

# Expo Milano 2015

Large world trade fairs have left behind icons such as the Atomium and the Eiffel Tower. What will be left behind this time?

# CONTENTS

03 Editorial

## 10 E\_INSPARATION

11 Ideas for tomorrow

12 Expo in the 21st century:  
Capturing the imagination

18 A history of the Expo:  
The spirit of the times

22 Five things about Expo structures

## 24 E\_SOLUTIONS

25 We Are EGGER

26 German Pavilion:  
An innovative landscape

32 EGGER at the EXPO:  
What will be left?

34 Survey: A spectacular performance

## 36 E\_NATURE

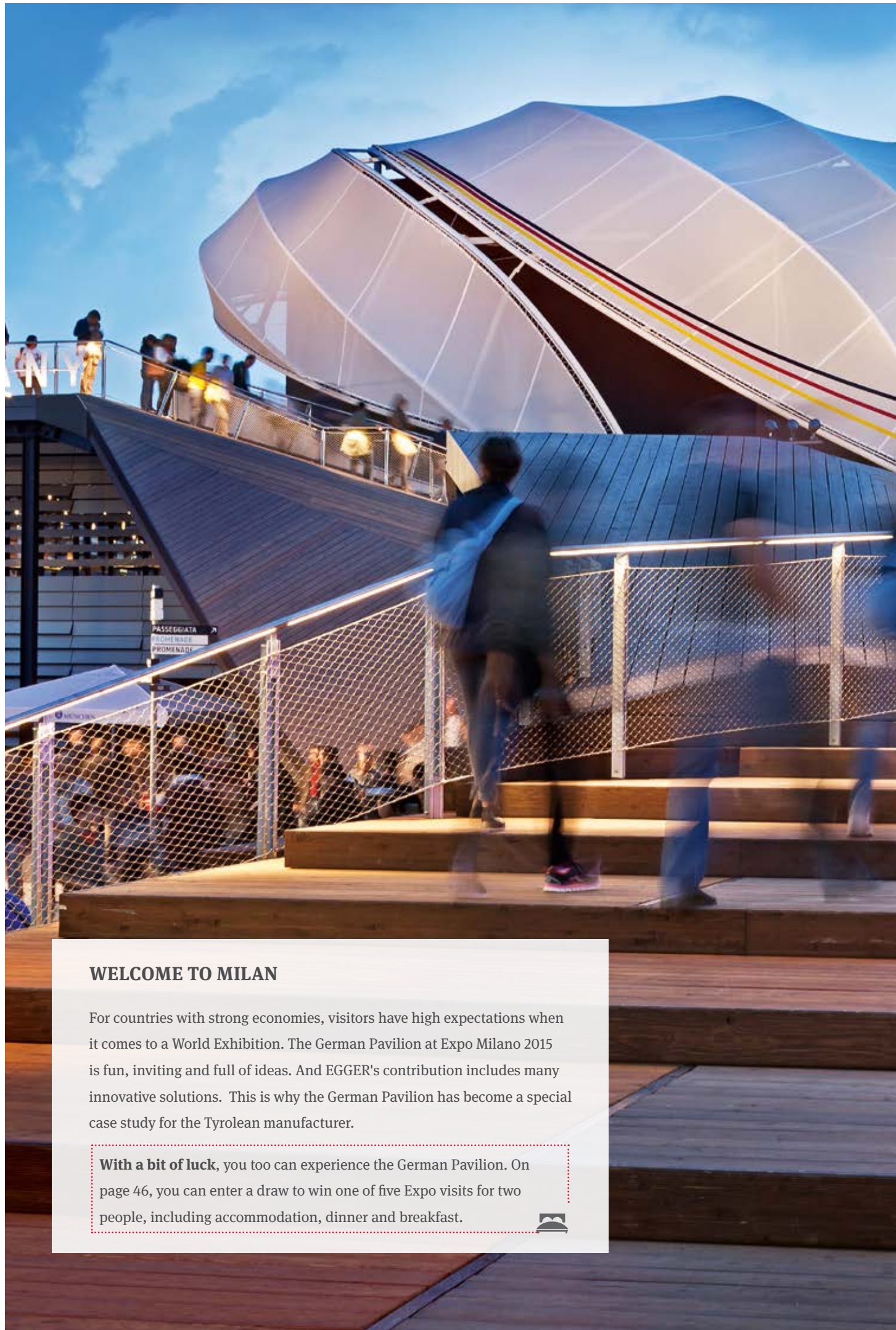
37 Sustainable living

38 End in sight:  
Nothing gets thrown away

42 A talk with US design professor  
Thomas Fisher:  
How Expos will always stand out

46 Treehuggers wanted:  
Picture puzzle

47 Imprint



## WELCOME TO MILAN

For countries with strong economies, visitors have high expectations when it comes to a World Exhibition. The German Pavilion at Expo Milano 2015 is fun, inviting and full of ideas. And EGGER's contribution includes many innovative solutions. This is why the German Pavilion has become a special case study for the Tyrolean manufacturer.

**With a bit of luck**, you too can experience the German Pavilion. On page 46, you can enter a draw to win one of five Expo visits for two people, including accommodation, dinner and breakfast.







<b>_ Publisher</b>	FRITZ EGGER GmbH & Co. OG Holzwerkstoffe Weiberndorf 20 6380 St. Johann in Tirol Austria <b>T</b> +43 50 600-0 <b>F</b> +43 50 600-10111 info-sjo@egger.com
Project management	Martina Haager (V. i. S. d. P.)
<b>_ Editing / Layout / Production</b>	Raufeld Medien GmbH www.raufeld.de
Editorial board	Till Schröder
Art Director	Daniel Krüger, Juliana Hesse
<b>_ Images</b>	Raufeld Medien (cover), EGGER (P. 3, 25, 40), Nicolas Tarantino (P. 4 – 9, 28 – 29, 31, 32, 33), Schmidhuber / Milla & Partner / Nüssli (flap, P. 8, 11, 26, 27, 28, 29 – 30), Nicolas Tarantino / Nüssli Group (P. 11), Till Schröder/Raufeld Medien (P. 11, 14, 15, 16, 17, 37), BIE / World Expo Museum (P. 11), Milla & Partner (P. 13), Art Center College of Design (P. 17), Fotografie Sandro Götze (P. 22), picture alliance / united archiv (P. 22, 23), PicMonkey (P. 23), Fotolia (P. 23, 40), Lorenzo Piano (P. 29), Helmuth Scham (P. 30, 31, 33), Daniele Mattioli (P. 31), Meike Wöhler / Raufeld Medien (P. 34 – 35), Filippo Ferraris (P. 37), Studio Anne Holtrop / Bahrain Pavillon 2015 (P. 37), Alex Kramel / Artwork Company (P. 38), Schweizerische Eidgenossenschaft (P. 39), Team.Breathe.Austria (P. 41), Kelsey Daly / Daly Proof Photography (P. 42 – 44), Expo 2017 Astana Kazakhstan (P. 44), Harry Schnitger (P. 46), picture editing: Gerd Metzner
<b>_ Release date</b>	September 2015
<b>_ Remarks</b>	Please send your comments, requests and suggestions to <b>MORE@egger.com</b>

# AN EXHIBITION CREATES THE FRAMEWORK FOR AN INTERNATIONAL DIALOGUE ON CURRENT QUESTIONS. EGGER PROVIDES INNOVATIVE SOLUTIONS.



If you have an Austrian company in Italy's Milan, delivering materials for the interior fittings of the German Pavilion at a World Exhibition, you could use the term "globalisation." But that's not the full story.

EGGER has its headquarters in St. Johann in Tirol. But it is also a constantly growing and globally active family company, with 17 plants in seven European countries. The leadership regarding innovative solutions, sustainability and quality is what really matters. This is why EGGER was selected by the Working Group German Pavilion (ARGE) as a partner for Expo Milano 2015.

To this day, innovation plays an important role in the history of World Exhibitions. As such, EGGER developed, in close cooperation with the architects

and exhibition organisers of the German Pavilion, new products especially for the Expo, once more highlighting its qualities as an innovator.

The sustainable handling of natural resources is of fundamental importance for a manufacturer of wood-based materials. Within EGGER, recycling is part of both production and material reutilisation.

But first and foremost, today's exhibitions provide forums for international dialogue on current questions. Milan is expecting 20 million visitors from across the world. We are greatly honoured to be contributing as a partner of the ARGE German Pavilion with a range of innovative solutions. For this reason, this edition of MORE is dedicated to Expo Milano 2015. We do hope you enjoy reading this special edition.

EGGER Group Management

**Walter Schiegl**  
(Production/Technology)

**Ulrich Bühler**  
Marketing/Sales

**Thomas Leissing**  
(Finance/Administration/Logistics)









## MILAN REACHES FOR THE SKY

In **2015**, the year of Expo Milan, Italy's industrial metropolis has a new skyline. Following an **urban development drive**, new skyscrapers by world renowned architects can now be seen as you look north from the roof of the Cathedral. The UniCredit Tower of César Pelli and the two award-winning residential towers Bosco Verticale of Stefano Boeri reach for the sky in the Porta Nuova neighbourhood. Only Arata Isozaki's tower, part of the CityLife project, is completed. Those of Zaha Hadid and Daniel Libeskind are still under construction.

[www.porta-nuova.com](http://www.porta-nuova.com)



## A STREAM OF VISITORS UNDER THE AWNINGS

The clear road layout of this ancient Roman city helps to simplify the way for the 20 million visitors expected. “**Decumano**” is the name of the **1.7 kilometre** route at the Expo, which is bordered by the various pavilions. The masterplan skilfully lays out the exhibitors. At the Piazza Italia, the Cardo avenue crosses the Decumano and features artistic installations.

[www.expo2015.org/en/explore/exhibition-site](http://www.expo2015.org/en/explore/exhibition-site)















## A STAGE FOR IMPORTANT GUESTS

The VIP Lounge of the German Pavilion has many roles to fulfil. In addition to tables for calm discussions, there is also a bar and the Foto Point, where visitors can write inside the guest book. The flowing lines of the wall and ceiling lamellas provide a harmonious connection between the different areas.

They are made up of over **480 m<sup>2</sup>** of flame retardant **compact boards** with H1372 ST22, Natural Aragon Oak.

[www.egger.com/expo2015](http://www.egger.com/expo2015)





# **E\_**INSPIRATION

“In contrast to the digital world, an [Expo] event of this size makes you want to meet people and interact with them on a face-to-face basis.”

Peter Redlin, Creative Director Milla & Partner  
Capturing the imagination (page 13 to 17)



# Ideas for tomorrow

## MORE WOOD

[www.herzogdemeuron.com](http://www.herzogdemeuron.com)

The former Milanese Mayor Letizia Moratti managed a great success in 2009: Four renowned international architects accepted her commission to develop a masterplan that defined the Expo as a low tech nature experience. The city got the contract, but the plan was not implemented, and its creators withdrew from the project in 2011. One of them, Jacques Herzog, did however accept the invitation of the food king Carlo Petrini to build the Slow Food Pavilion. His three halls made of raw larch are now a forum for diverse and environmentally friendly eating habits.



