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THE ULTRA JOURNAL

PUBLISHED ON THE OCCASION OF THE R18 ULTRA CHAIR PUBLIC BETA INSTALLATION
DESIGNED BY CLEMENS WEISSHAAR & REED KRAM FOR AUDI

PUB LIC BE TA

with three line novels by
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WAYS OF SITTING



J.M.W. Turner, *Arrangement in Grey and Black No. 1*
1871 Musée d'Orsay, Paris

Imagine your mother in a chair. Think about the way she holds her back and head and arranges her arms and legs. Perhaps you can guess from her pose what she's likely to say next. Very possibly you understand the minute nuance of her mood from the position of her shoulders. Just as we recognise people by their gait, so the sitting positions of those we know best are utterly familiar to us, even though we've probably never consciously acknowledged them. All of us occupy a chair differently and equally we endlessly inflect our natural seat according to the context and our emotions. In short, we have multiple ways of sitting, but all of them are our very own.

It's often said in conjunction with the Milan furniture fair that the world doesn't need any more chairs. This can't be true. The infinite number of forms a chair must support and the enormous range of materials it can be made of make it the perfect subject for ceaseless refinement. The process of improvement, however, requires rigorous testing, and that is becoming a rarity in furniture design. Clemens Weisshaar laments the days when a new product was developed through a series of models, each one subject to thorough investigation. Latterly cash-strapped clients hurry designers into moving direct from render to object.

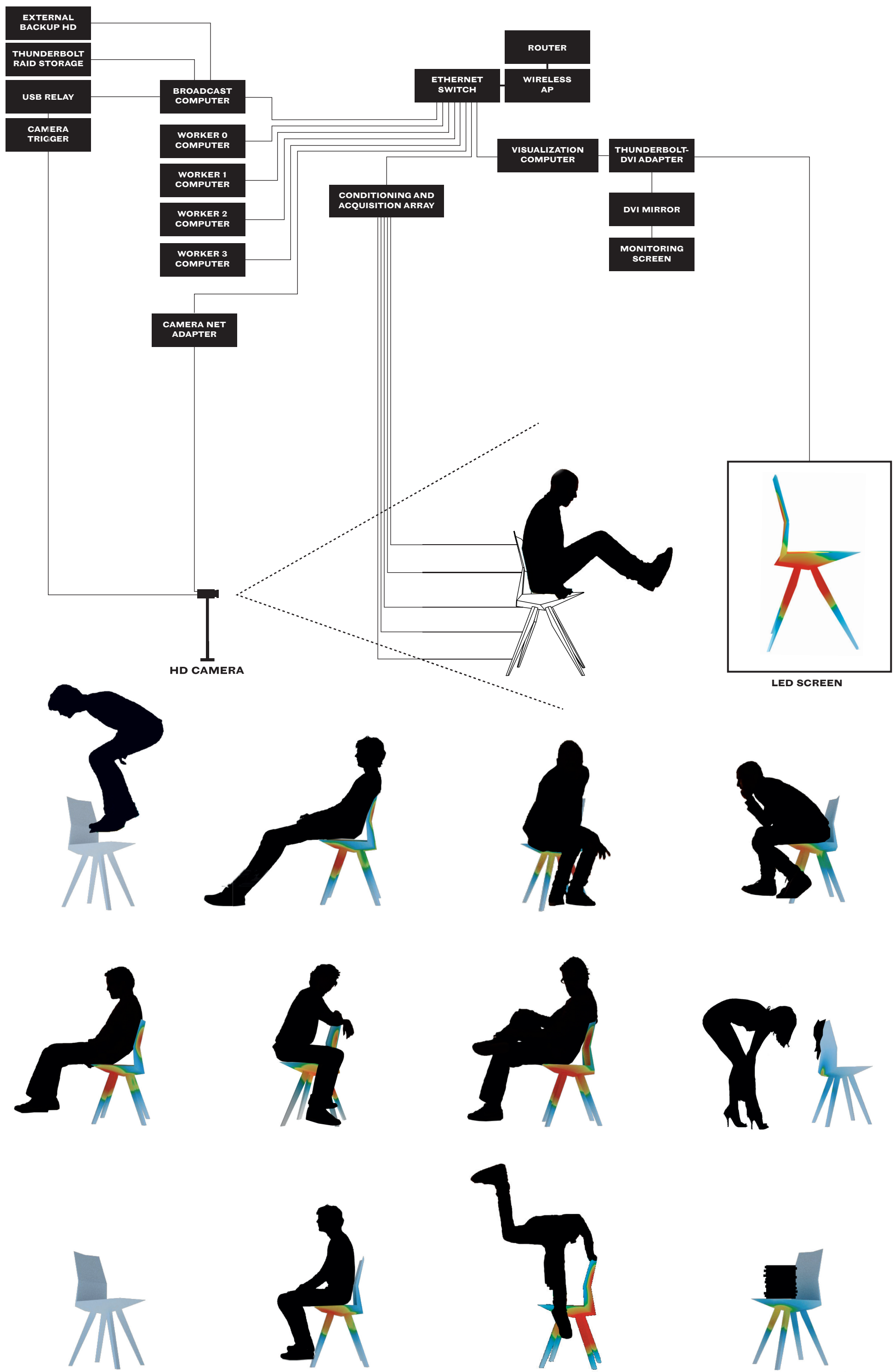
In 2010 Clemens Weisshaar and Reed Kram collaborated with Audi on Outrace, a project in which they borrowed eight of the car firm's industrial robots and used them to draw messages in light against the London sky. Following that venture's success, Audi invited the designers back, once again giving them the run of their manufacturing resources. Among the many things that the designers were pleased to discover during their first project with Audi was their engineers' willingness to test and test again. Keen to explore that capacity further, the designers decided to use the new collaboration as an opportunity to subject the humble chair to investigations that would normally be applied to a piece of kit designed to move the human body at 300 plus kilometres per hour. Industrial testing usually takes place behind closed doors. By staging it in a Milanese Palazzo's courtyard during the melee of the Salone, Weisshaar and Kram are both turning it into a piece of theatre and opening it to a broader range of inputs. Regarding the latter, Kram is quite specific: they are not interested in the crowd's opinions about their design. They don't want to know what people think about the way it looks and feels, they just want to find out how they put it to use.

In practical terms the second Audi/Kram/Weisshaar project consists of a carbon-fibre composite chair called the R18 Ultra Chair. It weighs less than two kilograms and is wired up to the testing equipment used in the development of racing cars. Human interaction with the chair will be shown real time on an LED screen, with various forces being represented in a spectrum of colours. Each participant has a one-minute slot and overall there is the potential for 5000 participants. Sitters will be rewarded with a recording of their session in which the image of their body on the chair and that of the forces within the chair are collaged.

Perhaps the real test of the R18 Ultra Chair will happen once the spectacle of Milan has passed. At that point the designers will have the data to put to use. They will know in detail about the stresses and strains that 5000 people put on a chair and, as a result, will be able to judge the extremes of possible combinations of lightness and durability. They should be able to make a chair that not only maximises the current potential for strength to weight, but will also last a lifetime. The outcome of the next stage of this project will be something of a meta test.

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It will be a test of the value of testing itself.



R18 ULTRA PUBLIC BETA INSTALLATION Hardware system diagram with test subjects in various scenarios

NOUVELLES EN TROIS LIGNES

A CHAIR

BANLIEUE PARISIENNE

— M. Dupuis, miroitier à Paris, et M. Marchand ont été blessés, à Versailles, dans un accident d'auto. Le chauffeur Girard arrêté.

— Les cartouches de la bombe d'Argenteuil proviennent d'un militaire en activité ou ont été volés dans une poudrière.

DÉPARTEMENTS

— Une jeune fille, Louise Azéma, a reçu dans le ventre une balle émanant d'un obus parti du camp du Causse, près Castres. (Havas.)

— Les fermiers de S.-et-M. proposent aux ouvriers agricoles 3 fr. et 3 fr. 75 par jour suivant le mois. (Par téléphone.)

— Nuitamment, volets et vitres ont été brisés chez 3 grévistes de Lochrist (Morbihan). Le mouvement de rentrée s'accroît. (Hav.)

— D'adjoit au maire de Saint-Etienne, le socialiste Plantevin devient ce maire par 2 voix. Il remplace M. Ledin, élu député. (D.p.)

— Dans le lac d'Annecy, trois jeunes gens nageaient. L'un, Janinetti, disparut. Plongeurs des autres. Ils le ramenèrent, mais mort. (D.p.)

— Le radicalisme gagne un siège au conseil général du Rhône, grâce à l'élection de M.

a textual exhibition on paper curated by Gianluigi Ricuperati

When Clemens Weisshaar and Reed Kram asked me to contribute to this one-off newspaper, Félix Fénéon's 'Novels in Three Lines', a superb and humble example of micro-journalism and macro-literature, immediately came to mind. I thought to myself: 'Why don't we add another layer of experience to that of all those people sitting down and having their physical impressions recorded?' And the idea was simple: sitting down on a chair and then getting up is the physical equivalent

of telling and mostly, thinking a very condensed narrative. I believe that our everyday life is lacking big narratives and emphatically full of anxious, tender, horrible, subtle, logical and illogical short stories.

