future is living in a cube

A vision of modular building, temporary housing and microliving

containerwerk × *friends*


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A series of contemporary interviews given to Containerwerk by a number of visionary thinkers

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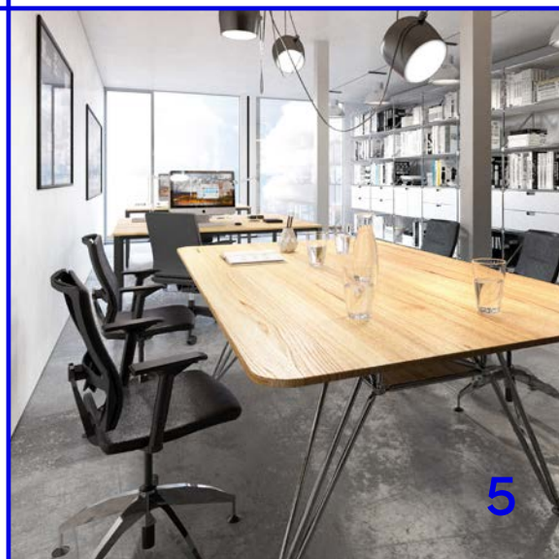


the journey continues

Thoroughly convinced and fascinated by the idea of building with disused shipping containers, we began by focusing our efforts on the 'building blocks' of this architecture. This led us to develop a technique that turns a single container into a universal and sustainable living module.

The service life of a shipping container is on average less than 20 years. During this time, it will have transported millions of tons of freight and circled the globe multiple times. But its journey must not end there. Freight space can be turned into valuable and sustainable living space.

In the spirit of the circular economy and environmental and social sustainability, Containerwerk purchases used shipping containers and upgrades the body into high-quality, affordable living space.


CONTAINERWERK.CH

interview

Ivan Mallinowski

Founder & Managing Director
of Containerwerk
www.containerwerk.com

CW Ivan, you are not only the brains behind Containerwerk but you also readily offer a helping hand. That's why I'm interested to know what you did before becoming an inventor.

IM I've always had the feeling of being an inventor. But because inventions require relatively large sums of money and perseverance, my focus quickly turned to constructions for events and special needs. As a young person, it is difficult to start inventing and to earn money from it immediately. That is why I founded the Artec company about 20 years ago where I worked for many big names including Audi, Mercedes, Ritter Sport and Jägermeister. I constructed special structures for these with corresponding special requirements and developed as a result a great deal of practical and theoretical skills – I am, after all, an autodidact.

CW So how did the idea for Containerwerk come about?

IM The basic idea of building with containers is not exactly new. Ever since shipping containers have been around, people have had the idea of living in them. I personally came upon the idea while at Artec where I had contact with the Fraunhofer Institute. We built a relatively large number of labs for them and acquired a good reputation.

Then one day, they started the 'hotel room of the future' project and we were given the task of building a luxury hotel room inside a shipping container. It was a complex assignment that posed many problems but we succeeded in the end.

So it was about nine years ago when I had my Aha! moment and realised it was possible to build a high quality hotel room, in which you feel good, in a shipping container. So that was the first contact and my love for container building began there and then.

CW How did you proceed back then? How did you go from initial idea to finished container? What processes were involved?

IM By building the first container we were taking a big financial risk. But it was worth it as we were able to learn a great deal. We used all the high-tech materials that were on the market at that time. From vacuum insulation and a thermally insulated ceiling to integrated furniture and switchable glass panes. Equally expensive with time-consuming processes was the development. Later, we also reconstructed conventional containers for building site offices and small projects. We acquired a great deal of know-how as a result. We particularly noticed that building the walls was difficult due to the building physics. In order to meet the EnEV energy saving regulations, a wall construction thicker than 20cm is required, giving you a narrow interior space. And even when attempting to build cheaply, the limits are quickly reached. That's why it is hard to achieve the standards for conventional buildings with containers. That is where our patented insulation and industrial production methods come into play.

CW You use polyurethane foam, don't you?

IM Yes, that's right. Polyurethanes are one of the many building foams and are the best physical insulating materials on the market. But working with polyurethane foam is extremely difficult as the temperature of the wall has to be exactly right. If it's too cold, it retracts and doesn't foam enough. And if it's too warm the foaming effect is too great and it becomes sticky. We have conducted numerous trails, some with BASF, and have concluded that it must be applied at exactly 19.3°C for everything to work correctly. Besides this, it has a reaction time of just seconds, during which the foam must be in the position in which it is intended to be.

CW And how did you solve this?

IM The major challenge was working with a polyurethane foam in a three-dimensional and fully automated way.

Every manufacturer from this sector said that this was impossible. And we proved them wrong by building a facility in which this works.

The RWTH University in Aachen helped us with this as they have a special institute for plastics processing. We also found a company that

produce excellent polyurethane equipment. And thanks to these components we were able to accomplish this feat: equipping a container with three-dimensional and fully automated monolithic insulation.

