



ARS ELECTRONICA CENTER LINZ

Molecular biology and genetic engineering are decoding the building blocks of life, manipulating them, and creating artificial life forms. Orbiting telescopes are enabling us to peer into the depths of space and time. Imaging procedures are revealing processes taking place within the human body—for instance, the brain while it thinks. Almost daily, new technologies and research are producing never-before-seen images. Images that are bringing to light what used to be hidden deep inside us, and are going about changing our worldview and our picture of what it means to be a human being ...

The Ars Electronica Center's exhibition that debuts on January 2, 2009 is focusing on fields in which the most massive and controversial innovative thrust is now in the process of emerging: the so-called life sciences—biotech, genetic engineering and neuroscience, as well as imaging procedures that enable us to blaze trails into unexplored realms of the microsphere and macrosphere. The Ars Electronica Center is spotlighting "New Images of Humankind." Simultaneously atelier and lab, the new facility attests to the affinity between art and science, and to our timeless fascination with our own kind.

ONE-OF-A-KIND EXPERIMENTAL ARRAY

3,000 m² of space for exhibits, 1,000 dedicated to R&D, 400 for seminars and conferences, 650 for food & beverage service and catering, and, topping it off, a 1,000- m² plaza to accommodate open-air events. The new Ars Electronica Center makes an impressive architectural statement—stylistically and functionally. It's an ensemble that successfully blends old and new structural elements, a setting for activities that combine strengths refined over decades with explosive themes of critical importance to our future. The commitment to creativity and productivity is stronger than ever. The core is the 1,000-m² Main Gallery, a space in which artists and scientists, school kids and college students, parents and children can experiment, work and play. Here, focal-point labs and interactive installations deliver new views of Humankind. This spectacular theme exhibition doesn't put the accent strictly on leading-edge technological developments; instead, it concentrates on the concrete question: What's the impact on me and my life?

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NEW VIEWS OF HUMANKIND

It's the interplay of eye and brain that substantially determines our perception. This incessant process of receiving, forwarding and interpreting information is the star of the show in the new Ars Electronica Center's Lobby. The 22-meter-high entry hall's floating centerpiece is Julius Popp's *Bitflow*, a gigantic eye formed of thousands of thin tubes. Each tube snakes its way through the building from this point and back again. Just like the electrical impulses in our network of nerves, drops of red fluid flow through these arteries and coalesce here and there to form legible communiqués. The eye as the central metaphor of our experiencing the world—in the Lobby and in the Main Gallery, where, right at the outset, the Big Eye peers out at the bizarre forms and colors of the micro- and macrocosm and provides a preview of the fascinating visual worlds within. Visual worlds beyond the realm of our accustomed perceptions:

BRAINLAB

Some experts classify the human brain as the universe's most complicated system—100 billion nerve cells, and every single one connected to approximately 10,000 synapses. A gigantic network that controls our body and our sensations. The BrainLab takes a close-up look at the human brain and, in doing so, focuses how we perceive reality.

Adjacent to BrainLab is Jenny Sabin's *Branching Morphogenesis*. Together with cell biologist Peter Lloyd Jones, the artist studied the structure of cells, their fiber-like bonds and the forces at work among them. Thus inspired, Jenny Sabin constructed a room-sized, walk-through sculpture composed of 75,000 cable ties. *Branching Morphogenesis* provides an idea of the gigantic extent of the complex network that makes up the human body.

BIOLAB

There is probably no field that has launched such heated debates as genetic engineering. The very fact that it has become—technically—feasible to intervene in a person's basic genetic makeup, to modify it, and even to clone a human being calls into question our worldview and our moral and ethical preconceptions. BioLab delivers insights into the inner structures of life, into the make-up of cells and DNA. And it also offers the opportunity to try out highly specialized equipment like a raster electron microscope.