To paraphrase one of the great masters of American Literature, Joan Didion: "we tell ourselves (micro) stories in order to live", because small mundane acts require a perpetual ritual of

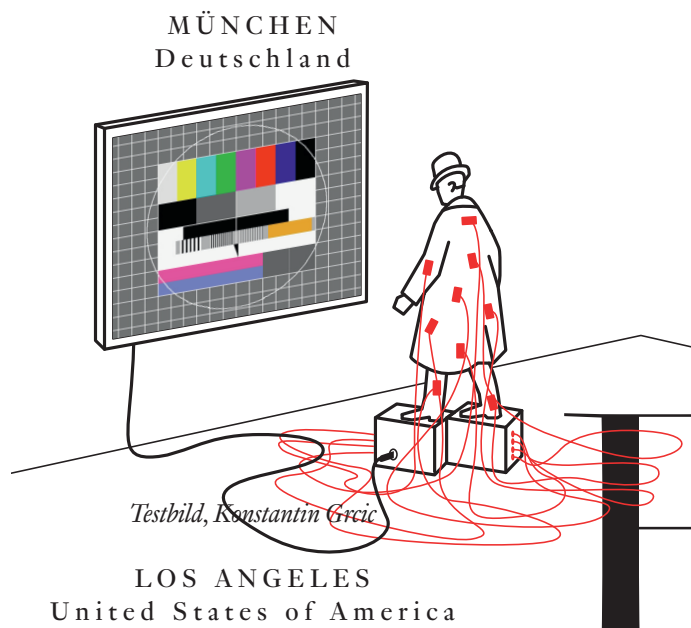
storytelling a novel in three lines for holding a spoon, a novel in three lines for washing the dog, a novel in three lines for conjuring up the right combination of socks and suit. I asked writers, artists and designers to each deliver a three line novel about a chair, and the results, published here, are just the first batch of an ongoing tradition and compulsion: every good writer in the world right now is on the verge of the most difficult enterprise:

reducing all they've heard to a super short prose poem, the entire DNA of phenomena condensed into a small perfect filament.

This is an exhibition of texts, and we shall never forget that Félix Fénéon was one of the first visionaries to find greatness in the work of the impressionist painters – three-liners of visual gestalt at a time when most people turned their heads to focus on other magniloquent 'grand narratives' instead.

Buona lettura.

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With the patent applications filed and the bank loans pending approval, thirty-year-old designer Jones, of Los Angeles, was on the heels of success. Soon he could begin work on his big idea; the world's first chair made of thin air.
Jonathan Olivares

UPSTATE NEW YORK
United States of America

M. Poutine, of Honfleur, took comfort in his chair, his pipe, his book. A neat circle of ashes was all that remained when firemen broke in the door.
Luc Sante

PORT AU PRINCE
Haiti

Prototypes
First man walks across landscape and sees the sweaty horizon. The chaotic delirium is replaced by the dripping perspective and a handy stone forms a human pedestal. thus the unknowable core of human existence is circumscribed and the kofte grill may begin.
Jerszy Seymour

MILAN

Perfect animal man is not
He does not sleep without a cot
He does not eat without a chair
Which at best he can repair
Andrea Branzi

The bus stops. Everyone hurries off, trembling to get into the water. Some hitch up their skirts; others with their stockings on. She gets off, white plastic chair in hand, black handkerchief on her head. Settling in, regally, she watches them from the shore. A touching moment.
Patricia Urquiola

We never spoke much in my family. Especially not at meals. At times my mother seemed ill at ease with the creaks that persistently pierced the silence from the four sides of the table. The situation changed slightly in 1958, when I decided to substitute the old wooden chairs with a set of metal ones.
Ivan Carozzi

Yesterday at 2 pm Eva Poli was preparing to hang herself. Standing on a Giò Ponti chair, she heard it creak. Afraid to break it, she scrambled off, fracturing her instep.
Camilla Baresani

NAPOLI

The draftsman showed his wife the drawing. She didn't understand the sketch: a simple chair with Self-Portrait written underneath. He didn't add anything else, just that he was going out to buy cigarettes.
Cristiano de Majo

PISA

We sat on the side of error as all the other seats were taken. Only then did we notice the free chairs.
Luca Ricci

FELIX FÉNÉON AND THE CURATOR AS CATALYST

The life of the French critic, editor, collector and anarchist Félix Fénéon is a fascinating study in how to influence a culture indirectly. Like Henry Cole, Fénéon began his professional trajectory as a clerk. Born in 1861 in Turin, he was raised in Burgundy during a period of political cynicism, and developed anarchist-communist views from a young age – at age twelve he started the Société de la mort facile, the Society for Those Willing to Die. As a student, he won a competitive exam that got him a job in Paris' War Office. He worked there for thirteen years, eventually becoming head clerk. In his spare time, Fénéon created an influential 'little magazine' called *La libre revue* (the Free Review). He served as its editor and critic, and he also published the work of the Symbolist poets and pioneers of experimental poetry, Verlaine, Rimbaud, and Mallarmé. For Fénéon, literature and visual art were inseparably interwoven, and he is credited with developing a new, modern style of interpreting paintings that 'read' them as texts.

Fénéon was a connector and a crucial accomplice of avantgarde poets and artists who were struggling to invent new styles. This depended in small part on his dandy-ish personal charisma according to Mallarmé, 'there was no one who didn't enjoy meeting him.' While writing on art and becoming an integral part of the Symbolist movement, Fénéon came into contact with the painter Georges Seurat. Seurat was establishing a post-Impressionist style based on his pointillist technique, in which he used

dots or dabs to create a pixellated image that both depicted a scene and drew attention to the method by which it was depicted. Fénéon saw Seurat as the leader of a new generation and worked to bring him to the attention of a wider public.

A figure of many secretive facets, Fénéon pursued most of his endeavors behind the scenes, perhaps most notoriously his anarchist political activities. In 1894, he was widely suspected of bombing the restaurant Foyot in Paris, a destination for senators and the wealthy. The bombing killed no one, and he was acquitted in the ensuing trial, but much anecdotal evidence points to him, including the detonator caps police found at his office. But Fénéon was enigmatic beyond politics. The founder of a dozen small magazines, editor of the *Revue Blanche* and the *Revue Indépendante*, the first French publisher of Joyce, and translator of Jane Austen, he never produced an autobiography. Neither did he write of himself in his essays, which he often signed with pseudonyms, preferring to remain in shadow. A typical writing project was the set of visionary three-line news items, *Les Breves*, he anonymously wrote in 1906 for the Paris newspaper *Le Matin*. (These have recently been collected into the book *Novels in Three Lines* by the writer Luc Sante.)

After 1910, Fénéon sold paintings for the Bernheim-Jeune gallery, promoting the work of many of the same artists he earlier championed in his criticism. The son of a traveling salesman, his journey through life, identities and professions was

peripatetic. Fénéon was also indifferent to personal prestige, rarely if ever playing a public role. That indifference, and his non-linear, discontinuous biography, meant that the influence he exerted over fin de siècle artistic culture, though attested to by many, is difficult to trace. We owe much to the historian Joan Halperin, who recovered the fragments and wrote his biography.

There is one very direct trace of his influence on my work, however. I came upon this passage in Halperin's book: 'It was certainly around this time that [Seurat] sent him the small study *Modèle debout, de face*, which he has exhibited in 1888 and about which Fénéon had said that it 'would glorify the noblest museums.' Fénéon was awed. The little picture became his most beloved treasure. He made small velvet case for it and for two other canvases from the same series, *Modèle assis*, *assis* and *Modèle assis, dos*, which he had bought sometime after Seurat's death. He slid them into the inside pocket of his vest and took them with him each time he left Paris. Their 'style, of a dignity and serenity and of an indescribable distinction' filled the most pedestrian hotel room with life.'

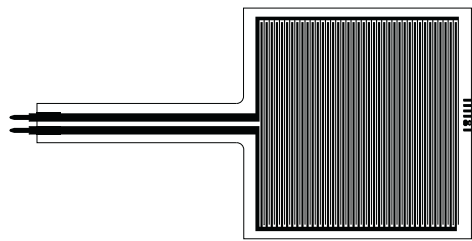
The image of Fénéon's mobile, private hotel-room exhibition of Seurat, became the inspiration for my own exhibition *Hotel Carlton Palace*, where I invited artists to make works for room 763 of the Paris hotel. In his myriad initiatives, Fénéon seems to have always functioned to those around him as a catalyst, a chemical term which he used to describe the task of the curator. In history, as in chemistry, the catalyst disappears.

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GIANLUIGI RICUPERATI INTERVIEWS

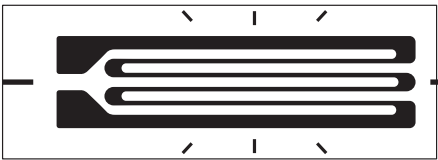
CLEMENS
WEISSHAAR
AND
REEDE
KRAM

A VARIETY OF SENSORS ARE POSITIONED ACROSS THE SURFACE AND EMBEDDED INTO THE MATERIALS OF THE SENSOR CHAIR INSTALLATION



FORCE SENSING RESISTOR

Force Sensing Resistors (FSRs) are thin, robust, polymer thick film (PTF) devices that decrease in resistance when increased pressure is applied to the surface of the sensor. The FSR sensing film consists of both electrically conducting and non-conducting particles suspended in a matrix. FSRs are particularly appropriate for qualitative analysis rather than precision measurement and design tested to over 10 million actuations.