CW What is the main advantage of this building method?

IM With our technique, we can quickly and cost-effectively line and adapt container interiors. And the quality and consistency that we achieve cannot be matched by conventional methods.

Our walls have the same insulation value as conventional ones yet they are half as thick. Thanks to our multi-patented monolithic methods there are no thermal bridges anywhere on the container.

For me personally, the best and most fascinating thing about the whole concept is that it is completely sustainable. We use shipping containers that would otherwise be scrapped – there are no new, specially made components. Our actions are putting something that is no longer required back into practical use.

CW How long does it take you to turn a shipping container into a living space?

IM By means of a semiautomatic process, we can convert a shipping container into a living space in under two hours. The machinery is loaded and then everything works autonomously. All the insulation work on the walls and ceiling is carried out this way. After, the furniture and window fronts have to be installed. We also put the floor in separately as we use an underfloor heating system that can be installed as a finished part.

CW When you say you use serial and industrial production methods, it sounds extremely large-scale. Where is your production site and what dimensions are we talking about?

IM At present our production site is in Wassenberg, in the district of Heinsberg close to Düsseldorf.

The site covers an area of 30,000m² and our production hall space is approximately 7000m². With the machinery we have on site, we could in theory produce many thousands of containers there each year.

But then we would have a logistics problem although the plant itself is not the bottleneck. A second site with more than 50,000m² of space is already being planned and we are continually monitor the situation as to where other sites could be added. We would then be able to process the logistics properly too.

CW Modular building is, of course, in fashion and there are a whole range of different systems. What is special about Containerwerk?

IM The special thing about Containerwerk is that it is sustainable and that we are fully mobile with our containers. Because unlike other providers, our containers can be transported by all standard logistic systems. That means with our containers, customers can in a few years' time move to another city. Nothing has to be dismantled and no special transport is required – everything is so straight forward with us.

CW And then there is also a very exciting project for 2018: the collaboration with Rausch Chocolate. What exactly is it about?

IM Rausch has established an institute in Costa Rica as they wish to bring back and re-establish fine old cocoa varieties that over time have become lost due to mass cultivation. At this site – far from civilisation in the heart of the jungle – they need a basecamp. Together, we came up with the idea to build a completely self-sufficient station out of containers featuring sleeping facilities, a small lab and a small office. There is, after all, no water and no electricity there. Planning has now been completed and in the next few months production work will begin. It will have its own water purification system and a solar unit for producing electricity that can be stored using silicon batteries. We will ultimately be delivering a stand-alone solution that can be deployed anyway in the world.

“The special thing about Containerwerk is that it is sustainable and that we are fully mobile with our containers. Because unlike other providers, our containers can be transported by all standard logistic systems. That means with our containers, customers can in a few years’ time move to another city.”

CW And where in the next two to three years do you see the biggest opportunities for Containerwerk? In which direction do you want to go?

IM A major topic for us, because it really is a very pressing problem, is re-densification in cities.

We see, for instance, opportunities in the temporary use of space. In my view, our concept is unbeatable with regard to temporary needs, as it is extremely mobile, it fits in well and can grow without problems.

And besides this, we are talking about totally different prices for the square metre thanks to our large-scale serial production – and everything is fully furnished and ready to be occupied. There will also be some major changes in the market. I think opportunities will arise that are unrecognisable at present. We can only guess the potential of our product as building has never been this easy.

CW And what is your long-term vision for Containerwerk?

IM That’s a good question and it is something I have of course thought about. What will life be like in many years to come? What changes are likely? One vision that I have is that in a number of years’ time we will no longer be giving our children a car for their 18th birthday, but a residential container. And when the children start to study or move away from home, they simply takes the container with them and have it set up at a provided site. And when they start work in another city, they take the container with them. And when they find a partner, they join their containers together. And when they marry or have children, they add on extras containers.

The residential container is in effect just like the shell on a snail’s back and will accompany you throughout your life.

CW That is a wonderful outlook. Thank you for the interview.

Two 40ft high cube containers as a concept for temporary living.

there is no planet b

»There needs to be a change of thinking. We need to dispel the idea that sustainable construction means additional effort and added costs, Instead it needs to be seen as a necessary maxim and as a guideline for future-oriented planning and construction.«