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IN THE ROBOLAB

Some evince a striving for efficiency; others manifest a longing to create machines in our own image. It's the development of humanoid robots in particular that teaches us a lot about ourselves. What motion is. And what's intelligence. Or perception. In going about this, we recognize how highly developed we truly are, but also where we run up against our limitations. RoboLab delivers insights into the history of robotics and showcases the technical excellence of robots being created today.

The link connecting RoboLab to the other exhibit areas is Philip Beesley's *HYLOZOIC SOIL*, an impressive mechatronic organism whose meter-long see-through tentacles react to whatever approaches them. Microcontrollers and shape-memory wire steer the elegant movements of this artificial creature.

IN THE FABLAB

Think about this: you don't buy your sneakers in a sporting goods store anymore; instead, you download them from the internet and simply print them out! A rather bizarre futuristic vision, but one that could soon become reality—with earth-shattering consequences for manufacturers and the whole economy. The Fab(rication)Lab is dedicated to the idea of being able to order digital objects from the Web and turn them out at home. And not (just) on paper, but as real objects. A 3D printer takes computer models and produces real things out of them; a computer-controlled laser cutter whips them up out of any material you choose. Clothing patterns or furniture designs will be obtainable via internet just like music and pictures are distributed today.

DEVICE ART

"Device Art" is a new artform, a synthesis of art, design, technology, science and entertainment. Here, new technologies from everyday life encounter elements of traditional Japanese culture. "Device Art" seeks to understand what it means to live in a world that is increasingly saturated by technology.

The Japanese have a long tradition of raising everyday actions and objects to an extremely high level of cultivation. For example, the significance of a tea ceremony goes far beyond the mundane, concrete purposes for which these actions are performed. "Device Art" does away with this separation of form and function, usually in a fun, playful way by bringing into play new materials and technologies—along with their immanent qualities and possibilities. Its most frequently used stylistic element is *mitate*, a long and popular tradition of utilizing metaphors, associations and double entendres in a whimsical way. There's something magical about transforming a common, everyday, even banal object into something extraordinary and unexpected. But *mitate* also makes it possible to deal with serious issues behind an apparently playful front. Or to position art beyond the confines of classical venues like museums and galleries.

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The “Device Art” project was launched in 2004 by a group of artists, technicians and researchers. The group is headed by Hiroo Iwata; his collaborators are Hideyuki Ando, Masahiko Inami, Machiko Kusahara, Ryota Kuwakubo, Sachiko Kodama, Novmichi Tosa, Kazuhiko Hachiya, Taro Maeda and Hiroaki Yano.

POETRY OF MOTION

“Faster, higher, further” are the watchwords of our time and our society. Constantly upgraded technologies promise even more efficiency and speed, greater simplicity and convenience. Staying up-to-date means keeping pace with the rapid tempo of technological advance. While everything and everyone appear to be paying tribute to automation and efficiency maximization, more and more artists seem to be staging scenarios featuring mechanical movement as aesthetic experience. They’re building machines that tell stories, artistically constructed apparatuses that create settings with sufficient latitude for elements of the imagination to unfold.

Kinetic art features objects set in motion mechanically. Images that at first appear familiar are continuously rearranged and thus reinterpreted. The constant modification is the central aspect of the work. All the way back to the mechanical apparatuses and fancy trick fountains of the Baroque era, technical-scientific principles have been fundamental to kinetic art ...

