

## innovaphone Case Study

# The Spanish National Institute for Aerospace Technology Decides in Favour of a Communication Solution by innovaphone to Equip its Space Programmes Division



Photo Caption: Photo Courtesy of INTA

## INTA

The National Institute for Aerospace Technology (INTA) with its headquarters in Torrejón de Ardoz near Madrid was founded by the Spanish Ministry of Defence in 1942. It had originally been designed as a technology and advisory centre for the aeronautic sector, specialising in the design and testing of aircrafts. In 1960, INTA began cooperating with NASA and has kept very close working relations with NASA ever since.

INTA cooperates with national and international public institutions as well as private corporations. The institute has become a paragon for the development and management of space projects and drives the scientific and technological development in Spain.



*The IP Telephony and UC solution provided by innovaphone was the only solution that met all technological requirements. It offers the advantages of a commercial solution, while at the same time being customizable to INTA's specific requirements for different projects. And all of that, while at the same time providing a highly flexible solution, high quality products and great value for money.*

**P. Iván Lora**  
System Engineer at CEIT



# The New Communication Solution by innovaphone Meets all of INTA's Technical Requirements



Photo Caption: Photo Courtesy of INTA

## The Initial Scenario: An Outdated Conventional Telephone System

Starting signal for modernising the IP Telephony and Unified Communications system for the space programmes division was a new project with the European Space Agency (ESA). The old analogue Ericsson PBX could not connect between the ESA satellite control centre in the European Space Operations Centre (ESOC) in Darmstadt, Germany, and the operators of ground stations for satellite trading of INA at the locations in Torrejón (CEIT), Maspalomas in Gran Canaria (CEC) and Villafranca del Castillo (ESAC).

An absolute must for this project was a so-called 24 hour voice loop (a 24h audio conference) between ESA and ITA via Voice over IP. The realisation required a VoIP system that would also support the H.323 protocol at the same time. A first attempt to use an analogue converter from another manufacturer proved unsatisfactory as the result was a highly limited system, which only allowed peer-to-peer calls. This was followed by an evaluation phase, in which other potential solutions were reviewed. The greatest challenge was that, while most manufacturers support the SIP protocol, H.323 and SIP are not usually supported at the same time.

The standard VoIP systems offered by other manufacturers were therefore unable to meet all of the project requirements. The professional solutions, on the other hand, were technologically suitable but not economically viable, as the costs would have been too high. The innovaphone PBX VoIP phone system was the only solution that met all technological and economical requirements as well as all functionalities required for the connection to ESA.

## An IP Telephony Solution Supporting SIP and H.323: Dream or Reality?

Having decided in favour of the innovaphone PBX solution with smooth migration, an innovaphone VoIP gateway IP311 with FXS and FXO interfaces was installed between the old analogue PBX and the provider's ISDN connection, without the old system being touched. All users at CEIT in Torrejón, CEC in Maspalomas and ESAC in Vilafranca were integrated into the PBX and connected at the same time with ESOC's 24h voice loop system in Darmstadt.

### The Customer - INTA

- The National Institute for Aerospace Technology (INTA) was founded by the Spanish Ministry of Defence in 1942
- Close collaboration with NASA and ESA
- Development and management of space projects
- Driving force in the scientific and technological development of Spain



innovaphone VoIP gateway IP311

### The Challenge

- IP Telephony and Unified Communications system with SIP and H.323 support
- Redundancy
- Recording functionality
- End devices with headset connection

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The innovaphone IP telephones of the types IP111, IP112 and IP222 were installed as end devices. The innovaphone solution Software Phone, which is conveniently controlled via the user interface of the innovaphone UC client myPBX, was installed on a number of PCs. Moreover, staff was provided with Unified Communications functionalities such as Chat, Presence, Video Call, Application Sharing and WebRTC.

## The New Communications System was Installed within Two Days

The installation was completed within two days. During the first week, all configuration adjustments and integrations with other systems were completed. In an environment where users were used to the conventional solution, which had been developed ad-hoc, the enthusiasm for the new solution was initially limited. Despite their initial scepticism, however, staff got used to the new solution quickly and were able to operate it without any issues.

The project was realised and implemented by the Spanish innovaphone reseller, Makenai. Makenai also draws a highly positive summary of both the implementation and adjustment of the current scenario in the present phase and the design and planning in the second phase. "The implementation of a major project such as the INTA with the innovaphone solution was a great challenge. That is why we are extremely happy with the results. What's more is that the cooperation between manufacturer, integrator and customer worked particularly well. And such positive working atmosphere contributes of course to being able to reach all of our objectives in an easier way".

## A Solution that Exactly Matches INTA's Needs

"The IP Telephony and Unified Communications solution provided by innovaphone was the only solution that met all technological requirements. It offers all the benefits of a commercial solution, while at the same time being adjustable to INTA's specific requirements for the different projects. And all of that, while at the same time providing a highly flexible solution, high quality products and great value for money: an efficient and sophisticated redundancy concept, a product architecture that enables several local PBXs, which are connected, to be used at the same time, H.323 and SIP support not only for the current project but also for the future integration with other providers or analogue systems.

Other advantages include easy and centralised administration via web interface or the possibility to activate applications at any time, depending on the concrete requirements of the projects, which are already on board the innovaphone PBX. End devices, which are equipped with a broad spectrum of functionalities (such as an automatic reply function, partner keys, hands-free or headset connections) and not to forget the sophisticated encryption systems that ensure the security of all communication. "The decision to go for innovaphone was quite easy," P. Iván Lora, System Engineer at CEIT, explains.



Photo Caption: Photo Courtesy of INTA



innovaphone IP222 IP phone

### The Solution

- innovaphone IP PBX based on an innovaphone IP311 IP gateway
- UC functionalities
- innovaphone Software Phone and IP phones
- WebRTC

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## Second Phase of the Project: Roll-out of a Master/Slave Scenario

After the first project phase has been completed successfully, the second step will entail the further expansion of the installation. Current planning aims at rolling out an innovaphone Master/Slave scenario, which is to enable permanent availability between the different satellite control centres and the ESA location in Darmstadt. Moreover, a conference room is soon to be established to facilitate communication between the operators of ground stations for satellite tracking.

### Benefits for the Customer

- VoIP system with open standards (SIP and H.323)
- Easy and centralised administration
- UC functionalities and applications already on board
- Cost advantages compared to other solutions



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## At a Glance



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