



special offers, but that changes and daily attractions can be quickly and simply updated – as you wish. Here, where they are used to display static images, the LCD technology is used to its best advantage. A higher resolution (1280x768) compared with other technologies - enabling even the smallest details to be pin-sharp - a higher level of brightness and a greater contrast in daylight conditions, as well as the absence of reflections of surrounding light, all contribute to the outstanding picture quality provided by the two screens.

Replacing the old screens with the new 30- and 40-inch NEC Public Displays was achieved without any difficulties. Within just three night shifts, 40 monitors were quickly and simply installed. Installation was made easier in particular by the flexible handling capacities of

the large screens, which have two extra handles just for this purpose and which are up to 40% lighter than plasma screens. This was an important criterion for the Autostadt, because as is often the case with frequently changing exhibitions, the screens will need to be used in different places.

It was also very important for the Autostadt for the monitors to have a wide viewing angle, because not every visitor who comes to the exhibition will stand straight in front of a monitor; a criterion that the NEC Public Displays are easily able to fulfill. The screens are centrally monitored by the Autostadt, via the integrated RS-232C interfaces, and Day/Night modes are automatically programmed. This data is also read – on an NEC LCD4000 – in the control room and can be quickly and simply altered where necessary.

“We are very happy with the screens from NEC Display Solutions. It was essential for us when buying new monitors, that the equipment had a long usable life and that the total cost of ownership over its lifetime was as low as possible. This also included prevention of breakdowns and low energy consumption, where the 30- and 40-inch NEC Public Displays were outstanding. The overall care, particularly of a technical manner, from NEC Display Solutions during the whole project has been excellent, as well as the price/performance ratio of the screens. We will certainly use these screens for future projects”, says Ulrich Meyer, Media Control Management Leader, Autostadt ICT Management.

CASE STUDY

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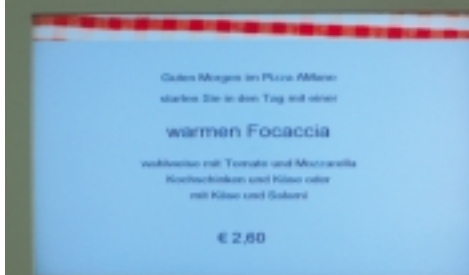


INNOVATIVE TECHNOLOGY FOR PRESENTING INNOVATIVE CONCEPTS: PUBLIC DISPLAYS FROM NEC DISPLAY SOLUTIONS AT THE AUTOSTADT

The Volkswagen Group opened the doors of its Autostadt in the summer of 2000 at the same time as those of the world fair, EXPO 2000, in Hanover. The Volkswagen Group invested around 850 million marks in the creation of a world forum on the car, on a 25-hectare site at its headquarters in Wolfsburg. This unique exhibition, emerged after just two years of construction work and allows visitors to experience the latest vehicle technology in a completely different way: The Autostadt is both an experience and the skill center of the group. Since then the Autostadt has become firmly established as a tourist attraction, with more than 9 million visitors (as of July 2004). The level of satisfaction expressed by both visitors and new car buyers is extremely high: 81 percent say that they are very satisfied with the service and more than half of the visitors have already visited the Autostadt at least once. The Autostadt project is unprecedented in the history of the car. Never before has an automotive group created such a facility, to show visitors and

customers its skills, the wide variety of its brands, the quality of its products and to demonstrate that the main focus of its company philosophy is the customer.

The Autostadt as an experience and a skill center uses a wide range of monitors of all kinds to display its contents. At the beginning of 2003, a decision was taken that many of the initial plasma screens needed to be replaced, because they had suffered greatly from a loss in picture quality caused by the “Burn-in” effect, which damages large format plasma monitors. As a result, the Autostadt looked for an alternative technology, which was not affected by this phenomenon. The new monitors needed to be used in two different areas: for one, as so-called point of sales (POS) displays, for example like a menu in a restaurant or to advertise the “Dish of the Day”. In this respect in particular, because they have to display static information, the advantages of LCD monitors come to the fore, whereas plasma monitors can soon begin to dis-



For more information:
 NEC Display Solutions Europe GmbH
 Landshuter Allee 12-14
 D-80637 Munich
 Phone +49 (0)89 99 699-0
www.nec-display-solutions.com

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play initial shadows. Depending on the brightness of the colour displayed, more phosphor is burnt in to the screen in one place than another, and burn-in effects can occur. The second major area of use, for which monitors were sought, are video applications, in which innovative ideas, certain of the group's sectors or works of art can be displayed on screens.

