All religions, arts and sciences are branches of the same tree.

( Albert Einstein )
World Saving Machine III

MANUFACTURED BY Sander/ Breitenfeld

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Max. Betriebsdruck
Max. Working Press.

Max. Betriebsstrom

LOCATION

MoA
San 56-1, Sillim-Dong,
Gwanak-Gu, Seoul

WORLD SAVING MACHINE

KW / KW
Nennstrom
Running Current
Lock Rotor Strom
Max. Inrush Current
Betriebsstromart
Main power
V/Hz/Ph

RALF SANDER
Date: June 03, 2009 – July 23, 2009
Time: 10 a.m. – 6 p.m. Monday to Friday
Venue: Museum of Art (MoA) at SNU

Art will save the world
RALF SANDER

With 249 illustration

160 in colour
The immaterial has become immaterial

( Beckett )
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Ralf Sander's artistic work is characterized by a profound fascination with and passion for the laws and principles of physics and mathematics, for technology and history. His sculptures contravene ideas about how machines function and interact with the natural environment. They oscillate across art science, nature, the machine and the human body. He works with industrial remains combined with his own creations. The artist has created an extensive oeuvre employing a number of different artistic media, including drawing, sculpture, performance and sound. In his work, nature, technology and human are closely intertwined. His installations are in thrall to "the forms of things unknown," to use Shakespeare’s phrase. The variety of materials employed keeps any single exhibition of his pieces looking fresh, and also proves--should it still be necessary--that artistic seriousness does not require stylistic homogeneity. Sanders methodology, however, has a consistency to it. The material world is Sander's oyster; he has a rare feel and sharp eye for the little-noticed made things that increasingly constitute our environment. Visual wit, permeates his best sculptures, as it does those of Alexander Calder, another playful expatriate with an engineering bent. Things in the world generally are Sander's starting point, and those things may be the works of other artists. Sander has shown himself to be a parodist. But Sander's sculpture is not straightforward, there is also an underlying threat of unease. The laboratory vessels, set into the surfaces, spoil the simple idea to heal the environment, to save the world. As if a horrible disease has infested our visions. Where is the borderline between virtual and real world? Might it therefore be possible to find here more than only content and aesthetics, but the idea of reception and manipulation as well?

Dr. Hillary Pollack
Why World Saving Machine?

Maybe there is some irony behind the title: World Saving Machine. The idea started as I saw Olafur Eliassons Greenland ice freshly imported to a permanent cooled exhibition space in Berlin. Aesthetical blue light filled the beautiful cold space. Also the very spectacular idea of Belfast based artist Rita Duffy, to tug an iceberg to Belfast, to the place where the Titanic was build, left a strange aftertaste for me.

Olafur Eliasson wasting time

The transport of Arctic or Antarctic Ice to places, where water is needed was always a subject for dreamers and utopists but both art projects, using ice where just designed for spectacular reasons. Observing the extreme waste of energy and the questionable gesture to take natural ice when it disappears worldwide, I decided that it would be better to produce ice, and to bring it to Greenland, than to take it from there and to burn millions of tons of fuel to have a the short satisfaction.
WSM is not an environmental project.

Also there is the question what has become to reality. Could we really belief in reality, in the information’s we are supplied with? What is reality?
The questions of the degree of reality and whether ‘WSM’ is art, fiction or concept have not been clearly answered: reality turns out to be potentially simulated, and simulation has its effects on reality.
From change to terrorist attacks, global warming, pandemics, the future and financial crisis, all types of fears were tackled by the various artists who used their work to mirror the main issues of the frightening times we are living in.
Needless to underscore that we live under permanent influence, in an age of advertisement, sublime and not so sublime manipulations and seductions and lobbying and hence a need for distancing, critical observation and discursive interventions. Basically, I consider everybody a potential intellectual and think we all have a lot to look out for and ought to be careful of.
Art, Science and Belief

My target is to investigate the potential of solar energy, and the capacity of scientific and technological advancements to upturn our assumptions about what's humanly possible.

It all comes together in a project called World Saving Machine, inspired by the scientific illustrations, digital dexterity and heightened awareness of the interrelated implications of social inequity, political corruption and the earth's rapid demise." This aesthetic activism can be labeled "environmental" only if the term conjures -- as it should in the 21st century -- a many-layered and indivisible subject composed of social, cultural, economic, urban, political and geographical issues.

Science is the dominant metaphor of the twentieth century. We all speak the language of probability. Science is the knowledge in which we place our faith, the solution to our problems, the way out, the way up. It is the contemporary form of worship known to work. It includes the promise of a better future, of salvation and of visions.

Art and science are moving towards one another, discovering common issues and working methods. The creative, imaginative processes in the arts and sciences are similar, whereas the concrete realization of their results tends to differ. Repeatedly, this difference is the source of productive tension and areas of friction. In all disciplines of the arts and sciences, further developments over recent decades have been characterized by mutual influences and efforts at differentiation. Today, traditional dividing lines between the spheres can no longer be maintained; they are being newly defined and presented in their permeability.

I have developed a body of work that is fundamentally related to environmentalism, but also deeply interwoven with sociopolitical commentary and reflections on a 21st century urban condition.

I also investigate into dematerialization of art, especially in the field of contemporary sculpture. –As sculpture is the discipline of fine arts, which opened up completely too many other disciplines there is a need to find a suitable definition. This is the other subject of my research.

I want to address pressing these issues with originality and impact that would strike a person each on their own -- and when experienced leave the viewer/visitor with a profound sense that art remains a potent agent for transformation.
Two languages
The model of reality in nature science, and the model of reality in sculpture

In nature sciences a thesis leads to exact research, systematic observation and experiments. A model of so called reality would be created and evidenced. The way is very similar to creation within the fine arts. In the end from both disciplines a merchantable product is expected. No wonder, that there is so much discussion about fundamental research.

Etienne-Emelie Banlieu described science as “democratic religion” where the truth is a decision of the majority after evidences. Our way of thinking about science (and art) is never separate from our way of thinking of life, whether we realize it or not, we are all political animals. At the same time science is a business as bureaucratized as any other

Felix works on WSM2

While the ideal of the influence of a single individual, as the elementary particle of a society, fades away, while there are doubts about elections in leading democracies, life goes on. The machine which I describe is not only a technical device. Machines are the metaphor of the 19/20th century, the vision of the modernist movement. They stand for a step in human development.

