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**Press
Release**

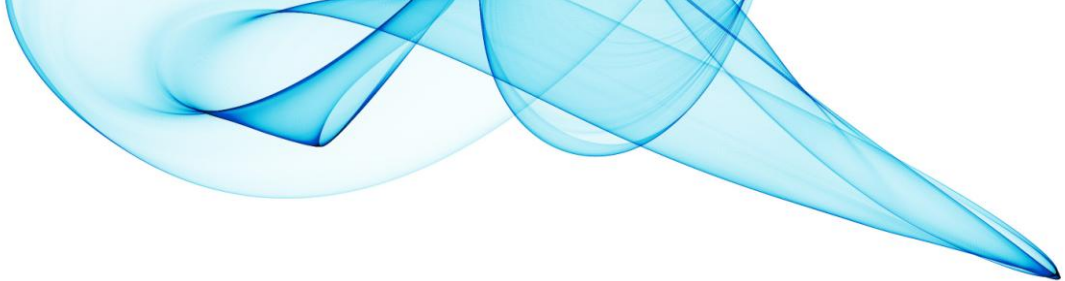
INDRA PRESENTS THE TELEVISION OF THE FUTURE THAT IMMERSSES AUDIENCES IN THE CONTENT

- **For the first time ever, the ‘Immersive TV’ R&D&i project makes it possible for users to interact naturally with the actions being broadcast, while favouring a unique sensation of being integrated with the television**
- **The immersive experiences have been carried out through two complementary pilots, the CAVE™ Scenario, where audiences physically enter the scene and are able to interact with the surrounding content, as well as the ‘Living Room Scenario’, which reflects future home settings**
- **The results of this project, which was co-funded by the Ministry of Industry, Energy and Tourism (Avanza Plan) and also included the participation of the Universidad Politécnica de Madrid, the Universidad Politécnica de Valencia and the companies Agile Contents, Eumóvil, Ericsson and Inmomatica, were presented today**

Indra, the leading Spanish multinational consulting and technology firm and one of the main players in Europe and Latin America, today presented the results of the “Immersive TV” R&D&i project, led by the technological multinational, which has made it possible to develop production technologies for digital immersive content in order to promote the sensation of integrating audiences with the television, far beyond existing 3D techniques.

The CeDIInt facility at the Universidad Politécnica de Madrid (UPM) was selected as the scenario for the event, in which the other partners that form part of the “Immersive TV” Consortium also participated. Aside from the UPM, which collaborates through the CeDIInt and the Group for the Application of Visual Telecommunications (G@TV), representatives from the Institute of Telecommunications and Multimedia Applications (iTEAM) of the Universidad Politécnica de Valencia (UPV) were also present, along with the following companies specialised in the media industry, communications and domotics: Ericsson, Agile Contents, Eumovil (MediaPro Group) and Inmomatica. The project had an overall budget of €2.7 million and it was co-funded by the Ministry of Industry, Energy and Tourism as part of the Avanza Competitividad Plan.

The relevance of immersive television lies in the possibility of allowing audiences to directly experience the actions being broadcast, actions that immerse them and make them feel like they are part of what is taking place, facilitating interactions with scenarios in any spatial dimension. To do so, a system has been created that is capable of channelling not only standard signals (audio and video) towards the television experience, but also additional

An abstract graphic consisting of several overlapping, semi-transparent blue shapes that resemble liquid or smoke, flowing from the top left towards the bottom right. The shapes are layered, creating a sense of depth and movement.

aspects such as 3D objects, statistical information, documentation or signals for domotic devices. The combination of these techniques adds depth to the vision using immersive sound systems.

As a result, the system forms part of a new type of applications that reserves an essential role for users who, through interactivity, can have greater control over multimedia contents and their development.

The immersive platform also provides new functionalities in terms of the systems currently available on the market, such as integration with advertising, product placement (which consists of inserting a product, brand or message within a programme), or merchandising, through 3D objects and information related to the content. It is an innovative approach that can be extremely useful for getting the attention of consumers since these elements are integrated naturally with the content, enabling users to view them spontaneously.

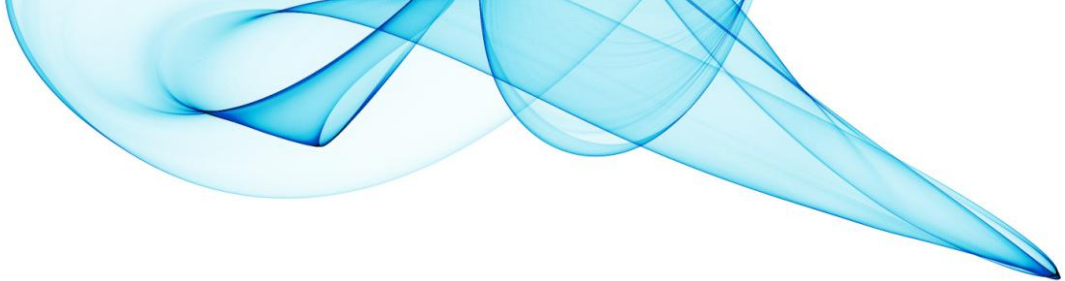
The solution consists of software that can be installed in a television receiver or decoder (STB), middleware, content delivery network (CDN) or a TV device. The main advantage is its ability to integrate elements and systems in a single platform, making it an ideal solution for any future project that requires the development of an immersive environment since the system is easily expandable, which represents an additional advantage for adapting to specific needs and demands. The system also uses additional devices, such as domotic switches and environmental control devices, with the aim of increasing the sensation of being immersed since it is possible to configure the environmental variables of the "Domotic/Immersive Living Room", such as lighting, temperature, smells and even movement (using domotic furniture connected to the domotic immersion gateway). All of this sensory management, which enables audiences to immerse themselves more realistically in audiovisual contents, could be defined as immersive 4D television.