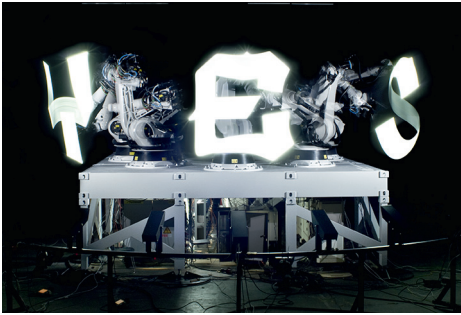


STRAIN GAUGE

Strain gauges measure the strain of an object. A strain gauge consists of an insulated flexible backing which supports a metallic foil pattern. As the object is deformed, the foil is deformed, causing its electrical resistance to change. This resistance change is measured using a Wheatstone bridge circuit. Strain gauges are employed widely within industry for experimental stress analysis and durability testing under the most severe and hazardous conditions

KRAM / WEISSHAAR's Munich office is an expansive loft filled with maquettes, boxes, computers, and the occasional bottle of Glorietta Cola Mix, a Bavarian success story in soft-drinks that tastes like Coke mixed with Lemonade and Orangina. On a cold and clear morning in early March I visited the studio to meet the German half of the duo, Clemens Weisshaar with Reed Kram joining via Skype from Stockholm. We sat down to discuss the forthcoming PUBLIC BETA installation in the Milanese Palazzo Clerici, which will preview and road test the new R18 ULTRA CHAIR Weisshaar and Kram are designing with the Audi Lightweight Design Centre. I found their answers both focused and unexpected but always accurate.

GLR: So, Clemens let's start with you, where did the chair story begin? And what has happened between the OUT-RACE project and this new enterprise?



OUTRACE, 2010

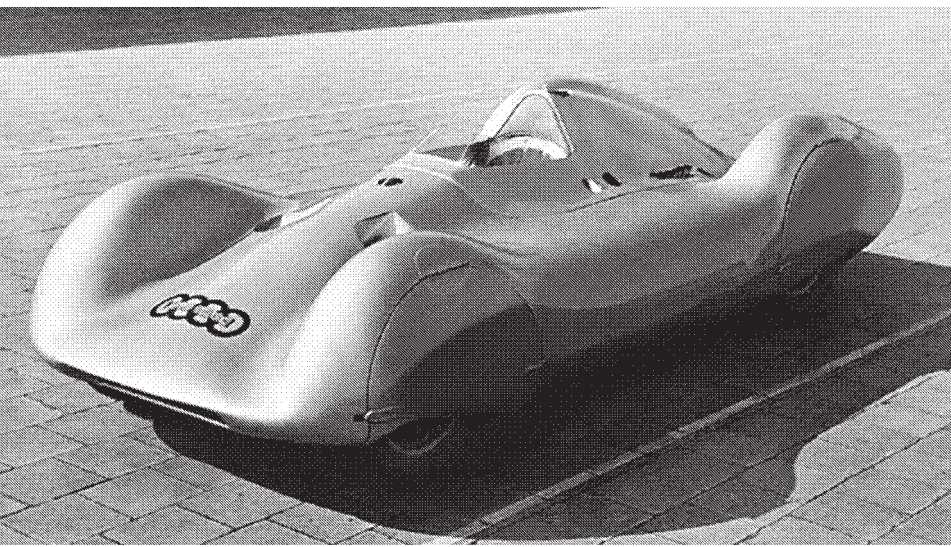
CW: OUTRACE happened in late 2010 and was commissioned by the London Design Festival to take place in the city's most public location: Trafalgar Square. We wanted to create something beyond a design installation, something that could reach people who normally didn't have anything to do with design. The project was a huge success across the board, so we remained in contact with Audi, who had enabled the project and soon decided that we should take our collaboration to the next level. After focusing on ro-

botics and automation we wanted to turn our attention to lightweight construction, one of the innovations that make Audi's cars leaders in technology. So we met with the people at the Audi Leichtbauzentrum in Neckarsulm the think tank and laboratory where Audi develop their ULTRA lightweight technologies. They, in turn, involved their colleagues at the Vorserienzentrum in Ingolstadt, who build the prototype cars and we discussed the possibility of producing a piece of furniture that actually uses the ULTRA technologies they are deploying across the spectrum of models from the R18 TDI race car to the A1 compact. Building lightweight vehicles is so integral to Audi's culture that long before the term ULTRA was coined in its present manifestation, designers and engineers have always pursued the highest levels of efficiency available to them.

GLR: And the idea of a chair came from them or from you?

CW: It was our idea, because we wanted to focus on an object that was relevant in terms of force, pressure, materials, weight. A chair was the most suitable medium to play with ULTRA technology because the stress and load the human body places on it are substantial and allow for dynamic testing and simulation conditions. For Breeding tables we chose the table as the medium because of its simplicity it was the first attempt at distilling the DNA of an object and modelling it in computer code. This time, almost a decade later, we felt that it was time to address the chair. Fortunately, the relative complexity of a chair was met with great enthusiasm by the engineers at Audi who constantly embrace a challenge. After all, anything too simple and easy is hardly exciting for them.

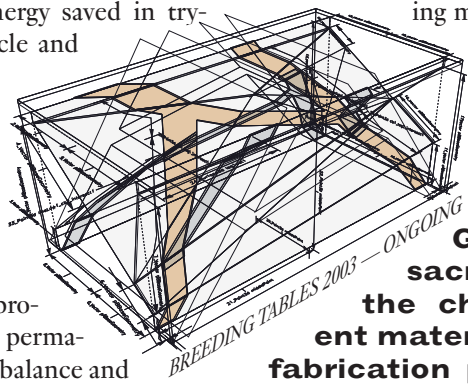
GLR: And what is the impossible task in this particular case?



12 cylinder streamlined race car Type D, 1938 with aluminium body

CW: The main impossibility is making an extremely lightweight chair that is also energy efficient. Just reducing the weight doesn't cut it.

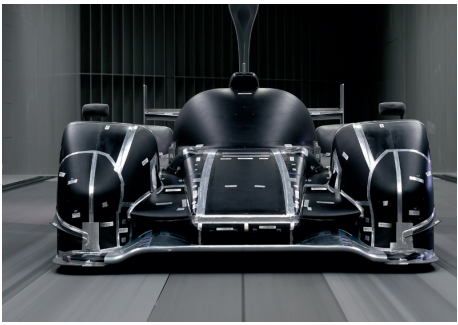
The Audi Lightweight Design Centre analyses the entire energy impact involved across the manufacturing process as well as the vehicle's lifespan on the road. This means optimising all the energy saved in trying to make the vehicle and its many components lighter will be redirected to the moment when the car is on the road. This approach emphasizes a holistic analysis of the vehicle and its production process – permanently addressing the balance and dialogue between 'make it lighter' and 'save energy'. Incredibly, they apply this principle to the production of every single component of the vehicle. This means calibrating a constant cost-benefit analysis of thousands of details and their respective carbon footprints all at the same time. Moreover, the expenditure of energy used in development to increase efficiency has to break even after one year of car use.



This thinking translated into our work in a few ways. We moved from reducing weight and waste during production to also coming up with a way of packing and transporting it in an energy efficient manner and focusing on durability, because the long life expectancy of an object is the master switch in sustainability. It's an alchemy of considering many many factors, as part of the bigger picture and at the same time investigating each one of them individually in great detail.

GLR: What did you sacrifice and gain in the choices of different materials, designs and fabrication processes of the chair?

CW: I feel like the biggest sacrifice would be using excessive material. We should think of objects as economies. Every screw, every action during fabrication and assembly adds to the cost of an object, and it is key to negotiate the interests, energies and demands of those who design an object, those who produce it, those who sell it and those who use it.



R18 TDI aerodynamics testing

GLR: And those who recycle it!

CW: Exactly! In the 21st century the scope of design and engineering is expanding rapidly, with an increasing understanding of complex systems and a new sense of responsibility. This is particularly relevant in the automotive industry where these considerations extend all the way into metallurgy, prompting engineers to figure out how to make a car body recyclable without any substantial material losses and waste.

Its a delicate balance that requires a lot of testing in the development process. In architecture, for example, the appetite for risk is minimal due to the associated costs. Almost every architect and most engineers, have a natural tendency towards making a wall too

thick as a precaution because testing and rebuilding would be too expensive and complicated at such a large scale and time constraint.

In the automotive world it is the exact opposite. Testing the edge of possibility is a major part of the vehicle's development process. Since the complexity in this kind of enterprise is extremely high, the most rational behavior is 'testing by making', and then study what happens! Despite the availability of highly sophisticated technologies, the test or "La prova" is the most critical moment in the pre-life of a vehicle. Nowadays cars are obviously designed using computer models, then built, then tested on the road and the information gathered from the road test is then fed back into the computer model.

GLR: Reed, can you speak about this aspect - what is a "PUBLIC BETA"?

RK: A "beta test" is a term we borrowed from software. It refers to the stage of software

development when everything is solid enough to test with groups of people to get their feedback. Beta testing is usually thought of purely as debugging - finding and fixing design or engineering problems. But more often than not it can lead to new discoveries and opportunities if you are open to finding them. Many of the best ideas arise during testing even quite late in the process.

We have applied this idea to our PUBLIC BETA in Palazzo Clerici. The design and launch of both a race car and a piece of software are incredibly interactive things. Both use dynamic working prototypes and neither is really "finished" in a traditional sense. They keep evolving based on endless fine tuning and changing needs.

The idea that a design or process can be truly "final" feels more and more dated. Software is everywhere so everything around us is in a constant state of flux, undergoing

continual tests, measurements, adjustments, and updates.

GLR: How does the PUBLIC BETA installation relate to your ongoing work on the chair?

