World Cultural Heritage Site:
Völklinger Ironworks
"IncaGold" Exhibition Project

MOBOTIX

C A S E   S T U D Y

Network Video: Precious Gold in an Industrial Monument

All That Glitters In The Ironworks

Magnificent crowns, expensive jewelry, precious tiaras - surrounded by huge, slightly oily, black machines made of iron: that is what an exhibition of glittering gold looks like in a closed-down ironworks. Exhibition expert and General Director of the Völklinger Ironworks World Cultural Heritage Site, Dr. Meinrad Maria Grewenig, recently succeeded in bringing 120 master-pieces from the Larco Museum in Peru and 50 other exhibits from the Linden-Museum in Stuttgart into a unique atmosphere of a 6,000-m^2 furnace hall in the ironworks to stage an exhibition entitled "IncaGold". It s no wonder that the press is talking about a "bizarre combination well worth seeing", which is expected to draw more than 150,000 visitors from July 2004 to April 2005. This is the first time that the exquisite gold exhibits from Peru have been on display in Germany. They provide an overview of 3,000 years of highly sophisticated culture in South America.

World Cultural Heritage Site

The six blast furnaces in the Völkinger ironworks used to melt iron for decades until the center for pig iron products was finally closed in 1986. In 1994, UNESCO classified the industrial monument as a World Cultural Heritage site. After all, the Völklinger ironworks are completely preserved ironworks dating back to the prosperous era of the iron and steel industry, and as such, are unique in the world. In 2004, the ironworks attracted a total of 202,057 visitors.

The supporting institution, the "World Cultural Heritage Völklinger Ironworks – European Center for Art and Industrial Culture", has been tasked to preserve and to develop the monument as well as to communicate the topic of "industrial culture in the conflicting fields of art and society" to the broad general public.
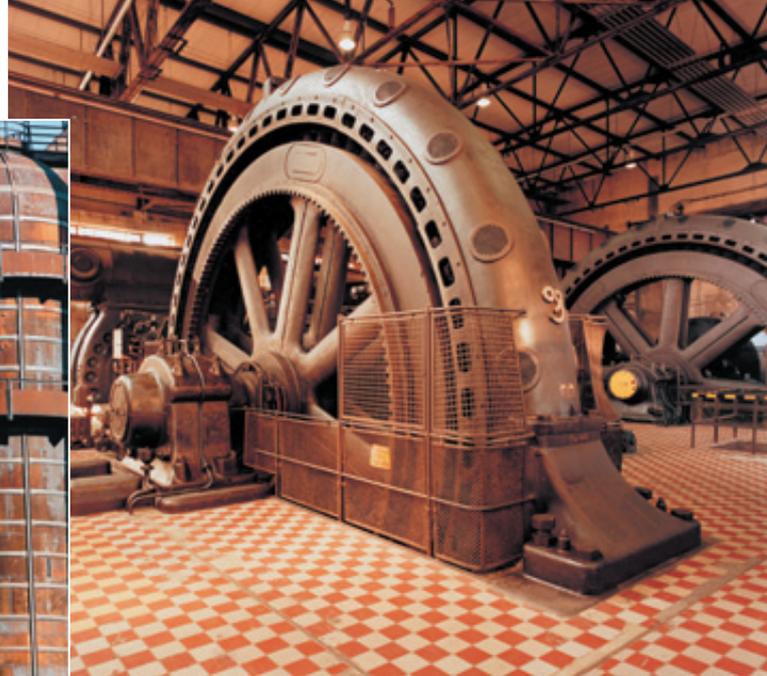
Safe Treasure

The supporting institution achieved its goals in a very impressive way with the "IncaGold" exhibition. To provide complete protection for the unique, extremely rare and irreplaceable exhibits, the exhibition organizers placed their trust in the IP video technology provided by MOBOTIX, a company based in Kaiserslautern, Germany.

Security Vision Systems

MOBOTIX AG

"Bizarre combination:" The 6,000-m^2 furnace hall at the Völklinger Ironworks (above) and the precious gold of the Incas.

