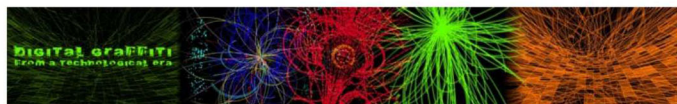




## Digital Graffiti from a Technological Era

by Bruno Alessandro & Marco Brizio. Published: 03 December 2010  
**ALICE Heavy Ions Digital Graffiti Video**



The Digital Graffiti video took inspiration from the analogy between the **Neolithic graffiti art** and the particle tracks created by collisions in accelerators. In the technological era rock engravings and paintings are replaced by digital representation techniques, and the eyes of the caveman are substituted by particle detectors.

It's fascinating to consider that curiosity and the desire to describe reality led to the development of both techniques and that Neolithic caverns, today, are the gigantic caverns where experiments take place at Large Hadron Collider (LHC) of CERN, Geneva.

Since November 2009, inside the LHC accelerator, proton and then ion beams collide at almost the speed of light. These collisions generate from tens to thousands of particles detected by dedicated experimental apparatus; in our case, the ALICE experiment.

The elegance of the three-dimensional tracks produced in these events, and the possibility to explore and elaborate them by generating images and animations, pushed us to produce high resolution pictures, and eventually to the Digital Graffiti video.

The production process of these pictures, true contemporary graffiti, is divided into several steps. First, after choosing the perspective, we captured images of the particle tracks left by collisions using the ALICE experiment event display, also used for editing colours, line types and backgrounds. Then we further edited the resulting high resolution pictures with specific software packages, and finally we started to select the ones suitable for the video. Later we decided to repeat the same process, adapting it to capture animated sequences.

The audio track was made using a distorted bass guitar and image sonification techniques developed from software applications for the visually impaired. These techniques analyse the single video frames, producing sonification stripes which are then converted into sound.

The resulting soundtrack is strongly connected and synchronized to the video and makes Digital Graffiti a complete audiovisual experience.

**Bruno Alessandro:** concept, event display pictures, graphic editing, director.

**Marco Brizio:** director, video editing, image sonifications, music.

**Rosalie Alessio:** management, titles

**Produced by:** alessiostudio s.r.l.

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