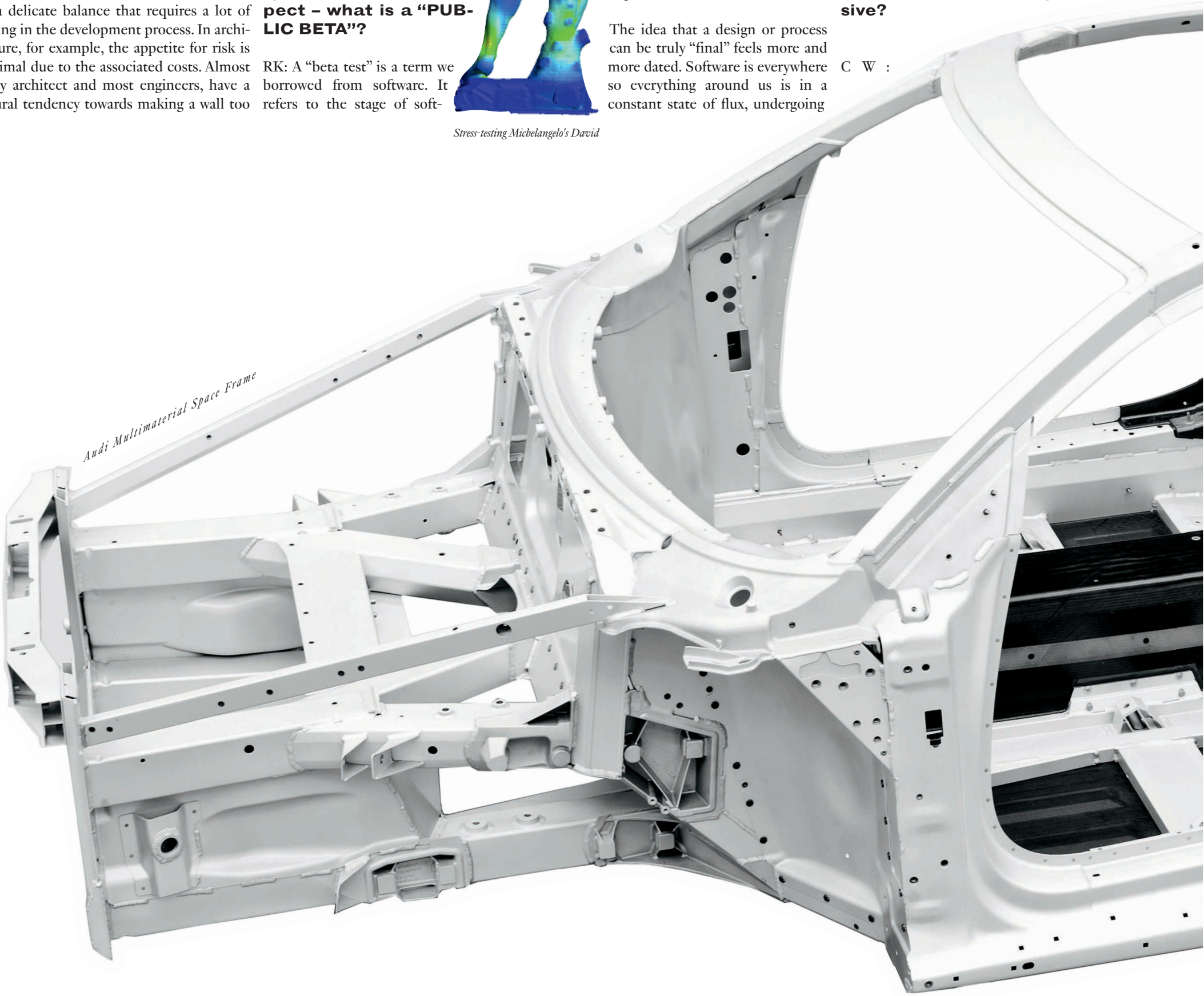
RK: We built sensors into the chair to record information about the material performance as well as the human impact on it. We simultaneously made a real-time virtual model of the chair to visualize the forces acting onto and within it. It also mimics the goals of automotive racing in that we explicitly want to push the envelope to move beyond the comfortable confines of the design systems we all know so well at this point. Simulation can either be used to remove all risk and friction or to explore new potentials.

GLR: Does that mean that the design process becomes more immediately responsive?

C W :



Stress-testing Michelangelo's David



Audi Multimaterial Space Frame

The real-time aspect is revolutionary because it makes data that would previously have left blanks in our calculations instantly available, allowing us to adjust elements immediately, just like in car racing.

We haven't finished its design completely and have defined a series of parameters that can still be adjusted. Obviously we have already made a lot of decisions in the stages leading up to the PUBLIC BETA installation, but the final decisions, well, we haven't made those yet, and in order to do so we're involving many many people – getting them all to sit down and test the chair.

RK: Mocking up an experience through full contact iterative prototyping at multiple scales has become an essential tool for us. The important thing is that at each scale, whether it is the first sketch or the final version, the experience of it works in other words it is operational, able to be touched and used on some level even in a very rudi-

mentary form. By constantly refining something that is working, in action, we can engage everyone involved: collaborators, engineers, the client, etc. in a meaningful way throughout the development process which can last quite a while, so they can actively and dynamically affect the process as it is happening.

GLR: The main difference between a car seat and a chair is that the former primarily addresses driver safety. Is safety a relevant concern here?

CW: Well, the chair is named after the car that won Le Mans last year, but two of the three Audi cars involved in the race actually crashed quite spectacularly. One vehicle disintegrated almost completely, but the safety cell unit remained untouched and saved the pilot's life. In the post race press conference he thanked the team and said that a few years ago he would not have been sitting there. It was the mixture of materials deployed in building the seating unit and its ability to support

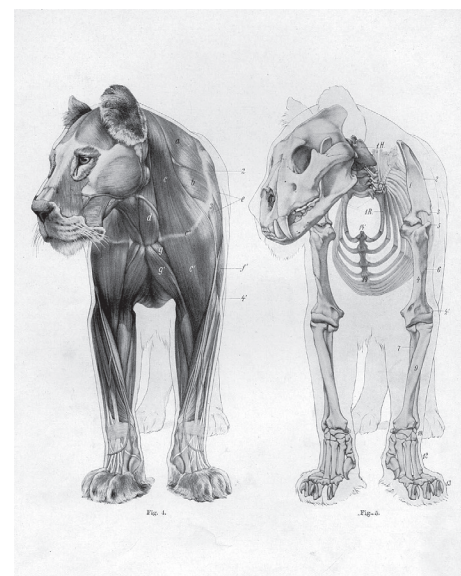
the human body perfectly under extreme conditions that saved his life. In the R18 Ultra Chair we are using the same material mixture as the safety cell and repurposing it to generate more comfort while reducing the overall weight.

GLR: And what about formal issues?

CW: The most important 'formal' issue is: how can we involve people in the chair's design while providing them with a framework to contribute their unique impact? There are always lots of people involved in product development: aggregating and motivating people from different fields to join forces to achieve a goal through collaboration is obviously one of our objectives as designers. We wanted to expand this circle of experts and involve the wider public in the PUBLIC BETA installation.

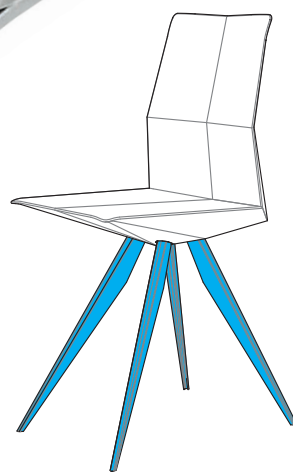
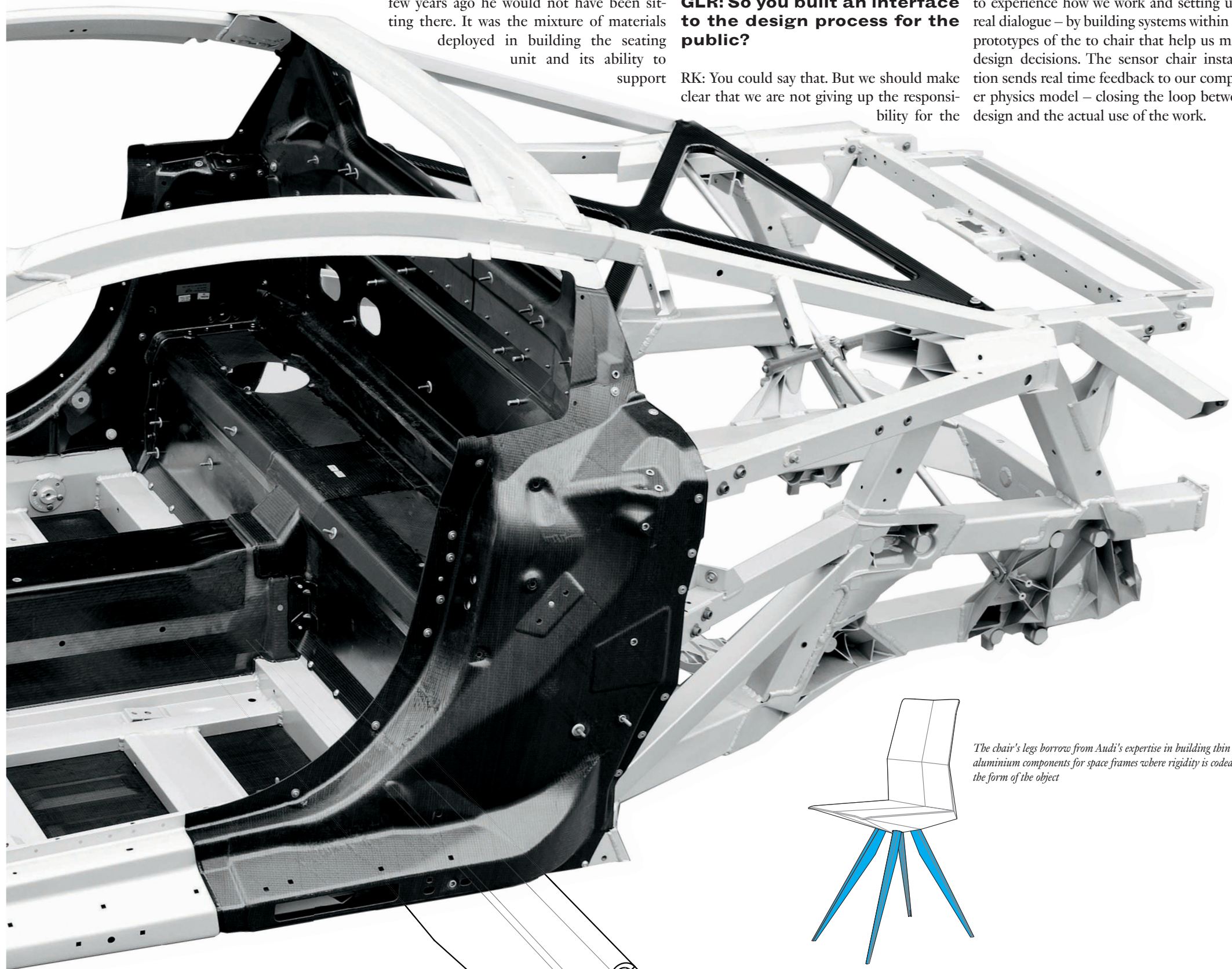
GLR: So you built an interface to the design process for the public?