Quartet by Jeff Lieberman and Dan Paluska was inspired by the tradition of mechanical musical instruments. An imposing six meters in length, this installation has garnered renommé as a result of its appearance in an Absolut vodka commercial. *Quartet* consists of three robotic musical instruments; completing the quartet is the user, who is called upon to provide the musical motif. A computer program developed in collaboration with composers takes this riff and turns it into a three-minute work, whereby the tones input by the user are not interpreted as a melody but rather as a set of rules. Finally, a robot orchestra performs the composition. A marimba’s five-centimeterwide keys are made to resound by projectiles fired at them from several meters away; 42 robot arms and 250,000 rubber balls keep the marimba keys in constant vibration. The harmonies are provided by a wine-glass organ whose 35 handmade glasses are manipulated by robot fingers with suede tips soaked in a special solution that behaves like water but doesn’t evaporate. Sources of rhythm are percussion instruments including djembe, cajon and various cymbals. In *Quartet*, Jeff Lieberman and Dan Paluska investigate man-machine interplay. Performed on-site and placed online, the unpredictable results of this unusual collaboration can be experienced by a worldwide audience, any member of which is free to use the pieces themselves since they’re not subject to copyright.

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Arthur Ganson's *Machine with Concrete* (1992) is a motor-driven axle, the end of which is inserted into a concrete block. Gogs, gears and reducers transfer the motor's angular momentum in the direction of the concrete block. It takes the first cogwheel about 14 seconds to make a complete rotation; the last one—the one sticking in the concrete block—takes no less than two trillion years. *Machine with concrete* makes us aware that we human beings are the only creatures who create things that (are supposed to) endure beyond our own existence. And that the world—despite its purportedly hectic pace—changes very, very slowly. Other works by Arthur Ganson on display here are *Machine with Eggshells* (1994), *Margot's other cat* (1999), *Thinking Chair* (2007) and an imitation of a flock of birds entitled *Machine with 22 Scraps of Paper* (2007).

Eric Dyer's *Bellows* is modeled on the zoetrope, an invention that goes back to 1832. Like the historical original, the principle underlying the update is the sluggishness of the human eye. The idea is as simple as it is ingenious. Slits are cut into the wall of an open-top cylinder, and individual, sequential images are applied to the cylinder's interior. The original featured hand-painted pictures, whereas Eric Dyer has recourse to the output of a 3D printer. Now, when the cylinder is rotated very quickly on its axis, the slits whizzing past seem to be transformed into a single "window." And the same happens to the images flying by on the interior surface—they blend together into a "movie." This method—as simple as can be—is how 19th-century cinéastes experienced the magical world of the zoetrope, but Eric Dyer's audience is nevertheless denied this simple pleasure. His high-tech zoetrope rotates too quickly for our eyes. A camera (to register the images) and a computer (to reduce the speed at which they move) have to be brought into play for us to be able to see a sharp, colorful image. *Bellows* plays with the limits of our optical perception while delivering an ironic take on the technology fetish of our times.

Yosuke Ushigome's *structured creature* is a prototype for an architectural element of the future. It interacts with its surroundings and the inhabitants of those surroundings. As a prototype, *structured creature* also reacts to human behavior. The three sculptures go through a cycle of rising and collapsing. When you approach one of the sculptures, they react collectively. The organic movement of *structured creature* is generated by two elements: its own structure (tensegrity) and artificial muscles (made from Shape Memory alloy). In a tensegrity system, there is equilibrium between tension and compression, which is formed by a combination of fixed elements and ties. Such structures are utilized in architecture—for example, in erecting a roof over a large space like a stadium. A shape memory alloy "remembers" its shape and, after being deformed, can be returned to that shape when heat (from electricity) is applied to the alloy. Shape Memory alloys have numerous applications in the medical and aerospace industries.

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THE DEEP SPACE

16:9 is cinema format. 16:9 is also Deep Space format—16x9 meters, that is! Plus, there are 150 m² of floor space that can also be used as a projection surface, and plenty of possibilities for users themselves to intervene in what's going on. Eight projectors deliver unsurpassed high-definition images: breathtaking pictorial universes in 3D stereo, ultra-sharp videos and images made up of several billion pixels! Excellent prospects, to say the least—and due not least of all to the gallery running along three of the space's walls at an altitude of five meters. But generous proportions and brilliant resolution aren't the only impressive aspects of Deep Space. This installation opens up a new dimension of travel through time and space: travel in spheres inaccessible by the human eye, travel into the past, travel to astonishing places. The itinerary includes lightspeed jaunts in outer space, exploration of historical sites like the birthplaces of the Egyptian pharaohs, excursions into art history featuring the creativity of such geniuses as Leonardo da Vinci, or even an adventure in a world of paper that comes to life. These expeditions to impressive, thrilling graphic worlds let visitors experience what no living person has ever experienced before ...

