

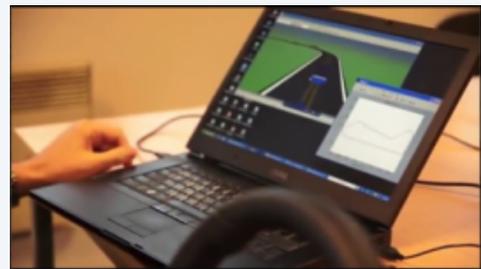
A joint laboratory shared with Carnot TN@UPSaclay gives Sherpa Engineering entry into the autonomous vehicle market.

This type of joint partnership with a Carnot Institute provides the SME with both the flexibility and responsiveness needed. Such collaboration offers a very efficient tool for the design of AV's.

Supporting Innovation

For all the designers as well as engineers, modelling, simulation and control are key stages of the systems engineering process. Nevertheless, the design phase runs into feasibility and product depiction issues. To address these concerns, **Sherpa Engineering and Carnot TN@UPSaclay (CEA LIST)** have agreed to share their efforts in terms of research and innovation capacities within a joint laboratory. Such close co-operation has resulted in the development of 'PhiSystem', an innovative environment for the construction of models for complex process-oriented systems. Its key competitive advantage: by providing a function approach to derive the architecture and the components, the solution enables to integrate the most comprehensive complex systems. Customisable and SysML-based¹, PhiSystem is particularly used within the context of ADAS2 studies by Renault and the RATP Group³.

1. Systems Modelling Language
2. Advanced Driver Assistance Systems
3. Body responsive for the transport system in Greater Paris



The client needs

Thanks to its workforce of about 100 employees Sherpa Engineering has been conducting engineering studies for 20 years. The SME was able to capitalise on its experience from hundreds of projects and have its own R&D facilities. This allows the enterprise to channel concerns quickly and efficiently from various clients subject to considerable competitive pressure across their lines of business. In order to respond to the biggest challenges facing AV's, including in terms of complex issues at both a reliability and safety level, there was a need to further develop an appropriate and most productive framework. To increase interactivity over several years, **Sherpa Engineering and Carnot TN@UPSaclay (CEA LIST)** have mutually agreed on a joint laboratory so as to reduce the information exchange and validation phases. Undertaken in close synergy, the developments are more rapidly achieved and are directly processed as required. The PhiSystem environment streamlining the various processes has emanated from the choice of both Papyrus4 as a tool and SysML as a modelling language, and proximity of the teams. To meet its industrial customers' specific requirements, Sherpa Engineering can thus offer them a new and efficient engineering service, based on a standardised model-oriented methodology and status as a key expert in its field.

4. Papyrus : open-source unified modelling language tool

Partnership

The TN@UPSaclay (CEA LIST) Carnot Institute has developed a sought after know-how in the area of digital intelligent systems based on its own technological bricks. To help develop increasingly complex industrial systems, the Institute makes use of an easily customisable software/system engineering platform to suit the business needs. The Institute's experience on this type of adaptive and responsive partnership with enterprises of all sizes have allowed it to suggest such initiative of a joint laboratory to Sherpa Engineering to exploit their complementary design and modelling skills. The launching of 'PhiSystem' during '#techday#cealist' on 14th March 2017 has fully exposed the simultaneous time saved to make productivity improvements and cost-reduction opportunities, as well as shown the partnership approach to be valid and innovating. The joint laboratory is a major asset for the SME as it contributes to maintaining its digital engineering leadership position: PhiSystem has made quite a splash among the French professionals giving Sherpa Engineering an entry into the Japanese market.