

## Iskn capitalises on current scientific research related to magnetic fields to streamline interface between traditional drawing and digital graphic design

*Three researchers have transformed more than 50 years of research on magnetoresistance by the Leti Carnot Institute into an app dedicated to raise public awareness of the arts, the design and education.*

### Supporting Innovation

The production of a digital graphic usually requires the use of a graphic tablet or the scanning and editing of a paper drawing. The Slate system allows to use of a standard pad with a simple drawing tool. It is equipped with a sheet of paper laid on an adjustable support and a pen fitted with a magnetic ring.

To record the drawing, each movement of the pen is sensed by the 32 tri-axial magnetometers embedded in the support. The data are sent over to a Smartphone or tablet in both real-time and off-line modes.

The associated software allows both the drawing to be manipulated, edited and exported for common formats.

Intended for the general public, the Slate system is distributed in more than 350 points of sales including of major French brands. After Belgium, Germany, the United Kingdom and the United States, the Asian markets see in Slate a way to match the Art of Calligraphy with prospective digital teaching materials.



### The client needs

In a highly competitive sector, *iskn* illustrates the need for further R&D to be carried on to turn such innovative project into an economic success.

Indeed, digital drawing software programs have been efficiently applied for nearly 30 years.

The Leti Engineers who have brought the research to where it stands today wanted to give back the right to determine what tools are needed as appropriate to any human operators. They, for the most part, were betting on the links between physical objects and digital world.

A crowdfunding campaign has allowed the gathering of an amount significantly higher than the level of financing needed. However, moving beyond the announcement effect and great deal of interest generated, the technological leadership had to be safeguarded. By constituting a common laboratory with **Carnot Leti**, *iskn* has grown from 12 patents upon their establishment in 2014 to 20 today.

This type of multi-year collaboration is essential to make it possible for the SME of 38 employees to respond favourably to increasing public and professional expectations alike, while turning to the world of interactive entertainment products and applications of business functional practices.

### Partnership

As part of the CEA Tech Institute, the Grenoble-based Carnot Leti has taken a pioneering role in studying and facilitating the uptake of discoveries on antiferromagnetic (AFM) and ferromagnetic fluctuations. The work of 1970 Nobel Laureate French physicist Louis Néel has been very determining in this regard. The Leti Institute is a major player in terms of dynamic R&D in the area, thanks, in particular to the Grenoble Innovation for Advanced New Technologies (GIANT) campus.

The intelligent Slate pen tablet uses a matrix of ultra-sensitive magnetometers and signal-processing algorithms carried out under the partnership and protected by 22 valid and enforceable patents.

With 50.000 "Slate" sold since the beginning, a growth in revenue by almost 300% against 2017 and the doubling of the number of employees in 2018, the long-lasting collaboration and closeness of interactions with researchers provide *iskn* the means to strengthen an already solid case.