## MORE ELECTRICITY

[www.solarte.de](http://www.solarte.de)



The future of solar energy is colourful and soft: Organic Photovoltaics (OPV) make it possible. The next generation of solar modules consists of organic polymers. In contrast to the rigid, silicon-based panels, they open up entirely new fields for the benefit of architects. Thin OPV foils fit almost any surface and transform even diffuse light into electricity, for example for LED lights. In the German Pavilion, the technology of Belectric OPV is presented for the first time. The bluish transparent honeycomb patterns are integrated into the idea seedlings via a stainless steel cable structure, and also tinge the glass front of the VIP Lounge. Building Integrated Photovoltaics is considered to be one of the largest growth markets in the industry.

## MORE EXPO

[www.bie-paris.org/site/en/world-expo-museum](http://www.bie-paris.org/site/en/world-expo-museum)

Turning 165 years old requires a special birthday present and for the International World Exhibitions they are getting their own museum. The Bureau International des Expositions (BIE) and the city of Shanghai are building the World Expo Museum in the Chinese metropolis of 23 million inhabitants, on the grounds of the Expo 2010. It is scheduled to open in 2016. The architects have a dual concept of “rock” and “cloud”. Funnel-shaped glass clouds will be set on top of a square building made of stone and wood. The “permanent Expo” aims to represent a platform and a museum. More information is already available at the Expo in Milan. The project has its own pavilion, including a few other Chinese companies.







EXPO MILANO 2015

The top of the “Tree of Life” hovers 37 metres above Expo Milano 2015. The event designer, Marco Balich, was inspired by a famous square from the Italian renaissance. The tree made of steel and wood also embodies the innovative power of nature.

# Capturing the imagination

Every World Exhibition dares to look into the future. At least, that is the expectation.

At Expo Milano 2015, the pavilions focus on what the Internet can't do. And wood plays a very important role in this.

AUTHOR Till Schröder

White awnings protect the colourful throng of visitors from the Mediterranean summer sun on the "Decumano". After a quarter of an hour's march along the Expo site's main street, you reach the "Piazza Italia", this is the intersection between the Decumano and the "Cardo". It leads to a small lake and the Italian host's pavilion and at the centre stands the "Tree of Life". At night people gather around its mighty base for a spectacular light show. The tree has the potential to remain in the memory of the media as the icon of this Expo, long after the pavilions have been dismantled. It's more about emotion and less about information. Is this what Expos are all about these days?

Expos are looking for a new identity, demonstrated by the planning discussions beforehand, which influenced the forthcoming international exhibition in Astana (KZ) in 2017 and the world exhibition in Dubai (AE) in 2020. Decumano, Cardo and the awnings come from the original Expo masterplan designed by the Milan architect, Stefano Boeri. He brought in the Swiss architect, Jacques Herzog; the American designer and author, William McDonough and the British urban planner, Ricky Burdett to help. The high-calibre team aimed to reinvent the world exhibition for the 21<sup>st</sup> century. They presented a concept without large pavilions in 2009. Stefano

Boeri spoke of a "planetary garden", incorporating plantations under awnings. The intention was to reduce the building developments to a minimum of "huts", which would protect smaller exhibitions and the equipment of the participating



***"Representation is fine as long as it is authentic and linked with the country and theme."***

**Peter Redlin**, Creative Director Milla & Partner

countries from the elements. In this way, all the participants would have fitted on the Decumano. However, the countries did not want to fully surrender to this vision so the pavilion concept prevailed. It still provides the strongest form to capture visitors attention and emotions. The spaces act as three-dimensional brand images, which is also a current marketing trend. The four creators of the masterplan, on the other hand, distanced themselves from Expo in 2011. Jacques Herzog, who is seen as one of the best architects in the world after all, criticised Expo as a waste of money and resources. It was about tourism, he said, not about the theme "Feeding the planet, energy for life". Nevertheless he →





1 Technologically developed countries like France are also committed to wood as a material. In this case it is an impressive organic vault made of wood that demonstrates what is possible with parametric design.

→ allowed himself to be commissioned as a pavilion architect by the Slow Food Organisation. Using the sleek structure of the three buildings, he shows what he understands by an Expo in the 21<sup>st</sup> century. They can be effortlessly dismantled afterwards and, as is planned, reused as sheds for school gardens in the region. Despite or especially due to their simplicity, the spaces and the wood from which they are built create an intense and intimate atmosphere. Wood is the silent hero at this Expo. According to estimates, the renewable building material was used in 70 per cent of all pavilions. Many of the anticipated 20 million global visitors will return home with the impression that this material is as representative today as marble and steel were in earlier eras of Expo history.

In many cases, steel and concrete disappear behind imposing timber façades. The most impressive examples include Poland's high-stacked fruit boxes, Uruguay's raw logs and Japan's complex timber construction, achieved by traditional methods.

In a supporting role, the host employed wood to construct its operations buildings, which interrupt the row of pavilions and characterises the basic style of this Expo. From Chile the imposing, floating structure made of solid wood beams and the Gothic looking arches by the French also turned out to be favourites for photographers.

This French Pavilion impresses moreover as a demonstration of parametric



2



3

2 Chile's floating wood beam construction is no doubt one of the most photographed motifs at Expo.

3 Openness characterises the appearance of Holland.

design. This process, based on algorithmic thinking, is seeing architects increasingly becoming programmers. Once created, they are able to optimise their design by changing parameters on their software. This makes complex and organic shapes made of mass-produced individual parts affordable, as this Expo strikingly proves. The German Pavilion is an example of this too. Superficially it may appear intuitive. An expert can tell, however, that a certain amount of computing power was necessary for the complex lines and the composition of the visitor paths.

Larch wood with different glazes shapes the design of the terrace in the German Pavilion. The surface pattern reflects the architectural idea of the fertile German landscape of meadows and fields. Inside, however, the story of wood as a material continues into the 21st century

as EGGER's synchronised pore finishes demonstrate. They provide a tangible experience via the wood-based materials used.

### **Experiences that the Internet cannot offer.**

This Expo will remain in the memory as a comprehensive sensory impression comprising touch, smell and taste. France has the scent of lavender bunches and the herbs of Provence, the blossoms of the mandarin tree dominates the Bahrain Pavilion, the cherry blossoms for Japan and roses provide the scent for Morocco. And the smell of rosemary and thyme from the gardens lingers over the entire site.

Present-day Expo concepts opt for what can be directly experienced. Austria

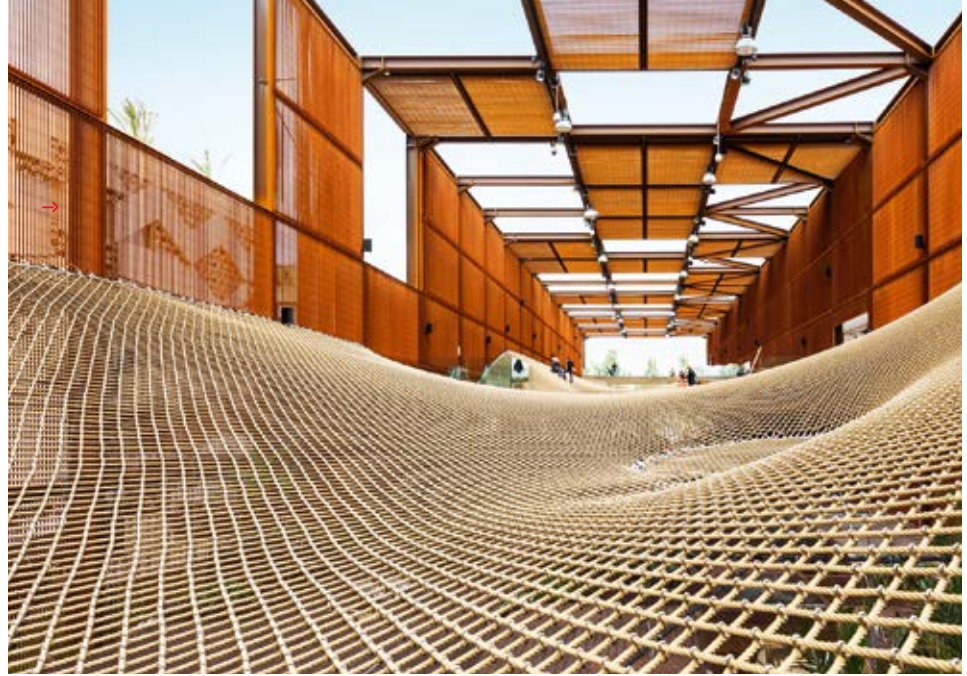
planted a forest in its pavilion, where, together with the smell of tree bark, moss and soil, there is also a pleasant freshness on the visitors' faces. In Morocco on the other hand, a scorching hot desert wind hits the visitor – thus sparing any further explanations about what challenges life in this climate entails. And Brazil tempts the visitor to perform a balancing act on a wide and sloping net. Children hop around on it merrily, women take off their heels and elegant gentlemen become little boys again. The net acts like an ironic interaction with the cliché that Brazil is only about samba.

Making things tangible can also be a form of representation. "Representation is fine as long as it is authentic and linked with the country and theme," says Peter Redlin, who together with his

→



4 With a simple cuboid and tensioned net, Brazil's pavilion is one of the most original contributions.



4

→ team from Milla & Partner created the concept for the exhibition in the German Pavilion. "In Shanghai 2010, the Expo offered people the trip round the world but they could not afford it." People want to find out something about the countries and immerse themselves in the cultures in the process.

Many architects recognise this in Milan particularly well, by allowing their spaces to tell their own story. For instance, the Dutch architect, Anne Holtrop, created a space composition out of white cement for Bahrain, where the inner spaces and garden playfully merge into one another and generate the typical "Bahrain feel" for those who know the country. Similarly, in the meandering, reddish plastered entrance corridor to the pavilion of the United Arab Emirates, the British architect, Sir Norman Foster, manages to evoke the feeling of having landed in a dry desert riverbed. The Emirates and Bahrain will be taking their spatial sculptures with them after the Expo and reconstructing them back home. That is understandable: you want to preserve beauty, it is one of the strongest kinds of sustainability.

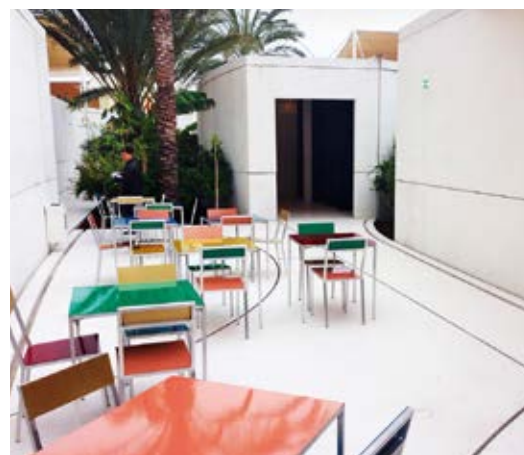
#### **Users meet on the Internet, whilst people meet at an Expo.**

When it comes to trying to read the architectural trends from the pavilions in Milan, the context has to be taken into account. "For an Expo in the rich northern hemisphere, the emphasis is different to an Expo in China," says Peter Redlin. "Here it is about a global issue like feeding the world, but by contrast in China, you discovered the world's diversity."