My machine is much more a concept and a question than the answer. It is a question of believe in images how artistic is science and how can an alternative art look like. Art can produce images. If this concept contains global questions, fears and scientific evidence it becomes an image that is able to become an enormous, suggestive force.

The impossible idea of silence    Ralf Sander 2008
Energy of Transformation

I am the Spirit that denies!
Part of that Power which would // The Evil ever do, and ever does the Good (Faust J. W. v. Goethe)

Destruction transformed into construction

The idea of transformation has been central to my practice from the beginning. The transformation of a tree into human image, the transformation of destruction into construction, the transformation of hot sun energy into cold ice is part of my sculptural practice.

Lustful destruction in the Gross Leuthen School

In 2005 as I realized “Construction- Deconstruction” in the context of Childs Play Rohkunstbau,

I converted destructive, aggressive energies of children into a constructive process, it is the same idea. It was an investigation into the roots of human nature. By chance, the title Kinderszenen corresponds to the composition by Robert Schumann of the same name. The thirteen pieces that Schumann wrote in 1838 reflect upon childlike impressions, joys and fears, as well as the mechanisms of memory. The concept was mainly to build a children’s cabin from old furniture, a play that is very creative one that most of us have experienced. The material is „produced“ by destroying the furniture of the classroom of the local school that was to be closed after 276 years. The whole process destruction and building was documented as a video film. The film was presented backwards as the music of Schumann.

Child’s Play object 2005

Material: wood/steel 3,5x3,0x3,2 m
Making ice from solar energy

Contrabarka

Contrabarka is a project about energies that work against each other.

Two Venetian Gondolas are connected like a Polynesian catamaran. The sails and the gondolier on both hulls work powerful against each other. The result is a motion that stands still.

The result is motion without movement.
In this moment after a visionary, idealistic and bloody century, we are very careful with our visions. It is very interesting to observe how visions materialize. Also it is remarkable how often visions, ideologies and ethical values change into their opposite.

We build machines to save time. We reduced the space through machines - cars, aeroplanes and telephones - but we have far less time than before. But we create a new space, the cyberspace. A world, that intrudes more and more into the material world.


Influences/ Confluences

The construction of reality

All religions, arts and sciences are branches of the same tree.

( Albert Einstein )

Panamarenko the great outsider of the 20th century art scene was important for me and my machines. Artist, Engineer, Poet, Physicist, Inventor and Visionary, and has for thirty years pursued a singular course of exploration of space, movement, flight, energy and the force of gravity.

His work, fusing artistic and technological experiment, takes many forms: Aeroplanes, flying carpets, cars, flying saucers, submarines and birds. Spectacular structures of strange beauty, both playful and inspiring. His name, is supposedly is an acronym for "Pan American Airlines and Company". Starting in 1970, he developed his first models of imaginary vehicles, planes, balloons or helicopters, in original and surprising appearances. Many of his sculptures are modern variants of Icarus. The question whether his creations can actually fly is part of its mystery and appeal.

Tomas Saraceno’s Air-Port-City proposes to create a floating international city in the sky, kept afloat by solar-fueled Aerogel -- a "lighter-than-air" material developed for the aerospace industry. The idea is to establish a residential urban district for migrants which are it migratory, constantly crossing and blurring boundaries.
Rebecca Horn designs and makes instruments used for a presentation of the human body: spatial installations where human being is one of the main presentation elements. In her work Horn conducts a multi-layer discourse on Nature, Culture, and Technology issues. She often employs mythological allusions. The fundamental topic of her work is human hypersensitivity, emotionality, obsessions, and fears. She frequently uses, as the setting for her projects, places marked historically or emotionally in some specific way; her environments are at times conceived outside any museum areas.
My objects are to be understood as stimulations to the realisation of an idea of sculpture. They will provoke thoughts about what sculpture can be and how the concept of sculpture can be expanded to a conscious and complex image behind the object. A concept that is much more than a metaphor. Machines are, in theory, designed to be efficient, convenient, non-intrusive. They blend into our environments seamlessly as non-threatening and often aesthetically pleasing tools. Machines are everywhere: a ubiquitous part of the enhanced environment. Some are autonomous, while others are tightly coupled with the human body: prosthetics, communication devices, even jewellery. This gentle encroachment, combined with ongoing research toward machine sentience, forces us to consider machines outside the context of mere tools. They are part of our social, emotional, artistic, and even spiritual context.

Art machines have a condition – even pathology, perhaps even a plight. It is to exist between two economies, two regimes. This status, like that of anything that does not fit in, is their predicament – and of course that which marks them out as unlike the common run of things.

Normality of the end of our world
There is a long tradition of visions of the end of the world in our culture. What is striking is that they go generally hand in hand with visions of a new beginning, as determined already in the Old Testament and in the Book of Revelations of St. John.

WSM 2 Carbon dioxide absorber
the main reason for the global warming is officially the great increase of Carbon dioxide in the atmosphere.
Religion as World Saving Machine

The end of the world had even been expected at the year 1000, and in the Spanish manuscript of the Apocalypses of Beatus, which appeared in 975, it had been predicted to take place around then. In the Bible we find accounts of the deluge. Religious thought of such fantasies of demise with the Last Judgment and the Resurrection. Even older than the Last Testament sources is the old Germanic poem Edda which Richard Wagner reworked again in his Twilight of the Gods, performed in the first time in 1897. In Edda the world has gone to wreck and ruin. It is destroyed by the fire god. This entails a process of purging which enables the emergence of a new world.

Ralf Sander 2009 *Apocalyptor* brass3 x 1.20 m

It is fascinating to observe how much power an „awareness machine“ like the *inconvenience truth* of Al Gore, can develop. When a recent article in The Observer of London, on a secret Pentagon report on global warming, stated that "climate change over the next 20 years could result in a global catastrophe costing millions of lives in wars and natural disasters, than there is for sure a need for such a device like WSM.

The Great Global Warming Documentary War has left people confused and wondering about which side of the world they should be, so that their actions are not questioned for the time being. The war has proved successful in manipulating the masses, and if the masses continue to believe, the judgment day isn't too far off.

* Albrecht Dürer The Apocalypse Woodcut 1512
Science replaces religion as model of belief

Scientists Develop Air "Scrubber" Capable of Sucking Up One Ton of CO2 a Day
by Jeremy Elton Jacquot, Los Angeles on 05.31.08

This sound too good to be true: a machine that can vacuum the equivalent of a ton of atmospheric carbon dioxide a day in a cost-effective way. We've seen our fair share of CO2 "sucking" devices in the past -- everything from modified plastic membranes to industrial-scale paper mill "scrubbers" -- but they've typically tended toward the expensive or unwieldy. So how does this particular device stand out?

