INTRODUCTION

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Driving simulation with automotive applications has started in the 70-s and is still in development. Daimler has built a new scale 1 driving simulator just a couple of years ago, and at DSC Europe 2012 we could learn about the characteristics of this high performance installation. The Renault-Nissan Alliance, which have had already more than a half dozen simulators in use, has seen the advent of new simulation technology combining traditional driving simulation and virtual reality technologies, used for autonomous vehicle and vehicle augmented reality applications at Renault. It will see in the coming years one of the world most advanced driving simulator installed at Nissan, Japan, for advanced vehicle dynamics and man-machine interface studies. Finally the Alliance is also using for vehicles developed in common by Daimler and Renault Daimler's high performance driving simulator, showing also the new trend of shared use of advanced simulation technology.

Driving simulation is now appearing also in virtual reality installations, such as head-mounted display systems and CAVE-s. Nevertheless, in these installations, all the well-known problems when using static driving simulators are newly experienced, including simulation sickness, due mainly to visuo-vestibular conflict and unacceptable transport delays. On the other hand, the very high resolutions 4K and better display systems are providing near eye resolution and high image quality image rendering, authorizing new applications, such vehicle styling, architecture and perceived quality.

Another new application domain is connected vehicle simulation and DSC Europe 2014 may experience some renewed discussions for a better use of these applications. As the world is continuously connected today and entering the vehicle there should not be any disruption, on the contrary, new services should appear, simulation platforms for connected vehicles should become a standard in the automotive industry.

Renault continuously supports since a number of years the Driving Simulation Conferences, since 1995. This shows the strong commitment the Renault Nissan Alliance puts in these techniques and methods with the corresponding user processes. At Renault the digital expertise sector includes more than 1200 people dedicated to digital engineering design. This domain is coupled more and more with immersive simulation technics, including driving simulation and virtual reality. The birth of the LIV – Laboratory of Immersive Simulation, a research laboratory between Renault and Arts et Métiers ParisTech in 2011 is a good example of this commitment.

We are very much pleased to host this new edition of the Driving Simulation Conference Europe 2014 at Arts et Métiers ParisTech this year and wish a rich exchange with the authors and participants during the conference.