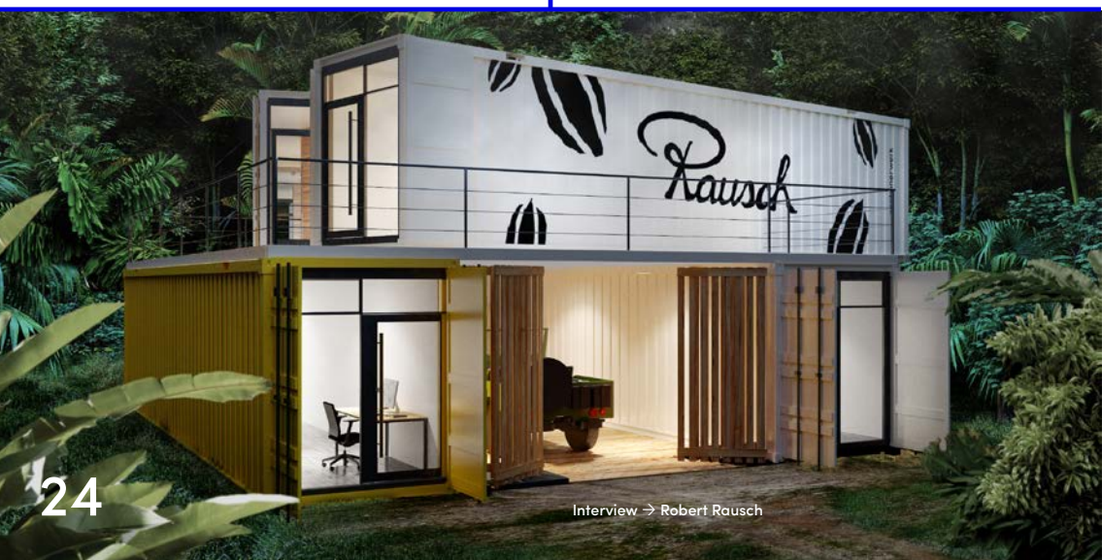
Felix Jansen,
Leader PR and Communication,
German Sustainable Building Council
DGNB e.V. - www.dgnb.de

DGNB
Deutsche Gesellschaft für Nachhaltiges Bauer
German Sustainable Building Council

interview

Robert Rausch

Managing Director, Rausch GmbH
www.rausch.de



CW Mr Rausch, the Rausch Schokoladen family business is a renowned manufacturer of high-quality chocolates. Where does your main focus lie?

RR We are a family business in its fifth generation and will be celebrating our 100th anniversary in October. In the 1990s, my father was one of the first manufacturers worldwide to start buying cocoa directly from the country of origin to ensure the best possible quality. He realised that single-origin cocoa produced the best quality because when different types are mixed together every off-taste and abnormal aroma becomes noticeable in the end product. Therefore we began to fly to producing countries such as Indonesia, Ecuador and Trinidad and Tobago to establish direct business relations. We pay considerably more than the average world market price for the extremely high quality fine cocoa that we receive. In 1999, we launched our Plantagen brand which was the first chocolate to honour to the producing country from where the fine cocoa originated and to quote the actual cocoa content.

CW You have launched a unique project in Costa Rica in which you are working together with Containerwerk. What exactly is this about?

RR I've been CEO of Rausch Schokoladen for around four years now and one of my first ideas was to establish our very own fine cocoa estate, whereas otherwise we work together with different partners such as local cooperatives and plantations. In 2014, we took the decision to establish our own fine cocoa estate in Costa Rica as the country is easy to reach and is economically and politically stable. Apart from this, much importance is attached to the topics of conservation and ecology there. After a long search, we found a 360-hectare plot of land of which 70 hectares will be used by us for planting fine cocoa. Please don't think of this area like a pineapple or banana plantation, however, where over 1000 hectares of fruit grow next to each other, but as a real, dense rainforest, far from civilisation, in which small cocoa plantations of two to a maximum of ten hectares in size will be divided.

CW What goals will you be pursing there?

RR We will be pursuing four goals with our project. First of all, we hope of course to cover the cocoa needs of our Costa Rican fine cocoa products. Besides this, we also wish to offer training courses for all cocoa farmers with whom we work with in the Caribbean and South America. That's because we can present a variety of growing methods in the various small plantations and show our partners through practical means what works and what does not. Interested customers and journalists could also get a picture of our fine cocoa estate, our philosophy and our working methods, something that the press is already greatly interested in. A fourth goal will be to undertake research there which, of course, will be much easier and better than doing it in Germany. For this purpose, we will need a research station – our Fine Cocoa Institute – that can operate in the ambient conditions.

CW And this is where Containerwerk comes into play?

RR Yes, exactly. About eight years ago in Egypt, my father together with a hotelier friend of his developed a vision, but nothing more, of a hotel made out of containers. Two years ago, I also met this hotelier and told him about our project in Costa Rica. He was still pursuing his old idea and happened to be in contact with Ivan Mallinowski from Containerwerk. He told me about Containerwerk and I instantly realised that this was our chance to establish our Fine Cocoa Institute. On returning from holiday, I invited Ivan to Berlin. We got on well instantly and decided to build the research station together. Everything came together perfectly: our estate in Costa Rica is in the heart of the rainforest in a protected habitat and, as a principle, we wish to pursue only ecological concepts there. Hence ecological and sustainable building was a must. The container solution that we've developed is perfectly suited for this because, as a 'Robinson' solution, it is completely self-sufficient.

CW What does this mean? How will you address the given challenges?

RR The container solution doesn't have to be connected to any infrastructure, it produces electricity from solar panels and has a cesspit. In the second extension phase, we will also install a water treatment system.

