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**Additional information about the Ars Electronica Futurelab:
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I Press Release Overview

Visions for Art, Technology and Society

The Ars Electronica Futurelab is continually redefining mankind's interrelationship with computers. The Linz facility's productive activities are centered on media art, but the incredible diversity of its successful projects are powerful testimony to the Futurelab's creative competence contributed to joint ventures with partners in the private sector, collaborative R&D undertakings and cooperative associations with academic institutions.

The world of the Ars Electronica Futurelab is interactive, multimedial and characterized by completely new approaches to conceptualization and design. Horst Hörtner, head of the facility's staff, describes its special orientation in these terms: "Our focus is on expanding the realm of interaction among human beings and computers. Our particular research interests as well as artistic approaches flow into the solutions we come up with." His overall assessment: "Today, the various different communications technologies are already merging together. In our work, it's not the medium but the process of mediation that has highest priority." Hardware and software that can be used in an easy, intuitive way, superb design and the consummate harmony of interaction and content are at the very top of the Ars Electronica Futurelab's R&D agenda.

In concrete terms, the Ars Electronica Futurelab carries out projects across the entire new media spectrum commissioned by corporate clients and in collaboration with R&D associates and cultural institutions:

- Installations that take a playful approach to facilitating the public's encounter with **exhibition** content
- Multimedia projects for the interactive **presentation** of content live at trade shows and at websites online
- **Media for architecture**: multimedia installations featuring large-format projections and interactive elements that are permanently integrated into a building's structure and thus engender a new type of "edifice art"
- Large-format projections and installations in conjunction with **art projects**
- **Research projects** in cooperation with partners in the private sector and academia; area of particular expertise: enhanced/upgraded hardware and software to implement Virtual Reality and Augmented Reality

Originality and imagination lead to spectacular results and to growing acceptance. Voestalpine, SAP, Siemens, Mobilkom Austria, the University of Linz, MIT Media Lab and the Brucknerhaus Linz are just a few of the many organizations involved in manufacturing, art and R&D who have come to appreciate the Futurelab's unique approach to doing a job. Its artistic orientation endows concepts with precisely those qualities that have made Ars Electronica such a tremendous success for over 25 years: maintaining an impartial, independent, open point of view, which makes for the vision to see beyond the confines of individual disciplines and purviews, and thus the capacity to come up with totally new approaches to solving problems.

Global Activities - International Networking

The Futurelab has collaborated with associates in Austria, Europe, Latin America, Asia and the USA. The permanent headquarters of these global activities is a 750 m² production facility located in the Urfahr section of Linz, Austria and featuring computer infrastructure, studios, offices and workshops in which up to 40 staffers carry out their project-related work.

Through its ties to the Ars Electronica Festival, the world's largest and most important festival for art, technology and society, the Futurelab maintains close contacts with leading members of the international media elite.



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II - 1 Research and Development

Research and Development

New solutions that go beyond concepts pursuing conventional approaches-the Ars Electronica Futurelab is working together with universities and private sector associates to carry out innovative R&D projects in the field of information and communications technology. The Futurelab's speciality is the development of hardware and software for Virtual Reality applications.

INSTAR and Digital Graffiti

INSTAR and Digital Graffiti stand for a unique new approach to navigation systems. These applications far surpass run-of-the-mill two-dimensional visualizations and make the break-through to Augmented Reality. INSTAR is deployed in automobiles; Digital Graffiti is for pedestrians.

In a car equipped with INSTAR, a monitor installed in the driver-side dashboard displays a real-time video image of the motorist's view of the road overlain with a suggested route. The result is navigation support that functions in an intuitive way. The decisive advantage is that the driver doesn't have to take his eyes off the road while viewing the navigation screen showing a real, live-video image on which the route to the trip destination is marked in color. Digital Graffiti makes it possible to leave behind virtual messages at any location the user chooses. Cell phone subscribers can utilize a combination of GPS and mobile telecommunications technology to leave messages in space like invisible Post-Its. INSTAR and Digital Graffiti are the results of the Ars Electronica Futurelab's collaboration with SIEMENS CT and the Johannes Kepler University of Linz.

ARSBOX

Virtual Reality that's far less costly and better to boot? A solution developed by the Ars Electronica Futurelab makes that a reality!

For immersion in Virtual Reality, you generally need a CAVE, a cube-shaped space in which a combination of multiple projection surfaces and a surround-sound system simulates a real environment. Conventional CAVEs, however, are extremely expensive. But now there's the ARSBOX, an economically priced alternative featuring modular construction that makes it an attractive option for use at trade shows and in product presentations. What's more, the ARSBOX offers decisive advantages in the form of enhanced capabilities across the board.



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II - 2 Conceptualizing and Designing Exhibitions

Conceptualizing and Designing Exhibitions

The visitor as featured performer at trade shows and in museums, and works of art that mobilize all of the senses and challenge those partaking of them to experience and learn about new technologies-projects engineered by the Ars Electronica Futurelab invite users to undertake a lively, hands-on encounter with high-tech.