In the end the memory of meeting people and gaining new ideas remains. "In contrast to the digital world, an event of this size makes you want to meet people and interact with them on a face-to-face basis. That inspires you over the long term," says Peter Redlin. To mark Expo in Astana 2017, the exhibitors will gather around a huge globe. And as though the Arab Emirates wanted to agree with the experienced exhibition organiser, for their big Expo in Dubai in 2020 they chose the suitable theme: "Connecting Minds, Creating the Future".



5



6

5 Sir Norman Foster designed the entrance to the Arab Emirates Pavilion. 6 Bahrain omitted to install an exhibition in favour of precisely composed spaces, which make the beauty of the country accessible to visitors.

## “THE EXPO IS NOT A PLACE FOR ELITES.”

The Milanese design professor Luisa Collina discussing the specifics at the Expo 2015.



**Luisa Collina** is part of the scientific committee for Expo Milano 2015, which organises events surrounding the Expo theme and supports the worldwide dialogue between different research and cultural institutions. The professor of design, is responsible for the “Product Service System” course of study at the Politecnico di Milano and is president of Cumulus, the international association of design universities and colleges.

### **MORE: Have Italians warmed up to the Expo, following the criticism expressed ahead of it?**

Luisa Collina (laughs): Yes, I think so. There were also a lot of good reactions in Milan. The effort towards a common goal created a positive atmosphere within the city.

### **And how do you like the Expo?**

I thought the construction site was fascinating; with the pavilions rising up at the same time. It can almost be said that some of them were more beautiful naked than suited up, but for many of them it is the other way around. The selection of interesting architecture and inspiring approaches is huge. I also like the masterplan. It is clear, convincing and every country has a good presence.

### **However, the initial masterplan didn't include any pavilions ...**

This wouldn't have worked. The format of an Expo targets a wide audience. If you want to attract 20 million visitors, you can't do it without an architectural experience. I'm afraid agriculture alone would not have been enough.

### **Does the “cluster” concept work?**

The common pavilions work very well. For the first time at an Expo, countries form groups not only geographically, but also by theme. Smaller exhibition surfaces of 125 m<sup>2</sup> also provide access for smaller budgets. The concept was developed by 17 universities from across the world, led by the Milan Politecnico.

### **To finish, the typical Expo question - which is your favourite pavilion?**

The “Padiglione Zero” impressed me, because it brings together many of the different aspects of the theme 'Feeding the planet, energy for life'. As one of the few single storey buildings, the Bahrain Pavilion forgoes excessive size for beautiful detailing. It will be reused as botanical garden. But I also like the short-lived aspects of the Dutch presence. With its openness, music and theatre, it is committed to the festival, which is what the Expo is. It isn't a place for elites. Both examples show that an Expo today functions with and without pavilions, and can be done in an innovative and sustainable way.

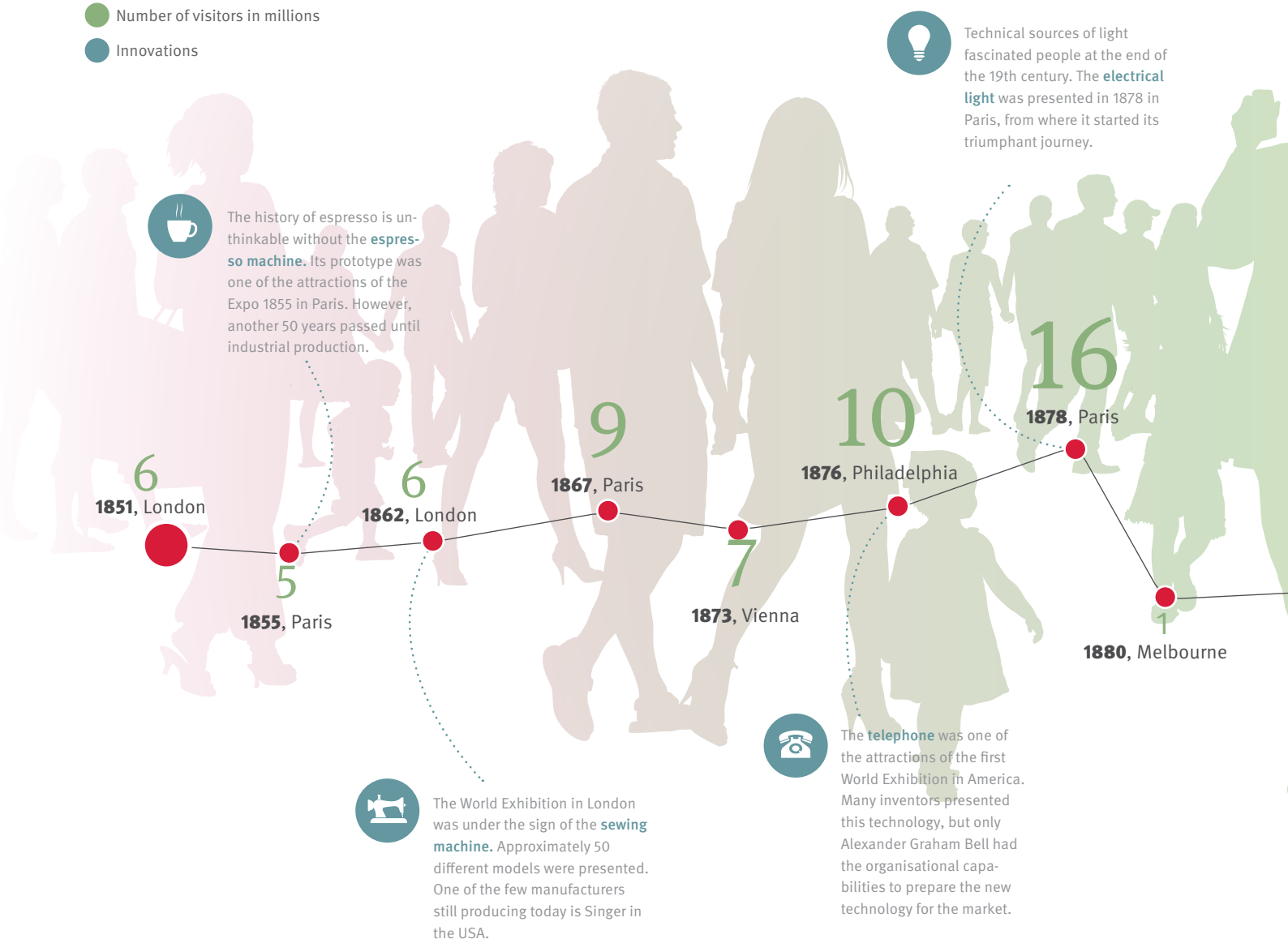


## The World Exhibition: Figures & Innovations

The graph displays a selection of world affairs without claiming to be exhaustive.

● Number of visitors in millions

● Innovations



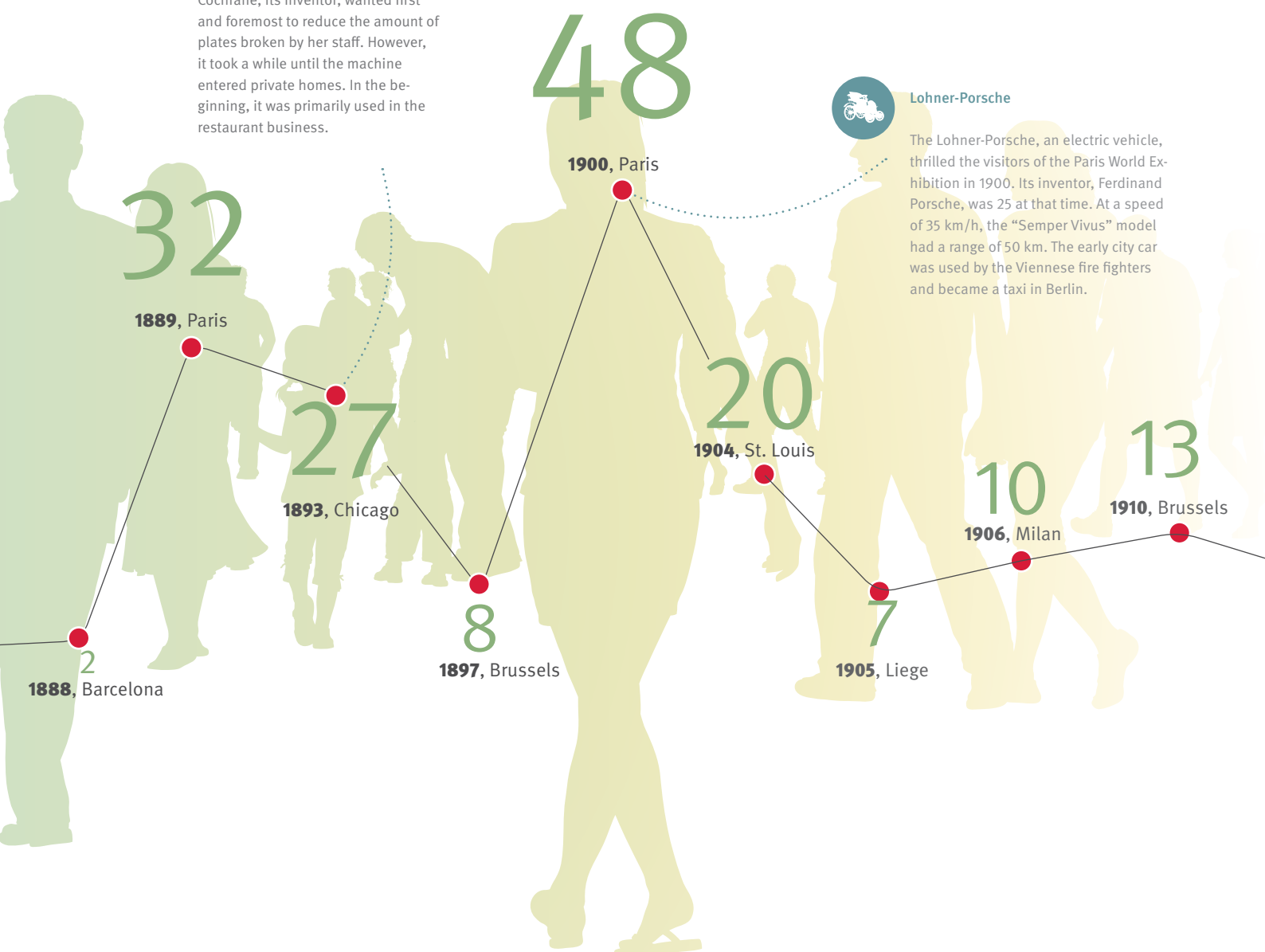
# The spirit of the times

World Exhibitions were once a stage for pioneering inventions. Through the decades, their role changed. The exhibition of competing industrial nations became a forum for global debate.

AUTHOR Meike Wöhlert



The first model of a **dishwasher** was presented in Chicago. Josephine Cochrane, its inventor, wanted first and foremost to reduce the amount of plates broken by her staff. However, it took a while until the machine entered private homes. In the beginning, it was primarily used in the restaurant business.



