INVAP

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CONTINUING LATIN AMERICA'S PROUD HISTORY OF INNOVATION

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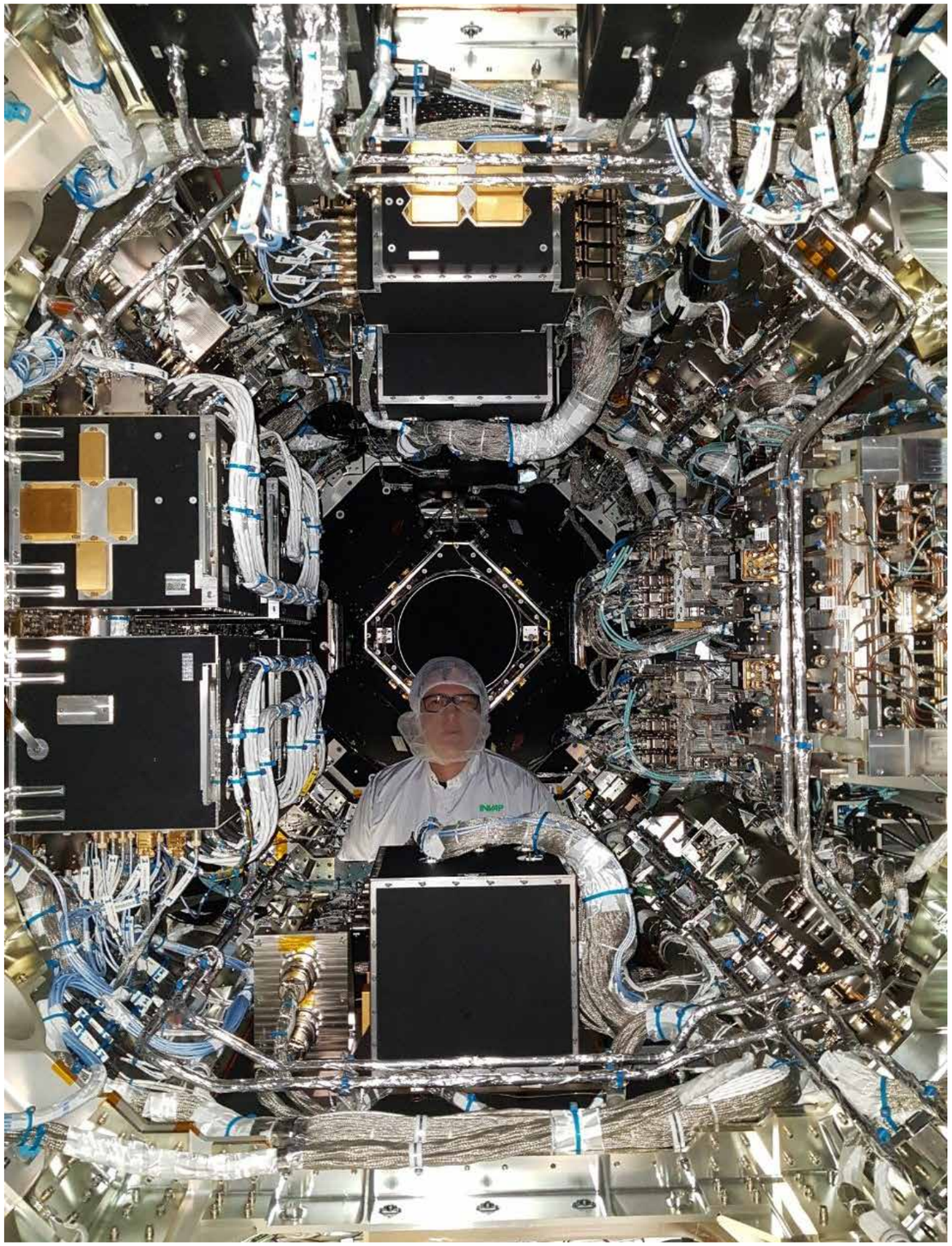
RESEARCH BY *María Bernardita Guschmer*



When we think of the most innovative companies in the world, our mind tends to wander to companies in North America, Europe and Asia. But there's a world of innovation that exists in the southern hemisphere that we've become coded to ignore. Latin America has given the world some of its most enduring innovations, and continues to be a focal point for the world's most valuable intellectual property.

One of the recognized leaders in this realm in Latin America is INVAP (a portmanteau of the Spanish words investigación aplicada, meaning "applied research"). INVAP was the first company in Latin America to be certified by NASA, so its scientific and innovative credentials are as strong as any that you might find on the continent. To date, it remains the only company on the continent to work hand-in-hand with NASA on its space projects.

Business Excellence's Head of Research LATAM María Bernardita Guschmer recently had the pleasure of speaking with Gabriel Cristian Absi, Vice President of INVAP's Aerospace Division, about the company's past, its present and its future. What emerges from the discussion with Mr. Absi is the profile of a company which continues to push boundaries in areas such as aerospace, Defence, Security, Ambient and nuclear and carrying the flag for a continent with a proud history in innovation.