RK: You could say that. But we should make clear that we are not giving up the responsibility for the

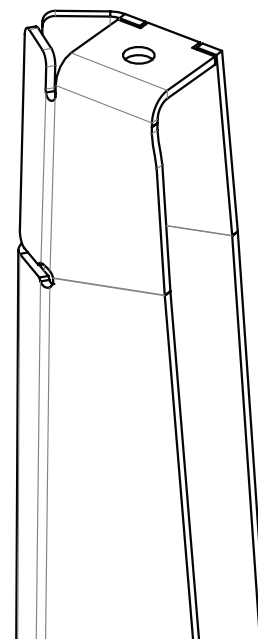
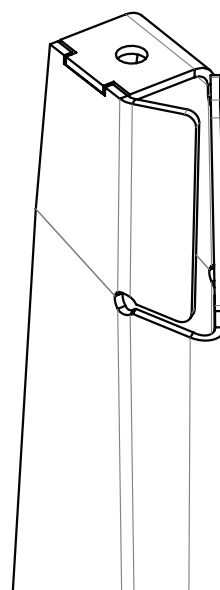
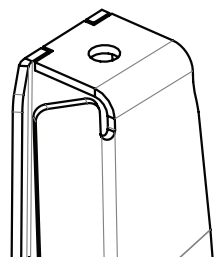


Animal anatomical engraving from Handbuch der Anatomie der Tiere für Künstler

design itself. Crowd-sourced engineering can be effective sometimes but we don't believe in applying crowd-sourcing to the actual design. It tends to result in a "too many cooks" scenario. We are opening the door for people to experience how we work and setting up a real dialogue – by building systems within the prototypes of the chair that help us make design decisions. The sensor chair installation sends real time feedback to our computer physics model – closing the loop between design and the actual use of the work.



The chair's legs borrow from Audi's expertise in building thin sheet aluminium components for space frames where rigidity is coded into the form of the object



GLR: On some level it almost sounds scientific ...

RK: Yes and no. The project does appropriate some elements of scientific methods and advanced technology. But it's not clinical or straightforward. The idea of 'user interaction' as it's commonly understood has come to be incredibly simplistic and one that we really struggle against. Ultimately, the goals are very different from a scientific process. We want to create a new experience a human experience. To encourage people and ourselves to step outside of our normal comfort zone.

GLR: Can you tell me more about your work method as a duo of designers?

CW: We are definitely a think-tank, but mostly a do-tank. This rules out having a specific work method and instead cultivating the idea of every project being a new field of research and thought where the method is developed accordingly. If you want to isolate a method it would be the do-component: Having an idea and immediately generating friction by exposing the idea to real world engineering and economical realities is by far the best way to develop design. We see design as an activity that involves defining and actively producing something rather than a theoretical discipline.

GLR: What about this word you use so often: decisions?

CW: Building a simple idea often requires a high degree of complexity in the process and we use diagrams obsessively as a tool to analyze and decide their workings. Analysis and pressure are key: we always make sure that there's enough pressure for decisions

to be taken immediately. This decision-making through generated clarity, provided by evidence and analysis, is also crucial because of our own structure in two different locations and the expanded web of offices we work with. Both offices, Stockholm and Munich, engage collaborators and suppliers in Sweden, Germany, the UK, the US, Japan, Italy, Switzerland, Belgium, Spain and Portugal and all those people plug into our offices. This demands clarity in order to be able to act together swiftly and decisively.

GLR: So who decided to put an actual car in the Palazzo Clerici installation?

CW: We did. We wanted it so badly.

GLR: Why is that?

CW: There are two main reasons: First of all, the R18 TDI is the namesake of our chair and we borrowed materials and technologies from its design such as the monocoque construction principle, the micro sandwich carbon composite material with varying layers for the chair volume, the partly flexible, partly stiff carbon/rubber composite for the backrest and the high strength folded aluminum construction for the legs. And of course because it's a beast – an unbelievably nice black beast built to win, that will turn the courtyard of Palazzo Clerici into a bestiary of sorts. This is a car most people only see on TV, explicitly built to win a single Le Mans marathon race. It is shrouded in secrecy until the race begins and becomes a part of history immediately after winning it - the physical object is a trophy in itself, not publicly accessible in a physical sense but a media star in its own right. And one of many generations of racecars that are continuously modified and improved. Again and again; lap by lap.



Generations of Le Mans race cars by Audi

GLR: Let's get back to the chair. What do you expect people will say, when they sit on it? Have you predicted any specific reactions?

RK: We just want to build an environment in which people can do and say whatever they like. We don't really expect anything in particular. When you sit down and are confronted with this type of visual data you realize a lot of things you've never really been aware of before: that the chair supports the entire weight of your body, or that sitting requires a re-calibration of your weight that you take for granted because it's such an everyday thing, and so on.

GLR: Your chair reminds me of that fantastic winter Olympics sport called skeleton:

it's a microstructure, very naked and light and brutal, and uncomfortable. The nom du guerre of this project should be: exit the comfort zone.

CW: Thank you but are you saying the chair is uncomfortable? You have been sitting on the ergonomics model for two hours now ...

GLR: No, of course I was just referring to the skeleton ... could that be your next design project?

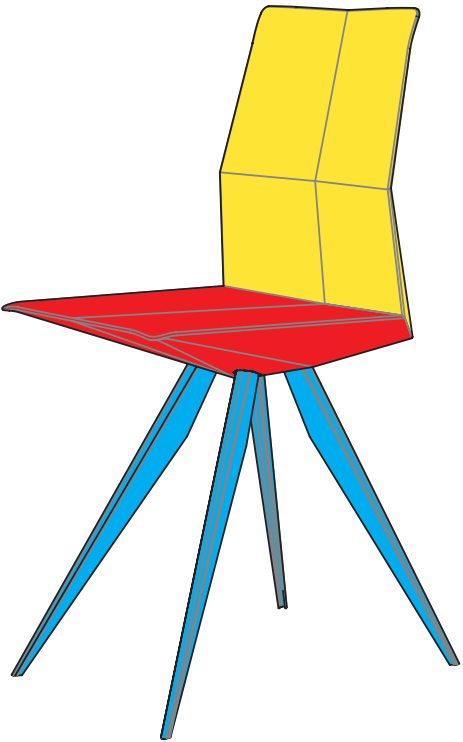
CW: Yes!

GLR: Thank you very much, Clemens and Reed.

CW: Our pleasure.