Protection for Unique Valuables

"God Forbid Anything Should Happen!"

"We were especially careful in our planning of the security measures for the "IncaGold" exhibition and went to a great extent right from the beginning." In view of the extraordinarily valuable exhibits, Arno Harth, chief administrator at the exhibition company, based his actions on these words: "God forbid anything should happen!"

It was not particularly difficult to install a highly sensitive alarm system and to hire a security service. "We had more headaches trying to find the ideal system for video surveillance," the head of administration recalled. "After all, we had a number of different problems that needed to be solved."

Many Challenges

The monument protection laws prohibited the exhibition organizers from laying any additional cables in the building. Instead, they were required to use the existing computer network , which consisted of fiberglass and copper cabling. This eliminated the option of using an analog solution that would have been considerably less efficient anyway. In addition, to comply with further monument protection laws, it was also necessary to have the cameras positioned as inconspicuously as possible.

There is not a lot of light available in the exhibition area itself. An extremely delicate feathered piece of jewelry can tolerate a maximum of 50 lux, which is equal to the light emitted by 50 votive candles. The design of the exhibition also presented problems. While the setting is in deep blue and violet colors (carpeting, walls, display cases) and provides an excellent backdrop for the glittering gold, it also absorbs much of the red portion of the light and adds to the already difficult lighting conditions. How would it be possible to get clear, distinct images under conditions like these?

The Obvious Solution

"The solution was closer to home than we thought," Arno Harth recalls. "At a product trade show staged in our furnace hall some time ago, a company called Encom Medical Consulting (http://encom-medical.de) had MOBOTIX IP cameras on display. Our engineer in charge of technical planning happened to take a closer look at these cameras, and we found that they were the answer to all our problems."

Sharp Images Even In The Dark

It was not difficult to integrate the digital camera system into an existing network infrastructure. With the help of diffused 8-watt infrared spotlights and a highly sensitive low-light, infrared sensor, the MOBOTIX M10-DN is able to generate sharp, high-resolution black-and-white images. If more light is available, the camera automatically switches from the night lens to the day lens for better color reproduction. Of course, the colors of the exhibition environment absorb most of the red portion of the infrared light, but the MOBOTIX color correction mechanisms counteract that problem. Also, installing the cameras in unnoticeable places allows inconspicuous surveillance.

Maximum Resolution

And what's more: the MOBOTIX camera with 1280 x 960 pixels offers not only extremely high image resolution but it is also equipped with convenient recording functions. Events can be stored as video clips for months at a time, found quickly by date and time and forwarded easily to the police via e-mail. Event-controlled recording saves storage space on the hard disk. First, the images are stored and managed on a local level by the camera before they are transmitted to the server or servers via the network. This reduces the data load and saves bandwidth for other network users.

Images In The Browser

In addition, several authorized employees can view all the camera images at the same time on their PCs using just a standard Internet browser. Security surveillance doesn't get much easier than that. "The many advantages spoke clearly in favor of using the MOBOTIX system," head administrator Harth summs up. "Even more so because Encom Medical Consulting managed to install and put the four cameras ordered into operation at central locations in just 24 hours."

Other Applications

There are many other areas on the spacious grounds of the Völklinger Ironworks World Cultural Heritage Site in which video surveillance would increase security and reduce the danger of vandalism. "As one example, I'm thinking of a multimedia room that would need a camera system similar to that used for the "IncaGold" exhibition," explains Arno Harth. "But there are also a lot of stairwells, observation decks and larger hallways, where the MOBOTIX solution would be ideal."

Approximately 30 cameras in total would be required. "Resulting from the positive experience we have made during the current exhibition," explains administrative head Arno Harth, "everything speaks in favor of using MOBOTIX technology for these applications as well."

Sharp images even in the dark: original images taken by MOBOTIX cameras.