Beginnings

INVAP's history has its roots in a brilliant Argentine physicist spending some time conducting research in the United States. As Mr. Absi tells it: "the seed for INVAP was sown in 1972, when Dr. Conrado Varotto, who had been studying for his doctorate at Stanford, returned to Argentina. He brought ideas that he learned from there back to Argentina to CNEA (Argentina's Atomic Energy Council)."

"It was there, with a group of young colleagues," continues Mr. Absi, "that he had the idea to form a company to commercially develop some of the scientific ideas which they were working on. The idea at that time wasn't just to continue research for the sake of research, but to implement the ideas for the greater good of society." This thinking was the genesis of INVAP, which was founded out of the offices of CNEA in 1976.

As Mr. Absi explains, this was an early version of what today we might call 'incubation' in the startup sense: "The reality is that INVAP was incubated by CNEA. We didn't use the term 'incubated' at the time, but the reality is that that's what it was. So, being incubated by CNEA, the company was a state-owned enterprise belonging to the province of Rio Negro, whose shares were owned by the state, the government, and of course, CNEA."

Effectively being one of Argentina's first incubated companies (if not the first), the company maintains some of the governance features we might expect of a state startup. Mr. Absi says: "There are seven directors on the board, two of which are from CNEA, four of which are from the province of Rio Negro and finally, a director who is elected to the

"The idea at that time wasn't just to continue research for the sake of research, but to implement the ideas for the greater good of society."

board by the employees of INVAP, with the same responsibilities and entitlements as the other directors."

A World Leader in Nuclear and Aerospace

The brainpower employed by INVAP meant that it quickly grew into some of the technically challenging areas of scientific development. Mr. Absi says: "INVAP naturally became a company focused on nuclear physics because the laboratory from which it grew had a specialty in that area at CNEA. At first, the company grew through small projects that CNEA hired it for in nuclear and then quickly moved into two new areas of business."

"One was nuclear medicine, in which it was worked on diagnostics with imagery and the treatment of cancer. The other was an industrial area, principally focused on providing technical design services to the energy sector - nuclear energy, oil and gas." INVAP is responsible for the design and development of some of the world's most well-known nuclear reactors, including PALLAS in the Netherlands and OPAL in Australia.

In the 1990s, with nuclear power becoming the subject of some controversy owing to tragedies in Chernobyl and elsewhere, the company turned its focus to aerospace. Mr. Absi says: "That's when CONEA (Argentina's Space Agency) was formed in conjunction with NASA with the aim of undertaking space missions together.."

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"We're developing a satellite communications platform which, let's say, is state of the art. We believe that this will be a huge technological advance within just a few years from now, creating a new generation of satellites"

"From there," he continues, "we started to work closely with NASA, learning more about satellites and developing some of the best-known ones today: the SAC-B, the SAC-A, SAC-C and the SAC-D. The SAOCOM was developed as a result of an agreement with Italy for two satellites with the Italian space agency, the first of which was launched in 2018 and the second, which was launched in August of this year."

Space Age Technology with High Street Applications

When speaking to Mr. Absi, the conversation quickly changes from one topic to another, leaving the listener sometimes wondering if the same company can be involved in so many different spheres. Such is the spirit of innovation at INVAP that one innovation quickly leads to another and the company's

original spiriti - to develop applications that improve people's lives - comes into being.

As such, the company's work in aerospace has led it into communications, security and defense. There's also a new joint venture project in the works with Turkey. Of this, Mr. Absi says: "we're developing a satellite communications platform which, let's say, is state of the art. We believe that this will be a huge technological advance within just a few years from now, creating a new generation of satellites."

Mr. Absi is keen to emphasize the day-to-day benefits brought by all of these innovations: "there are so many!" he says. "For example, with the satellite system we've developed for Argentina, we can monitor illegal fishing, which is a huge problem within the country. It can also be used by farmers for more intelligent fertilization and growing. I mean, it's not always that it's something you see directly, but it is something that we all benefit from."

INVAP during the Pandemic

With such a remarkable track record in innovation, it shouldn't come as a surprise to any readers that several Argentine governmental departments turned to INVAP for assistance in responding to the ongoing Covid 19 pandemic. Argentina has been in a state of quarantine for over six months, and at the time of writing, in late October 2020, is one of the world's most badly affected countries by the disease.

Mr. Absi says: "We've received many requests, from government and state agencies, to be technical consultants on certain problems. Thankfully, we've been able to apply our expertise in some areas to aid them in some areas to make decisions. We've also been able to make available some productive capabilities to make machines such as respirators and medical equipment for the benefit of the general population."

"There's huge demand for our services at INVAP and at some moment, this is all going to bear fruit."

The Future

Where else can INVAP go that it hasn't already been? When a company is literally being hired by NASA for its technical capabilities, you begin to think there's nothing that can stand in its way. Mr. Absi says: "we're developing nuclear projects in various countries - in the Netherlands, Algeria, Saudia Arabia, India and Australia - we are very international. And in fact, you'll see that, in the area of satellite technology, we're regarded as one of the top 7 companies in the world," before adding: "there's huge demand for our services at INVAP and at some moment, this is all going to bear fruit." Despite some of the world's best satellites, nuclear reactors and contributions to nuclear medicine, it says everything about the insatiable spirit of innovation at INVAP that the President of its Aerospace Division believes that it's still waiting "to bear fruit." BE

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