

Panorama



Watching videos at total ease – with the *cinemizer* from Carl Zeiss.

Movies for Your Vest Pocket

The *cinemizer* from Carl Zeiss puts movies at the end of your nose

A long-distance flight, an awful TV lineup at a hotel, a late train – business trips can be boring. With the *cinemizer*, Carl Zeiss has landed a winner: an innovation that puts movies from portable players right in front of your eyes and looks just like a pair of sunglasses. The *cinemizer* simulates a 115 cm display at a distance of two meters, giving the wearer an authentic movie feeling with a private viewing. The smooth adjustment possibilities on both sides for different prescriptions enable people with visual defects to also enjoy this exclusive experience. Loudspeakers integrated into the earpieces ensure a good sound. The high-performance battery guarantees four hours of movie enjoyment. You can watch your favorite videos and movies anytime, anywhere. Simply connect the *cinemizer* to the iPod using the practical clip or connect it to another mobile video player via a cable. The main advantage: there are no

uninvited guests such as the person sitting next to you. Optimized for iPod with video, the *cinemizer* can nonetheless be connected to other devices, such as your home DVD player or a game console, thanks to an additional jack. Gamers and movie enthusiasts can indulge in their passion without turning other family members into unwilling participants. The *cinemizer* celebrated its world premiere at this year's MacWorld Expo in San Francisco in January.

Wonderfully Fossilized

Living deep-sea oyster discovered

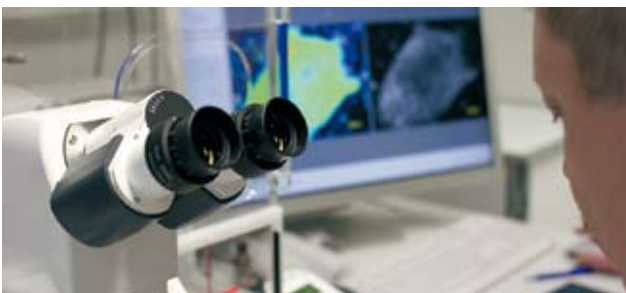


Successfully hidden: a primitive oyster.

Oysters are sometimes located in the strangest of places. Not only in Frank Schatzing's book "The Swarm", but also in the ocean. The deep sea oyster hid under overhanging rocks for decades so successfully from the dragnets of researchers that it was considered extinct until the 1970s. By chance, paleontologist Max Wisshak discovered a significant cluster of hundreds of oysters near the Azores at a depth of 500 meters on a video taken with his research submarine Lula. At the site of filming, he discovered living deep-sea oysters and thus a scientific sensation. The primitive oyster was probably 100 years old and had annual rings made of lime. Wisshak analyzed these layers of lime under the microscope, a ZEISS *Axiophot*. From their composition, he was able to identify fluctuations in the water temperature and other environmental parameters such as nutrient content. He is currently researching how these oysters can be used as a climate archive for the North Atlantic.

Cancer Research at Its Best

Carl Zeiss opens application center at the German Cancer Research Center



Dynamic cell processes under the microscope.

Cancer is the second most common cause of death in Germany. The German Cancer Research Center (DKFZ) in Heidelberg focuses its activities on research into the malignant growth of cells. The goal of the DKFZ is to systematically research the mechanisms that lead to the

Movies and Pixels

The ARRI AG can do both:
analog and digital



ARRIFLEX 35II, 1946

Movie buffs prick up their ears with great interest when they hear that ARRI is now building digital cameras. The company that has been working with Carl Zeiss for 70 years is gaining a second foothold with this new technology.

In 1917 August Arnold and Robert Richter founded the firm "Arnold & Richter Cine Technik" in a former shoemaker's workshop in Munich. Today, ARRI is the world market leader in the field of analog movie cameras. The new digital technology is not intended to replace the proven analog technology, but to supplement it. In the future, other magnificent movies such as *The Lord of the Rings* and *Perfume* will also be filmed with analog cameras. However, digital cameras offer new possibilities. "We are utilizing these capabilities," says ARRI Product Manager Marc Shipman-Müller, "but, of course, we are continuing to build cameras for 16 and 35 millimeter film."

onset of the disease and to determine risk factors. With the opening of the application center last summer, Carl Zeiss is supporting the research work of the DKFZ at the technology park in Heidelberg which is one of Germany's most important biotechnology locations and one of the global leaders. Research can be performed on complex dynamic processes in the lab rooms with a laser scanning microscope, high-quality light and stereo microscopes and automated microscope systems. Scientists develop new approaches for the prevention, diagnosis and treatment of cancer based on the results of these examinations. Carl Zeiss not only provides technology: workshops give scientists an opportunity to learn the latest microscope techniques and enhance their know-how. Furthermore, the Advanced Microscopy Forum regularly provides information on current topics in research, science and development.

The Perfect Light Color

O-INSPECT checks LEDs in the new BMW Museum

Architecture is always a reflection of the times in which it is created. Munich is just one example: in 1972 the young Federal Republic of Germany wanted to present itself as a cosmopolitan and attractive state for the XX Olympics. This was also echoed in the architecture: the Olympia Stadium with its tent-like roof, the spacious Olympia Park or the high rise BMW building with its famous “Four Cylinders” and the neighboring BMW Museum – it was all pioneering, contemporary architecture. 35 years and many millions of visitors later the redesigned museum has reopened in the spring of 2008 after four years of renovation work – with LED illumination of the glass facade tested by Carl Zeiss.