Well, for one thing, its inventors, a team of U.S. scientists led by Columbia University's Klaus Lackner, say they'll be able to get a prototype up and running within the next 2 years. Secondly, they claim that the device, which is small enough to fit inside a shipping container, will be able to capture a ton of CO2 a day from the air -- at a fraction of the cost of similar technologies. "Our project has reached the stage where it is quite clear we can do it. We need to start dealing with all these emissions. I'd rather have a technology that allows us to use fossil fuels without destroying the planet, because people are going to use them anyway," Lackner told The Guardian's David Adam.

He doesn't expect the device to be the all end all solution to global warming, of course. As he acknowledges, it would take upwards of hundreds of millions of them to suck up all the planet's excess carbon emissions. The device's great strength, he says, is its low energy consumption.

Finally WSM 2 works on similar principles but was earlier developed. My project was just an ironic hint, an awareness producing device, that potentially works. Butt he Air „Scrubber“ of Prof. Lackner is seen as serious research and supported with 5 Mill US quite unlike my WSM 2 Air „Scrubber“. WSM 2 is aesthetically much more convincing and appealing.

http://www.controlclimatechange.com/2008/05/31/scientists-develop-air-scrubber-capable-of-sucking-up-one-ton-of-co2-a-day/
"Air Architecture and Air Conditioning of Space," Klein's paradoxical vision of a return to a state of nature through technology:

For the past ten years I have been dreaming, as much a waking dream as possible, of a sort of return to Eden!

Eden: This biblical myth is no longer a myth for me. I have always wanted to think of it in a positive, constructive, cold, and realistic way.... The world of science fiction was smiling at me in its stupid, foolish way with solutions such as solar mirrors, for example, or heating rivers in winter, creating artificial gulf streams that cross seas and oceans, changing the direction of great winds from hot countries, directing them toward cold countries and vice versa.... Of course, with all the progress made by science, this is no longer a utopia today. Technique, however, could in fact realize such things!... To find nature and live once again on the surface of the whole of the earth without needing a roof or a wall. To live in nature with a great and permanent comfort.

Yves Klein was much more radical in his last work, Air Architecture. He suggested changing the world completely. My pretentious title reveals the intention of the project.

I love utopia but we often have to face the fact that a vision turns into its exact opposite. Too often paradise became hell. And, indeed, the utopia of Yves Klein is nearly realized. We are heating rivers in winter... we are manipulating directions of great winds (El Nino) we are manipulating the great Gulf Stream. Whether these are man-made or the result of solar activity, at the moment we are facing serious problems.

http://www.thefreelibrary.com/Elemental+logic%3A+Daniel+Herman+on+Yves+Klein's+air+architecture.-a0117041639
Roussel developed the hypothesis for language machines which would produce text. Duchamp had seen Roussel’s play Impressions of Africa in 1912, inspired by Jules Verne Novels. Impressions of Africa describes and foresees the computer/digital/machine art of today. Roussel’s work “creates one predominant overall effect; that of creating doubt through mechanical discourse.” Duchamp credits Roussel with the inspiration for Large Glass, Mechanics of Modesty, and The Passage From The Virgin To The Bride. Through Roussel we can map the avant-garde through the last century passing through Duchamp, the Futurists and Productivits, through Jackson Pollock, Tony Smith, Ad Reinhardt, Andy Warhol, Donald Judd, Sol Le Witt, Yve Tanguey and Joseph Kosuth.

"A poem is a machine made out of words." William Carlos Williams (from etheses.whiterose.ac.uk/902/1/uk_bl_ethos_496515_vol1.pdf)

Too often art is understood by society as a “meaningful form of intellectual decoration”. What I understand to be a deficiency is that the basic questions about art and its function are never asked at the academy, therefore the basic research is never done. This brought me to the point of going deeper into the material. One thing seems to be clear for me: if this question is not to be the centre of research, everything that follows will be pointless in the context of development.

This problem is not solved if it is not answered in a radical sense, that art can definitely be seen as the initial point of all continuing production in all fields (social sculpture, Beuys). This term must be in our consciousness if one wants to reach a transformation of society, then this term will be linked also to questions of ethics, law, economics, science and research. In natural science nobody begins research without an idea, a vision of the result. There is no research without imagination. The initial point can be observation or the pure idea.

Therefore here we are suddenly faced with the question of the necessity of art, and that links no doubt with the question of freedom, a question it is necessary to ask. If one thinks about this position, that means thinking again about the potentials of power and therefore about the question of energy (which is actually quite contemporary) as well as the context of technological energy. This is obviously a problem that humans now confront.

If we want to handle this question then a taking stock of energies becomes necessary. Humanity today is powered in ways that are totally different than 200 or 500 or 1000 years ago. Today there is ground for change in thinking, and it is absolutely necessary that the problem be seen in a wider context.
SEAMINE

Observing the current social development and the man-made catastrophes, you really can imagine we are sitting on a bomb. It is an expression of day to day observation and describes its potential explosive force. The Mine is an element of virtual aquisition of space and claims of potential space. The looming threat is already able to show itself in the absolute form.
The WSM will work like an enterprise. It will be reflected as a Corporate Identity, which can be presented in galleries, in actions, and at trade fairs. Ideas, rather than practicable solutions, are the most important products. The questions of the degree of reality and whether ‘WSM’ is art, science fiction or business have not been clearly answered: reality turns out to be potentially simulated, and simulation has its effects on reality.
The principal of the transformation of energies is comparable with the ice making device

[Q]: How would you describe your new aesthetic?
[Beuys]: I describe it radically: I say aesthetics=human being. That is a radical formula. I set the idea of aesthetics directly in the context of human existence, and then I have the whole problem at hand, then I have not a special problem, I have a 'holography'.
[Beuys laughs, audience laughs sympathetically]
- I don't know exactly what a holography is ...
[more laughter]
(p.34.56) Beuys in lecture series „Energy Plan for the Western Man“

( from: [www.ellipsis.com/soon/softopia/books/040.000.html](http://www.ellipsis.com/soon/softopia/books/040.000.html) )

„My intention was neither destructive nor nihilistic. "Heal like with like"- similia similibus curantur- in the homeopathic sense. The main intention was to indicate a new beginning, an enlarged understanding of every traditional form of art, or simply a revolutionary act.“

*Beuys*

Art is the opposite of a 'disinterested' operation: it does not heal, calm, sublimate or pay off, it does not 'suspend' desire, instinct or will. On the contrary, art is a 'stimulant of the will to power', something that excites willing'. The critical sense of this principle is obvious: it exposes every reactive conception of art. (Philosophy after Deleuze, Joe Huges 1983, p.102)

According to Deleuze, art is that which comes forth and changes the world from which it arises—it forcefully challenges that which is normal or everyday. By embracing art as a stimulant of energies and forces, Deleuze exposes what he terms as 'reactive' culture, that is, cultural forms which respond conventionally to other more active, stimulating forces.
Deleuze builds a whole system of concepts around creative forces and the systems that mobilize and action such forces. These ideas are encapsulated, later, in his concept of ‘affect’ and the ‘machine’, both of which are intrinsic to the conceptualization of this paper.

