

NEC Display Solutions Pilot Project **Netherlands**

LEARNING MADE EASY



LAURENTIUS
stichting voor katholiek primair onderwijs

NEC 3D DLP® PROJECTORS SUCCESSFULLY TESTED IN THREE DUTCH SCHOOLS

When Sjaak Hoek, teacher at the “De Bonte Pael” school near Amsterdam, starts his 3D presentation about the heart, the whole class becomes silent. The boys and girls of the primary education class are fascinated by the secrets of the human blood system. The lesson forms part of a research project among three Dutch and a number of international schools.



The goal is to explore the use of 3D learning technologies in the education sector. Thus far, the results are very promising. NEC Display Solutions Europe, provider of modern 2D and 3D projection technologies, is one of the project partners. The company has gathered some interesting findings about the teachers and pupils who are using the system.

THE CHALLENGE

The Laurentius group, school board of the three participating schools, De Bonte Pael at Delft, De Piramide at Rijswijk and De Wilgenhoek at Berkel en Rodenrijs intend to give their pupils a modern and pedagogically up-to-date learning experience. As part of the pan-European LIFE project, which aims to investigate academic learning supported by 2D and 3D technologies, they were equipped with the equivalent technologies. Texas Instruments, DLP technology innovator, supports the project with technical know-how and the latest hardware.

The project is being coordinated by Professor Anne Bamford, an internationally renowned British education expert, who is in charge of delivering the project and evaluating its results.

Modern 3D content, tailored for the needs of young students, offers endless possibilities. Easier than ever before, it is now possible to gain an insight into complex and difficult topics from fields like biology, physics and chemistry. As many children have some 3D experience from movies and video games, they easily adapt to the new viewing experience.

THE NEC SOLUTION

NEC offers two different product ranges which support 3D projection with DLP link. One is the V Series, which is a very competitive entry level standard projector range with rich feature-set and low cost of ownership. The more school oriented range however is the ultra-short throw models of the U Series. Ultra-short throw projectors do not

have to be installed at the other end of the room or suspended from the ceiling, but let teachers project onto a screen from only inches away. They produce no distracting shadows, and teachers are free to move around the room or stand right in front of the class. NEC's solutions are pioneering in this field. It has created a range of products with the education sector specifically in mind. “Easy to use, robust enough to cope with day-to-day school life, low noise levels, minimum downtime and low operating and maintenance costs. These are just some of the features that schools and colleges look for,” says Ulf Greiner, Product Line Manager Business Projectors at NEC Display Solutions Europe. “Projects like this give us the chance to gather valuable feedback, which we take and incorporate into the continuous development of our solutions,” he adds.

Short throw projectors are the perfect companions for 3D visualisation. NEC's new U Series of ultra-short throw projectors are 3D-ready and do not require any additional equipment or modifications,

making them a popular choice in the education sector. "Universities and schools are hugely in favour of sustainability, and want products that work equally well in both 2D and 3D situations," says Greiner.

The entry-level V Series and ultra-short throw models in the U Series all feature the latest in DLP Technology. As with modern 3D-capable TVs, the device transmits images alternately for the left and right eye at 120Hz. Active shutter glasses separate out the images meant for each eye so that the image appears three-dimensional to the viewer. The process of syncing a projected image with the glasses is essential, and DLP Technology accomplishes this by sending additional visual signals between video frames, which are picked up by a sensor integrated into the glasses. This eliminates the need for extra emitters and makes the set-up as easy as setting up traditional 2D projection.

THE RESULTS

The three schools have been testing 3D DLP projection in biology lessons for children aged from 8 to 12. So far, the teachers have given very positive feedback about the experience: "I think that the children pay more attention now. They always seem very focused when I teach something in 3D. In my class there are a couple of children who suffer from concentration issues like HDD and ADHD and

whenever they put on their 3D glasses they are totally focused," says Vera den Dekker, teacher in De Piramide School. She states the main achievement is that children are able to remember a greater amount of information and can talk much more about the topic after the lesson is finished. "They do ask more questions and whenever I ask something they know the appropriate answer in greater detail."

Sjaak Hoek, teacher in De Boente Pael school, who has already given three lessons in 3D on the subject 'Human senses', agrees. "The children said: 'Now I understand much better how the heart works'. This is due to the fact that they can turn around the model and see all the veins and the chambers of the heart."

Eric de Jong, teacher in the De Wilgenhoek School, has been working with 3D technology for about three months now. He says children do react differently in lessons where 3D is used. "They ask more questions like 'Can we turn around the model to see better how the blood flows?' That was very interesting.

Deborah van der Kuil-Jansen, ICT Coordinator of Laurentius Stichting sums up the reasons why the schools should make use of 3D as a normal element available in any school: "We know that children learn in different ways. Some memorize and understand topics better by reading about them, others are best when they are provided with moving images. As a school we need to be able to offer every single one

of these different methods. I am convinced that this technology is a good complement to the way our teachers teach the children."

Using technology in lessons has proven to be an efficient method for education. Professor Anne Bamford describes a distinct, measurable impact in all the schools across Europe that are involved in the LiFE 1 project. "The content that was taught was noticeably more present in before-after comparisons; the children were far better able to retain the material," according to Bamford. "Many of the children said 'I understand much better now how the heart works'."

"We are really grateful to have been part of this experience. From the hardware point of view, it seems like everything is working just fine. We see the direct impact this technology has on the children and teachers, and it is very exciting to observe this. As the producer of the technology used here it makes us very happy to drive forward this development," says Ulf Greiner, Project Line Manager Business Projectors, NEC Display Solutions Europe. "3D makes learning a lot more fun and easy. Everyone involved in this project would have loved to have this technology during their own time at school."

INSTALLATION

SITE INFORMATION

LOCATION

De Wilgenhoek School at Berkel en Rodenrijs, De Piramide school at Rijswijk, De Bonte Pael School at Delft, School board the Laurentius Stichting, www.laurentiusstichting.nl, Netherlands

PROJECT COLLABORATION WITH TEXAS INSTRUMENTS

EQUIPMENT AND BENEFITS

NEC V SERIES 3D READY DLP PROJECTORS

NEC U SERIES ULTRA SHORT THROW PROJECTORS

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