

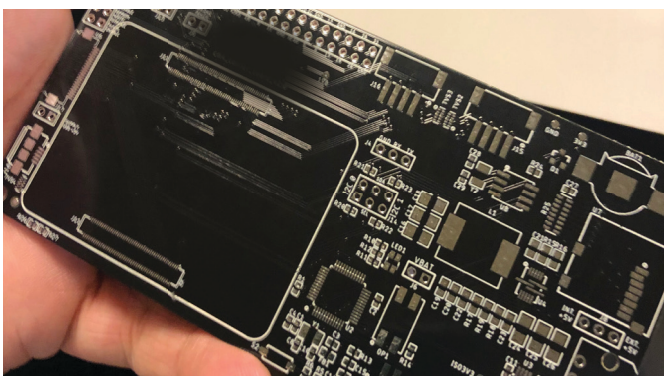
# CELUS' José Ginjo on the Pain of Reworking Designs

In my last company, I supported a research project of marine biologists studying sharks, whales, and manta rays. I used to be the hardware engineer there, so I designed most of the electronics for the research equipment including a diving mini container for tracking the animals.

I really enjoyed working on this project, but at the same time, encountered some major moments of frustration. Here is the story...

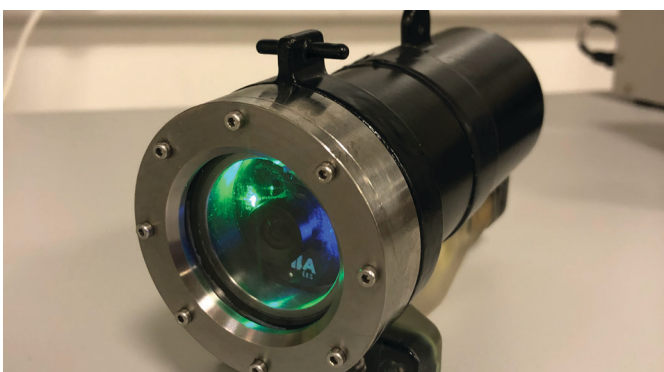
## The Requirements

The diving device needed to be lightweight and small to avoid disturbing the animal movement, but it also needed to be able to record video and environmental data for at least 8 hours straight.



*PCB that goes inside the container.*

So, the main challenge was to get the lowest consumption possible while being able to do everything that was mentioned above. For this, we had a low-power PMS (power management system) for the batteries that was small and efficient. There were several different solutions on the market, but we selected one and it was fine for about a year.



*Prototype of the container for tracking marine animals.*

Then, when the demand for the device increased, a problem appeared: This PMS was out of stock and the expected time for restocking would be two full years! As a result, we needed to rework our device with a different PMS. This took us several months because we needed to test everything to make sure that the new solution met all the requirements before releasing the device to the client.



José joined the CELUS team in 2023 after working as a hardware designer and embedded systems engineer with various companies in Portugal. He holds a Master's Degree in Electrical and Computer Engineering, Automation and Systems from ISEP (Instituto Superior de Engenharia do Porto).

## The Solution: CELUS

Well, those additional months of reworking the device would not have been an issue if we only had access to the CELUS Design Platform back then. Rework becomes a breeze since designers just need to swap that the CUBO of that PMS for a different one. As our work in CELUS always starts with the requirements and the AI offers the best fitting CUBOs, we always have alternative options from the updated list of compatible solutions in the library.

Being part of the team of Field Application Engineers at CELUS, I can help our users make the most of our technology and spare them lots of rework.



**Now it's your turn! We are providing our technology for free to all our peer engineers out there to relieve you of the hassles and manual work you encounter day-to-day.**

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