The Fluxus artists held a mirror up to people without indicating how to change things. This is not to belittle what they did achieve in the way of indicating connections in life and how art could develop.
In the image above, engineers are installing the WSM’s solar panels. The WSM will be launched in May and June 2010.

Snow and Rainmaker
World Saving Machine technical drawing
World Saving Machine first modell
reflector and condenser
Solar icemaker gets sun to make ice

Genesis of WSM

Things have changed. Sunlights are now used to make ice instead of being used to melt the ice. A prototyped solar icemaker has been created by a team of engineering students from San Jose State University.

The solar icemaker is an eco-friendly device, which has zero carbon footprint. And some more it doesn't need electricity to keep the ice cool, which is super handy for places like a developing country or disaster zone where electricity is unreachable.

The solar-powered ice maker uses a refrigerant liquid which evaporates when exposed to the sun. The vapor then travels through pipes that come into contact with an absorbent material which cools when the sun goes down. When this absorbent material reaches the 104°F, the refrigerant turns back into a liquid, which its temperature then drops below the freezing point due to pressure difference. When some water is added to the exterior of the evaporator, then ice will form.

The solar ice maker needs no electricity, uses only solar energy to produce ice and it has no moving parts. It's capable of making 14 pounds of ice per day, which is more than enough for average Joe during their hot summer’s barbecue session.

The device is definitely a super handy one for those remote areas which are always exposed to the hot sun, and where those people desperately want some ice to cook themselves down. Currently, it’s still a prototype of the engineering students. Hope they could get it ready by next

WSM developing team 2005

The Simulacrum

French social theorist Jean Baudrillard argues that a simulacrum is not a copy of the real, but becomes truth in its own right: the hyperreal. Where Plato saw two steps of reproduction — faithful and intentionally distorted (simulacrum) — Baudrillard sees four: (1) basic reflection of reality, (2) perversion of reality; (3) pretence of reality (where there is no model); and (4) simulacrum, which “bears no relation to any reality whatever.” Baudrillard uses the concept of god as an example of simulacrum. In Baudrillard’s concept, like Nietzsche’s, simulacra are perceived as negative, but another modern philosopher who addressed the topic, Gilles Deleuze, takes a different view, seeing simulacra as the avenue by which accepted ideals or “privileged position” could be “challenged and overturned.” Deleuze defines simulacra as “those systems in which different relates to different by means of difference itself. What is essential is that we find in these systems no prior identity, no internal resemblance.
Simulacrum

In semiotics and postmodern philosophy, the term hyperreality characterizes the inability of consciousness to distinguish reality from fantasy, especially in technologically advanced postmodern cultures. Hyperreality is a means to characterise the way consciousness defines what is actually "real" in a world where a multitude of media can radically shape and filter the original event or experience being depicted. Some famous theorists of hyperreality include Jean Baudrillard, Albert Borgmann, Daniel Boorstin, and Umberto Eco.

Most aspects of hyperreality can be thought of as "reality by proxy." For example, a viewer watching pornography begins to live in the non-existent world of the pornography, and even though pornography is not an accurate depiction of sex, for the viewer, the reality of "sex" becomes something non-existent. Some examples are simpler: the McDonald's "M" arches create a world with the promise of endless amounts of identical food, when in "reality" the "M" represents nothing, and the food produced is neither identical nor infinite.[1]


World Saving Machine 1

Simulating the simulation

Engineers for WSM's Earth Saving Mission are completing assembly and testing for the twin solar panel at JPL. This week the twin panels are sharing floor space in JPL's WSM craft Assembly Facility for the last time before they are shipped to the WSM test Center in Greenland.

In the image right, engineers are installing the WSM's solar panels. The WSM will blauunched in May and June
Scientists are continuously improving the existing solar cells. Now they are taking the help of computer simulations and real lab testing. A group of physicists and engineers at MIT have discovered new methods to make the existing solar cells more efficient by 50%. Currently the most efficient solar cell gives 45% output and is extremely expensive to produce. Cells produced by using this new technology will be more efficient and cost effective. Their cost effectiveness emerges from just 1% use of refined silicon. It should be noted that refined silicon is quite costly.

Testing First WSM prototype
WSM has successful produced the first artificial iceberg

May 2006
First successful artificial iceberg

yes, we could

Reproduction of glaciers
WSM1 onto a workstand in the Payload Hazardous Servicing Facility. Set to launch in 2005, the WSM Mission will consist of two identical devices designed to cover roughly 110 yards each day. Each WSM will carry four solar cells for evidence of the possibility to rebuild our glaciers. The WSM will be identical to each other, but will land at different regions. The first WSM has a launch window opening May 30, and the second WSM, a window opening June 25, 2006.
WSM montage in Arctic waters
WSM successful arrived

WSM landing

WSM 1 montage
WSM 1 in the cruise configuration before it underwent environmental testing in JPL’s 25-ft Solar Thermal Vacuum Chamber.
WSM 2 is a Carbon dioxide absorber.
WSM 2 is a Carbon dioxide absorber.

The main reason for the global warming is officially the extreme increase of Carbon dioxide in the atmosphere. Here I have designed a machine to absorb CO2 and change it in O2. The mode of action is well known, but maybe it fall a little bit in oblivion. Think about the great business opportunities, if a mass production of the WSM will be started.

WSM 2 works on ecological principles
Chlorophyll for **WSM 2**
Solar panels for new generation of WS
Felix controls WSM2

CO2 emissions can be captured from nearly all large-emitting sources—from stationary factories and power plants to cars and planes in motion. Airplane emissions can be captured next to the runway, or China’s emissions can be captured on the coasts of Los Angeles! These synthetic trees can “thrive” in any location.