In this way, we can conduct research completely independently in the middle of the rainforest.

“The container solution doesn’t have to be connected to any infrastructure, it produces electricity from solar panels and has a cesspit. In the second extension phase, we will also install a water treatment system.”

A charming side effect is that the used high-sea containers we will be renovating are exactly the same ones we use to transport our cocoa across the world’s oceans – in a sense we are closing the circle.

To make the time spent there as comfortable as possible, we will be incorporating the latest smart-home technology, such as an automatic, voice-controlled lighting system. The tropical rainforest climate will also place high demands on the containers’ insulation, air conditioning and moisture resistance. It presents, therefore, the perfect opportunity for Containerwerk to test their technology long-term under extreme conditions.

CW That is a very complex plan. What was the development process like and what is the current status?

RR Our plans for the Fine Cocoa Institute placed many detailed and highly specialised demands on Containerwerk and Ivan and I have very much a hands-on mentality. That is why we drew up and developed the project together. Modifications that I requested late on were instantly included by Containerwerk. As a result, the development process comprised many steps but we now have a final design so that building work can commence and set up will take place in Costa Rica this summer.

The advantages of modular construction will be plain to see: the containers will be transported directly from the port to our estate where, in a matter of days, they will be hoisted into place by crane after which they will be ready to use. The Rausch Schokoladen Fine Cocoa Institute can then begin operations.

trying new things

"I see micro-living as the challenge and desire to arrange and unite all the necessities of contemporary, intelligent and efficient living within a limited space. Unlike the generation before them, I believe the younger generation are a lot less interested in achieving something through property, furnishings and self-designed living spaces. Due to their networks and the endless opportunities from the technical revolution, they are extremely mobile, well informed and interested in trying new things."

Vincent Bodo Andrin

One 40ft high cube container as a microliving concept.

interview

Vincent Bodo Andrin

CEO & Founder
LIGANOVA and Zeitgeist Group
www.liganova.com
www.zeitgeist.group

CW Mr Andrin, micro-living is one of today's biggest trends in architecture. What does this concept mean to you personally?

VBA I see micro-living as the challenge and desire to arrange and unite all the necessities of contemporary, intelligent and efficient living within a limited space.

Unlike the generation before them, I believe the younger generation are a lot less interested in achieving something through property, furnishings and self-designed living spaces. Due to their networks and the endless opportunities from the technical revolution, they are extremely mobile, well informed and interested in trying new things.

In this context, I see micro-living as a form of complexity reduction: you no longer need to tie up capital, you no longer have to commit to something long-term when you still have no idea where your own journey will take you. That's why I think this concept is particularly suited to today's zeitgeist; to young, agile, flexible and international people who are searching for themselves and the direction they should take.

CW As founder of LIGANOVA, you are normally dealing with brand communications in your profession. How have you become so involved with a topic like micro-living?

VBA On the one hand you have to understand that the legacy of LIGANOVA has been built upon four dimensions: brand, product, people and space. From the outset, the medium of space has always been at the centre of our business activities. Over the past 20 years, we have used countless spaces and stages for our clients. And on these stages it's the same protagonists – people, brand, product and space – who come together every time. When you look at where brand space is today and what has happened to it in the past 20 years, you realise that because of digitisation, e-commerce and heavyweights such as Amazon nothing is the same as it was ten or fifteen years ago. If you give this a little more thought, you come to the conclusion that the same lies ahead for residential and living space, because when it comes to the topic of living, there is minimum digitisation at present yet a great deal of potential.

CW What does this mean for the housing industry?

VBA What has happened in the retail trade and in the brand space dimension will be experienced, more or less, in the housing industry in the next 20 years. I'm happy to say that we are in the same position in the property industry and living space segment as retail trade and commercial premises were in 1997 – one year before Amazon had its IPO and began to change everything. As a businessman, this is a very exciting time. I want to make the most of this momentum and help shape the digitalisation of residential and living spaces, thus, to a certain extent, digitising the property interface.

CW You therefore see micro-living being closely linked to digitisation and smart homes?

VBA If you think it through to its logical conclusion, then yes. In my opinion, digitisation is all about designing processes, applications and interfaces in more people-friendly ways, centring everything around people and their needs. But that doesn't mean that everything has to become simplified, technical and dehumanised. And when you look at micro-living and the property industry from this angle, then you have to start thinking of the property industry in hardware and software terms. Today, property is developed with no consideration given to software whatsoever. Combining hardware and software doesn't take place at all – although it would lead to totally new interactions taking place. Today's real estate developers are terribly old-school and there is a very good reason for this. The property sector is booming and there is no real reason to develop something new or risk being a pioneer. Tesla, however, is the best example of why it can be an advantage to pursue a new path in an already functioning system.

CW With regard to micro-living, what will the impact of digitisation look like? How will rooms and buildings have to be connected for residents to enjoy maximum comfort and quality of life?