OLD MASTERS IN A NEW LIGHT

Giga-Pixel-Fotographie von Haltadefinizione.com

Haltadefinizione uses extreme resolution photography as a method of preserving historic art masterpieces—for example, *The Last Supper*, the famous mural by Leonardo da Vinci. 16,118,035,591 pixels provide an unprecedented level of detail: da Vinci's artistic technique, the dissolution of the material, and minute elements all become visible. In addition to *The Last Supper*, visitors can also examine impressive digital versions of Gaudenzio Ferrari's *Christus Passion* and *Andrea Pozzo's trompe l'œil* ceiling fresco of Sant'Ignazio.

ON-SITE

3D-Laserscans by CyArk

The *On-Site* project series lets visitors do a virtual walk-through of the gigantic archive of CyArk, a non-profit organization dedicated to the digital preservation of humankind's cultural heritage. This collection includes replicas based on real data gathered from the world's most important cultural treasures. The visualizations based on so-called point clouds can be experienced stereoscopically during guided tours in Deep Space.

JUNGLE IMPERATOR

The Sancho Plan. Music: Tosca. Co-Production: Ars Electronica Futurelab

Jungle Imperator is an interactive visual and musical experience in which you control a cast of animated musical characters performing as part of an evocative soundtrack that evolves from dark ambience to rich layers of collaborative grooves.

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SELECTIONS FROM ÔR'GANIK CONSTRUCTIONS

Kenneth A. Huff

Inspired by the random, yet structured beauty and minute details of nature (flora, fauna and mineral), Huff's very high resolution images are creating an illusion of reality even while you are gently confronted with the practical knowledge that the objects represented do not exist. Deep Space provides an unprecedented way to explore details of the work that no one has seen before.

DATA.TRON [8K ENHANCED VERSION]

Ryoji Ikeda

How many points are there in a line? What is the number of numbers? How can we verify that the random is random? *data.tron [8K enhanced version]* is part of the datamatics project, a series of experiments that explore such questions, physically and mathematically. You will experience the vast universe of data in the infinite between 0 and 1.

EMPIRE OF SLEEP: THE BEACH

A Ian Price

Empire of Sleep is an exploration of subconscious externalized through narrative and temporal structure of cinema adapted to the medium of real time graphics and user interaction. Time is emphasized, in which a single moment is in a suspended state, yet you can navigate within the frame on a different scale.

PAPYRATE'S ISLAND

Ars Electronica Futurelab

You find yourself on a South Sea island that consists totally of an industrious painter's drawings that have come to life! But your drawing talents are called for too after the painter rashly creates a nasty villain named "Pyrate". Preventing the utter destruction of the paper world calls for the forces of good to work together.

XREZ IN FOCUS

xRez Studio, Inc.

Urban structures, vast landscapes, extreme locations, ingenious nature – the large scale panoramic images created by xRez Studio, Inc. fascinate viewers by "simply" recording the ambience of the earth – but in a density that goes beyond the daily sense of sight. Being lost in the details of an image in Deep Space also means losing the feeling of distances.

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LINZ – A SOMEWHAT DIFFERENT PERSPECTIVE

Pröll Film Production GmbH © 2009

Right in the midst of Linz, experience fascinating natural events, places full of life, and unexpected perspectives. Let Deep Space take you on a combined nature walk and cultural excursion. Upper Austrian filmmaker Erich Pröll delivers an affectionate presentation of very special places within the city of Linz, and footage that opens up amazing new perspectives for visitors and locals alike.