„Méta-matics and their function of producing art can certain be understood as an ironic commentary on the then dominant faith in technological progress.“ Jean Tinguely

adicalart.info/process/vibration/metamatic/index.html

Fig 5 The circle system. C - carbon dioxide absorber canister; B - breathing bag; Vi/Ve - unidirectional inspiratory/expiratory valves; V - pressure release valve; F - fresh gas supply. Adapted from www.frca.co.uk

When exposed, Chlorophyll is an transformer of CO2. So, as air flows through the orb “leaves of the tree”, the Chlorophyll will transform into C6H1206, the CO2, sifting out cleaner, about 70-90% less CO2 concentrated air on the other side.

WSM 2 in Philadelphia “Global Warming
in case of too much silence… pull the trigger 2008  copper / brass
Machine Aesthetics

The notion of machine aesthetics derives from the consideration that we are witnessing the emergence of an aesthetic paradigm that is based on the dynamics of the machinic rather than on the forces driving and driven by the human individual. The artistic explorations of the machinic are attempts at formulating an understanding of production, of transformation and of becoming that is no longer dependent on a humanist notion of intentional agency.

Its place is taken by an ethics and an aesthetic of becoming machine.
I think what Guattari does is make the current historical moment the means to read history as always a question of machinic assemblage (where the word machinic means something like 'working' or functioning', only of course they break down as much as they work). In the chapter of Anti-Oedipus on 'Primitives, Savages and Civilised Men' there's an understanding of the machinic assemblage that's made almost entirely of human bodies.

A Minor Philosopher

Korean Energy Element Ralf Sander 2008

1According to Guattari and Deleuze's definition, a 'minor literature' is the literature of a minority that makes use of a major language, a literature which deterritorialises that language and interconnects meanings of the most disparate levels, inseparably mixing and implicating poetic, psychological, social and political issues with each other. In analogy, the Japanese media theorist Toshiya Ueno has referred to Félix Guattari as a 'minor philosopher'. Himself a practicing psychoanalyst, Guattari was a foreigner to the Grand Nation of Philosophy, whose natives mostly treat him like an unworthy bastard. And yet he has established a garden of minor flowers, of mongrel weeds and rhizomes that are as polluting to philosophy as Kafka's writing has been to German literature (cf. Deleuze & Guattari, Kafka). journal.media-culture.org.au/9909/minor.php
The strategies of 'being minor' are, as exemplified by Guattari's writings (with and without Deleuze), deployed in multiple contexts: intensification, re-functionalisation, estrangement, transgression. The following offers a brief overview over the way in which Guattari conceptualises media, new technologies and art, as well as descriptions of several media art projects that may help to illustrate the potentials of such 'minor machines'. Without wanting to pin these projects down as 'Guattarian' artworks, I suggest that the specific practices of contemporary media artists can point us in the direction of the re-singularising, deterritorialising and subjectifying forces which Guattari indicated as being germane to media technologies.

Many artists who work with media technologies do so through strategies of appropriation and from a position of 'being minor': whenever a marginality, a minority, becomes active, takes the word power (puissance de verbe), transforms itself into becoming, and not merely submitting to it, identical with its condition, but in active, processual becoming, it engenders a singular trajectory that is necessarily deterritorialising because, precisely, it's a minority that begins to subvert a majority, a consensus, a great aggregate. As long as a minority, a cloud, is on a border, a limit, an exteriority of a great whole, it's something that is, by definition, marginalised. But here, this

*Ralf Sander iceberg  2008*

point, this object, begins to proliferate ..., begins to amplify, to recompose something that is no longer a totality, but that makes a former totality shift, detotalises, deterritorialises an entity.' (Guattari, "Pragmatic/Machinic")

In the context of media art, 'becoming minor' is a strategy of turning major technologies into minor machines. From  
http://www.parenthetic.org/minorliterature.pdf

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About World Saving Machine 3 Installation in MoA

Ralf Sander’s artistic work is characterized by a profound fascination with and passion for the laws and principles of physics and mathematics, for technology and history, for machinery and forces. He works with industrial remains combined with his own creations, with transformers, cooling devices and exposed electric circuits, bringing them together with natural elements like sun energy or the energy of water from tides, and confronting the human body with invisible forces, smoke, steam, water and ice. The artist has created an extensive oeuvre employing a number of different artistic media, including drawing, sculpture, performance and sound. But Sander has become particularly well known for sculptures and installations with which he probes the human body and sharpens people’s physical perception. In his work, nature and technology, human beings and technology, are closely intertwined. His installations, whether they are in disused buildings, water or in art spaces, are mainly conceived for specific locations.

World Saving Machine III is designed for the specific vertical situation of the Museum of Art Seoul, the MoA building, designed by the architect, Rem Koolhaas.
Sander, in intense collaboration with the composer Prof. Roland Breitenfeld, has put together for the exhibition an enigmatic machine that will transform the hot solar energy into ice. WSMII is an Installation consisting of solar panels, batteries and an ice maker in vertical array. The very thin solar foil panels will produce the energy for the machine.

The energy will be saved in traditional Kimchi pots. Sander calls it “Korean Energy.” It works on the principles of the lemon battery, an experiment proposed as a project in many science textbooks around the world. It consists of inserting two different metallic objects, into a fruit or vegetable containing acid or another electrolyte can also be used.

In this case Kimchi is chosen because it joins a highly symbolic energy source in an equivocal way: the solar sculpture serves to objectify the aspirations of humanity to harness the sun's energy, as well as to actually capture that energy.

The machine itself reminds us of the great inventions of the 1900s; it is also a hybrid of engine, musical instrument, high voltage capacitor and space device, built of copper and brass.

Ralf Sander reacts particularly humorously to our situation by adapting technology, changing its destructive force to one that ameliorates global warming.

The sun creates “hot” energy and WSM3 transforms the sun’s energy into “cold” ice.

The World Saving Machine, WSM, is a device to transform solar energy into ice. Finally there will be snow and ice during the hot Korean summer; it will snow in the vast gallery space of the Museum of Art in Seoul.
making ice with the sun

WSM III at MOA
Transforming Energy

Solar Panels on the museum's roof

Montage in the museum

WSM in my Korean Studio

first experiments

reflector unit

last controls
Korean Energy

The energy will be saved in traditional Kimchi pots. Sander calls it "Korean Energy." It works on the principles of the lemon battery, an experiment proposed as a project in many science textbooks around the world. It consists of inserting two different metallic objects, into a fruit or vegetable containing acid or another electrolyte can also be used. In this case Kimchi is chosen because it joins a highly symbolic energy source in an equivocal way: the solar sculpture serves to objectify the aspirations of humanity to harness the sun's energy, as well as to actually capture that energy.