After Queen Victoria of England opened the first World Exhibition in 1851, entitled the "Great Exhibition of the Works of Industry of all Nations", which took place in London's Hyde Park, she wrote in her diary that she had seen "every conceivable invention". 100,000 objects had been brought, including hydraulic presses that weighed many tonnes, gigantic train engines and the first computers.

Other countries seized Victoria's husband, Prince Albert's idea of a world exhibition, first and foremost the USA and France. The industrial era was celebrat-

ing itself and every nation celebrated its own achievements, from the telephone to the dishwasher and the TV.

### Solving global problems together

For 100 years, World Exhibitions fascinated humanity, despite wars and crises. Afterwards, the format started to lose momentum. Spectacular innovations were increasingly presented at international trade fairs. Manufacturers such as Apple even managed to put on their own show for a product launch, attracting worldwide media attention. In the second half of the 20th century, Expos

had to find a new role – successfully so, because they continued to be a magnet for visitors.

The changing emphasis can be boiled down to: cooperation instead of competition. However, at the beginning of the 70s, every country still fought for records on the world stage and the oil crisis brought the "limits of growth" into focus. Afterwards, Expos slowly took up the social mood of postmodernism and offered themselves as a forum for global debate. The motto of the Expo 2000 in Hanover, "Human, Nature and Technology", explicitly opened the point →



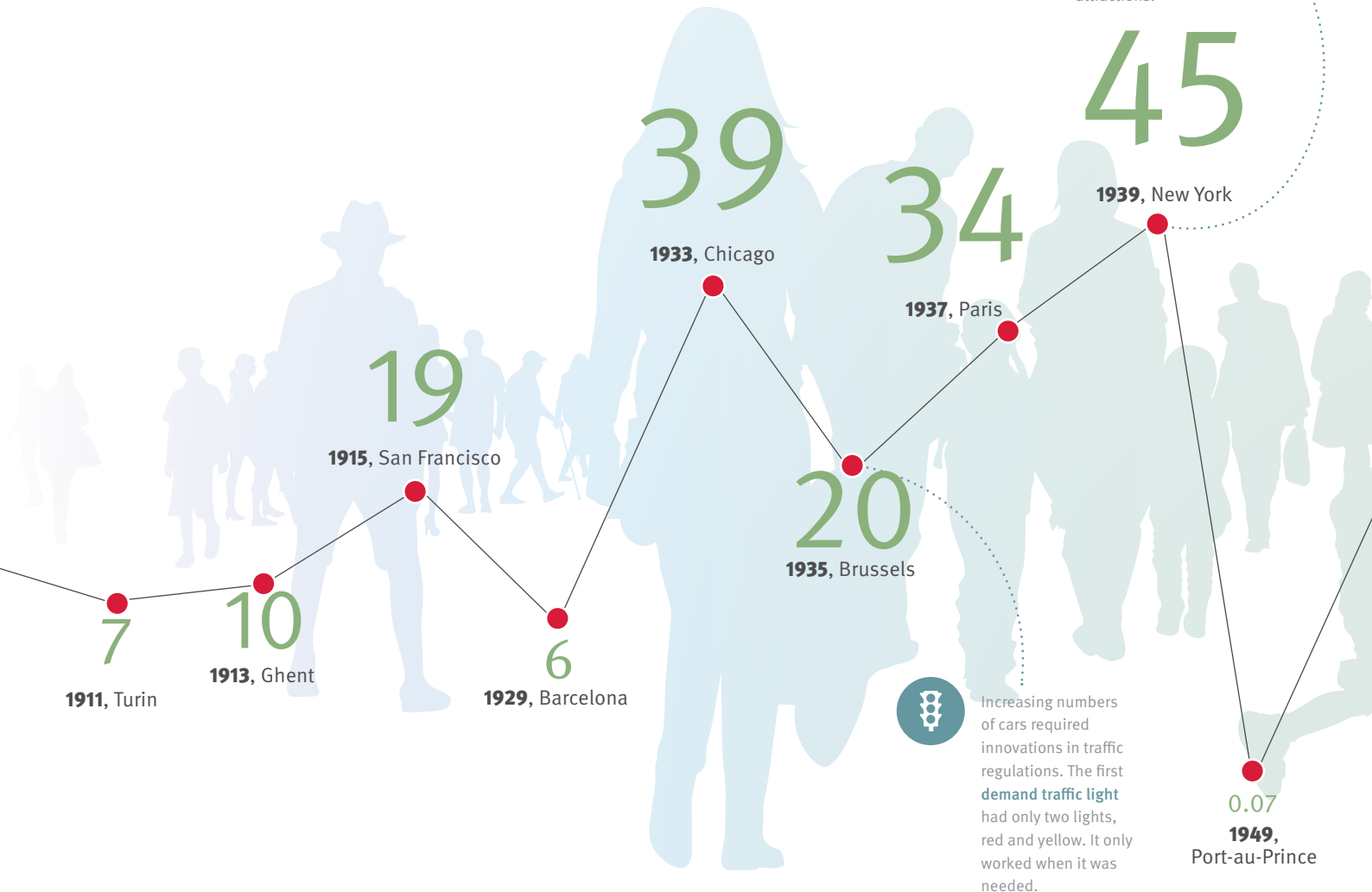
## The World Exhibition: Figures & Innovations

The graph displays a selection of World Exhibitions without claiming to be exhaustive.

- Number of visitors and millions
- Innovations



For the first time in the history of the Expo, an opening ceremony was broadcast on **TV**. Very few people could afford this new technology at the time. But the devices at the Expo were one of the greatest attractions.



Increasing numbers of cars required innovations in traffic regulations. The first **demand traffic light** had only two lights, red and yellow. It only worked when it was needed.

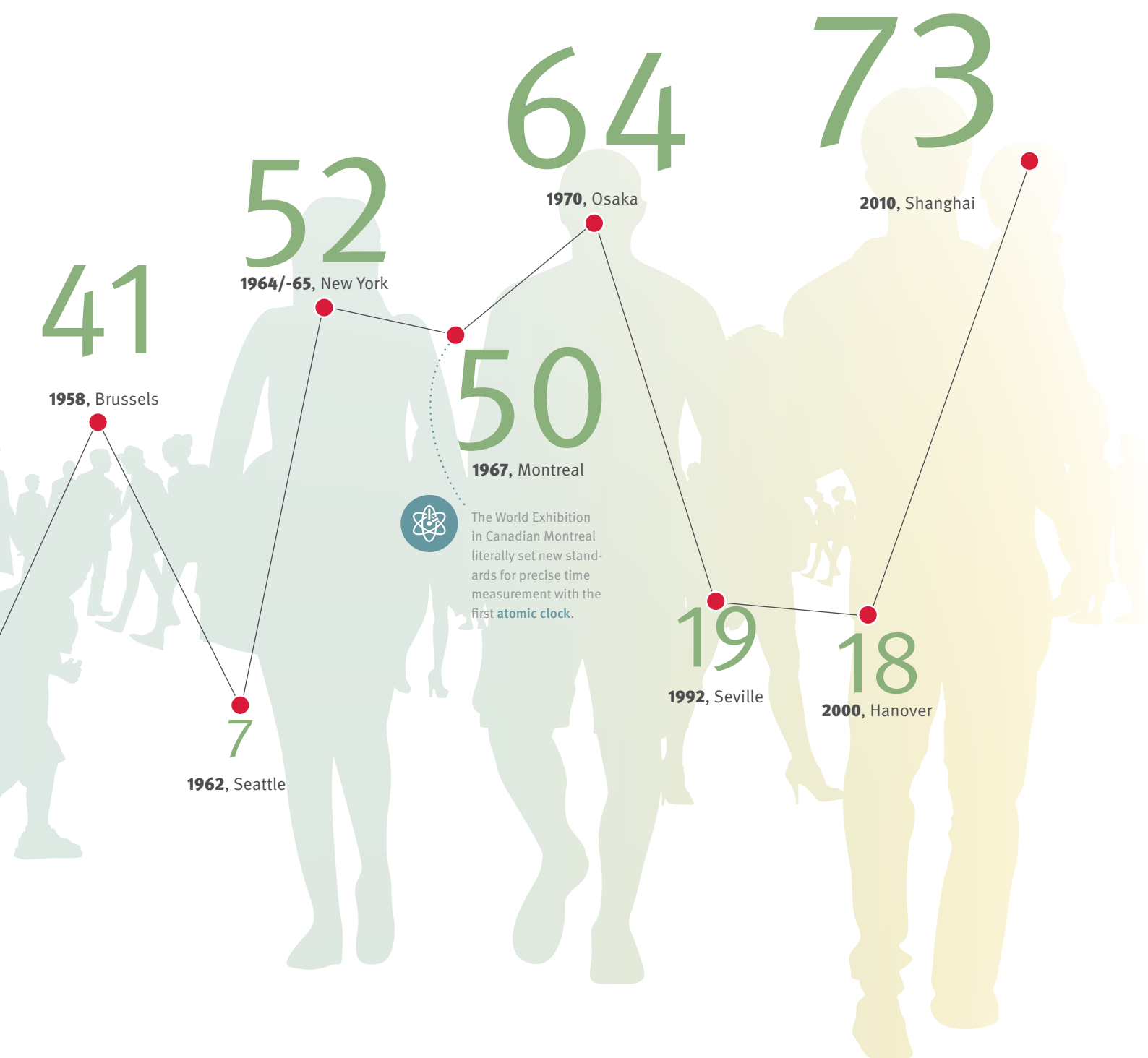
→ of view of how technology concerned the balance between progress and nature. Expos increasingly used the opportunity to raise public awareness of themes requiring action, from lives in growing megacities, such as in Shanghai 2010, to feeding the world, in Milan 2015.

### Breaking rules is part of history

Organising cities submit their themes to the Bureau International de Expositions (BIE). The organisation, with headquarters in Paris, was established in 1928. Its role for expos is often compared to the one of the IOC for the Olympic Games, its

focus is, in its own words, “the quality of the World Exhibitions and the rights of organisers and participants.”

The BIE determined that a World Exhibition should take place every five years, but only one country may organise it every ten years, and it should last three to six months. In reality, the BIE list includes many more Expos, and excludes others. For example, the legendary Expo 1964 in New York (US) is missing. The reason: Two years earlier, the BIE has already granted Seattle (US) a World Exhibition on American soil. In addi-



tion, initiators let the Expo last for two years, aiming for 70 million visitors. And they asked participants to pay a fee for renting the exhibition stand - thus also breaking the rules. Nevertheless, this third Expo in New York is considered a milestone, as it fascinated the audience with the optimism of the developing space age and computer technology never seen before. It remained a formative experience for the babyboomer generation - and that's what an expo is all about, the experience.

#### THE FUTURE OF THE EXPO

##### THE NEXT HOSTS

**Astana 2017:** The small Expo is the first official World Exhibition ever for Kazakhstan. Topic: "Energy of the future: Actions for world-wide sustainability." Expected visitors: 5 million.

