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Flexible large area display using nanotechnology light emitting devices

Fact Sheet

Project Information

NANOPAGE

Grant agreement ID: 004251

[Project website](#) 

Project closed

Start date

1 July 2004

End date

30 June 2007

Funded under

Information Society Technologies: thematic priority under the specific programme "Integrating and strengthening the European research area" (2002-2006).

Total cost

€ 4 170 950,00

EU contribution

€ 2 240 000,00

Coordinated by

UNIVERSITE CLAUDE BERNARD
LYON 1

 France

Objective

The NANOPAGE project will focus on the development of a flexible large area display made by assembly of microCRTs into a polymer canvas. Those microCRTs are millimetre size cold-emission cathode ray tubes, used as elementary color dots, 3 microCRTs, red, green and blue, making a complete pixel. Those microCRTs use nanometer scale Carbon Nanotubes (CNT) as cold electron sources. The first type of

microCRTs, with a 3 mm diameter, will allow building a 4x3 m panel with SVGA (800 x600) resolution.

The main tasks are:

- to industrialize a low-cost lab proven technique for controlled growth of vertically aligned CNTs.
- to develop highly automated assembly techniques to manufacture the miniature vacuum tubes in large quantities and to mount them on the polymer substrate.
- to develop an innovative addressing scheme, where a miniature microchip is mounted on each microCRT.

This scheme allows to:

- bend, cut or repair the display as there is no peripheral drivers
- control locally the microCRTs light emission
- correct non uniformities due to manufacturing or aging.

Cost targets are integral part of the project objectives, to insure a very competitive pricing of the end product. We will carefully consider the product recycling and avoid any use of lead, mercury or other toxic materials. It is expected that the low cost and flexibility of such a display product will significantly increase the large area display market as it should open up new applications which are today limited by the performance of existing large area display solutions.

As those microCRTs are small tubes, manufacturing does not require a large size reactor, oven or other expensive equipment, so the capital investment for a complete line is moderate and modular, adjustable to the production volume. This limited and progressive funding requirement, together with automation, gives a significant chance to implement the manufacturing line in Europe, as anticipated.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [environmental engineering](#) > [waste management](#) > [waste treatment processes](#) > **[recycling](#)**

[engineering and technology](#) > [materials engineering](#) > **[colors](#)**

[natural sciences](#) > [chemical sciences](#) > [inorganic chemistry](#) > **[transition metals](#)**

[engineering and technology](#) > **[nanotechnology](#)**

[natural sciences](#) > [chemical sciences](#) > **[polymer sciences](#)**

Keywords

Nanotechnology

Programme(s)

[FP6-IST - Information Society Technologies: thematic priority under the specific programme "Integrating and strengthening the European research area" \(2002-2006\).](#)

Topic(s)

[IST-2002-2.3.2.1 - Advanced displays](#)

Call for proposal

Data not available

Funding Scheme

[STREP - Specific Targeted Research Project](#)

Coordinator



UNIVERSITE CLAUDE BERNARD LYON 1

EU contribution

No data

Total cost

No data

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Participants (10)



BARCO NV

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EU contribution

No data

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Total cost

No data



CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

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EU contribution

No data

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Total cost

No data



COMMISSARIAT A L'ENERGIE ATOMIQUE

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EU contribution

No data

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Total cost

No data



COMMUNAUTE'AGGLOM?TION PAU PYR?ES

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EU contribution

No data

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Total cost

No data



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No data

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Total cost

No data



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Total cost

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EU contribution

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No data



PLASSYS SA

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No data



SAES GETTERS S.P.A.

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EU contribution

No data

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Total cost

No data



TECHNISCHE UNIVERSITAET BERLIN

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EU contribution

No data

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Links

[Contact the organisation](#)  [Website](#) 

[HORIZON collaboration network](#) 

Total cost

No data

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European Union, 2025

