

## Thanks to AI, Davi endows virtual assistants with emotions for a more fluid, more "human" relationship.

Davi has leveraged a long-term partnership with LISN (Carnot Cognition) to set up the RETORIK platform, which may be used to create digital assistants that blend expertise and social skills to produce high-quality dialogue.

### Supporting Innovation

Businesses have been deploying online user assistance since the early 2000s. These virtual assistants quickly became unpopular due to frequently awkward dialogue, inappropriate responses once queries went beyond the predicted context and the cold impersonal mode of communication, devoid of any empathy. As early as 2010, Davi began working on enhancing the human-machine relationship. It is currently marketing RETORIK which allows users to harness emotional AI to create digital assistants and experts (SMARTBOTS) that reproduce human form, language and emotions. The machine communicates naturally via a 3D image of a character capable of providing customised responses while expressing context-appropriate emotions. It becomes possible to forge relationships that are sufficiently interactive to help prospects or complete online sales, provide virtual training or create smart digital information points.



### The client needs

Davi is a SAAS-based (software as a service) software publisher. It markets RETORIK which features tech solutions that enable machines to communicate naturally with humans by reproducing their social behaviour.

These high added value human-machine interfaces run on two "engines". The conversational engine focuses on a clear understanding of queries and provides users with quality dialogue. It is rounded out by a socio-emotional engine that controls the non-verbal language of the animated virtual assistants who deliver responses coupled with accompanying facial expressions, hand movements, etc.

To develop these solutions and produce numerous applications in the field of conversational AI, Davi has been investing heavily in R&D and forging partnerships for many years. In particular, since 2016 it has been working with the CNRS (National Centre for Scientific Research) and LISN (Interdisciplinary digital sciences research lab), which is part of the [Carnot Cognition Institute](#) and brings together AI experts and psychologists. This partnership has helped produce new expertise at the juncture of basic and industrial applied research that has given Davi a competitive edge in a rapidly-changing market.

### Partnership

LISN is part of the Carnot Cognition Institute, which specialises in cognitive technologies that embrace users, their environment and different ways of interacting. The partnership has helped develop affective computing models within a rule engine based on mathematical logic that can calculate verbal responses complete with contextualised socio-emotional content. Experiments have also been conducted to develop a catalogue of non-verbal expressions that enhance customer relations and user experience and new dimensions have been defined for evaluating the perception of a conversational assistant in a commercial environment. The supervision of PhD students within the framework of CIFRE conventions (French State programme for research training in industry) have helped integrate the models within RETORIK and conduct experiments in natural usage situations with real users for the social sciences and humanities aspects. They have for example been testing and analysing the way in which visitors interact with a virtual assistant in a tourist office.

Davi has been able to use this partnership to become a big player in emotional AI, leading to strong growth in its revenue and workforce.