**Dubai 2020:** Large Expos take place every five years, the next one is in the United Arab Emirates. Motto: "Connecting Minds, Creating the Future". This is about sustainability, mobility and economic opportunities. Expected visitors: 25 million.



## FIVE THINGS ABOUT

# Expo structures

Many World Exhibitions left behind monuments as icons of architecture and engineering. Here are the five main structures and what sets them apart.

1

## CRYSTAL PALACE

On the occasion of the first World Exhibition, the “Great Exhibition of the Works of Industry of all Nations”, a gigantic greenhouse of glass and cast iron elements was erected in Hyde Park. 32 countries introduced themselves to more than six million visitors. Finally, the glass palace was dismantled and reassembled in South-London. In 1936, it burnt down, as did its successor, the New Yorker New Crystal Palace of 1853.



1851 London



1889 Paris

2

## EIFFEL TOWER

The unique iron timber frame construction was intended as a gateway and a lookout tower for the fourth World Exhibition in Paris, but was also a reminder of the 100th anniversary of the French Revolution. Gustave Eiffel, the builder, made good use of his experience constructing railway bridges. At its opening, the Eiffel Tower was the tallest building in the world, with a height of 312 metres. It held this record for more than 40 years, and later broke another: the first telecommunications and TV tower in the world.



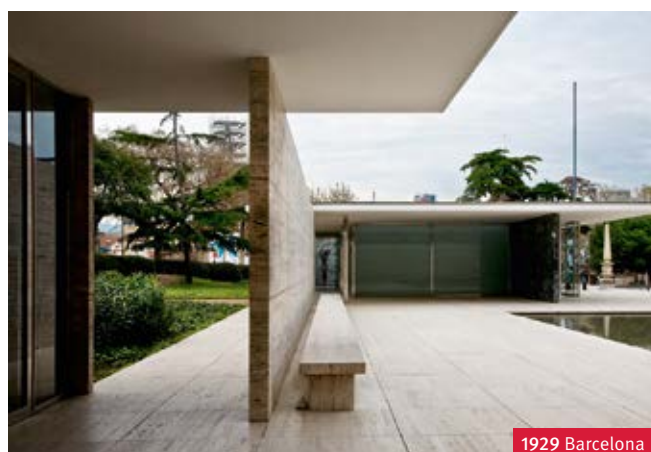
1893 Chicago

### 3 THE FIRST GIANT WHEEL

George W. G. Ferris is the father of the giant wheel, in English the “Ferris wheel.” The engineer presented the World Exhibition jury with a “carousel poised edgewise”, with spokes like a unicycle. At first, the jury rejected Ferris' plan as unrealistic. Seven years after opening the Expo, the 80 metres high wheel with 36 cabins for 60 passengers started operation nevertheless. It was a magnet for visitors. In 1904, it was once more present at the Expo in St. Louis, after which it was blown up and scrapped.

### 4 PAVELLÓ MIES VAN DER ROHE

The German Pavilion of Ludwig Mies van der Rohe is a milestone in the history of architecture. The clear lines and the freely floating flat roof were trend-setting. Instead of serving as an exhibition surface, the empty, open construction of marble, glass and steel was an attraction in itself. Mies managed a design coup even with the “Barcelona Chair” especially designed for the purpose: To this day, the chair represents minimalist elegance. At the end of the World Exhibition, the pavilion was torn down. In 1986, the city of Barcelona built it back up as a copy of the original.



1929 Barcelona



1992 Seville

### 5 TOWN DEVELOPMENT

In 1945, Berlin's Hansa district was in ruins. Twelve years later, an architecture competition of the International Building Exhibition produced a model housing development of postwar modernism. The Expo had a similarly durable effect for Seville. The area, on a river island, was only developed in 1992 with two bridges and one land connection. This created an entirely new neighbourhood, the Cartuja.





# E\_SOLUTIONS

“The design should convince trade visitors and at the same time inspire inexperienced visitors.”

An innovative landscape  
Lennart Wiechell, Schmidhuber Architekten (pages 26 to 31)



# We are EGGER

## RENATE ALFREIDER

Customer Services employee, St. Johann in Tirol (AT)

Without Renate Alfrieder there would probably be no annual EGGER employees tennis tournament and no EGGER lightweight boards at the Expo Milan 2015. The mother of two and grandmother has been working for 20 years in the Sales Back Office; she is in charge of the Swiss market. That's where the Nüssli company is, specialising in event and trade fair construction. In the picturesque Hüttwilen, Nüssli has fabricated approximately four kilometres of flame-retardant Eurolight boards for the exhibition area of the German Pavilion. Renate Alfrieder was in charge of drafting the order and procuring the materials, dealing with the customs and timely dispatch. EGGER and colleagues know exactly what she means to them.



## MARTIN LINDNER

Assistant Production Manager, short-cycle press, St. Johann in Tirol (AT)

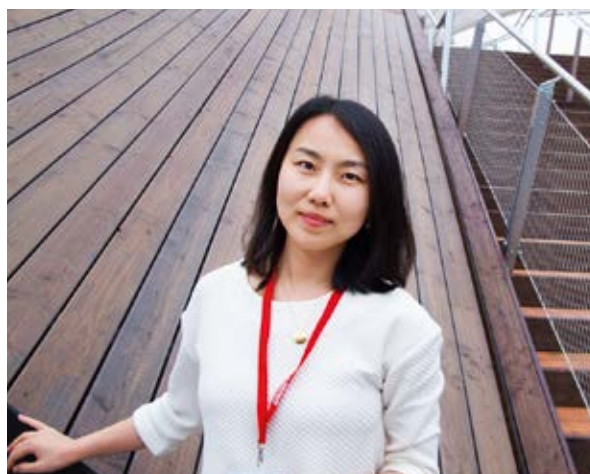


He has always been interested in wood-based materials. He is also a member of the rifle company Fieberbrunn, skis and hikes. For an original Tyrolean like Martin Lindner, the trail leads almost naturally to EGGER, one of the largest employers in the region. After training at Holztechnikum Kuchl (Salzburg), Martin Lindner returned home. During his 2008 internship at the short-cycle press in St. Johann in 2008, he was hired as a trainee. He is now an assistant for Production Management. At the beginning of the year he went to Milan in this capacity. He discussed with the fabricator on site the technical features of the compact laminates that had been made especially for the German Pavilion during Christmas 2014 in St. Johann.

## JENNIFER CHEN

Head of Sales China, Shanghai (CN)

It was her interest in interior design, interior fittings and Europe that drew Jennifer Chen to EGGER. Since June 2012, she has directed the EGGER office in her home town of Shanghai, which has grown under her leadership from two to five people. As "Chief Representative" she travels a lot through China. But this year, the most exciting trip took her to the Expo in Milan. In addition to such opportunities, Jennifer Chen appreciates her European employer especially for its corporate culture of mutual respect and recognition. She likes to spend her spare time in flower and furniture stores, the theatre or the cinema.







# An innovative landscape

Pavilions at a World Exhibition must do more today than ever before. They must use many communication channels. At Expo Milano 2015, every architectural and technical detail of the pavilion should underscore the German presence. A report on the successful trip to Milan.

AUTHOR Till Schröder



Next to real shrubs, there are also steel trees growing on the terrace. They are rooted to the exhibition on the ground floor. The OPV solar modules on the membranes of the treetops were met with keen interest. They generate the electricity for lighting the trees.

Expo visitors expect to be wowed and the “German Pavilions are always crowd pullers at world exhibitions and an investment in the future”, said Eckhard Franz in front of the Italian Embassy guests in Berlin, shortly before the opening of the Expo Milano 2015. He heads the Department of Foreign Trade Policy in the German Federal Ministry of Economic Affairs and Energy (BMWi).

EUR 48 million was approved for this investment by the German Bundestag. The BMWi also invested three years of work prior to the timely opening. It took at least as long for ARGE to work on the concept, design and implementation. ARGE means Working Group German Pavilion. The three members are: The Munich-based architecture and brand space specialists Schmidhuber Architekten, the Stuttgart-based agency for communication in space Milla &

Partner, as well as the Swiss event and exhibition constructor Nüssli were already in charge of the German Pavilion at the Expo 2010 in Shanghai (CN).

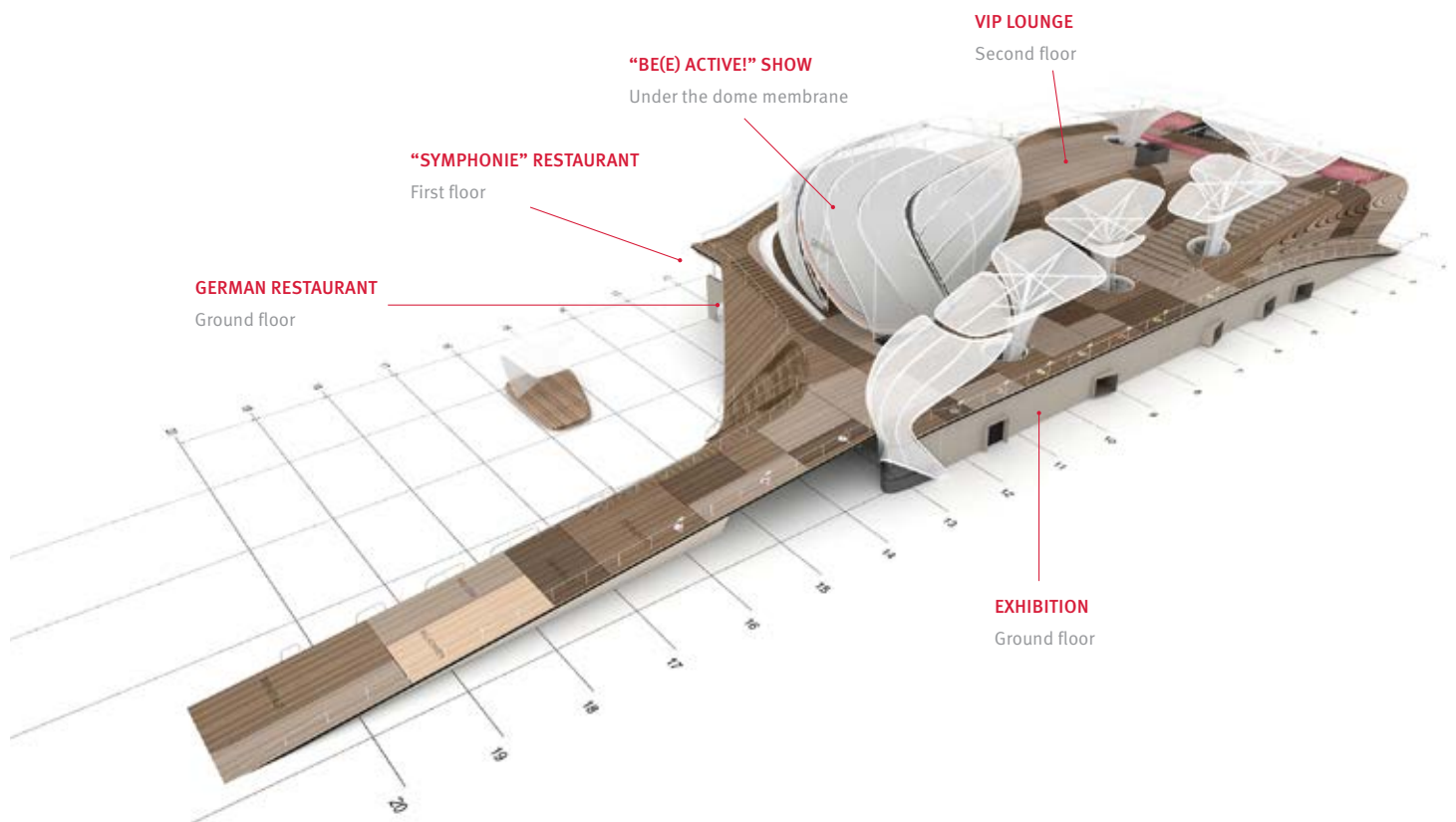
“Shortly after this project, we sat down together and started on the competition entry for the Expo 2015 in Milan”, says Lennart Wiechell, who is the architect in charge of the pavilion's space concept. Schmidhuber has specialised in “brand presentation in space”, their achievements include numerous trade fairs and pavilions at Expos and in the Olympic Parks for renowned customers. As with any Expo, the planners also asked for Milan to question what modern pavilion architecture is characterised by nowadays. For Schmidhuber, the focus is primarily on built communication. The building demonstrates values such as innovation and openness with ground-breaking solutions

and materials, accessible surfaces and inviting restaurants. “Pavilions must do more today than ever before”, says Lennart Wiechell. “They must use many communication channels.”

