

## Effidence innovation gets boosted thanks to Irstea

*Thanks to Agile methodology, the Irstea Carnot Institute multiplies prototypes. The SME is therefore exploiting research results to fulfil the farmers' and military's needs.*

### Supporting Innovation

Integrated innovation aims to find innovative solutions by integrating a variety of technological modules. Such approach has been applied to the agricultural robot EffiBOT, a fully automated trolley that follows the operator. Launched by Effidence, this robot has been honoured with the Integration Award at the National Robotics Competition supported by the French Ministry of Industry in March 2017. Beyond the development of a ground-breaking technology, the SME has strived to venture into new markets by optimising research and prototyping stages in co-operation with Irstea. Recognised for its expertise in the logistics sector, the 11-employee SME demonstrates as such its ability to tap into the military and agricultural markets. Considering that both are constantly seeking the most cost-effective solution to overcome not easily predictable all-around encounter situation-aware applications.



### The client needs

The project starts in 2009 when Effidence is established to use research results of a data-fusion module with limited computational resources in the field of security and remote surveillance. The first collaborative robot was designed for logistics applications. The SME provided its very first robots to international logistics stakeholders in 2016. To be able to respond to the needs of agricultural and military applications the trolley must position in regard to the operator's position and act in complex and not easily predictable environments. Irstea's capacity to apply Agile methodology in co-operation with the Institut Pascal's teams allows for rapid prototyping and strongly-noted achievements while taking account of the constraints specific to such operating environments. Therefore making it easier for Effidence to convince with high-performance prototypes.

### Partnership

The Irstea Carnot Institute responds to industrial issues and societal challenges in agricultural and environmental areas. Its dedicated co-operation has led to the development of an intelligent tracking system fitted with 3 UWB radio beacons (2 on the robot and 1 for the user followed by that robot). Such ultra-wideband tracking system covers environmental interference data transmission applications in a variety of significantly disrupted environments. The processing is driven with lesser resources used by the database data-fusion module and linked algorithms. One key feature of the partnership, which enables Effidence to be identified and recognised in the field of collaborative robots, is motivated by the use of agile iterative methods. Testing, assessing, abandoning, engaging into projects about new prototypes and developing applications to specific usage is made possible through the vital assets of the Institute. Irstea's active support still continues during sales presentations.