The Autostadt's Process & Technology Management (PTM) team decided on six 30-inch and sixty 40-inch LCD Public Displays from NEC Display Solutions, thereby acquiring innovative products using innovative technology. By taking this decision, they opted for relatively new LCD-technology in the field of public displays, which unlike plasma screens, do not use phosphors but liquid crystals, which do not suffer from "wear & tear" over time. The phosphor in plasma screens burns at a different rate over time, depending on the brightness of the image displayed. The screens in the Autostadt are used for various applications, including as POS displays with static images, in the control room for monitoring or for video applications with moving images; meaning that the screens are subject to many different requirements.

Art on the screen

The first thing that catches the eye of the visitor to the Autostadt is the new work of art entitled "IchBinSchönLand" (I Am Beautiful Country) by Nicolas Anatol Baginsky, consisting of fifteen NEC LCD4000 monitors from NEC Display Solutions. The interactive computer installation examines how people react to their own image. In his work Baginsky combines two classic themes: the story

of Narcissus, who tragically fell in love with his own reflection, and the story of the enchanted mirror in the tale of Snow White. A particular novelty is the close proximity of the visitor to his own image. Embedded in a six-meter high wall, there are 15 units 40-inch Public Displays, which display the image of the observer in various different ways. As the visitor approaches the monitor wall, his face is captured by three small cameras, and his picture appears on the three vertical NEC LCD4000s at the bottom of the wall. At the same time, the data is stored by the computer program. Similar to a "long term memory", its role is to combine parts of the images of the observer to form "ideal pictures". These are displayed at random on the twelve NEC 40-inch Public Displays, which are positioned horizontally. The technology behind this work of art is provided by eight PCs, each controlling two monitors via the VGA input. The integrated RS-232C interface (9-pin serial D-Sub) enables the equipment to be remotely controlled as well as switched on and off. This has the advantage, that all the screens can be controlled and monitored from a single control room.

Visualising design

In the group's so-called "AutoLab" at the Group Forum, the focus is on the car and

its technology. In the various scenarios, the Volkswagen Group provides answers to fundamental questions on the car and demonstrates its high-level of technological skills. The AutoLab explains the complex processes of testing, production and quality assurance. The thematic focus on "Quality" is represented in the AutoLab in four basic areas, including the design studio, the cross-section model show, product origination and test impressions. Here the visitor is surrounded by vehicle technology, with which he can obtain an explanation from the exhibits as well as interactively via 30- and 40-inch Public Displays from NEC Display Solutions, by means of computer simulations.

Here, for example, in the newly laid-out design studio, in which various of the group's designers explain and describe how they find their inspiration and ideas, five NEC LCD4000 monitors from NEC Display Solutions are installed, enabling the visitor to see their designs. The monitors that have replaced the old plasma screens are installed edge-to-edge alongside each other and display individual pictures from the videos, in the form of different images adjacent to each other or as a single image on several screens. Here too, the monitors receive the video signal from the digital



video player via the VGA interface. The frames of all the monitors are encased and the screens protected against contact by a macrolon screen, which is simply placed in front of the display. A large number of the monitors are at a height that can be easily reached by visitors. The display is shielded by the protective screen and, despite this, there are no troublesome reflections from the surrounding lights such as may be the case with plasma screens, or where a glass screen is used to protect the monitor.

Online menu

Another area where LCDs are used within the Autostadt, in particular the 40-inch models, is for so-called point-of-sales applications. The monitors are used as they would be in a restaurant, to display the menu and the "Dish of the Day". This means that there is no need to print out menus or create boards for