Lemon Battery

Kimchi Pots

Kimchi Capacitator in WSM III
My obsession for wind, sails and the sea

The use of energies

Performance at Whitepark Bay

Ireland 2007
My obsession for wind and sails

(performing at the Irish North coast 2007)

Since I am six I am sailing and I am obsessed about the possibility to move through natural forces. I understand sailing not as a sport, but as a way of live. Not fighting against the elements but living with them.

In the 80is I inherited my Stepfathers yacht, on which I lived many years. In 1988 I decided to leave everything behind and to sail around the world with my partner who is now my wife. This experience had a crucial impact on my artistic practice and the rest of my life. For this occasion I had to build and design a wind-steering autopilot that turned out to be very reliable.

A wind powered self-steering gear works on a simple principle: wind vane, rotating on a vertical axis, is liked to a small trim tab attached to the main rudder, like the flap on an airplane’s wing. When the boat is on course, the vane is set into the wind. When the boat veers off course, the wind vane presents its sides to the wind, which pushes around its axis, and this movement is transferred by linkage to the trim tab, which like the wing flap, moves the entire rudder, steering the boat back onto its original course.

*Wind Vane Autopilot* for our journey around the world 1986
In 1994 we bought a former Russian Army Base close to Berlin which we converted into a studio.

During the first three years we were not connected to the national grid. With the help of the TU Technical University Berlin we manufactured a horizontal wind power device as a supply for our electricity. It still works reliable.

**Building a Rotor for my Studio in Germany 1995**

If one considers the new machine-based sculptures, the notion of toil is deeply embedded. I have worked hard to make sure they are designed to function for a very long time and to never need anything done to them. So in a strange kind of way, there is still a sense of old ethic of toil running through my work.
Inspired by a vision of a world both ageless and futuristic in its language and outlook, my sculpture juxtaposes energy and material.
The machine employed a language in which the body symbolizes time, space, location, and the relationship between humankind and the environment. For example the idea to experiment with the wind forces started from my passion about sailing. I am interested in the idea of sculpture not being a complete thing that it could be worked on by time and by natural forces like wind and tides or currents of water. I am trying to construct a sculpture that has something more than just aesthetic presence, that can add something to our lives and heal the environment.

The aim is transformation of thinking. Usually the machine is an extension of the human body. The idea of rotation, the idea the wheel is one of the most artificial appearances in this context. In nature there are nearly no spinning movements. My machines are not designed to work as optimized technical inventions, there are still artifacts but they work and they also inform us about potentials of environment and play on age-old ideas of transformative moments.

My sculptures contravene ideas about how machines function and interact with the natural environment. They oscillate across art science, nature and the machine as extension of the human body.

Double Darius Wind Rotor on the beach
polyester / steel 2002

The idea that an artwork can be useful in both pragmatic and spiritual way – that is live beyond itself. We are developing various sun and wind sculptures that can convert their movement into electricity or kinetic object using the sun energy. The work will give always its aesthetic value while simultaneously informing us about the environment. And through its action the sculpture will give away energy. It is a pretty exciting thing to make a machine that you know will not only last long time, but also produce energy that it can give away to the national grid. It can become profitable for the owner. My new sculpture functions in the same way as all art - it gives itself away so that it can't really be owned. The fact that it has an aesthetic and practical use is doubly rich.
Technical principles

Flettner and Darius rotor

old version
Brass still produced chemical reactions, which I like because it suits my concept of playing with 19th century ideas of experimentation. For big outdoor pieces though brass is not really suitable in terms of strength and durability, so I use stainless steel. Stainless steel also suits the patination of copper and brass, both have a natural color and feel, so it is a wonderful piece of synchronicity.

Catamaran which I use to sail in Ireland

The catamaran is currently the fastest and most highly developed form of an ancient sailing vessel that was originally developed by Polynesian natives. It is what I understand by a vision of a world both ageless and futuristic in its language and outlook.
First wind sculpture drawings 2001
Wind sculpture with central rotor and fixed sails
Design for a wind-power sculpture
Some proposals for kinetic sculptures, using the rhythm of the tides as their source of energy.

Until now I could just realize few of them, because of seize and expenses.

**Tidal sculptures**

*Public Art Proposal 2011*
Take the Tides serious
When you anchor your boat, never forget the tide......................

“Tägliches auf und ab”
(DAILY UP AND DOWN)

Tidal installation in Bangor 2007
Kayaks anchored on the seabed in low tide. When the tide is rising the boats are rising
Tidal Wings

large tidal sculpture for Belfast Harbour, a tidal clock

Project visualisation

*Tidal Wings* consists of ten stainless steel wings 16m long.

The sculpture is 32m wide and five storeys high.

If location 1 is chosen (see plan of location) no basin is needed and
Tidal Wings can be larger, 38m wide and 18m wings.

It is proportioned in relation to the surrounding buildings and their design.
It changes its shape permanently.

The stainless wings are triangular shaped. (see illustration with scale drawing)
They are connected with one or two 2/3 submerged, cylindrical pontoons (swimmers).

The Moon creates the tides and Tidal Wings transforms the tides’ kinetic energy through swimmers that sit in the water and ‘go with the ebb and flow’. On one side a scale will come up that shows the height of the tide the opposite scale will relate to the Moon. By looking at how the wings are opening, you can follow the water and Moon’s movements, its current phase and the ebb and flow of the tides.

Durability/ Maintenance

Tidal Wings will be powered directly by the tides, it needs no complicated technology and no further maintenance.

Tidal Wings is self-sufficient in all power requirements, stainless steel is extremely durable.
The largest kinetic tidal sculpture in the world. By looking how the wings are opening, you can follow the water and the Moon's movement, its current phase and the ebb and flow of the tides.

The rhythm of the water and the moon has been important to cultures around the world since the dawn of time and they are still influential for us.

