



A Report on Participation at 4S 2022

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Overview

Held during May 16–20, 2022, 4S Symposium 2022 was hosted by the European Space Agency (ESA) and France's National Centre for Space Studies (CNES) and took place at Tivoli Marina Vilamoura Hotel in Vilamoura, which is a resort located in the Algarve region on the Mediterranean coast at the southern tip of Portugal. "4S" stands for "Small Satellites Systems and Services."

This symposium is typically held every two years, and I was planning to participate in 2020, but it was cancelled that year due to COVID-19. For this reason, this is the first time for me to participate. According to data from the organizer, the number of participants this time was about 450, and the exhibition was small, with about 70 companies exhibiting.

Overall impression and analysis

In a nutshell, this symposium is a small, European version of the SmallSat Conference in Utah, U.S. Certainly, 4S Symposium covers not only satellites but also subsystem components, launching, and even data utilization services.

In particular, the main theme of this symposium is "Information Made in Space," and in the session of the same name, there were many reports made on the use of satellite data in Earth observation.

In addition, of course many Portuguese space agencies and companies attended, but participants gathered from all over Europe as well. However, one thing stood out in comparison to SmallSat Conference in the U.S.: the lack of participants from the military and security sectors. At SmallSat Conference, a presentation is always made by the head of the U.S. Space Force, including reporting on the development of satellites for the U.S. military, such as DARPA activities. There was no one talking about military and security at 4S.

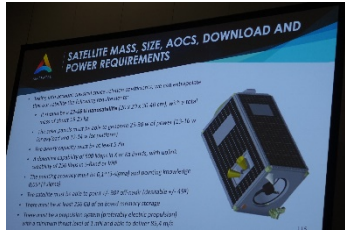
However, on the contrary, at 4S, presentations by space agencies and research institutes for each region, such as from the ESA and CNES, occupy a large percentage of what goes on here. And many from the private sector attend, including as exhibitors, but there were few American-style companies that are launching their own programs. The

private sector here seems to work mostly with the space agencies of each respective country. Or their content is centered on subsystem components.

Main presentations and discussions

(1) The Portuguese observation satellite constellation program

<omitted below>



(2) Other presentations of interest

<omitted below>



Other miscellaneous comments

Portugal has abundant seafood, and there are many dishes that suit my palate. That's why my description here is more in-depth compared to my descriptions for food during trips to the U.S. For example, the grilled sardines in Portugal are exactly the same as the grilled sardines commonly eaten in Japan. However, it's Portuguese style to drizzle olive oil over the dish before eating.



This time, let's talk about Portuguese-style octopus (*polvo à lagareiro*). Here, 3–4 octopus tentacles are left

unsliced, and these are baked in an oven and simmered with garlic cloves and herbs, in olive oil. Small potatoes still in the skins are also combined in the simmered dish. The dish is served in an iron pan, with a scraping sound emanating every time you dig in for more. This dish is like a more-dynamic version of *ajillo*, which is famous in Spanish tapas. However, it's a little bit different in that doesn't *ajillo* contain spicy chili peppers?

Anyways, in *polvo à lagareiro*, the tentacles are very soft, so maybe they are boiled carefully, and they can be easily sliced with your knife. Many people have an aversion to octopus tentacles—with the suction cups and all—but this kind of dish is definitely something well-liked by both Portuguese and Japanese people.

Of course, a well-chilled Portuguese white wine pairs perfectly with this.

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