

The power of infrared



Institution: Sensia Solutions, SL
Country: Spain
Type of partnership: HEI-SME partnership
Website: sensia-solutions.com

Background

SENSIA Solutions SL is a spinoff founded in 2008 by researchers from the Infrared Sensors Laboratory of the Carlos III University of Madrid to market the results of their research projects. SENSIA Solutions is a high intensive knowledge-based SME, with 15 employees, in an scaling up phase.

The core is the development of infrared cameras aimed at different sectors such as aerospace, military, environmental and industrial where cameras provide gas detection and quantification, surveillance, flame and leak detection, and liquid and smoke carryover monitoring.

The company was granted in the Horizon2020 SME instrument in a first phase in 2015 and a second phase from 2017 to 2019 in the project called "The first low-cost optical gas imager for fugitive emissions mitigation, increasing energy efficiency in industry" with two million euros.

Story

Francisco Cortés, the founder, was Project Manager of the Infrared Sensors Laboratory of the Carlos III University of Madrid with a strong entrepreneurial mindset. In 2008, after exploring the market he found an opportunity to market the results of the research projects. He focused on business.

Stakeholders

Deep relationship with Universidad Carlos III de Madrid:

- As, in the first place, owner of the technology
- Supporting the company through its Incubation Program
- Accessing to multidisciplinary talent
- and, In 2017, a Chair SENSIA Solutions – Universidad Carlos III de Madrid is signed.

Large companies in the sector, such as TOTAL, REPSOL, ENAGAS and SUEZ, which lent their facilities during the second phase of the SME instrument of Horizon 2020 to test their technology.

SENSIA Solutions SL technology sales representatives, such as Deco in China, JaeYoung Soft Enterprise Engine Developer in South Korea and Erdaw in India.

The European Union funding through different programmes and projects Sensia initiatives.

"The time and effort needed either for running a company or research, make you take a decision : one or the other"

Resource needs

Policies for establishing a friendly framework that allows:

- researchers who generates a "spinoff" focus on the business section
- Fluent communication and strategies between public universities or institutions and the company regarding business management.

Stable and stronger policies for funding R&D companies:

- ways to relief high risk companies (or project) such as those launched from new technologies.
- the globalization factor means that countries with greater investment in R&D and the same capacities as SENSIA have access to a large number of projects at an international level, limiting SENSIA's possibilities and consolidating itself in the international market.

A national top level marketing campaign on Spanish technology is needed as many big domestic firms don't consider this option. In fact, this could also be appreciated at European level.

Outputs

2015 to 2019, it has increased its total assets by ten, which includes the development of new patents derived from the aforementioned projects

In 2019, a new optical gas detection system to locate diffuse emissions marketed under the name RedLook. This is an output from the second phase SME instrument of Horizon 2020,

In 2021, SENSIA Solutions SL inaugurated a new infrared radiometry, calibration and testing laboratory, receiving funding from the Horizon 2020 research and innovation program under the grant agreement of the European Institute of Innovation and Technology.

The SENSIA's Optical Gas Imaging (OGI) technology has gained high relevance in the industry as a part of the mitigation process to reduce the methane fugitive emissions which generated by the Oil & Gas industry during normal operation contribute in a relevant amount to the total greenhouse emissions released in the world

Pipeline of 6 different camera range in the market.



Caroline F Series	●	●	●			●	●	●	●		
Mileva F Series	●	●	●				●	●	●		
Calcifir F				●					●*		
Calcifir RMXF									●*	●	
Agni				●	●			●			
Rai			●			●	●	●	●		
Higia											●

* T>120°C

REDLOOK functionalities performed by each of SENSIA cameras (credit: Sensia Solutions)

Motivations

In addition to the institutional support in pilot projects, the main motivations for UBC are:

- keeping the innovative competitiveness of the products pipeline. Knowledge generated at the university that allows SENSIA to be aware of emerging technologies: R&D as a competitive element.
- access to talent and networks.

