

TOGETHER, WE SHAPE A HEALTHIER WORLD

Your partner for design, engineering and manufacturing innovative medical products.



FROM DESIGN TO ANALYSIS: A NEW ERA OF ELECTROCARDIOGRAMS WITH ICENTIA AND EXO-S.

In the medical sector, **cardiac monitoring devices** play a **crucial role** in the early detection of health issues, particularly arrhythmias. With strict and demanding quality and performance standards, innovation and reliability are essential. In this context, Exo-s, specializing in the design, engineering, and manufacturing of molded plastic parts for the medical sector, **collaborated with Icentia** to develop a revolutionary solution in medical analysis and technology.



icentia™

THE CHALLENGE

Icentia had a clear objective: to democratize and simplify access to ambulatory cardiac testing and analysis. Their project materialized through two distinct solutions:

1. **A turnkey service** that enables doctors to request a detailed analysis of the results using a single-use monitor.
2. **A new model of cardiac monitor**, designed to overcome the limitations of traditional devices, which are often bulky, uncomfortable, and non-waterproof. These constraints prevented patients from engaging in certain daily activities, such as physical exercise, and limited the duration of the tests.

Icentia aimed to offer a single-use monitor encased in a flexible, waterproof plastic shell, which could easily be disassembled to allow for the reuse of the electronic equipment.

However, this project presented several major technical challenges:

- **Designing** a plastic overmolding on an electronic component, which is a technically complex operation.
- **Ensuring** waterproofing while facilitating disassembly.
- **Complying** with ISO 13485 medical standards.
- **Maintaining** a reliable supply chain and ensuring consistent production.
- **Simplifying** operations to ensure efficient analysis and rapid access to medical results.

THE SOLUTION

To meet these needs, Exo-s leveraged its research and development (R&D) expertise while working closely with Icentia to incorporate its ideas, challenges, and vision of the project throughout the development process. The two teams invested significant time in designing and prototyping the plastic shell, enthusiastically embracing the unique challenge posed by overmolding on a technological component. Through numerous tests and adjustments, they ultimately created a reliable and functional product that perfectly met expectations.

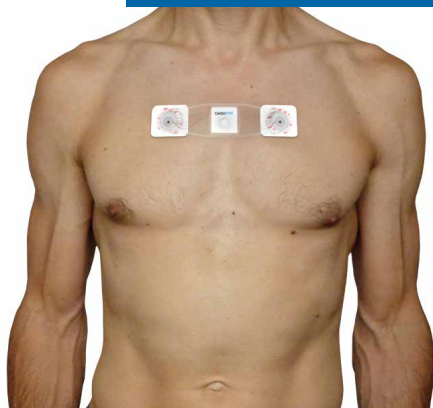
Initially, the production was almost artisanal, requiring significant human involvement. However, through gradual improvements and process streamlining, combined with a significant increase in production volumes, Exo-s managed to automate and optimize the manufacturing steps, enhancing consistency and reducing costs. The ISO 13485 certifications held by Exo-s played a crucial role in ensuring the product's compliance with various medical requirements. Finally, the integration of an ERP system enabled the client to monitor the production in real time and optimize the logistics operations. This was a significant benefit, allowing the organization to maximize monitor utilization and provide fast, efficient, and high-quality responses to the health concerns of many patients.

"We particularly appreciated the R&D approach proposed by the Exo-s team. Faced with our challenge, it was crucial to think outside the box. They were very patient with us and put in the necessary effort to support us in developing the product we were looking for. This gave us confidence that we would build a strong relationship with them."

Yannick Le Devehat, Co-Founder and Vice President of Technologies – Icentia

"It's truly when we work hand in hand with our clients that we deliver the best possible results and the greatest value. We see ourselves more as an extension of their design department and a genuine partner in the process, which explains our desire for support and shared thinking. We want to show them that we are there to share the risk with them because these projects matter to us just as much as they do to them."

Emmanuel Duchesne, President and CEO – Exo-s



For Icentia, whose business model is based on the analysis and transmission of CardioSTAT® data to the attending physician, the solutions developed in collaboration with our team enabled the organization of a continuous workflow, enhancing its efficiency in its field. The ongoing improvements to our production processes over the years have increased our production capacity, which was necessary to ensure continuous supply in order to meet growing market demands.

RESULTS ACHIEVED

The joint efforts of Exo-s and Icentia led to impressive results. The meticulously designed waterproof plastic shell ensures optimal protection of the monitors while allowing for easy use and reuse. This not only reduced production costs, but also minimized environmental impact by significantly reducing waste.

With this innovative solution, the client was able to adopt a business model based on single-use equipment, making the process both more cost-effective and accessible for patients. This model accelerated the availability of tests and diagnoses, reducing delays for doctors and healthcare institutions.

To date, over 300,000 tests have been conducted, positioning the client as the third-largest player in this market. This successful collaboration illustrates the importance of cutting-edge mutual expertise and a strong and effective partnership between stakeholders.



LEARNING AND FUTURE DIRECTIONS

This collaboration demonstrated the importance of a relationship of trust and open communication between Exo-s and its clients. By anticipating needs, investing in innovation, and providing tailored solutions, Exo-s has established itself as a key partner in the medical sector.

Icentia also plans to expand its expertise into other health testing technologies, with the assurance that Exo-s's knowledge and flexibility will continue to play a crucial role in their future projects. This exemplary collaboration highlights Exo-s's ability to tackle complex challenges while building lasting partnerships.