THE CHAIR'S NAMESAKE: The Le Mans winning Audi R18 TDI race car, 2011





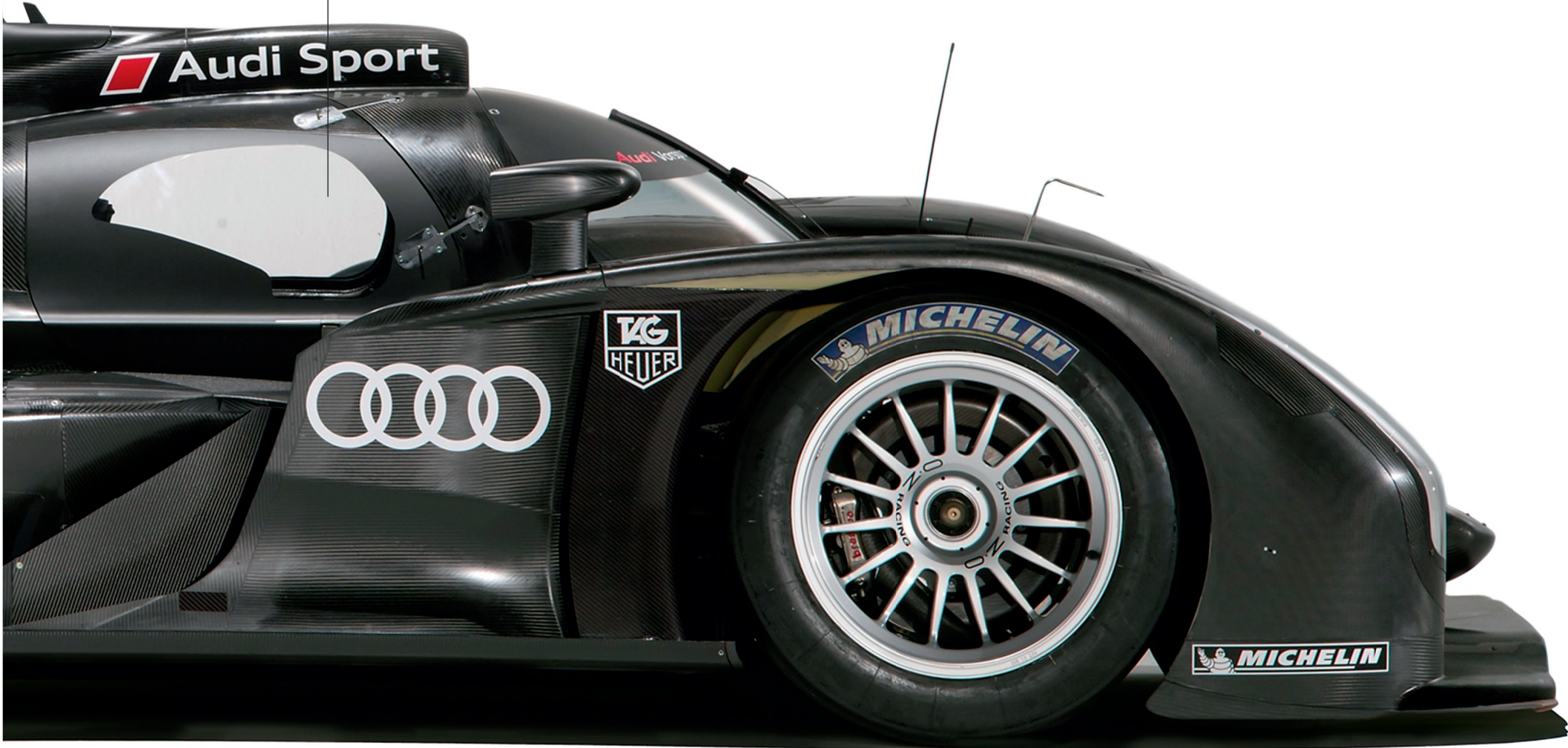
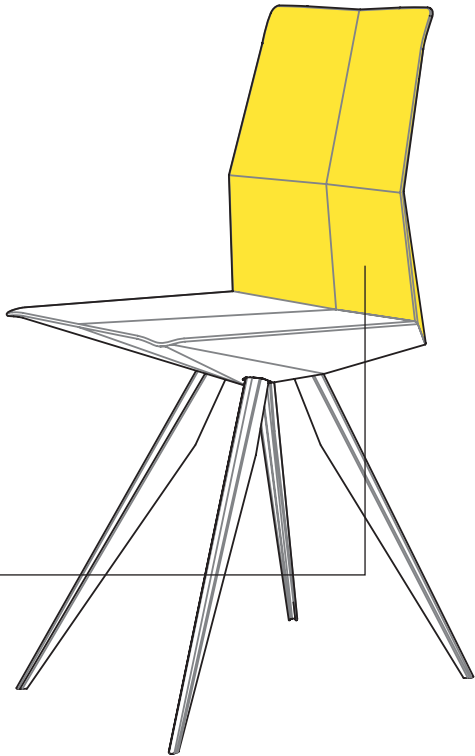
Carbon rubber composite

Carbon microsandwich composite monocoque

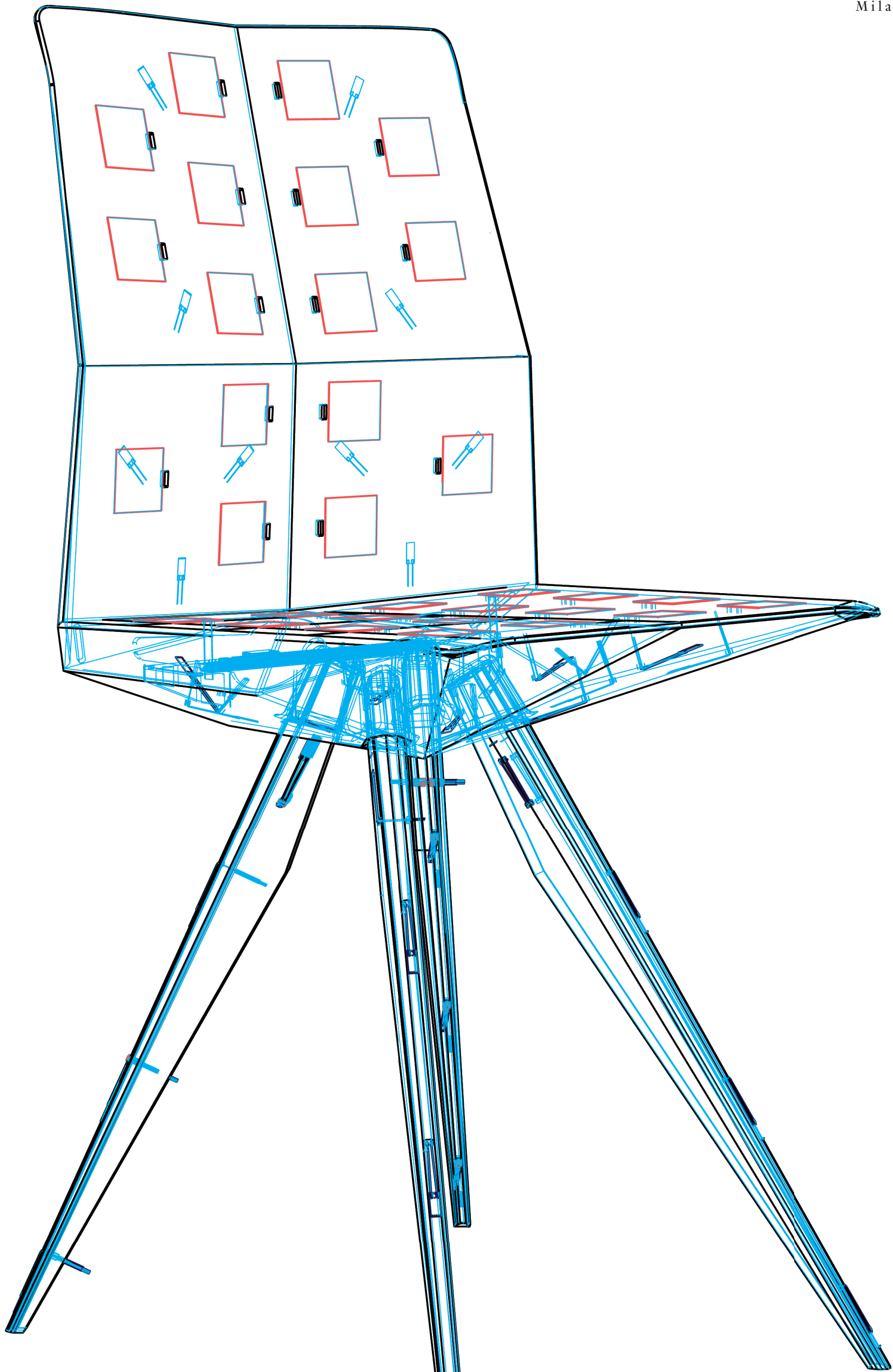
Aluminium alloy brake bent thin sheet

The backrest borrows from the construction principle of the R18 TDI rear wing: A carbon rubber sandwich automatically adjusts the wing to provide more or less downforce based on the speed of the race car. The same technology provides a partially stiff, partially flexible back for the chair.