In conjunction with the 2009 Capital of Culture year, the accompanying film entitled “Universum Linz – With Animals’ Eyes” will make its television debut in April 2009 on the ORF – Austrian Broadcasting Company’s channel ORF2.

“UNIVIEW”

SCISS AB

“Uniview” is an impressive work of 3D animation that shows the entire known universe. Data gathered by renowned space research institutions provide the informational foundation for virtual space travel in the Ars Electronica Center’s Deep Space. Here, you can zoom from Earth to the heavens’ remotest realms.

THE FUNKY PIXELS

“Shoes-optional zone” and the playground for kids. Attractions include the *Garden*, whose digital floral splendor blooms even more opulently the more multi-colored confetti swirls through the air, and *Godmode*, at which fantastic visitor-sketched creatures are scanned at the press of a button, fitted onto an optimally dimensioned skeleton, and brought to life. *Lichtfaktor* transforms a flashlight into a lightbrush that magically paints the darkness with traces of light. *Videogrid* gets visitors themselves into the picture; a camera is activated via touchscreen and a short video sequence is recorded and then projected onto a screen. Six screens set up next to one another bring the individual images together into a large-scale whole—a colorful collage or an oversized figure. Last but not least, a great lineup of prizewinning animated films features the greatest hits from the Prix Ars Electronica’s *u19-freestyle computing* category.

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GEOCITY

Planet Earth will have 10 billion inhabitants in 2050, more than two-thirds of them living in cities. All over the world, metropolitan areas are exploding into new megacities. Homo sapiens is evolving into homo urbanicus, a being whose hopes—and, all too often, disappointments—are connected more closely than ever before to the course of “life in the big city” ... GEOCITY is a new exhibition area in the Ars Electronica Center that focuses on the global trend towards urbanization, scrutinizing our power and our impotence in a world in which the maxim “think globally, act locally” has long since established itself in business but is only slowly taking hold in politics and society. GEOCITY brings together data about our world, and provides a playful way of encountering global processes. At the same time, it opens up a totally new way of looking at the City of Linz as a localized setting for everyday life.

PIXEL CITY

Every city is just as distinctive as each of its inhabitants, whose respective personality, history and culture is a unique, integral part of the urban mosaic. PIXEL CITY translates this “collective individualism” into a spatial installation. Lego-like plastic blocks—189,355 of them to be precise, one for each Linz citydweller—form cubic urban structures. This PIXEL CITY grows brick by brick. Every installation visitor is invited to pitch in.

PIXEL WINDOW

Amidst the hustle & bustle and anonymity of life in the big city, masses of human beings move from Point A to Point B, day in and day out. Who takes time to pause for a while and attentively reflect on the stories the city tells? ... PIXEL WINDOWS open up new prospects. They let you glimpse behind the walls, onto the streets and into the inner courtyards. PIXEL CITY’s abstract structures serve as the backdrop.

PROCEDURAL CITY

Installation visitors use a fingerprint scanner to create the “ground plan” of a city. An algorithmic program then uses this as the blueprint for an urban structure comprised of building blocks. You can then visit the city generated in this fashion and navigate through it with your Ipad.

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LINZ AND THE WORLD - A DATA TERMINAL

Tourism - More than 350,000 tourists visit Linz each year. The trend is up. In 2008, most guests came from Austria (184,136), Germany (92,144) and Italy (18,870). The Tourism data terminal shows all the countries that visitors to Linz come from.

Culture - Almost 4,000 artists from 79 countries submit entries each year to the Prix Ars Electronica. In 2009, most submissions came from Austria (1,178), the USA (533) and Germany (464). The Culture data terminal shows which countries have the most vibrant media art scenes.

Economy - Linz steel giant voestalpine is represented on all continents with more than 360 production and distribution subsidiaries. The lion's share of voest's revenues come from Austria, Germany and Italy. The Economy data terminal gives an overview of the company's global activities.