VBA The decisive question is not how the kitchen or toilet should be designed or how an Alexa interface or Google Home hub can be installed. What is important is how future architectural concepts can be connected to the hardware (the structural building) and the software. I firmly believe that buildings will become interfaces. Micro-living is a very fluid type of living because you are very mobile and open, and you are experimenting and willing to try new things. It's much more difficult persuading people, who don't even know where they'll be in next five months, to buy a flat that they'll spend the next 30 years paying off, than inviting them into a micro-living apartment or container for two or three months. In this context, I think it is not so much the technical as the social components that are the decisive factors.

I think we have to give thought to the idea of living together and see ourselves as a social and spatial community. When I'm cooking in a micro-living enviroment, then I also want to be able, in a fun sort of way, to invite my housemates for a plate of spaghetti, and vice versa. What is important to me is that we live together and are linked together, not next to each other and isolated.

CW Containerwerk turns scrapped high-sea containers into high-quality living space and is thus involved with the notion of using limited space. How do you assess the idea and concept from Containerwerk?

VBA The concept from Containerwerk is very smart. That's because, on the one side, they incorporate highly technical expertise and real innovations to balance out the technical challenges and disadvantages associated with containers. On the other, and I believe this is particularly due to Michael Haiser and Ivan Mallinowski's background, Containerwerk has a special feel as to how spaces should be designed – and here I'm talking about cosmetics and less about technology – thus reflecting a wide target group that is young and in tune with the times. As a result, their products are on a totally different level to their competitors. They are designed, developed and implemented in a completely user-friendly way. That's why I believe it's not a question of 'if' Containerwerk will be successful, but 'when'. Containerwerk will without doubt leave its mark on how we live in the future.

CW How do you see us living in the future? How will the concept of micro-living develop?

VBA The living space sector is extremely diversified. In general, I don't think micro-living on its own will change our understanding of living spaces. I see micro-living being for pioneers who want to find out in a short space of time and among a very open-minded community what is possible and what direction they should take. Generally speaking, I also believe that the property industry will digitise itself, that an architect without a software developer and without a multidisciplinary team will no longer be capable of developing living concepts. This will need a coming together of interdisciplinary skills that combine different approaches. In the next ten to fifteen years, this combination will lead to totally new applications and our understanding of living will greatly change.

CW How will this influence the property industry?

VBA We must say goodbye to earning money from construction – in other words producing inhabitable square-metre space and selling it for more money than our original investment. In the future, property developers will earn their money through services, leases and the limited access to experiences. These will be experiences that will be measured in cubic metres and not through living space characterised in square metres. We will enter totally new dimensions for which totally new monetary models must be considered. Just like an iPhone, the life of a property will only begin when we put our finger on the start button.

“I firmly believe that buildings will become interfaces.”

Two 40ft high cube containers
as a co-working solution.

the future is living in a cube

"Each building method has its own design language and this should also be shown and developed individu-ally. This approach is clear to see at Containerwerk they don't hide or disguise the freight container, they show it as it is, like on the day it was created."

Prof. Han Slawik

interview

Prof. Han Slawik

Architect and engineer
Pioneer of container architecture in Europe
www.architech.pro

Photo: Feenstra Fotografie

CW Using containers for living space is a topic you have been involved in for a long time and you are considered a pioneer of container architecture in Europe. How did this passion come about?

HS In the 1960s, I completed an apprenticeship in bricklaying in a somewhat rural area and gained experience there that still influences me today. Back then, of course, building was very conventional: excavations were simply filled in with building rubble and there were no disposal regulations let alone waste separation or recycling. And worst of all, building simply stopped in winter when the weather was bad meaning that many building sites were always behind schedule. It was there that I developed the urge to do everything differently: prefabricate building components in factories regardless of weather, have the shortest possible assembly times on building sites, and have a more conscious approach to using resources instead of throwing everything away after only one use. That's how I started building with space modules and later with containers as they combine all these aspects. In 1986, I received a prize at the Temporary Living competition in Almere, Holland, for my 'Campus' shipping container design and I built the first ever steel container house, at least in Europe.

CW How would you describe modular building? What are the underlying principles?

HS Modular building is a generic term for a variety of technical methods for building structures with modules. These follow systematic, standardised procedures according to dimension or modular systems. Included here are also building methods using large, precast concrete panels. When looking specifically at Containerwerk's products from a modular building point of view, we are in fact talking about space module construction. With regard to space modules, a wide variety of techniques and systems are used and these vary greatly from manufacturer to manufacturer. Structurally speaking, there is nothing difficult about space modules; they are relatively easy to make. A wide range of materials are used and these are also combined in hybrid constructions, which besides steel also use, for instance, wood and concrete. It all depends on what the manufacturer specialises in. The standardised freight containers that Containerwerk works with are, of course, always made of steel.

CW How has modular building developed and changed?