A major component within the newly built pavilion beside the museum is a glass facade with LED illumination extending over 3000 square meters. This lighting configuration was created by Zumtobel with the support of the LED specialist Ledon: harmonious light ensures uniform illumination of the glass surface. The color temperature of the light emitting diodes must be adapted so precisely that it can exactly reproduce the light color of the media facade. The most difficult part of this light configuration is the need to create optimal uniformity of the glass facade despite the different distances of the individual LED platelets. The challenge confronting

Carl Zeiss: none of the 2.5 x 2.5 millimeter large points of light should fail. The solution: the optical and tactile inspection of the digital light source with *O-INSPECT*. The measuring machine tests the LEDs in high volume serial production – and all at astounding speed and with amazing accuracy.



Resplendent in a new light: the renovated BMW Museum.

Analysis Over the Shoulder

MAVUS® facilitates work on plant and machinery in distant countries



Engineer with the MAVUS® system.

For a long time, it seemed like an almost insurmountable problem: plant and machinery are built in the home country and shipped to a far-off region of the world, where they are then put into service and maintained –

preferably by experts from the original country because very few other people have their know-how. Long and expensive business trips were the result. However, this can now all be changed: *MAVUS* (the abbreviation of the German for Mobile Audio-Visual Support Service), a cooperation venture of Carl Zeiss and the HEITEC systems house, facilitates collaboration between the expert at the home service headquarters and a service engineer on site. How does this work?

An advanced camera and headset, which are attached to an ergonomic support on the engineer's head along with a monocular *Head-Mounted Display (HMD)*, are used to transmit high resolution freeze frames or live images to the expert in real time online. He or she analyzes the situation in an “over the shoulder” approach and provides the on-site engineer – visually on the *HMD* and via voice communication – with information about what should be done.

The benefit: excellent availability of experts, fast reaction times, efficient startups, minimal downtimes – and low travel costs.

An Eye on Gorillas

Carl Zeiss equips game wardens with binoculars and telescopes



Wildlife filmer Matto Barfuss (right) is committed to conserving an endangered species of apes.

Mountain gorillas are an endangered species. Approximately 300 of them live in the Virunga Mountains National Park in Congo. This is half of all the mountain gorillas remaining in the world. Rebels repeatedly hunt them – out of a desire to kill, out of a desire to make a profit. They murder the adult animals and take the young. Poachers have an easy time of it. Animals in national parks are used to people and are particularly over-trusting. Game wardens must protect them – not an easy task in this spacious region. Artist and wildlife photographer Matto Barfuss, who filmed the mountain gorillas for two years, launched a relief operation for game wardens. Carl Zeiss is doing its part by donating high-performance binoculars and telescopes that Barfuss delivered to Africa himself.

A video of the handover to the game wardens is available at www.zeiss.de/innovation

Under Extreme Conditions

New sports eyewear offers distortion-free vision

Professional sport has developed at tremendous speed over the past few years: sophisticated training methods, targeted nutrition and optimized sports equipment are propelling career athletes to new dimensions of excellence. There is room for even better performance, but for one thing there is not: leaving anything to chance. This also applies to the development of the new sunglass models for road and cross country cycling which are often subjected to extreme conditions.

The eyeglasses took just under two years to develop, a period during which professionals tested the fit, optical quality and sun protection of the models. The result of the collaboration with the sports outfitter GIRO: fashionable sports eyewear with 100 percent UV protection which guarantees totally distortion-free vision over the entire lens, combined with a special surface coating. The polarizing, exchangeable lenses are repellent to water, dirt and oil and are available in seven different tints. Clear lenses are also offered for night driving to ensure that cyclists enjoy full visibility during every cycling tour.



Tested by pros: GIRO sports eyewear.

Accurate Down to the Micrometer

Jet engine manufacturer relies on ZEISS coordinate measuring machines



The precision of parts is decisive to the quality of the finished product. Munich-based MTU Aero Engine relies on measuring machines from Carl Zeiss to inspect its parts. In September 2007, MTU received the 25,000th measuring machine built by Carl Zeiss: a *PRISMO navigator*. This coordinate measuring machine with integrated rotary table measures jet engine components with

accuracy down to the micrometer. Karl-Heinz Klügl, head of Incoming Goods Inspection at MTU Aero Engines, stated during the handover that "We are proud to have the 25,000th ZEISS machine available for our incoming goods inspection. The high demands on MTU engines, which will also be used in the Airbus A380, require reliable measuring results. Furthermore, we value the reliability and durability of ZEISS machines." Klügl emphasized that all parts are measured with measuring machines from Carl Zeiss directly in incoming orders.

accuracy down to the micrometer. Karl-Heinz Klügl, head of Incoming Goods Inspection at MTU Aero Engines, stated during the handover that "We are proud to have the 25,000th ZEISS machine available for our incoming goods inspection. The high demands on MTU engines, which will also be used in the Airbus A380, require reliable measuring results. Furthermore, we value the reliability and durability of ZEISS machines." Klügl emphasized that all parts are measured with measuring machines from Carl Zeiss directly in incoming orders.