Therefore, the team had to take into account a variety of requirements. The building was tailored for the “Be(e) active!” show and for the open-air stage programme, it offers attractive areas for four dining options, for the offices of the Ministry's protocol department, the Consulate General and the press office and rooms for around 250 employees. The operation provides delegation visits and tours. A modern Expo pavilion combines all of these features under one roof. And, since the Expo lasts six months, the building must be easy to dismantle in an environmentally friendly way. Nevertheless, it should fulfil high aesthetic demands and arouse

→





1 The Italian joinery, FDF in Monza just outside Milan, prepares the interior work for the German Pavilion with EGGER materials.

2 The compact boards were also processed here for ceiling lamellas and furnishings.



→ interest in the audience - not an easy task.

The picture floating in the minds of architects and curators has become the motto of the German presence: "Fields of Ideas". Viewed from above, the rolling hills of the German field and corridor landscape looks like a colourful grid. This is also reflected in the gentle rise and the large-scale, organic pattern of the wood floor on the terrace. The rise invites you to rest with comfortable lounge chairs and an inspiring view over the Expo activity. In total 144 nations, three companies and eleven social enterprises present themselves at the Expo. 53 countries have their own pavilions and line both sides of the main avenue. The densely packed neighbourhood required logistical precision. On the construction site there was little space to store materials. Most had to be delivered within tight time frames and installed as soon as possible. EGGER materials for interior design were therefore produced and supplied reliably and punctually.

But how did it happen that the Austrian company EGGER became partner of the

3



4



5



3, 4 Compact laminates with oak decor characterise the German Restaurant with its popular beer bar and the restroom facilities. 5 The robust material combines the atmospheric effect of wood with the lightness of modern materials.

ARGE German Pavilion? The wood-based materials manufacturer operates six plants in Germany, twice as many as in its home country. “You can't overlook EGGER,” says architect Lennart Wiechell. Even more so, since EGGER made a “qualitative leap” with the synchronised pore on compact laminate. It can no longer be distinguished from real wood. “These products work better today than solid wood for showcases, hotels or trade fairs.” The architects asked the manufacturer whether it was interested in a partnership. In November 2013, they then met with the product managers for an intensive workshop in St. Johann in Tirol (AT). While many designers insisted on real wood and rejected wood-based materials en masse as “replicas”, managers at Schmidhuber were enthusiastic about the new opportunities, says EGGER Marketing Manager Hubert Höglauer. “It was like training with renowned architects who rediscover wood-based materials. The synchronised pore was under development at the time. They were as impressed by the look and feel as by its simple dismantling.” Schmidhuber saw the compact laminate less as a wood substitute, but

rather played with the character of the product. “We intentionally show the black edges of the slender laminates, so that the joints draw a graphic pattern on the wood image of benches and sideboards,” says Lennart Wiechell.



***“The design should convince trade visitors and inspire inexperienced visitors.”***

Lennart Wiechell, architect

### **Convincing the trade visitor and impressing the inexperienced visitor.**

EGGER provided new products, which had to be fully developed for the Expo, and special constructions from the industrial range. Horizontally mounted, organically shaped lamellas separate the themed rooms of the exhibition - a perfect task for Eurolight. To accommodate LED lighting strips, the cover layers needed to be 16 mm thick. The Flammex chipboard travelled from the →





6 Joints break up the oak decor in the wall cladding of the “Symphonie” restaurant. The wood is therefore recognisable as a modern material.

→ EGGER plant in Rambersvillers (FR) to the headquarters in St. Johann, where it was processed during the Christmas holidays to 51 mm thick lightweight boards. Four 38-ton trucks transported them further into the Swiss Hüttwilen where Nüssli turned them into 700 individual pieces. Laid end to end they would cover four kilometres. Supporting edges of 2.5 mm thin MDF from the EGGER plant in Wörgl (AT) ensured a uniform wooden background for the 13 different colours from Keim with which Nüssli painted the lamellas.

The use of the low-maintenance compact laminate was also demanding. With the new synchronised pore surface, it forms a distinctive design element of the shop, the restaurants and restrooms. However, the Italian fire regulations called for a flame-retardant version that first had to be developed. EGGER laminate flooring is also characterised by robustness. The architects opted for the dark wood tone of Moor

Acacia (H2790) for the showroom floor. It can take the steps of up to 16,000 visitors per day who are moved to participate in the unusual show.

Aesthetics and functionality were included in the choice of materials and the whole design idea: Reduced engineering culture encounters refined lines. The wooden terrace, the lamellae façade of the building edges and the eye-catching tree sculptures with organic photovoltaics (OPV) are striking. Nevertheless, the construction looks reserved. Beauty lies in the technical details, from the OPV trees to the materials to the energy-saving air-conditioning system, which creates a natural breeze through open membrane walls. “The design should convince trade visitors and at the same time inspire inexperienced visitors”, explains Wiechell. At the beginning of the project, it was hard to imagine - at the Expo, you will see what's possible.

7



7, 8 At Nüssli in Hüttwilen (CH) every single lamella for the exhibition made of lightweight boards was individually cut to size, edged, sanded and painted.

8



9



9 The lamellas made of the Eurolight lightweight boards turn normal straight walls into an organically shaped, inspiring spatial boundary.

#### ARGE

The builder of the German Pavilion, the Federal Ministry of Economic Affairs and Energy (BMWi), entrusted Messe Frankfurt with the operation and management of the pavilion. Concept, planning and realisation of the construction are the responsibility of the three members of the Working Group (ARGE) German Pavilion. The companies had already worked together for the German contribution at the Expo 2010 in Shanghai: The architecture office Schmidhuber (space concept, architecture and general planning), Milla & Partner (content, exhibition and media concept) and Nüssli (execution and project management). EGGGER was selected as a partner of the ARGE and charged with the delivery of special wood-based materials.



# What will be left behind?

A great deal is at stake for EGGER at the Expo Milano 2015.

Is the expense justified? Yes. Here Hubert Höglauer and Manfred Riepertinger explain, why EGGER partnered with the German Pavilion.

INTERVIEW Till Schröder

**MORE: The Austrian company EGGER is a partner of the ARGE German Pavilion at Expo Milano 2015. How did this come about?**

Hubert Höglauer: Of course, Austria is



***“Compact laminates with synchronised pores and also flame-retardant - this is a first.”***

**Hubert Höglauer**, Head of Marketing Group

our home. We have our headquarters there and three plants. However, we also have close relations with Germany, not only because of our six plants there. The country is also one of our key markets due to its strong kitchen and furniture industry.

**ARGE stands for the working group made up of the architects Schmidhuber, the communications agency Milla & Partner and the trade fair constructors Nüssli. Do you already know each other from previous projects?**

Hubert Höglauer: All three partners are leaders in what they do. EGGER also sees itself as a pioneer, setting the tone with the solutions offered. Therefore, we have known and appreciated each other for some time. Furthermore, Michael Egger and Klaus Schmidhuber, who founded his architectural office in Munich in 1983, also share a close friendship. In 2010, they spent a week together at the Expo in Shanghai, where they came up with the idea for a collaboration for the next World Exhibition.

**Did EGGER choose to contribute to the German Pavilion for the large delivery volumes, or to develop solutions for the Expo?**

Manfred Riepertinger: Both. The Expo was already one of our major projects for 2015. But the special structures also make Milan different. The most important requirement was that everything should be sustainable and fully recyclable. This is relatively easy for us, because our materials are made from natural ingredients. In order to ensure even easier recycling of the lightweight boards with the honeycomb core made of recycled paper, we were one of the few manufac-



EGGER uses the Expo as an opportunity to present its innovative wood-based materials to a large audience, for example Flammex lightweight boards with cover layers for an LED light strip.

turers able to offer wood edging. Instead of ABS, the architects decided on our thin MDF supporting edges, which they painted like the surfaces of the boards with environmentally friendly colours from the manufacturer Keim.

synchronised pore surfaces. They were used as part of the furniture design in the German restaurant. It was technically challenging to produce these robust boards with fire protection impregnated with phenolic resins in the same quality.

and designers who previously might have looked at wood-based materials rather sceptically, can be convinced of the special tactile and visual impact of our materials. We have committed ourselves and in return receive exclusive access to the German Pavilion.



***“World Exhibitions today no longer leave large monuments behind, but instead important messages.”***

**Manfred Riepertinger**, Head of Product Management  
Basic Materials and Environment

Hubert Höglauer: The biggest challenge was the special fire protection regulations in Italy. We had the Flammex lightweight boards and our new Flammex compact laminate certified for use at the Expo by CATAS, the Italian Institute for wood-based materials.

#### **What makes the compact laminates used so special?**

Hubert Höglauer: Starting this year, we offer the compact laminates also with

Compact laminates with synchronised pores and also flame-retardant - this is a first.

#### **EGGER invests a lot in the partnership. Why?**

Hubert Höglauer: The Expo in Milan will probably be the last World Exhibition in Europe for a long time. For us, it is a unique platform for our innovations and the nature of our products. An international audience, particularly architects

#### **What role is played by the host country, Italy?**

Hubert Höglauer: Italian design is world famous, and the furniture industry is, despite the crisis, one of the largest and most respected in Europe. Of course, Italy has therefore a special significance for us.

#### **The Eiffel Tower remained after the 1889 World Exhibition. What will stay behind after the Expo Milano 2015?**

Manfred Riepertinger: World Exhibitions today no longer leave large monuments behind, this is considered outdated. The pavilions will be dismantled after the Expo. Now a successful World Exhibition leaves behind important messages. For us, this is in addition to innovative solutions and is the concept of recyclability. What remains is that nothing should remain.