Tidal Wings will be powered directly by the tides, it needs no further maintenance. Tidal Wings demonstrates one of the world’s most reliable renewable energy sources.
Possible Locations

1 In front of the wall
2 In the water in connection with the pontoon
3 Inside of the public area with a triangular basin

Tidal Wings

Tidal Clock

Moon Phases

During high tide the wings are lower but the two scales and the pointer are high up. Usually the banks are looking much better during high tide.
Tidal Orrery

Moon- Water orrery, driven by the force of tides for the measurement of an eternal natural rhythm

Waterlevel

Sectional diagramm of complete gearing system
Project Overview

More than a hundred years ago an extraordinary mechanism was found by sponge divers at the bottom of the sea near the island of Antikythera. It astonished the whole international community of experts on the ancient world. Was it an astrolabe? Was it an orrery or an astronomical clock? Or something else?

Sculpture using the Antikythera mechanism.
Things that disappear  “Renaming the River”  mouth of the river Farset

Ralf Sander 2007
Sinking and rising House

During the night the house will be submerged. The sun will produce energy for pumps and the house will rise during daytime.
Using solar energy for kinetic objects

The story of the sunken village…….

Sketch for a sun energy driven water sculpture. Sinking and ring house is an object with submerged floats and photovoltaic powered pumps. When the pumps begin to work, the sculpture is rising and floating. In the evening it will sink again. (computer animation opposite side)
Flying Island, Ireland Ballynahynch
John Keely has said repeatedly in his writings that every object has a mass chord. Or a vibration if you will, that is unique to each object. He thereby negated some of the vibrations in the weight that made the weight heavy. He did this through sympathetic vibrations. The sound from the musical instrument made the wire vibrate which in turn struck a chord with the weight. John knew how to effect the weight of an object by simply striking the right notes on the instrument.

John Keely also did the same type of experiment but with different machinery, hence the Liberator.
MATTER AND ANTIMATTER

The flying stone 2010

flying stone in palestina
The Trumpets

A trumpet can be much more than just a musical instrument.

Brass Band, bronze 28 x 19 x 22 cm  2009
"And when he had opened the Seventh Seal, there was silence in heaven about the space. And I saw the seven angels, which stood before God; and to them were given seven trumpets; and there were voices, and thunderings and lightenings and an earthquake. And the seven angels, which had the seven trumpets, prepared themselves to sound." - (REVELATION 8:1-6)
I created works inspired by one main theme, fear in our times. In a way my work could be defined as "politically fashionable" but it's also linked with my previous projects.

My sources of inspiration are simply my interest in the world, in society - what goes on around me" but also my being alive, my curiosity towards people and (other) cultures and various principles.

From change to terrorist attacks, global warming, pandemics, the future and financial crisis, all types of fears were tackled by the various artists who used their work to mirror the main issues of the frightening times we are living in.

Needless to underscore that we live under permanent influence, in an age of advertisement, sublime and not so sublime manipulations and seductions and lobbying and hence a need for distancing, critical observation and discursive interventions is paramount. Basically, I consider everybody a potential intellectual and think we all have a lot to look out for and ought to be careful of.

Needless to say that the construction of fear is used to reduce human rights, that the Armageddon Machine is a powerful instrument of manipulation and finally instrument to build collective unconscious mind. Reading daily headlines it becomes clear how much visual power is in those words, in the poetry of headlines.

I think I don’t go to far if I speak about mind programming. The tubas and trumpets are considered to be potentially very powerful, loud musical instruments. Through their silence ore whispering mode they gain a metaphorical dimension.

I focus in the whispered phrases only on the languages and interfaces used by those in control and power. Whether it is the terminology of War on terror, the daily catastrophes or the technological poetry of our financial markets I don’t offer opinions, I don’t even need to demonstrate my opposition. For me it is enough to repeat them, to record them, to just reflect them back.
The mind machine, OPINION MACHINE

shaping the human mind
The subtle infiltration

Manipulation through fear and anxiety fueled by dominant ideological constructs could be as terrorizing if not more, due to their »indirect« nature.
The *big blue Apocalyptor*, Urethane on brass 2,3 x 1,6 x 1,2 m  Seoul 2009
Building the Apocalyptor 2009 in Seoul studio
The Armageddon Machines
Countin' trumpets on the wall firey flame will kill us all
And I hear trumpets ringing in my head before I go to sleep
Takes me back way back when we were young and we were friends
Now I'm home alone smokin' cigarettes waitin' by the phone
Sweet Virginia blue skies early mornin' sunrise
I can see your spirit dancin' next to mine
The INFILTRATOR

Infiltrator test 2009
Historical overview early Apocalyptor
Reconstruction of Duchamp AM 2009 Art Researcht Institute WARZ in Austria / Hintenheim
Cooperative Apocalyptor
*Little Indian* 2009, mixed media 75 x 35 x 41 cm
Since
**Drawing**

I started to work as a sculptor I occupy myself also with drawing. I conceive my body of works as a discussion of things that the eye does not see – like energies and processes. I am not interested in the solidity of the objects, but rather the energy around them. I understand drawing as an exploration on paper, a way of using graphic procedures to clarify my orientation in three dimensions. I am fascinated for the laws and principles of physics and mathematics, for technology and history. My sculptures and drawings contravene ideas about how objects function and interact with the natural environment. They oscillate across art science, nature, the machine and the human body. In my work, nature, technology and human are closely intertwined. My installations and drawings are in thrall to "the forms of things unknown," to use Shakespeare's phrase.

*Title*: The problem gravity  
*Year*: 2009  
*Size*: 53.5 X 76.5 cm
Title: making dark matter through dark energy
Year: 2009
Title: parallel world’s
Year: 2009
Seize: 53,5 X 76.5 cm
Title:  making dark matter

Year:  2009
Title:  My personal Field Theory
Year:  2009
Seize:  53.5 X 76.5 cm
.....predicted field
Title: strange machine
Year: 2008
Seize: 53.5 X 76.5 cm
...nearly traditional landscapes

a photographic project
Kukje Landscapes

Stairway in Kukje Gallery

Landscapes on the stairways

Finished found landscape
Digiprint auf Leinwand 120 X 40 cm

Digiprint auf Leinwand 120 X 40 cm

Digiprint auf Leinwand 120 X 40 cm
Digiprint auf Leinwand 120 X 40 cm

Digiprint auf Leinwand 120 X 40 cm

Digiprint auf Leinwand 120 X 40 cm
Total Art Gallery  Landscapes

Digiprint auf Leinwand 120 X 40 cm

Digiprint auf Leinwand 120 X 40 cm

Digiprint auf Leinwand 120 X 40 cm
The beautiful floors of Seoul galleries……
Landscapes from the very last image of your film……
The *End* Landscapes  2002

Sunrise 180 x 28 cm  c- print 2003

Sundown 180 x 25 cm c- print 2003
The Sunrise Sundown series consists of enlarged photo - end parts.
The last photo of a common negative film, usually thrown away as rubbish I found my motives here.
……usually thrown away.
Die Ansichten des Lagan

Einwässerung und Bergung der Blätter
01.10.2006 - 30.10.2006
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The ten "Views of the River Lagan"

Ten robust sheets of paper where immersed at ten different locations in the river. The sheets where mounted on slate tiles, to keep their position for one week. Each image produced by the Lagan differs from the other. The river becomes the painter.