Gulliver's World

"Gulliver's World" thematizes the relationship between virtual and material reality, as well as yet another "sort of reality" that is comprised of these two components.

In "Gulliver's World," users are called upon to get actively involved in designing an artificial world and the creatures that populate it. To do so, this installation provides user-friendly workstations that make it easy to totally redesign all the virtual world's components or individually customize new elements from scratch. Visitors can use a highly complex program, the World Editor, to come up with their own fantasy landscapes. There are preset digital figures available, but the creatively inclined can also use a modeling table, plastiline modeling clay and a 3D scanner to make their own characters and send them off to explore the scenarios of "Gulliver's World." At the individual workstations, visitors learn to master a variety of new technologies in a playful way.

Tug of War

Interactive "Tug of War," an installation developed for the Playzone of London's Millennium Dome, thematizes the relationship between human being and computer.

In this tug of war, contestants confront a virtual opponent selected in accordance with the contestant's body weight. By means of digital video technology, actors are portrayed in imaginary landscapes and depicted as life-size images on a display that confronts their human challengers. This innovative technology imparts the perfect illusion of an actual tug of war.

This installation is a successful effort to implement a direct, natural form of interaction between a human being and a computer. The contestant acts towards the machine just as he/she would towards a human opponent since the rope as interface and the pulling force that meets the contestant's own exertions correspond to what would be experienced in a real situation. "Tug of War" has been featured at the Ars Electronica Center as well as presented in a number of other settings-for example, at the opening of hp's corporate headquarters in Austria, at Siemens Erlangen and at the Technical University of Vienna.

Motion Traces

The Ars Electronica Futurelab designed a media art project entitled "Motion Traces" for Mobilkom Austria's concept store.

Mobilkom Austria commissioned the Ars Electronica Futurelab along with Austrian design team EOOS and prominent filmmaker Virgil Widrich to come up with an innovative design for its new A1 concept store in Vienna. Together with architect Scott Ritter and media artists Golan Levin and Zachary Lieberman, experts from the Futurelab staff created "Motion Traces," an interactive artwork that reacts to customers' movements. The result is not only an artistic space in which the customer is symbolically the centerpiece of the installation; here, the customer becomes an integral part of a work of art.



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II - 3 Media for Architecture

Media for Architecture

The Ars Electronica Futurelab is redefining the concept of Kunst am Bau ("edifice art" meant to beautify building projects). Staffers are developing architecture that establishes an interactive relationship with its surroundings and thereby makes communication and interaction possible. In this way, media art becomes a visible expression of corporate culture.

SAP's Berlin Regional Headquarters

Microphones and special software make it possible to visualize sounds. The tones, depending on their pitch and length, give rise to fractal worms or compact solids that transform an empty surface into a richly detailed world of computer graphics. Passers-by can make these graphics pulse to the rhythm of their own heartbeat.

Interactive advertising is an innovative way to get a message across to consumers. At SAP's Berlin regional headquarters, rear-projection display units arranged along the facility's façade facing the sidewalk show commercial messages featuring subtle graphic attention-getters that prompt passers-by to take notice of the contents. Just by walking past, for instance, pedestrians leave behind traces on the display: ripples that resemble the waves made by the bow of a ship.

WIFI-unitM

"User Sensitive Information Architecture" - the prototype of an interactive building as a networked media art project linking up human users, media and machines. Commissioned by WIFI Linz.

The project's most striking elements are the colored columns of light that constitute integral components of the building's architecture as well as several computer-controlled crawl-text displays grouped around the lobby of the new WIFI training center. The result is the communicative interplay of light and color, language and movement, that evokes the facility's use as a place to impart knowledge and skills with great promise for the future.

Livingroom

"Livingroom" is a multimedia installation that thrives on contributions from its users. The open infrastructure provides ample room for everything from personal experiences with media to working on projects in conjunction with school instruction.

Students can produce short stories on four stages set up at various spots on the Kirchdorf High School grounds. These individual presentations are transmitted to the school's assembly hall, where the various different episodes are combined into a single story shown on four screens. The school's physical premises are transformed into a narrative space. Realistic images, animated footage, live shots and processed material from the Internet are mixed together into partially random, partially planned narratives. "LivingRoom" can also be used as a venue for student theatrical performances, as an exhibition space for student projects, and much more.



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II - 4 Media Art

Media Art

Making technology useful for art, establishing it as an artistic material as well as helping artists get over various aversions to regarding it as such, and making technology available for all artistic genres-opera, dance, concert performances, film and the plastic arts-have the highest priority on the Ars Electronica Futurelab's agenda.

Das Rheingold

With the interactive visualization of Richard Wagner's "Das Rheingold," the Brucknerhaus collaborated with the Ars Electronica Futurelab in pioneering new ways of staging works of classical music.