HS There have always been examples of modular building in architectural history. The American freight forwarder Malcom McLean developed the freight container in the 1950s, thus revolutionising transportation as a whole. In the beginning, favourably priced, used containers were temporarily converted for other purposes as one-off projects. In the 1980s, manufacturers of space modules built lightweight versions of these freight containers and later increased their dimensions and integrated insulation and technical installations. Products with ever-increasing quality started being developed from the year 2000 onwards which saw the container enter the building sector for good. In the Container Atlas (Slawik, Bergmann, Buchmeier, Tinney), we call so-called sea containers "freight containers" and the lighter replicas "building containers".

CW Did many difficulties arise during their development?

HS Containers were originally designed for transportation, hence their shape and size being specified and their dimensions, as far as possible, being standardised to allow transportation in all countries. Their construction is also geared to providing as much carrying capacity as possible – up to 30 tonnes. As a result, there are a number of limitations when converting containers for the building trade. Larger rooms are one such wish along with better structural characteristics. That is why producers have continued to develop the lighter building container. The physical constraints of freight containers are particularly problematical and it is therefore very difficult to meet the increasing demands of thermal insulation regulations. As a result, limits are set as to what is physically possible, yet Containerwerk have, to a certain extent, managed to overcome these limitations. They have come a long way perfecting and advancing their technique, and have developed conversion methods that have enabled them to save a great deal of space inside the container.

CW Containerwerk has set itself the goal of overcoming the building site image that container construction has. Do you also see this as a problem?

HS This 'site hut' image arose due to the building container. These are very cheap, basic, light containers that just happen to look

like real freight containers. They are produced as space modules with thermal insulation for buildings with office or living uses. These building site containers are simply coupled together in rows and stacked. No architect is involved just someone to determine the layout. That's all that is needed because on completion of the building work the containers are taken away. But this is how they received their bad name. These building containers are always used when a speedy, cheap solution is required, for instance during the wave of refugees in the 1990s when vast amounts of living space had to be created in a short space of time.

CW What opportunities do you see for addressing this image?

HS This reputation is the reason why module construction companies call their profession module construction and no longer container construction. But there are some tendencies here that could go the wrong way. Many producers try to replace conventional building by imitating it. In my view, this is totally wrong.

That's because each building method has its own design language and this should also be shown and developed individually. This approach is clear to see at Containerwerk – they don't hide or disguise the freight container, they show it as it is, like on the day it was created.

They stand by their containers, while modular construction companies have tinkered by introducing their own dimension regulations and designs. At Containerwerk you can see, feel and experience real container architecture. And from an architectural point of view, that's what I find so special and outstanding about the products from Containerwerk and this will open up many opportunities and developments in their segment.

CW Can the current housing shortage be addressed with container architecture?

HS Yes, that is perfectly logical. But this challenge is not new. The refugee crisis of 2015 brought this matter to our attention once again. It provided the impetus for many long overdue renewals, as we have always needed apartments and we have for many years built far too few. There has always been a sparseness of building space in cities, high rents and property prices and these factors have nothing to do with the refugee crisis. But the topic is currently ever present in our minds. That is the reason for our government providing greater resources and to easing the building regulations (somewhat).

CW And is architecture reacting to these problems?

HS Yes, it is. One large international trend, for example, is the Tiny House movement. In Holland, the first major projects are currently being planned and will soon be built in Amsterdam and Rotterdam. Modular building is a central force there.

That's because modular building has the advantage over normal, conventional building that it can be technically equipped in a totally different way and to make real micro-housing possible, multipurpose usage is fundamental.

That's because limited space can be used so much more efficiently if, for instance, something can be folded away from one area or pulled out from another. And such technical modules make this so much easier. I therefore also see an opportunity for Containerwerk to develop in this direction, too.

CW How would you classify sustainability in this context?

HS The energy revolution is a major challenge of our time and it must be a part of the thinking and planning in all spheres of life. This in turn involves resource-saving construction, recycling and also "circular construction" or upcycling, as practiced by Containerwerk. These are future-oriented techniques and principles that are extremely relevant and will remain so. They can be particularly well implemented with modules, as building modules can easily be given a new use when they are no longer needed, while conventional structures must, in principle, be demolished and disposed of. I therefore see

Image: 40 FEET BERLIN

“to make real micro-housing possible, multipurpose usage is fundamental.”

modular construction as an effective answer to combatting resource wastages and shortages, and as a significant step forward compared to conventional building.

CW Is there potential for container architecture in the re-densification of urban areas?

HS In principle, there is a conflict here between conventional and modular building. Both methods have their differences and advantages, but basically I believe that re-densi fication in cities is possible with both. There is certainly nothing wrong with that as the architectural landscape thrives on variety. And many cannot afford space modules e.g. free forms of architecture. Having a goal of just using modules is also not right, both should exist next to each other. The obvious advantage of modular building methods is, of course, that faster re-densification is possible and the structures can be reused at other sites when they are no longer needed.

CW In this regard, what is your specific view of Containerwerk?

HS Because of the fact that Containerwerk uses high-sea (freight) containers in their purest form, all their advantages are retained.