# A spectacular performance

The great performance of a World Exhibition lies in the ability of the architecture to stir the visitors emotions. They should wonder and be inspired. This mission was clearly fulfilled in Milan 2015.

AUTHOR Andrea Resch



## LUCIA MODESTI, 48

USA (physician). Combines a trip to her home country with a visit to the Expo. Her nieces Anna, 15, and Camilla, 8, live in Milan. Her mother, Maria Tapparelli, 72, travelled from Vicenza.

I live in Boston. My friends and colleagues were very surprised when I told them I was going to see the World Exhibition this summer. Nobody knew anything about it. Which is actually a pity. Many pavilions are truly spectacular. I am very impressed by the creative structures of certain buildings; I was particularly moved by the red

wadi of Norman Foster. However, you also come across more commerce and clichés than I expected, particularly when it comes to food. Italy has more to offer than just pizza and pasta! And they probably eat more than just apple strudel in Austria.

Favourites: United Arab Emirates

## GERHARD OBERMAYR, 55

Germany (restaurateur), has half a year to see everything.

This is now my eighth Expo. I started as a kitchen chef in 1992 in Seville. Today, my wife and I own the company that is in charge of the catering in the German Pavilion. Seville will always be my favourite Expo, but Milan follows closely behind. I am truly inspired by the architecture and the structure with the covered main crossroads. And all those lights in the evening. Crazy.

Favourites: Korea, Angola and Kazakhstan



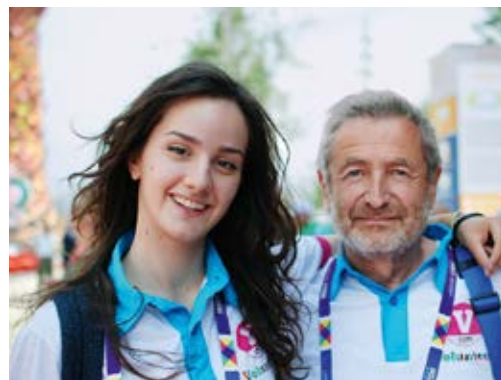


### **JAMES KAHURI, 30**

England (controller in an interior design agency).  
Added one day to his Italian holiday.

The area strikes me as a kind of mini London - multicultural, a lot of different people, food and aromas. Of course, one big difference is the clear and transparent layout, I think that's very well done. Unfortunately, one day is too short to see everything.

**Favourites:** Great Britain, Morocco and Iran



### **VIRGINIA VALLESI, 18, AND ANTONIO BOGONI, 66**

Italy (student and pensioner). Volunteer to help Expo visitors find their way

Virginia: I want to gather international experience. How often do you have that opportunity in your own home country?

Antonio: I like to meet new people and experience new things. And, as a former maths teacher, I'm good at explaining.

**Favourites:** Japan and Italy



### **ALESSANDRO, 15, AND ALESSANDRA GAMUCCI, 48**

Italy (student and marketing consultant). Mother and son from Rome spending quality time at the Expo.

We are in Milan because of the World Exhibition. The pavilions are definitely worth seeing. But, first and foremost, it is incredibly well organised. Getting all these visitors through every day ... and everyone working here is polite and friendly, the area is clean and the service is excellent. You even get fresh drinking water for free.

**Favourites:** Azerbaijan, Kuwait and Venezuela

### **ALEJANDRA V. TELPALO CARPIO, 25**

Mexico (architect) takes a four-week Interrail trip through Italy, France and Spain.

I planned my trip to coincide with Expo. It is an inspiration, privately and professionally. It was so much fun to balance across the net in the Brazilian Pavilion without falling.

**Favourite:** Germany and Brazil








# E\_NATURE

“Unlike steel or concrete elements,  
wooden elements can be planned  
so that they can be used elsewhere  
almost 1:1.”

Karlheinz Boiger, architect

“Nothing gets thrown away“ (pages 38 – 41)



# Sustainable living



## EXHALING WITH ALGAE

[www.carloratti.com/project/algaetecture](http://www.carloratti.com/project/algaetecture)

In nature, algae don't get too much sunlight. For this reason, they are masters of photosynthesis. When it comes to absorbing carbon dioxide and releasing oxygen, algae are up to ten times more effective than grass or trees. A miracle weapon in the fight against climate change? Maybe. A prototype can be seen at the Expo Milano 2015: the bio-digital "Urban Algae Canopy", where water and micro-algae flow, guided by a computer, through a type of bubble wrap. For architects, the breathing air dispenser is particularly interesting, because, in theory, entire roofs and façades could be strung with them. Even the resulting biomass can be used, for example in the cosmetics industry.

## MOVING WITH TREES

[www.bahrainpavilion2015.com](http://www.bahrainpavilion2015.com)

A country that is considered to be the location of the biblical Garden of Eden has to fulfil certain expectations at an Expo appearance - in particular when everything circles around the topic of food. Bahrain has mastered this task exceptionally well. The small island kingdom has planted ten different orchards, which will carry fruit at different times during the Expo's six months. Its outer case is a kind of 3D puzzle made of white concrete elements. In the future, Bahrain's inhabitants will be able to go for a walk inside them. Because, at the end of the World Exhibition, the pavilion will be dismantled, shipped to the Persian Gulf, and rebuilt there according to the Milanese original - as a Botanical Garden.



## TELLING STORIES WITH WOOD

[www.expo2015.org/en/pavilion-zero](http://www.expo2015.org/en/pavilion-zero)

The Zero Pavilion at the Expo entrance focuses on the way the human species meddles with nature. The building represents a cross section of the Earth's crust, with mountains and valleys. It is covered by a striking façade made of fir and oak skirtings. The path towards (Earth's) interior takes you through tunnels and caves. Myths, symbols and rituals tell the story of the change from hunter and gatherer to - landscape-changing - food producer of the modern era.



Austria's Pavilion produces 62.5 kg of oxygen per hour. It also presents sustainable forestry, the most important resource for the country's wood industry.

**Nothing gets  
thrown away**



Reducing, reusing and recycling - Expo managers used these key terms to drive participants to sustainable building. However, in practice, architects and planners bumped up against hindrances.

AUTHOR Jan Ahrenberg

Is the Eiffel Tower an example of sustainable building? After all, even though it is almost 130 years old, it hasn't lost its value. Nevertheless, sustainability means something else today. Expo structures are temporary, their use is marked with an expiry date from the start. The question of disposal arises after a very short period of time. For this reason, this type of building requires, more than any other, the planning of the end right from the start.

The same thing is stipulated by the 60 page compendium "Guidelines Sustainable Solutions. Design, Construction, Dismantling and Reuse" of the Expo Milano management. The sustainability brochure informs the pavilion builders of various strategies for reducing the CO<sub>2</sub> footprint of the temporary structures. The focus is on the rule of three: Reduce, reuse and recycle. In the German Pavilion the main focus was on reducing and reusing or extracting the raw materials in order to make new materials from them.

Many participants focused on reuse. It is a popular message to the public from the different countries. This approach justifies the high expenditure for exhibiting. If the pavilion is not temporary, but will instead be reused after the Expo, it may be as durable as the Eiffel Tower. While Bahrain and the United Arab Emirates want to completely rebuild their pavilions in their home countries following the Expo, others limit the reuse strategy to certain aspects of the pavilion.



Four towers are the trademark of the Swiss Pavilion. They will continue to be used after the Expo in city gardens in their home country.

For example, the Swiss want to reuse the towers of their pavilions for urban farming projects. And Kuwait plans to later exhibit the aquarium together with the landscape model inside a museum. "In my opinion, the concept is even more important than the materials or the recycling," says August Keller, who is responsible for exhibition building for Nüssli. It is important to design large parts of the building keeping in mind how it could be reused at a later date. Keller is involved in the construction of six national pavilions, the Italian wine exhibition, as well as two corporate pavilions at Milan. He is familiar with the challenges and strategies that arise when trying to design temporary architecture sustainably.

Another strategy is to give preference to renewable materials: Wood is the great architectural theme of the Austrian Pavilion. The Alpine nation presents itself

→





Reduce, reuse and recycle: While lightweight construction can lead to the reduction of materials required, wooden construction elements could be reused, for example, as OSB boards. On the other hand, building materials such as concrete can often only be reused as road gravel.

→ in the hot Italian plains with fresh forest air: 560 square metres planted with trees, shrubs, mosses and ferns. Around it, there is an open pavilion architecture, which is made up mostly of 18 centimetres thick, seven metre long wood panels. They have already found a buyer who wants to use them after the Expo to build a yoga school.

Wood binds CO<sub>2</sub> and trees produce oxygen. The result is clean air for the urban landscape of tomorrow. The Austrian concept of the “air power plant” is the idea of a large circuit that literally breathes recycling. The topics of dismantling and recycling were already tackled by the architecture firm Hohensinn in the planning stage: “Originally, we wanted to build the pavilion entirely of wood”, says the executing architect Karlheinz Boiger, “Unlike steel and concrete, wooden elements can be planned so that they can be used elsewhere almost 1:1.”

However, the practice requires a willingness to compromise. “The rigid construction requirements and fire regulations of the Milan authorities did not allow us to build 100 percent with wood from an economic point of view,” explains Boiger. Given time and cost pressure, the Austrians decided on a compromise: As much wood as possible, as much concrete as necessary. The latter is to be sold at the end of the Expo as backfill to Italian road construction companies. “This is of course also a form of recycling, even if it is a final one,” says Boiger. Whereas wood can be recycled much more often before it is ultimately utilised thermally.

Reuse is ranked on the environmental

impact scale above recycling because hardly any extra energy is needed. However, recycling has its good points: “During dismantling, recycling does not create waste, but instead valuable resources that can be marketed,” says Karlheinz Boiger. This creates an additional incentive to engage intensively with the issue. Since the useful life of buildings is becoming increasingly shorter, the dismantling also plays an important role in conventional building, as a cost or revenue source. Reducing consumption as much as possible certainly belongs to the most sustainable strategies for dealing with finite resources - insofar as Milan's rule of three of reduce, reuse and recycle is to be understood quite hierarchically: Reduce your energy consumption, reuse the materials which you cannot do without, and recycle the - hopefully - small