Instead of a conventional mise en scène on the operatic stage, this highly innovative production of the work features a setting that enwraps the audience in a virtual reality. Stereoscopic projections open up the walls of the concert hall to a seemingly endless panorama of colors and forms.

This world of imagery based upon designs by Viennese artist Johannes Deutsch is directly linked up with the music being produced live at the venue. The computer-controlled stage set follows Wagner's work and reflects the musicians' interpretation of it by means of dynamic structures that embody the opera's dramatis personae and the locations at which its plot is played out.

Apparition

"Apparition" is the result of close collaboration among experienced theatrical directors and choreographers with pioneering developers of creative technologies. This extraordinary dance and media performance innovatively integrates interactive sensor and tracking technology that enables the dancer to influence the work's visual and musical environment during the performance.

This project was realized by prizewinning composer and media artist Klaus Obermaier in collaboration with the Ars Electronica Futurelab and premiered at the 2004 Ars Electronica Festival. Since then, it has been performed to rave reviews at several European venues and in Singapore.

CO.IN.CIDE: "Tracks+Traces"

...formalizes the relationship between two "places" by means of an interaction system, the "3rd place," that mediates between the two.

"Tracks+Traces" formalizes the relationship between two "places"-one in Judenburg, Austria, the other in Graz - by means of an interaction system, the "3rd place," that mediates between the two. Visitors to the two locations, by coordinating the visualizations of their bodies/movements with those of their telematic counterparts, can open up a channel of verbal communication and eye contact. But this objective can be attained only when the participants at both places behave in accordance with the conditions of the "3rd place."

When complete congruence is achieved, the respective protagonist's reflection is replaced by the full image of his/her counterpart at the other location. Finally, the image remains frozen for 5 seconds, then vanishes and is automatically posted on the Internet. In this way, the protagonists leave behind a visual trace in a three-dimensional space online. A project by the Ars Electronica Futurelab and Heimo Ranzenbacher.



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II - 5 Interactive Presentations

Interactive Presentations

Making content available in attractive, captivating ways and facilitating access to information are top-priority items when it comes to mediating knowledge. The type of information, the target group and the setting of the presentation are just a few of the factors that Ars Electronica Futurelab staffers take into consideration as they go about the job of engineering optimal solutions.

Librovision

The results of research in the field of "computer vision" have established the foundation for invisible human-computer interfaces that make possible an intuitive exchange of information with a medium.

With "Librovision," the Ars Electronica Futurelab has pursued a new approach in dealing with digital data and information. The user, by means of simple hand motions and without physically touching the computer or the monitor screen, can browse through a virtual book, enlarge details, and navigate throughout the presentation surface. Special gestures are designed to play videos and launch hyperlinks on the book's interactive pages.

InnovisionBoard

The InnovisionBoard takes the idea of the blackboard and updates it for the Information Age. This media installation thrives on user-supplied content, and constitutes an attractive, dynamic platform for communication in the public sphere.

Tablet PCs and digital cameras are the input sources that integrate users into the process of playful information exchange. The intelligent user interfaces of the tablet PCs make it possible to register handwritten notes and pictograms or to add scribbles to snapshots taken previously. For the individual visualizations, available options range from a plasma screen to a large-format projection display. The result is a colorful info-collage that captures an event or simply a particular period of time and documents it in a highly personalized way.

Info-Benches

Information as metaphorical object: the "Info-Benches" installation thematicizes the approaches of so-called Augmented Reality, a blend of physical and virtual reality.

We're surrounded by information. All the spaces we pass through are pervaded by traces of the past or current, invisible data flows. The "Info-Benches" installation makes this information visible. It documents the movements of installation visitors who have long since moved on to other physical locations, and it also makes it possible to observe people as they move about in other spaces far from the viewer. Thus, the information is depicted metaphorically as an object and thereby imparts to visitors to the installation the blending of reality and artificial projection that adds up to Augmented Reality.



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Ars Electronica Photo Service

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Gullivers Welt
Photo: rubra



Das Rheingold Visionized
Photo: Christian Herzenberger



Gullivers Welt
Photo: Pascal Maresch



ARSBOX - Event
Photo: Pascal Maresch



Info - Benches
Photo: Pascal Maresch



InnovisionBoard
Photo: Pascal Maresch

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Librovision
Photo: rubra



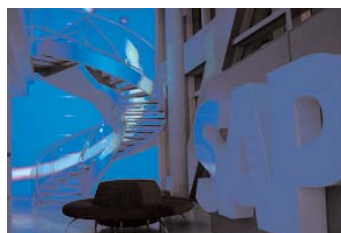
Librovision
Photo: rubra



SAP Berlin PULSE
Photo: Pascal Maresch



unitM
Photo: Pascal Maresch



SAP Berlin
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Apparition
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