One of these is the module’s high degree of mobility and they also offer flexible stacking and combination options.

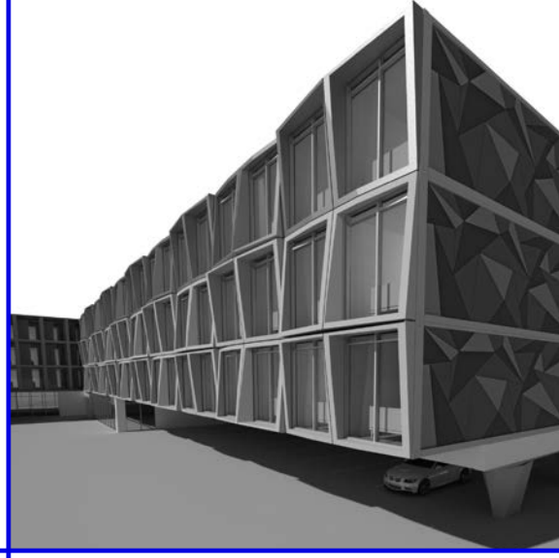
Hence they offer equally good opportunities for the temporary use of spaces. Concerning costs, Containerwerk has optimised a great deal already and it continues to pursue a promising path. But other producers also have good ideas. Basically, I think it comes down to an aesthetics question: do people, for instance, prefer to live in a disguised space module that imitates conventional buildings or in a real high-sea container that conveys an authentic, mobile, well-travelled and global image? With regard to Containerwerk, these elements have all been retained unlike other producers. As a result, they offer some very exciting architectural opportunities.

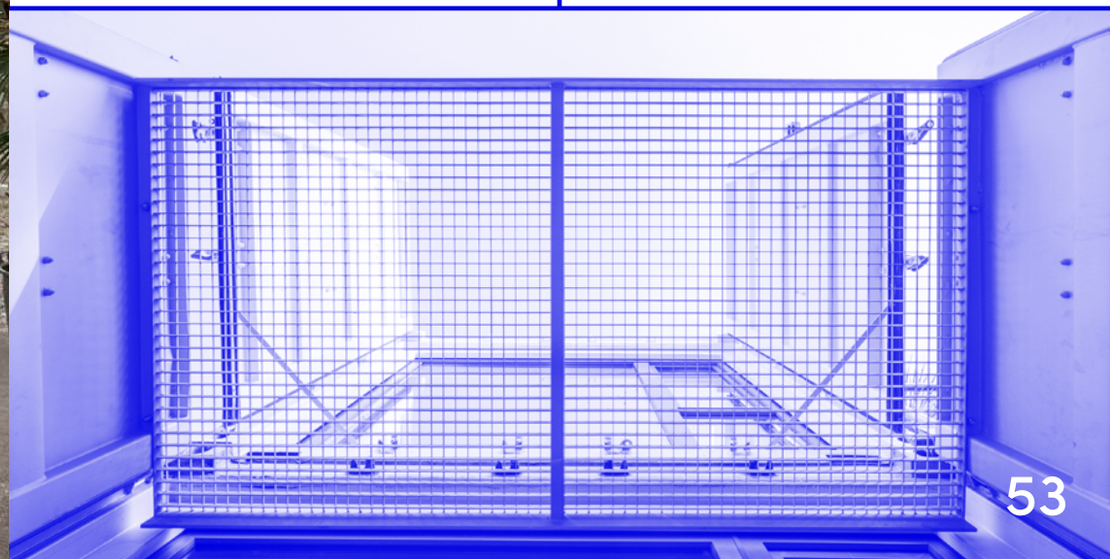
CW What challenges do you see modular construction facing?

HS To enable modular construction, or ultimately modular living, to become an integral part of society, a number of structural hurdles have to be overcome. To exploit the mobility and versatility that they offer even further, areas and framework structures in cities could perhaps be created where living containers could be placed or inserted without any great bureaucratic effort. Temporary building has yet to be properly included in the building regulations. The legal provisions for permanent structures still apply, greatly complicating the implementation of temporary projects. Steady progress in this area, however, is being made and it is only a question of time until legislation bridges the gap to the new techniques. It is nevertheless important that our politicians continue to provide the right impetus.

CW How would you finally sum up the work of Containerwerk?

HS Containerwerk puts a high-sea contai-ner’s pure aesthetics into focus instead of disguising it, resulting in a fascinating look and exciting architectural opportunities. The interior of their high-sea containers is extremely sophisticated, so much so that their actual physical and spatial limitations have to a great extent been compensated for or even overcome. They produce outstanding products with a unique exterior.