Two pilots

Based on the criteria of immersion and interactivity, the project has been able to make progress in the knowledge about existing broadcast or reception capabilities for immersive television in order to provide added value to the products currently available on the market. As an end result, it has been possible to create two pilots that assess the user's experience and provide an opportunity for interacting with audiovisual content in a way that has never been possible up until now.

The first is known as the 'CAVETM Scenario', which is based on a virtual "cave" installed at the Montegancedo Campus of the Universidad Politécnica de Madrid. In this case, using an innovative space comprised by three screens, audiences are physically present in the scene and can interact with the contents that surround them. It consists of projecting 3D images and inserting objects into the scene in real time. To do so, non-live content has been used by reproducing video adapted to a projection system since these facilities cannot receive broadcasts.

For this first demonstration, a stereoscopic HD recording of Barcelona's Avenida Diagonal has been selected that includes additional content aimed at complementing the user's experience by facilitating their interaction with the system with 3D photos and models as well as descriptive audio tracks.

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The second pilot, 'Living Room Scenario', makes it possible to transfer the experience to the consumer's home, reflecting a living room 'of the future' that receives content via broadband and broadcast. The sensation of being immersed that user's feel is achieved with 3D content and domotic elements that include sensors, 3D audio systems, mood lighting and accentual lighting, scent diffusers and smoke diffusers, and even moving furniture elements such as the sofa.

In this case, the content chosen by the demonstrator is a professional football match that is broadcast on a large screen. Among other applications, the system allows users to know the match statistics, repeat the most important plays, access interactive advertising, select a player and view information about him, zoom into the various elements of his uniform, and even purchase an identical item. The domotic effects have also been included in a second 3D sequence of this pilot to show modernist monuments in the city of Canet de Mar. As a result, the project has wanted to show the potential of immersion for all types of contents, including cultural and informational.

The creation of these two pilots represents unprecedented progress in the world of leisure and entertainment, and it also opens the door in Spain to a new market for the production and consumption of content based on immersion that currently does not form part of the traditional consumption market. Its development could allow significant advances in other sectors, such as cognitive immersion for helping people with special needs, guidance systems for surgery and telesurgery, marketing and e-commerce initiatives that include tours or virtual product tests, augmented reality systems that facilitate audience comprehension of events, or immersive video conferencing applications for work teams at different geographic locations.

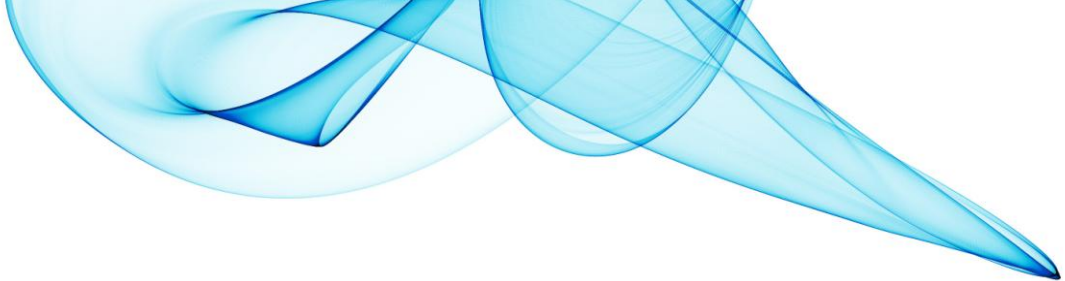
In fact, the system is highly flexible in terms of expanding the array of associated commands, which means that in the future, it will be possible to add new functionalities or even improve existing business models, such as social TV and Internet content.

Creating interactive services for television

Indra is a reference company in the area of consulting and creating interactive services for television thanks to more than ten years of experience, backed by some of the most important projects that are currently being developed in the sector. The technological multinational leads the "ADAPTA" R&D&i project, which has the aim of developing innovative technological solutions that allow audiovisual media audiences to interact with personalised digital contents in different settings of everyday life.

Indra is also leading the international SeniorChannel R&D&i project, which aims to create an interactive television channel over the internet for senior citizens, allowing them to enjoy customised content, interact, share knowledge and experiences and have fun creating their own programmes.

This is combined with its important position in the launch and operation of Digital Terrestrial Television (DTT). The company has also been working in the field of accessible digital television for more than six years and has become the benchmark company in Spain thanks to the numerous R&D projects it has developed and implemented for its customers. The advanced Digital Terrestrial Television (DTT) platform developed for the Segovia City Government that allows citizens to access their local public administration using electronic

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identification, and the project for the Spanish national television company (RTVE), "Emplea-T Accesible", which is the first interactive application to facilitate access for the disabled to DTT services, are some examples of this.

Indra is one of the world's largest consultancy and technology multinationals, a leader in Europe and Latin America and is expanding in other emerging economies. Innovation is the cornerstone of its business, which is highly focussed on the customer and on sustainability. The multinational is one of the leaders in its sector in Europe in terms of investment in R&D and innovation, having invested more than €550M in the last three years. With sales approaching €3,000 million, it employs 42,000 professional and has customers in 128 countries.