---

***“During dismantling, recycling does not create waste, but instead valuable resources that can be marketed.”***

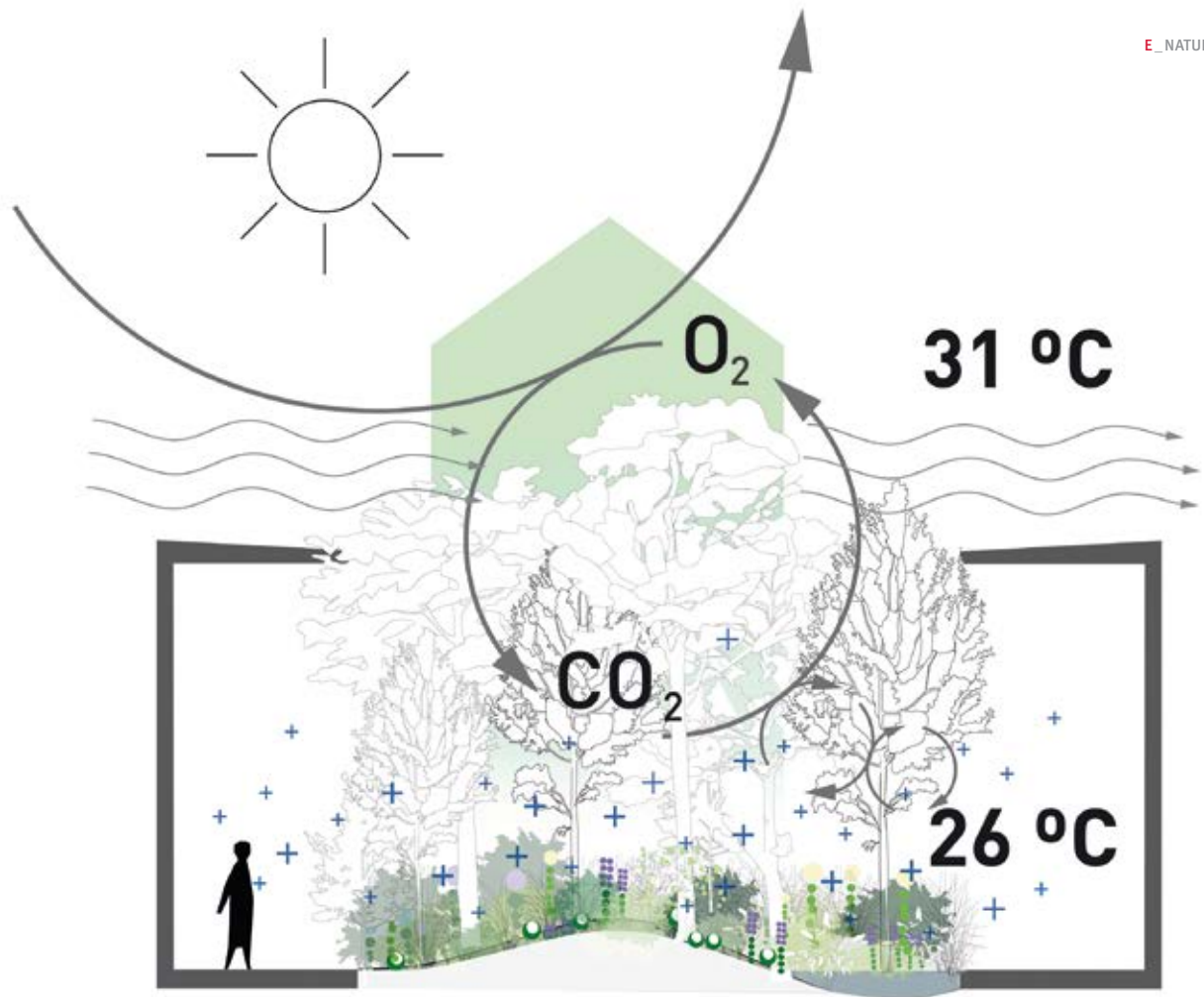
**Karlheinz Boiger**, Hohensinn Architektur

---

quantities that are left.

**Open support and ceiling structures are now an accepted feature of sustainable construction.**

In this sense, the planners of the German Pavilion are mainly dedicated to reduction: Wherever possible, the Mu-



Cool without energy input: The central forest planting in the Austrian Pavilion serves as a natural air conditioning system, which ensures pleasant temperatures during the Italian summer - and also converts carbon dioxide into oxygen.

nich architects Schmidhuber opted for lightweight construction. Whether in the roof structure, which is covered with an ultra-light membrane, or in the design of the lamellae façade of lightweight boards that allows natural ventilation of the complex.

“In design terms, the current industrial and vintage chic matches the drive towards reduction in architecture,” says Lennart Wiechell, senior architect and Managing Partner at Schmidhuber. He relies on the emphasis of individual highlights, such as the EGGER lamellas in the exhibition, which will be framed by an appropriate lighting concept. “The view on open ceilings or supporting structures is no longer perceived as a flaw today - at least in Europe. On the

contrary, in an aesthetically sophisticated architecture, it is a sign of quality, which brings to the fore the sustainability of architecture.”

As much as possible will be reused from the German Pavilion - there has already been interest in the wooden deck. The lights and lamps will likely go for reuse in the University of Karlsruhe, which was involved in the lighting design. The motto reduce, reuse and recycle deserves to be continued.



# How Expos will always stand out

World Exhibitions fascinated the architecture professor Thomas Fisher as a child. Today he researches them and supports the nomination of his US state of Minnesota for Expo 2023. A conversation about the future and nature of these exhibitions.

INTERVIEW Till Schröder



**Thomas Fisher** is one of the architecture and design authors with the most publications in the USA. His approaches are based on intensive future studies and the correct handling of the forces of nature and of limited resources.

**MORE: Which World Exhibition did you like best so far?**

Thomas Fisher: The one in New York, 1964.

**Why?**

I was eleven, just old enough to care for architecture and design. The Expo has inspired me towards my career choice. It literally changed my life.

**Do you remember what fascinated you in particular?**

I loved the optimism of the exhibition and the new technologies, the new ways of life. It showed that it works.

**At that time, the basic idea of a World Exhibition was to present the whole world in one place. Today, the whole world is present on the Internet. Do we still need Expos?**

We continue to need the subjective experience and the personal exchanges. An Expo of the 21st century has to offer experiences that we do not find on

the Internet. It must appeal to all our senses, touch us immediately, and help us to gain unexpected experiences and memories.

**Today, everyone is talking about digitalisation. Do you assess Expos by the power of their direct sensory impressions as an analogue counterweight?**

I think a lot of designers of pavilion exhibitions increasingly make use of digital media when it comes to the provision of information. On the other hand, when it comes to space design and experience, they focus on atmosphere.

**The architecture of the Expo pavilions has its own history. How would you describe the current developments in functionality and aesthetics?**

Regarding form and design, Expo pavilions have become more complex - because the digital design and manufacturing processes make such complex forms possible. At the same time, today they are built in a more practical



TALKING TO THOMAS FISHER







1



2

**1** In a leading position: In the fall of 2015, Thomas Fisher will become the director of the Metropolitan Design Centre in Minnesota, which also focuses on future lifestyles.

**2** Expo 2017 with the theme "Future Energy: Action for Global Sustainability" will take place on 113 hectares in the Kazakh capital Astana. The plans include all exhibiting countries within one pavilion.

→ manner, with functional layouts and close exhibition areas, also thanks to the available digital tools.

***"Expo pavilions contribute to the developments of the lightweight construction method and of new materials."***

**Thomas Fisher**, architecture scientist

**What should a perfect 21st century pavilion be able to provide?**

It should attract visitors with dramatic forms and surprising characteristics, and then reward them with a penetrating, captivating exhibition, which incites curiosity about the country or the company. The American Pavilion, designed by my friend and colleague James Biber from New York, is one of my favourites.

**Temporary structures and the presentation of brands in space have developed into a special field for architectural experiments. Do the results of these experiments have an impact on the construction of permanent buildings?**

Expo pavilions have left many traces. They contributed to the development of the lightweight construction method, new materials and innovative infrastructure. The trend is generally towards sustainable architecture, recyclable materials and renewable energies.

**A large pavilion also expresses dominance. Critics say the Expo Milano has become a show of vanities. Even the Pope joined the chorus criticising the money spent on the Expo (even though the Vatican has its own pavilion). Is the concept of "representation" outdated?**

I am not against exciting pavilion architecture, but it should be conceived in a responsible manner, taking into account a future use and its long-term impact.

**In Milan, wood represents 70 percent of the building material used. Is wood the new marble?**

Wood is a relatively energy-efficient, renewable and reusable material. I think it will continue to be used, especially since new technologies make it possible for wood to carry larger structures and to bridge additional intermediary spaces.

**The designers of the original masterplan of the Expo Milano 2015 imagined a “planetary garden” without pavilions. Was this too ambitious or wrong?**

I think the original masterplan misunderstood the essence of the Expo. Yes, the area often is turned into a park or garden afterwards. But Expos must offer space for pavilions. I can imagine Expos returning to the 19th century idea of a Crystal Palace, where pavilions, instead of standing free, are gathered under one big roof. But I can't see them ever disappearing entirely.

**You are referring to the Expo 2017 in Astana (KZ), where participants must design their own room within a large building. On this topic, you wrote that the principle reflects the “switch from an economy relying on mass production and consumption to one of adapting to customer wishes.” What do you mean exactly?**

The orientation of the economy towards specific needs is a sign of the “Third Industrial Revolution”, the topic of the World Exhibition 2017. Visitors will play an active role there, and they will be able to gather information that is relevant to them personally. Milan already has such qualities, but not to the same extent to which we will see them in Astana.

**In Dubai 2020, every participant will probably have their own large pavilion once more. A step backwards?**

Dubai has become a Mecca of amazing, free-standing buildings. It is natural that the Expo should mirror this character.

**You are involved in the competition for the design of the Expo 2023 in Minnesota. What innovations should we expect in Expo architecture?**

I am turning the Expo 2023 into the first 3D printed World Exhibition, where the majority of objects come from a 3D printer - from pavilion, to public rooms, vehicles, partially even the food. After all, Stratasys, the largest 3D printing company in the world, is located in our region. 3D printing is not only a fitting, but also a cost-efficient and energy-saving way of designing the Expo.

**What will be the purpose of future Expos?**

World exhibitions will continue to be places where the latest technological achievements are presented, as well as the most progressive life and work models. In addition, they remain opportunities for communities to develop empty land and bring necessary improvements to infrastructure and open spaces.

THE PERSON

**THOMAS FISHER**

The professor at the School of Architecture and Dean of the College of Design of the University of Minnesota has written a lot about design, practice and ethics in architecture. Currently, he is also researching the impact of the Third Industrial Revolution on architecture and cities of the 21st century. Fisher is part of a group applying for the Expo 2023 in Minnesota, and has recently given a course on World Exhibitions.



## PICTURE PUZZLE



# Treehuggers wanted

He has his home town in his name and travelled a lot for someone living during the Renaissance: Florence, Rome and Amboise along the Loire - and again and again Milan. There, the artist, engineer and scientist was employed for a long time by the Sforza; a museum is named after him. He also created a world heritage, which can be admired in the refectory of a monastery. The mechanics of bodies and technical processes fascinated his genius mind. He studied forces of nature, built gears, invented war machinery and flying devices. However, practical attempts at flying ended with his assistant breaking a few bones. On the other hand, his transportable arch bridge functions just like in the sketches, without nails and screws. It was initially intended for military use. We don't know if it was ever used.

### Who invented the wooden portable bridge?

Send the name to **MORE@egger.com** and win an Expo visit (25 to 27.10.2015) in Milan for two people (a 2 night stay with breakfast and evening meal, tickets for 2 days and a VIP tour through the German Pavilion, excludes travel costs).

The deadline is **30.09.2015**. The decision is final. The picture puzzle in MORE 06 showed the Ivarsson brothers, founders of the BRIO toy company. The winner Dr. Jörg Hasener from Alfeld (DE) receives a bird-house made with EGGER materials.

# MOR

[www.egger.com](http://www.egger.com)