D12 Dual-Fixdome Outdoor

D12 Dual-Fixdome

Two image sensors for 180° panorama images

Covers RJ45 wall outlets

M12 Day/Night

M22 Mono/CF

Microphone

Motion detector

Speaker

MOBOTIX Technology –
Cost Savings in Every Aspect

High Resolution For Sharp Images

All MOBOTIX cameras are high-resolution cameras with integrated image storage and 960 lines (1280x960 pixels) resolution. The **stored image** thus contains 12 time more detail for creating zoomed sections of the image than regular cameras with 240 or 288 lines (CIF, 2CIF). This is why one single MOBOTIX camera with a 90° wide-angle lens is sufficient to monitor an entire room and yet provides more detailed images than traditional technology. The MOBOTIX Day/Night cameras feature zero maintenance with one color and one B/W image sensor.

Intelligent Storage Technology Uses Fewer DVRs

The new, decentralized storage technology pioneered by MOBOTIX reduces the number of recorders that store the smooth high-resolution video by up to 90%. 40 cameras store smooth video streams including audio on a single PC, each managing its own ring buffer and database. Intelligent search features provide swift access to the stored events. There is no software required for storing and managing video, eliminating license fees and the need for expensive software. Event-controlled recording and automatic increase of frame rates upon detecting movements drastically reduce the storage requirements.

Low Power Consumption Means Enormous Savings

Since MOBOTIX cameras are anti-fogging, do not require heating and only use 3 Watts each, power can be injected into the network cabling using standard PoE products, year round. This drastically reduces the amount of cables and the power requirements for backup power.

Integrated Telephone Features

All MOBOTIX IT and Secure models feature bidirectional audio support. The built-in microphone and loudspeaker are used for live audio transmissions and storage purposes. Voice messages with PIN confirmation and call forwarding via IP or ISDN telephony have been integrated as well. Using the switch outputs, you can switch lights or open doors from the phone or from the computer.
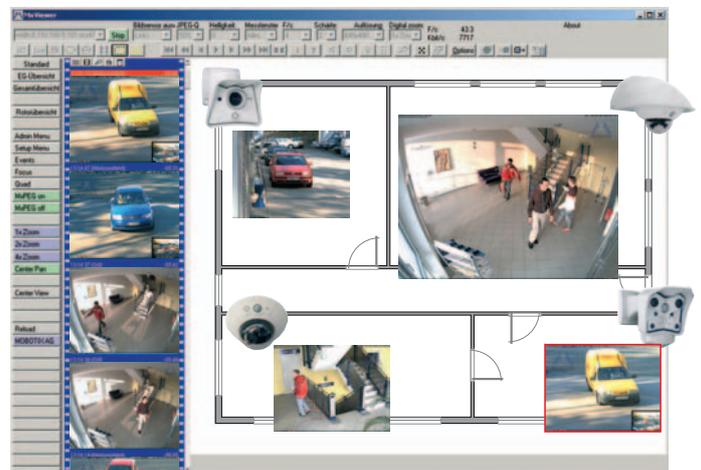
Robust and Well-Protected

The fiberglass-reinforced housing is shockproof and the SecureFlex mount protects the network cabling as it completely conceals the cables (M12/D12 models). Weatherproof (IP65) from –30° to +60°C (-22° to +140°F).

High Return on Investment

Since the number of cameras and storage capacity are freely scalable and any kind of data connection can be used (ISDN, DSL, Ethernet, Wireless, GSM, copper, optical), MOBOTIX means high ROI, even years after installing.

State-Of-The-Art Technology

Developed and manufactured in Kaiserslautern, Germany, MOBOTIX produces image-storing weatherproof high-resolution cameras, including lens and wall/ceiling mount for as little as 598 EUR excl. VAT. To date, more than 100,000 cameras have been sold worldwide.

Download **MxViewer** alarm management software free of charge. 30 cameras with 30 fps each, layout editor, remote alert notification

MOBOTIX AG
Security Vision Systems
Luxemburger Straße 6
D-67657 Kaiserslautern
Tel.: +49 (631) 3033-103
Fax: +49 (631) 3033-190
E-Mail: sales@mobotix.com
www.mobotix.com

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MOBOTIX AG