In relation to the Horizon2020 program,

- volume of financing of European projects, which are larger than national ones as mechanism to sustain the company
- low competence with European countries with greater investment in R&D



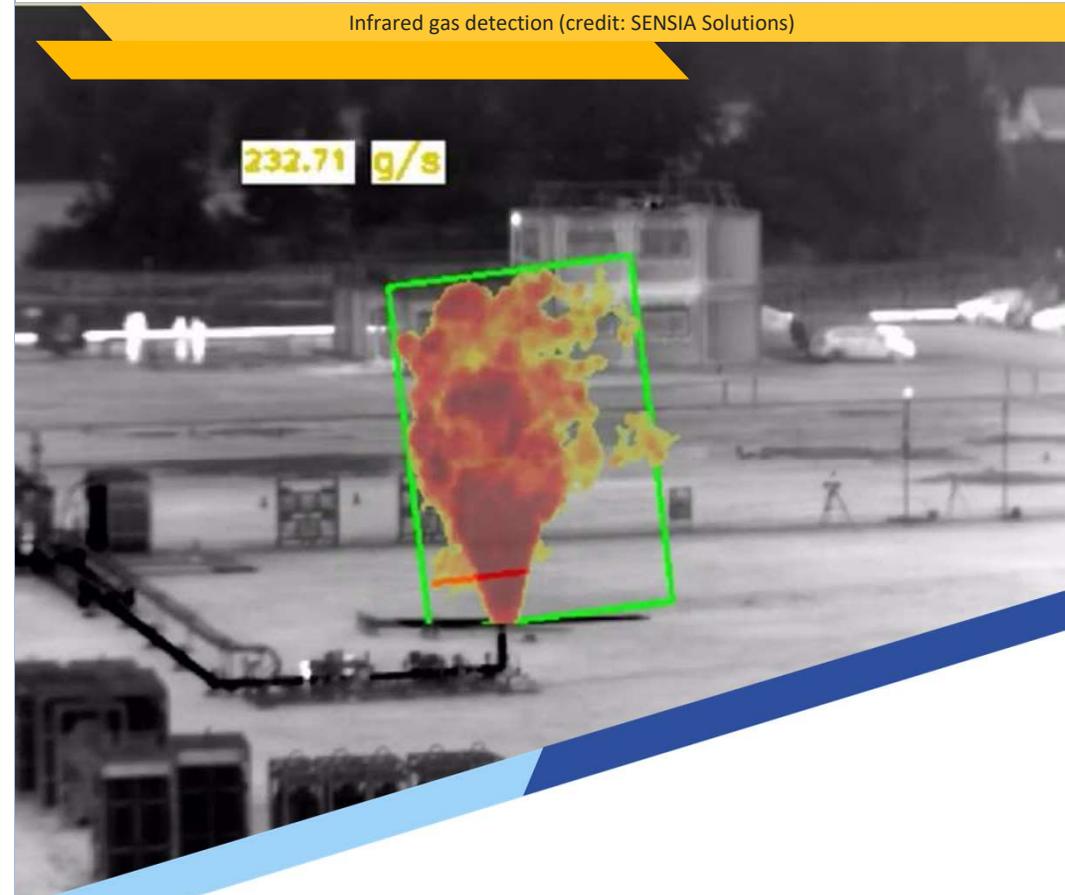
SENSIA Camera Device (Credit: SENSIA Solutions, SL)

Barriers

In general terms,

- Lack of access to the Spanish industrial fabric: we do not bet on products generated in Spain, but rather import foreign technology of equal or worse quality. Finally, it is easier to sell in foreign countries than in Spain due to the Spanish business culture. Furthermore, some sectors are impenetrable such as the military industry.
- *Harmful university association in later phases of the company: in the early stages of the company it is beneficial to be supported by the university, mainly because it is a spin-off. However, later this association causes a lack of confidence on the part of the clients about the capacities and competences of the company, diminishing their opportunities.*
- Lack of public funding.
- Difficulties when starting the university-company relationship.
- Difficulty of access to European projects.
- Focus on one role, it is not possible to perform as CEO and researcher at the same time.

Infrared gas detection (credit: SENSIA Solutions)



Key success factors

1

Most Innovative technology

For doing so, a SME, must develop strong linkages with research groups.

2

High quality of the product

Transforming technology in products according to the customers needs and expectations.

3

Trust

Within the team and alliances, but also building the company's brand around trust.

“Our ambition to conquer the international market has allowed it to gain experience and stay at the forefront of innovation.”

Author: María José Herrero-Villa; Ester Martínez-Ros; Jose Luis G. Sacristán. (Uc3m team project)

Interviewee: Francisco Cortés. CEO and founder of SENSIA Solutions, SL