SIMLINZ

SIMLINZ is the prototype of an interactive urban- and geo-information system that—on the basis of Linz—provides interesting and unusual insights into the city and its functions. Exemplary data from the 1950s to the present let users follow Linz's development over time. SIMLINZ has been conceived as a walk-through interface that utilizes new means of communication to get across complex, interrelated information in an intuitive way. Whether it's a book or a city map—everything morphs into an interactive surface. Analog and digital elements react to each other—pencil and paper as well as computer and projection.

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THE NEW ARS ELECTRONICA CENTER / FACTS & FIGURES

The groundbreaking ceremony for the new Ars Electronica Center took place on March 1, 2007. It launched an ambitious architectural undertaking that would go up in record time—building a multi-level structure immediately adjacent to the existing facility and then wrapping the entire ensemble in a glass shell, the AEC's spectacular 5,100-m² LED façade. The result is a holistic entity, a striking highlight of the Linz cityscape, and the architectural counterpart of the Lentos Museum of Modern Art on the opposite bank of the Danube.

Situated on the building's east side is a spacious terrace that provides an attractive setting for open-air events. Its eastern end inclines upwards and features a set of wide steps. Directly below this Ars Electronica Plaza is the approximately 1,000-m² Main Gallery, the core of the new Ars Electronica Center. This exhibition space's floor is about 1½ meters below groundwater level, which presented a major construction challenge. The eastern end of the Main Gallery segues into the labs, testing facilities and workshops of the Ars Electronica Futurelab, whose staffers now enjoy ideal working conditions.

The Ars Electronica Center now features more than 6,500 m² of space. The addition was designed by the Viennese firm of Treusch architecture, and cost about 30 million euros. The project was supervised by a municipal agency, Gebäudemanagement der Stadt Linz.

Start of construction: Spring 2007

Completion: End of 2008

Opening: January 2, 2009

Additional space: 4,000 square meters

Total Area: 6,500 square meters

Cost: approximately € 30 million

Principal: Immobilien Linz GmbH & Co KEG

General planner/architect: Treusch architecture ZT GmbH

Structural analysis and planning coordination: FCP-Fritsch, Chiari & Partner ZT GmbH

Building physics: Bauphysik ZT Pfeiler GmbH

Installation of technical systems: ZFG Project GmbH

Project management, obtaining bids, and on-site construction supervision:

Bmst. Ing. Landauer GmbH, Bmst. Ing. H. Poscher

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PARTNERS AND SPONSORS

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3DVIA Virtools, Activelink Co., Ltd., Amt der OÖ- Landesreg. Hydrographischer Dienst, Applied Biosystems, Art+Com, BARCO, Bene, BFI, CyArk, D-Torso, Elekit, Eppendorf, fab@home project, FEI Company, Festo GmbH, FH Oberösterreich Campus Wels – Bio- und Umwelttechnik, Future Robotics Technology Center, g tech medical engineering GmbH, gach edv agentur, Greiner Bio-One GmbH, Haltadefinizione.com, Hirox, Honda Europe, HP Hewlett-Packard GmbH, HTL Leonding, JST CREST, LIWEST (Mainsponsor), Mongoose Studio, Otto Bock Healthcare Products GmbH, PV Planungs- und Veranstaltungstechnik GmbH & Co. KG, RISC Software GmbH Hagenberg, Roche Applied Science, Schäfer Technologie, SIEMENS Österreich, Systemc Akazawa, The University of Tokyo, Kawaguchi Lab, Ishikawa Lab, Trotec GmbH, Univ. Salzburg – Fachbereich Molekulare Biologie, voestalpine, Wacom, xRez Studio, Inc.

Additional information about the new Ars Electronica Center is online at:

www.aec.at

Press releases, print-quality images (13x18 cm; 300 dpi) and videos about the new Ars Electronica Center are available in our digital press kit at:

http://www.aec.at/press_kit_detail_en.php?id=268

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