

FROM INDUSTRIAL VIRTUAL REALITY CENTRE TO THE FACTORY OF THE FUTURE

Facilities that are open to all businesses: groups, SMEs, trainers...

"These days, virtual reality is a mature technology", says Sophie Levionnois, director of the future CIRV (Centre Industriel de Réalité Virtuelle) industrial virtual reality centre based near Saint-Nazaire. Big users such as Airbus already master it. "But equipment costs are still very steep for smaller companies." Commissioned by the Region with the support of Carène, the Loire Atlantique department, Nantes Métropole and European funding, the CIRV was created to stimulate the

development of activities around this technology. Part of the Institute of Research and Technology (IRT) Jules Verne, the centre is set to open in October. "It will be equipped with exceptional technology", continues Sophie Levionnois. "One room in particular - known as 'CAVE', and in which every wall is a stereoscopic screen - allows users to immerse themselves in the heart of the image as well as interact with it. The objective is to develop use of these tools by SMEs, as well as by training bodies."

The CIRV also foreshadows the Factory of the Future - part of the works being conducted by the IRT Jules-Verne. Ultimately, another building will stand alongside the CIRV and will, thanks to augmented reality technologies and latest-generation robotics, complete digital modelling usage in tomorrow's workshops.



THE MAJOR ACTORS

providing services to businesses

IRT Jules Verne

a research centre that groups advanced production technologies. www.irt-jules-verne.fr

Centre Industriel de la Réalité Virtuelle (CIRV)

Platform dedicated to interactive 3D technologies. www.technocampusemc2.fr

Pôle Images & Réseaux

Competitiveness cluster linking digital technologies to application markets. www.images-et-reseaux.com

Clarté

A virtual reality platform. www.clarte.asso.fr

Laval Virtual

The international conference and exhibition of virtual technologies and usages. www.laval-virtual.org

IDEV

The regional platform for innovation and visitor experience design.

Institut Automobile du Mans

Offers virtual reality resources for automobile developments.

TRAINING COURSES

in Pays de la Loire

The development of virtual reality in the region goes hand in hand with the set-up of specialized training courses, not just around, but also within Nantes.

-for 15 years now, **the ENSAM d'Angers** has been running a Masters dedicated to virtual reality.

- the **ESIEA** (school of engineering) in Laval offers a virtual reality option

- **In Laval, the Université Catholique de l'Ouest (UCO)** has a digital interactive creation centre named **ESICIN** (Ecole Supérieure de Création Interactive Numérique). It offers a professional degree specializing in creation and design.

- **the AFPA in Laval** offers a 15-month training course on industrial infographics to adult seeking to retrain.

- In September 2014, **the Ecole Centrale de Nantes** will, together with **CLARTE**, be offering a virtual reality option.

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CMDP, Topos Architecture,
Aquatop Display, Clarté, Diotasoft,
Realyz, Laval Virtual

// Creation & artwork:
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// Printing:
Imprimerie
la Contemporaine

Registration of
copyright:
February 2014



BUSINESS NEWS

OF PAYS DE LA LOIRE

February 2014 #3

EDITORIAL

Virtual reality: a major vocation – at international level

Long before other territories began to take an interest in these matters, the Pays de la Loire saw momentum building in terms of interest in - and knowledge of - virtual reality. Today, this is being transformed into the creation of economic activity and jobs. The territory makes no secret of its ambition in this domain, and is busy laying the groundwork that will secure it pride of place on the international landscape. The network of exemplary competences now being deployed on this project has played its part in the recent announcement of EON Reality's arrival...

With the Clarté platform as well as the key player that is Laval Virtual, and with specialized training courses - ESIEA in Laval, ENSAM in Angers, the École de Design à Nantes - and such new facilities as the CIRV industrial virtual reality centre in Montoir and the Cité de la Réalité Virtuelle in Laval - the economic fabric being woven is very complete. The Pays de la Loire thus demonstrates this particularity of not limiting virtual reality to research alone, choosing instead to provide it with the means to irrigate the business world.

At a time in which Europe is calling upon its territories to position themselves in the smart specializations field, our region has chosen to make the whole IT/electronics sector key to the future of the regional economy. Virtual reality is a top priority in this ambitious outlook.

Jacques Auxiette

President of the Pays de la Loire Region

VIRTUAL REALITY SPECIAL



3 QUESTIONS FOR JEAN-LOUIS DAUTIN, director of CLARTE



“Virtual reality is in the process of profoundly changing industry, activities, and training”

What are the emerging uses to which virtual reality is put?

Virtual reality brings together a set of techniques affording help or assistance to a certain number of activities, particularly within the industrial domain. It facilitates the work of designing and redeveloping spaces. It also trains operators in certain technical habits, by anticipating security problems or tricky situations. In addition, it proves very useful in terms of maintenance. Thanks to virtual reality, we are thus able to test out scenarios at a lower cost, and choose the best. It is a simple fact that virtual reality is in the process of profoundly changing industry, activities, and the whole economy...

What is the outlook for virtual reality in training courses?

Virtual reality is one of the most promising technologies for improving training methods, and its applications are still expanding. We have just launched an experiment at three of the region's secondary schools - in Saint-Nazaire, Nantes and Laval. Students in their penultimate and final years of STI2D (Sciences et

Technologies de l'Industrie et du Développement Durable) get the chance to study using an immersive educational platform that allows them to approach complex concepts in a more appealing and motivating way. In this way, they can work on such subjects as the strength of materials for the construction of a bridge, or the energy chain of a car, for example. If this experiment proves conclusive, it will be extended to other establishments.

How does the Laval Virtual conference fit in with the development of virtual reality in Pays de la Loire?