1. Connswater river
2. Belfast port
3. Lagan Weir (west)
4. Lagan Weir (east)
5. Queens Bridge
6. Lagan Lock and Blackwater River
7. Ormeau Park
8. Lagan Valley
9. Rapids
10. Shaws Bridge

The locations

The map shows the locations of the ten "Views of the River Lagan."
1/1000 Sculptures

Watersculpture 1/1000 sec sculptures
C-Print 80x80 cm 2003
Dragon Water Sculpture  2003
Ralf Sander (Born in Berlin, 1963)

EDUCATION
1984-86 Fine Art HDK Berlin (Hochschule der Kuenste Berlin)
1988-90 Circumnavigation
1990 Diplom HdK Berlin (equivalent BA)
1992 Meisterschüler (MA) UDK(University of fine Art Berlin)

STIPENDIEN /SCHOLARSHIPS/ AWARDS /
1993/94 NaföG Stipendium
1994 DAAD Stipendium für Studienreise nach China und Japan
1995 Preisträger des Bosch Förderpreises Work Art
1995 Projektförderung der Stiftung Kunst und Kultur des Landes NRW
2002 Kunstpreis „Spektrale“ Brandenburg
2005 Deutsch Polnische Kulturstiftung

AUSSTELLUNGEN / EXHIBITIONS (selected)
2009 World Saving Machine, MoA (Museum of Art, Seoul) Seoul, Korea
Drawing of the world, world of drawing, SNU Museum of Art
Spiegelungen der Wirklichkeit, Duesseldorf, Germany

2008 Siberian Photo Festival Museum for Contemporary Art Novosibirsk Siberia,
Ekatarinenburgh, Russia / Global Warming/Icebox Philadelphia, USA
The Third Dimension Dundalk, Ireland / The Royal Ulster Academy’s Annual Exhibition
Belfast, UK

2007 1000/sec Sculpture, Kunststation Bukow / Cargo Cults, Poland Warsaw
Venetian Schizo, Italy / Cobh Harbour Project Sirius Arts Centre, Cobh, Ireland
2006 Rolandtransfer, Brandenburg / Art Fluid Canal, Le Landeron, Switzerland /
Daejon, Korea
2005 Aquamediale, Spreewald / XII Rohkunstbau Germany, Gross Leuthen /
Die dritte Dimension Haus der Kunst Muenchen, Germany / Dropzone, Brandenburg
2004 „Leibgedächtnis“ Art Academy Warsaw, Poland / Dundee, UK / Waschhaus Potsdam
"Exterritorial II" Land Brandenburg
2003 Recherche de Place Just Art Gallery, Berlin / Schering Kunstverein, Transhuman/
Club der Polnischen Versager (Media)
2002 Exterritorial I, Brandenburg / Salon de Portrait, Paris / Spektrale, Brandenburg /
Secret Garden, Kunstverein Bruecke, Berlin / Kulturinstitut Lehnin
2001 Galeria Rzezy. Warsaw, Moran Museum of Modern Art Seoul Korea
Individualitaeten Loewenpalais, Berlin
2000 Just Art Galerie, Berlin, Naju Art Festival, Korea, Darmstädter Sezession „Biennale des Arts Miniatures“ Quebec Kanada (catalogue) Quebec, Kanada

SOLO EXHIBITIONS (selected)

2010 Queens Street Studios UK, Belfast UK
2009 WorldSavingMachine MoA (Museum of Art, Seoul) Korea
2008 Up is Down Schloss Nennhausen Germany
2007 1000/sec Sculpture Kulturland Brandenburg e.V., Germany
2007 Cargo Cults/ Venetian Schizo Poland Warsaw/ La Serpara Italy
2006 Rolandtransfer Brandenburg
2003 Recherche de Place Just Art Berlin
2003 Schering Kunstverein Berlin
2001 Galeria Rzezby Warsaw Poland
2000 Just Art Galerie Berlin

ARBEITEN IM ÖFFENTLICHEN RAUM / PUBLIC ART

1995 Klaproth Stehle (1.Prize) Campus Technical University Berlin
1997 Natur- Kunstzeichen Symposium (Katalog) „panta rhei“ Symposium (Katalog)
1997/98 Gestaltung des Marktplatzes in Töpchin
1. Preis und Auftrag für Kunst am Bau, Spreewaldklinik Landesklinik Brandenburg
2001 Preis und Auftrag für Kunst am Bau, Dreifeld Mehrzweckhalle
2003 Preis und Auftrag für Kunst im öffentlichen Raum, Landratsamt des Landkreises Dahme- Spreewald, Brandenburg
2003 Preis und Auftrag für Kunst am Bau am Paul Gehrhard Gymnasium Lübben, Brandenburg gemeinsam mit Grazyna Sander
2004 Preis und Auftrag für Kunst am Bau „Mensch Ärgere Dich nicht“
2006 Partizipatives Projekt im öffentlichen Raum „Rolandtransfer“
2007 Residency Sculpture Centre Oronsko (Centrum Rzezby Oronsko) Poland
Ralf Sander

Background
A native of Berlin, Ralf Sander sailed around the world on a small sailing Boat from 1988-1990. directly after the trip he finished his studies and began to work as a free lance sculptor. 1994 he visited China and Japan with a research grant of DAAD (German Academic Exchange Service) for six month. He was appointed to a lectureship in sculpture at the University of Fine Arts in Berlin 1996 and from 1997 to 2001 at the Johannes Gutenberg University in Mainz. He became a visiting Professor at the ASP Warsaw (Academy of Fine Arts in Warsaw) 2003/04. From 1999 to 2005 he was art advisor for the local government of Brandenburg (Germany). He was involved in several Jury boards for Public Art projects and he acted as curator and in the organisation of international Exhibitions.

Education
Ralf Sander awarded the Diplom (BA) in sculpture at the HDK Berlin in 1991
He was appointed Meisterschueler (MA in Fine Arts) at the University of Fine Arts in Berlin 1992.