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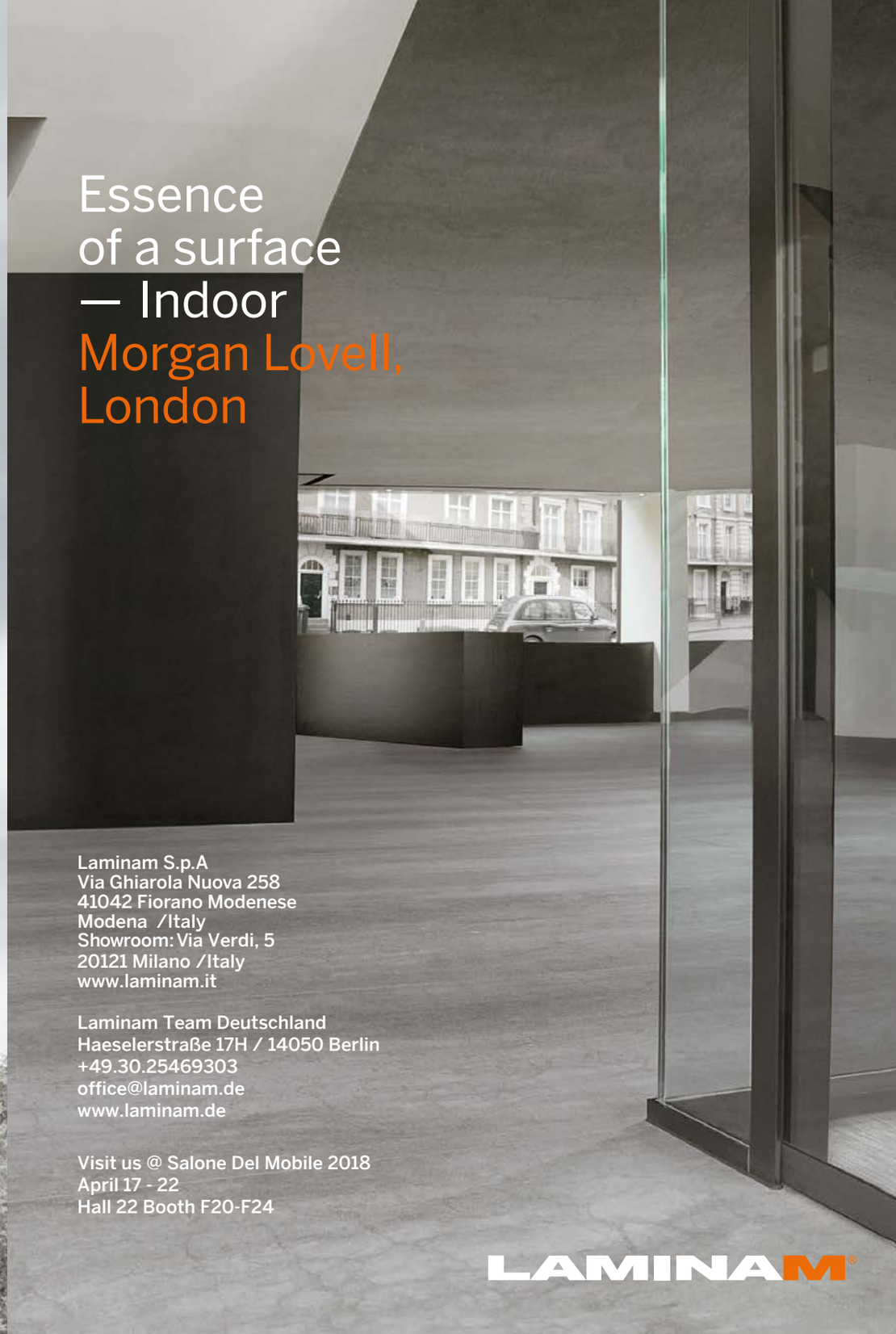

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Good to know:

The largest container ship in the world:

It's as long as four football pitches and can transport more than 20,000 containers. On the morning of 15 March 2018, the Antoine de Saint Exupéry, the new container ship operated by French shipping company CMA CGM, made its maiden visit to Hamburg where it set a new port record (length: 400m, width: 59m, draught: 16m).

Track the »Antoine de Saint Exupéry«

The inventor of the freight container:

The American freight forwarder Malcolm McLean was struck by the sheer number of dockworkers at ports in the 1930s, leading him to come up with a revolutionary idea: a standardised box containing the contents of a truck that could be hoisted on to ships. In 1956, he sent the first standardised and stackable crates to sea.

The largest container port in the world:

Since 2010, the undisputed No.1 in the world is the port of Shanghai. Around 36.5 million standard containers were handled there in 2015, more than three times as many as in Hamburg.

Weight and size:

A 40-foot high-cube container measures 12,192 x 2,438 x 2,896 mm and has an unladen weight of 4000 kg.

How many pairs of shoes or how many smartphones can be transported in a container?

In a standard 20-foot container (1 TEU), there is room for either 4000 pairs of shoes or 50,000 smartphones. In a 40-foot high-cube container, 8000 pairs of shoes or 100,000 smartphones can be transported.

Imprint:

Overall concept
Containerwerk

Interviews by
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vision of micro living

A series of contemporary interviews given to Containerwerk by a number of visionary thinkers