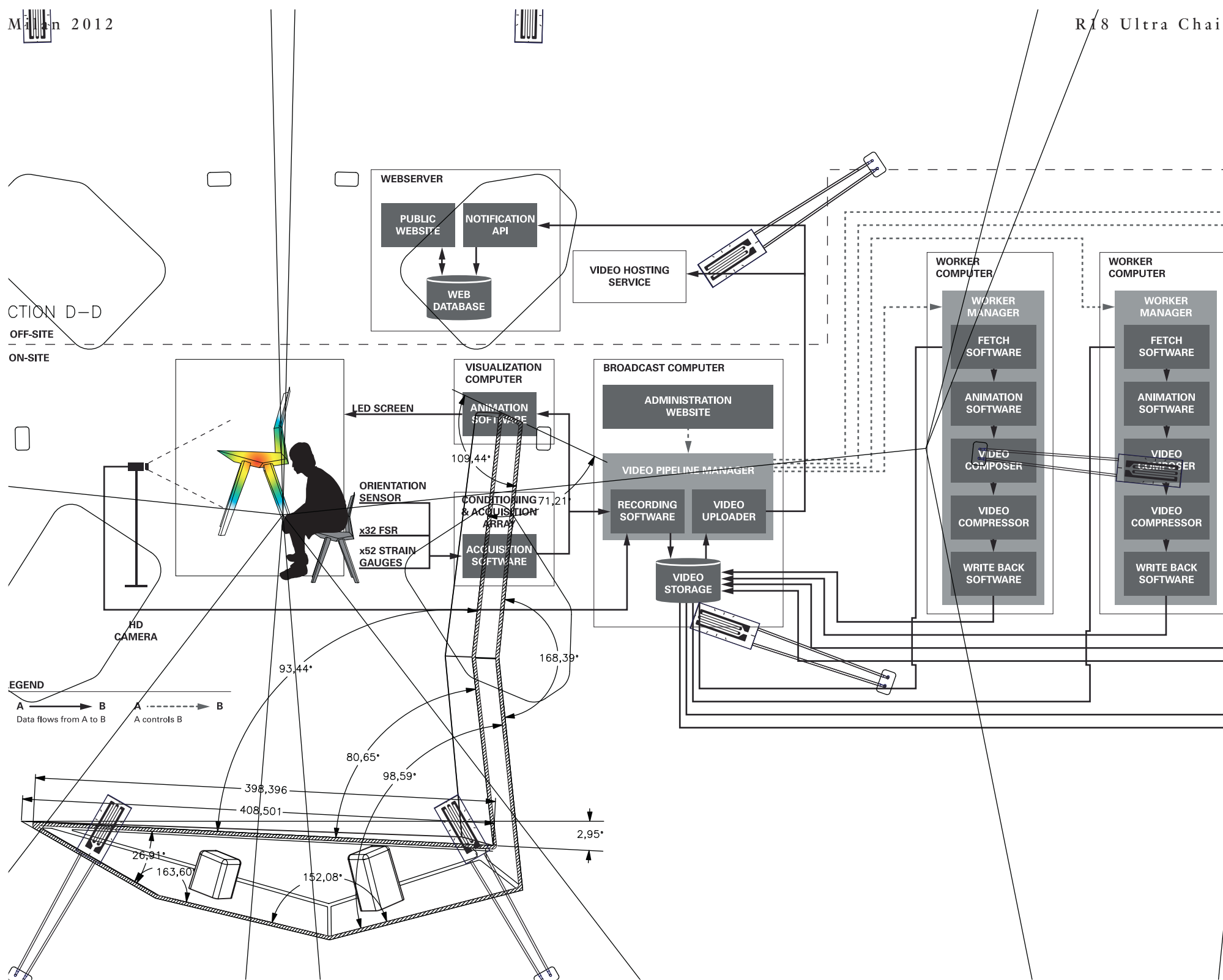
The seat volume borrows from the construction principle of the R18 TDI safety cell: Monocoque with variable layup of prepreg carbon composite with micro sandwich layers.







DYNAMIC BLUEPRINT



GHANA
Africa



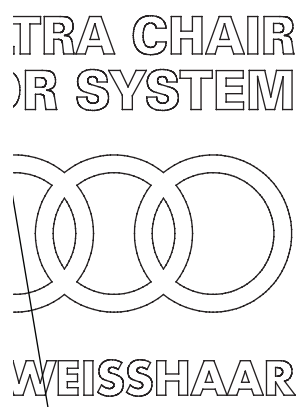
The book 'Sièges de l'Afrique central Photos d'archives du Musée de Tervuren' is a remarkable publication.

The author, D. Van Wassenhove, has screened the images in it, taken in the Congo during the time of Belgian occupation, in the archive of the Tervuren museum near Brussels.

The photographs depict people sitting or leaning on objects made for this purpose. Interestingly, many of the objects are cut-outs, i.e. pieces of a tree with 3 or 4 branches coming out, cut into the shape something to sit or lean on. This is against the idea of making, and in favor of the idea of reinterpretation and multiple meanings.

The objects are stolen from nature and re-interpreted, as opposed to most of the objects we build which usually are poor imitations of what Nature builds much better. However, if the object we build is not finite, and speaks the language of it being used to its user, then the object-making becomes more than nature's stupid little sister: it becomes its ally from outer space.

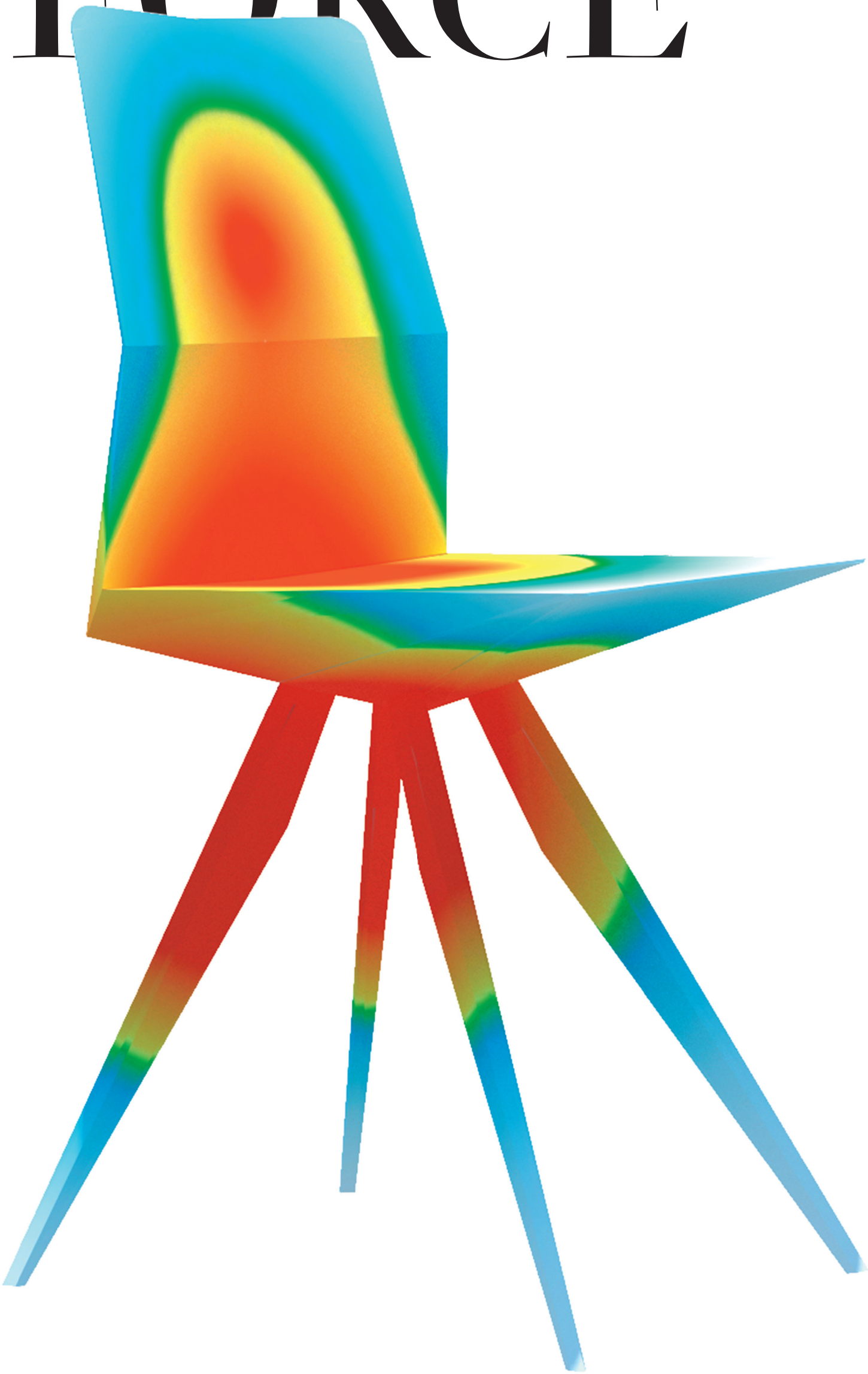
Carsten Höller



Prototype legs, micro sandwich carbon and printed circuit boards for the signal amplifier

ULTRA FORCE

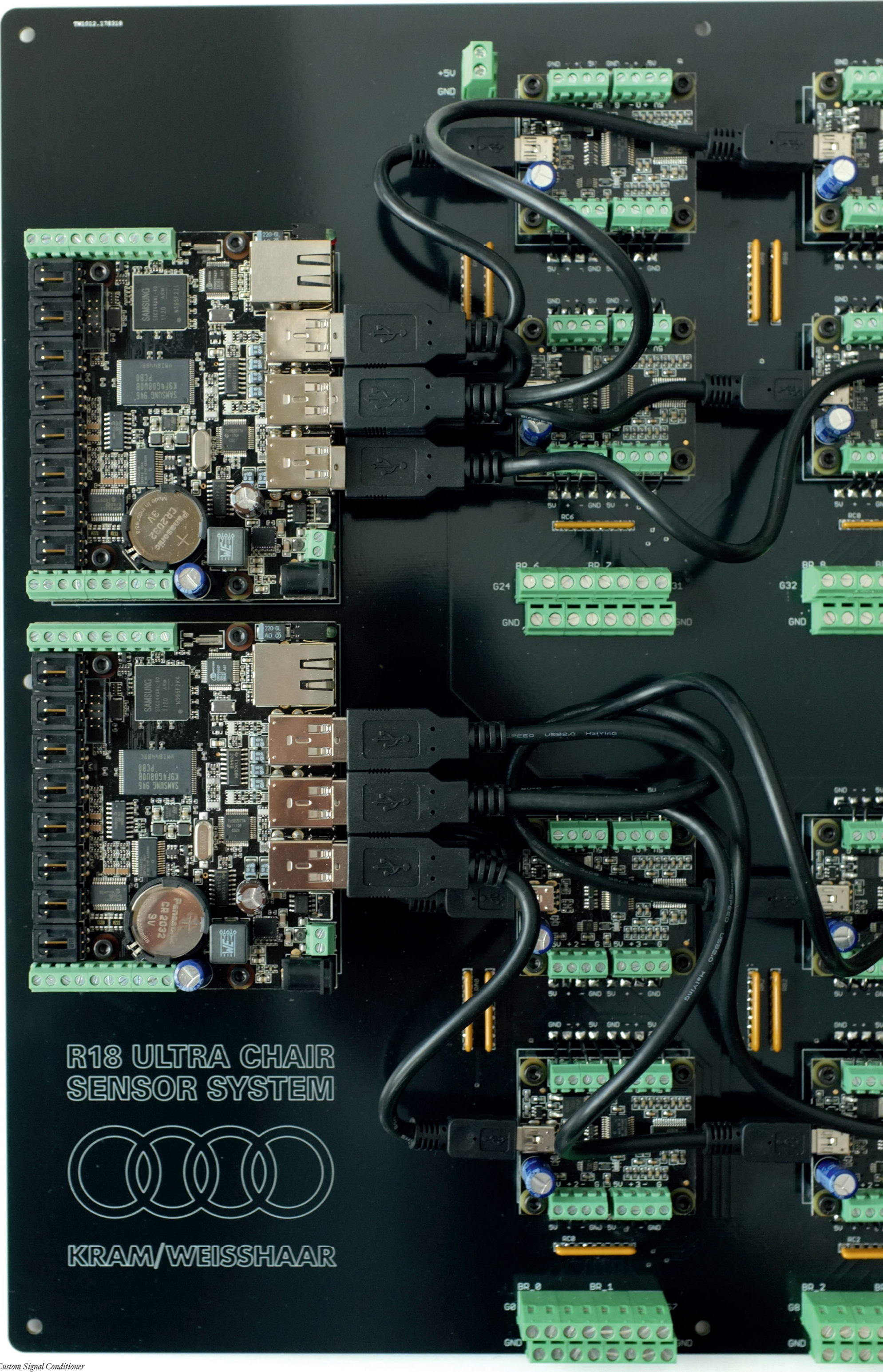
Finite elements false colour visualisation output from the ULTRAFORCE Software developed by the designers.