This conference has existed for 15 years now. It's become an unmissable and wide-reaching event. Although it attracts a very high calibre of scientists, it is also open to the general public. It brings together suppliers of technologies, equipment and software, as well as many users. Laval Virtual has earned international renown, and many partnerships have been launched with Japan and North America.

2014 DIARY

9 April
LAVAL

AFTER "Augmented reality: from the industrial scale to usages"

9 - 10 April
CHERBOURG

Thetis MRE

From April to October
CHINA

Qingdao Horticultural Expo

9 - 13 April
LAVAL

Laval Virtual

12 June
NANTES

Smart city day

July
NANTES

International Conference on High Pressure Bioscience and Biotechnology - Oniris

September
NANTES

Digital week and the digital symposium

October
NANTES

Bioanalysis Day

December
NANTES

Assises de la mer and du littoral (maritime and coastal economy congress)

December
NANTES

Regional Innovation Day

INTERNATIONAL

EON Reality has picked Laval!



It is possible to be specialized in virtual reality while also wanting to make the most of a very real 'ecosystem'. The local presence of many industry stakeholders and the creation of a Cité de la Réalité Virtuelle have convinced Californian company EON Reality to set up an establishment in Laval. At stake are 150 jobs, to be created over the next 5 years.

EON Reality specializes in virtual reality software and immersive systems in three dimensions. In Laval, the company will be opening its World Centre for the

development of specialist edutainment content, investing a total of €9 million. The company is counting on the international visibility of Laval Virtual as well as on the opening of the Cité de la Réalité Virtuelle, planned for 2016, for the presentation of its future projects. EON Reality wants to open a demonstration space for its 3D applications. It is also set to offer a specialized training programme in digital media and innovation, in partnership with educational establishments already present in Laval.

PANORAMA // VIRTUAL REALITY

Virtual reality from the lab



Fontevraud Abbey today/ 3D model

Virtual reality is stepping out of the research labs. Now, it's moving into the real economy. Today, industry - as well as services, health and the cultural domain are beginning to feel the benefits. Building on the dynamic created by CLARTE and around Laval Virtual, the Pays de la Loire region seeks to position itself as a world leader on the sector.

As virtual reality grows its presence in many sectors of the economy, the Pays de la Loire region is taking full advantage of the remarkable progress made over the past 15 years. The capital city of Mayenne is set to become one of the most important world centres for this specialty, thanks to the Laval Virtual conference, and the creation of the future Cité de la Réalité Virtuelle.

"The love affair between Laval and virtual reality began in 1999 with the first conference and the creation of the CLARTE association",

Quality: Labs to the companies



A WORD FROM THE EXPERT

“The Cité de la Réalité Virtuelle aims to push the sector’s dynamism to international level. It will create a unique concentration of competences and projects, further boosting the territory’s appeal”

Laurent Chrétien,
director of Laval Virtual,
Project Manager for the
Cité de la Réalité Virtuelle.

LESS EXPENSIVE, MORE RELIABLE

Yet it’s not just industry which is taking advantage of the progress of virtual reality. The health domain is also hungry for this technology. Laval-based company GeNouRoB is selling a tool designed by ESIEA that is useful in the diagnosis of knee ligament damage. This system is lighter, cheaper - and above all, more reliable - than traditional systems for the automatic diagnosis of such damage.

Lastly, the cultural sector is, in turn, laying claim to the functionalities of these new tools. The Fontevraud Abbey services used them for the installation of a new boiler... and to develop the visitor experience they offer! “We created a simulation showing how the future building would fit in with its environment, close to

AUGMENTED REALITY: AIMING FOR A TENFOLD INCREASE IN THE NUMBER OF USERS

Launched last September, the government’s industrial revitalization programme takes the form of 34 plans offering strong growth perspectives in the worldwide economy. Augmented reality is one of these. “We estimate the 2015 value of this market at 5 billion dollars”, stresses Vincent Marcatté, President of the IRT B-com and of the inter-regional Images et Réseaux competitiveness cluster, which is in charge of this plan. No world-level champion has yet emerged. That’s why we need to impose ourselves on this market, and stimulate the offer using calls for national projects, so that usages begin to take off. The first of my recommendations is all about outreach. We have to show decision-makers that augmented reality both reduces production costs and improves staff training. We estimate that just 0.1% of the potential users of these tools are already using them. We would like to increase this figure tenfold. In order to do so, a favourable ecosystem - like the one emerging in Pays de la Loire - has to be created”.

the abbey church”, explains Lydia Labalette, Innovation and Development Manager. “And we are currently busy perfecting three very clean 3D models, showing the abbey as it was at different times. Now visitors can see how the place has evolved over the years”.

Industry, culture, health, services... virtual reality is making more and more of an impact on the real economy.

explains Laurent Chrétien, director of Laval Virtual and Project Manager for the Cité de la Réalité Virtuelle. Since then, the technologies have evolved and their cost has fallen. We are gradually moving from a niche market restricted to big industrial players to a high-potential sector in terms of jobs. Users are going to need us to come up with a lot of content. This is the context in which the Cité de la Réalité Virtuelle will see the light of day in the old Ferrié neighbourhood of Laval. Covering an area of 8,000 m², it will bring together the sector’s key players (research laboratories, teaching staff, companies) and will also be open to the public.” The Cité will open in 2016.

FAST PRODUCT RENEWAL

For several years now, groups like Airbus and STX have been using virtual reality on an everyday basis, both to improve workstation ergonomics and to promote the maintenance of machines. But beyond these drivers, virtual reality is now becoming more widespread as an innovation accelerator. Manufacturer and coach builder Gruau, subcontractor to the automobile industry also uses CLARTE tools to design the interior of its microbus. In this way, the company has been able to reduce development costs while renewing products more quickly...