R18 ULTRA CHAIR PUBLIC BETA / Chair prototype V5.0 #01 with Force Sensing Resistors, strain gauges, cabling and custom amplifier unit





Custom Signal Conditioner

DESIGNERS



Clemens Weisshaar

Clemens Weisshaar and Reed Kram are rising stars in the field of design. They have been referred to as “the vanguard of the next generation of digital designers” (FORM Magazin) and “the poster boys of a new breed of designers” (International Herald Tribune). Their office engages in the design of spaces, products and media.

Key projects include the design and implementation of the technology features for Rem Koolhaas’ Prada Epicenter Stores in New York City (2001) and Beverly Hills (2004); BREEDING TABLES (2003 — ongoing); TRITON bar stool for Classicon (2006); MY PRIVATE SKY (2007) for Nymphenburg, the design of the ‘Western’ section of Carsten Höller’s The Double Club bar, restaurant and nightclub in London for Fondazione Prada (2008–2009), HYPERSKY (2009) and INFINITE DISPLAY (2009), two permanent media installations for private collectors, OUTPACE (2010) and now MULTITHREAD (2012) and the R18 ULTRA CHAIR PUBLIC BETA (2012).

Weisshaar and Kram’s work has been exhibited worldwide and can be found in the permanent collections of The Museum of Modern Art, New York, the Centre Pompidou, Paris, Fondazione Prada, La Triennale di Milano Design Museum, Pinakothek der Moderne, Die Neue Sammlung, Munich.

In 2008 Kram and Weisshaar were named ‘Designers of the Future’ by Wallpaper* Magazine and Design Miami/Basel. OUTPACE was awarded the ‘Red Dot Grand Prix Award’ and the ‘iF Design Award’ in 2011.



Reed Kram

Photos: Mathias Ziegler



BREEDING TABLES (2003 — ongoing)



TWO HORSES RIDERS CLUB / Bar for Carsten Höller’s legendary DOUBLE CLUB for Fondazione Prada in London (2009)



HYPERSKY / permanent media installation in a private residence, Cologne (2007)

HAVE A SEAT



Palazzo Clerici Via Clerici, 5

Palazzo Clerici was built for Giorgio Antonio Clerici in the early 18th Century over an existing 17th Century Palazzo previously owned by the Visconti dei Consignori di Somma family.

The exterior is decorated with late-Baroque windows and cornices and the more elaborate features can be found inside the palazzo. The main entrance, set further back to allow movement of carriages from the narrow Via Clerici leads to the Courtyard of Honour, which has porticoes on two sides lined with paired Doric columns. A staircase leads to the Ballroom and Tapestry Gallery on the upper floors. This extraordinary room features 17th Century tapestries, gilt stucco work and a ceiling frescoed with a scene depicting the Chariot of the Sun by Gianbattista Tiepolo in 1740.

During the 51st Salone, the building will be shared by Audi and Domus Magazine with the R18 ULTRA CHAIR PUBLIC BETA installation taking place in the main courtyard and Domus magazine hosting their concurrent exhibition “Open Design Archipelagos”, curated by Joseph Grima, on the upper floor of the building. The exhibition will feature works by Massimo Banzi, Droog, Markus Kayser, Thomas Lommée, Jose Ramon Tramoyeres, Fab Lab Torino, Dirk Vander Kooij and Clemens Weisshaar & Reed Kram.



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THE ULTRA JOURNAL

is edited by Janina Joffe and designed by Bureau Mirko Borsche

Mirko Borsche

is a Munich-based typographer and graphic designer who founded Bureau Mirko Borsche in 2007. He has produced highly acclaimed work for multiple cultural institutions, magazines and publications.

Emily King

is a writer and curator specializing in graphic design. Recent publications include Restart: New Systems of Graphic Design, and Robert Brownjohn: Sex and Typography. She is the design editor of frieze magazine and lives in London.

Gianluigi Ricuperati

Is a writer based in Turin. In 2011 he published the novel 'Il mio impero è nell'aria'. His writing appears regularly in Domus and La Repubblica and he is currently curating an interdisciplinary week of talks for Artissima, Giorno per Giorno.

Janina Joffe

has been working in the art and design world since graduating from Oxford University in 2006. She has translated three books, founded an online art gallery and edited The Outrace Paper for Kram/Weisshaar in 2010.

Hans Ulrich Obrist

is a contemporary curator, art critic and art historian. He is currently co-director of Exhibitions and Programmes and Director of International Projects at the Serpentine Gallery in London. Obrist has published countless books and volumes of interviews with leading artists, architects and intellectuals.

Tom Vack

is an American photographer who has seamlessly documented and dramatized the evolution of design since arriving in Europe in the 1980s. His list of clients includes Marc Newson, Philippe Starck, Ron Arad, Michele de Lucchi and Ingo Maurer among many others.

Contributors to A CHAIR IN THREE LINES curated by Gianluigi Ricuperati

Camilla Baresani

is an author who has published several novels and essays. She lives and works between Milan and Rome.

Andrea Branzi

is a master of Italian design who has produced hundreds of objects in a career spanning several decades. He lives and works in Milan.

Ivan Carozzi

is a writer and journalist who lives and works in Milan. He published "Figli delle stelle. Cronaca di un raduno raeliano", a non-fiction account of the raelian cult in 2006.

Konstantin Grcic

is a designer based in Munich. He has developed furniture, products and lighting for some of the leading companies in the field of design and was awarded the title Designer of the Year at Design Miami in 2010.

Carsten Höller

is a German artist who lives between Stockholm and Ghana. He has represented Sweden at the Biennale di Venezia and his most recent major exhibition took place at the New Museum, New York in 2011.

Cristiano De Majo

is a writer who lives and work in Naples. He published his most recent novel "Vita e morte di un giovane impostore scritta da me, il suo migliore amico" in 2010.

Jonathan Olivares

is a Boston-based designer who founded Jonathan Olivares Design Research in 2006. The office specialises in furniture, product, lighting, interior and exhibition design as well as design focused research and writing.

Luca Ricci

is an author and essayist from Pisa. He has published two critically acclaimed novels and the seminal essay "Come scrivere un bestseller in 57 giorni".

Luc Sante

is a Belgian-American writer and essayist who lives in upstate New York. He is a contributor to the New York Review of Books and published a milestone in New York studies, "Low Life", in 1991.

Jerszy Seymour

is a Canadian designer who grew up in London and now lives in Berlin. During a stint in Milan he started his own experimental projects including 'House in a Box' in 2002, 'Scum' in 2003 – and the clothing concept "Tape" in 2003.

Patricia Urquiola

is a Spanish architect and designer. From 1996 — 2000 she was the director of the Lissoni Associati design group and now has her own design studio in Milan.

C R E D I T S

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The **R18 ULTRA CHAIR Public Beta Installation** has been conceptualized and designed by Clemens Weisshaar & Reed Kram with Christoph Weisshaar, Carles Tomás Martí, Víctor García Fernández, Michael Reiner, Joakim Dahlquist, Maurus Reisenhelf, Christian Lungershausen, Andreas Wagner, Janina Joffe and Natascha Wloka. Produced and programmed by KRAM / WEISSHAAR AB Stockholm / Munich. — The **Audi R18 ULTRA CHAIR** has been designed by Clemens Weisshaar and Reed Kram developed in collaboration with Audi scientists and technicians from the Leichtbauzentrum in Neckarsulm and the Vorserienzentrum in Ingolstadt. — The **ULTRA JOURNAL** is edited by Janina Joffe, designed by Bureau Mirko Borsche, Mirko Borsche with Markus Lingemann and published by KRAM/WEISSHAAR AB, printed in Hamburg, Germany in April 2012 in an edition of 96.000 Copies.
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The QR code is above and the URL for the film is www.audi.com/r8gtspyderfilm (connection and data charges vary depending on mobile operator).

Combined fuel consumption: 14.2 litres/100 km;
combined CO₂ emissions: 332 g/km; fuel economy class: G