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OUR SECTORS OF ACTIVITY

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Defence and Security

Isdefe is the Spanish Administration's in-house technical service provider in the field of Defence and Security and, as such, provides services to the ministries of Defence, Interior and the rest of the General State Administration. Likewise, it makes its knowledge and experience available to the administrations of other allied countries and international public bodies, and it is involved in initiatives of interest to Defence and Security, working, among others, for the European Commission, the European Defence Agency (EDA), the European Border and Coast Guard Agency (Frontex), the European Space and Satellite Navigation Agencies (ESA and GSA) and the North Atlantic Treaty Organization (NATO).





■ Defence Planning

The strategic consultancy services and capacity planning methodology developed by Isdefe support the strategic military planning process of both the Spanish Ministry of Defence and the European Defence Agency (EDA).

Ministry of Defence / Secretariat of State for Defence / DGAM / SDG for Planning, Technology and Research (SDGPLATIN)

Isdefe has provided support with resource planning corresponding to the implementation of the National Defence Planning cycle, including the identification and oversight of the needs associated with the Military Capabilities Objective (OCM) in support of the Joint Chiefs of Staff, the planning of weapons and matériel resources, the research and development needed to obtain capabilities, and the programming of the matériel means necessary for the armed forces in coming years.

Within the activities related to the European Defence Fund (EDF), Isdefe has provided support to the European Commission in defining the topics of interest for the development of work programmes. It also participated in the analysis and reviews of the drafts of the work programme for the year 2021, as well as of the proposals presented by the national companies, in order to determine Spain's contribution to these proposals.

**Ministry of Defence / Defence General Staff (EMAD) /Joint
Defence General Staff (EMACON)**

Isdefe participated in the Military Planning corresponding to the implementation of the National Defence Planning cycle, supporting the identification of the capacities needed by the Armed Forces that are detailed in the Military Capabilities Objective (OCM). Isdefe supported the Joint Defence Staff in identifying and developing national contributions to NATO and EU plans.

The activities carried out by Isdefe include support to the Division of Force Development (DIVDEF) in the definition and development of operational concepts, in particular those related to joint electromagnetic operations, the role of the armed forces in the grey zone, joint force actions in the cognitive field, and multi-domain operations of the joint force.

Isdefe also provided support in the management of resources associated with infrastructure, as part of the national activity in the NSIP (NATO Security Investment Program) for the development and improvement of operational infrastructures, through pooled funds contributed by NATO member countries.

Ministry of Defence / Air Force (AF) / Headquarters/General Staff of the AF (EMA)

Support in the planning, control and monitoring of the resource needs of the Air Force (AF) at the economic, personnel and infrastructure level, as well as in the planning of their availability and subsequent control of the actual execution. This support is provided in the Military Staff, as well as in the MAPER and the DAE.

Likewise, support is provided to plan the means available to respond to NATO and EU needs and commitments, as well as in the implementation of digital transformation projects of the AF.

Collaboration in the management and implementation of the BACSI project (Intelligent Sustainable Connected Air Base), with support from the managers of the Functional Areas that comprise it, to identify and secure the funding needed to develop sub-projects.

Participation in the planning and monitoring of the pillars that constitute the FCAS programme with the other member countries in the programme, as well as in the prioritisation of procurement programmes of the various weapons systems (RPAS, Falcon programme, etc.) based on the assigned budget, in coordination with the other agencies involved.

Collaboration with the Working Groups to implement the SC2N-EA system and its evolution for integration into the SC2N joint operational responsibility of the EMAD.

European Union / European Defence Agency (EDA)

Support services to the EDA in various activities related to defence planning. These include support in defining the long-term military capabilities needed in the EU as part of the Capability Development Plan (CDP).

The service also includes the identification of existing capabilities in European countries, in support of the priorities derived from the Strategic Context Cases (SCC), as well as the identification of challenges and possible action measures to promote cooperation between countries in the field of defence.

Isdefe collaborates with the Agency in other activities related to defence planning such as: Analysis and integration of the documentation associated with the CDP, analysis of the security strategies and defence policies of Member Countries (DPOL database of the EDA), and Test & Evaluation Gap Analysis.

Isdefe also supports various activities related to defence planning, including: Analysis of the energy demand of systems and facilities for the provision of the "Defence Energy Suite".





■ Command and control networks and systems

We provide engineering and consultancy services, at the strategic, operational and tactical levels, to the Ministry of Defence and the NATO Communications and Information Agency (NCIA), for the development of large information and communications (ICS) and command and control systems, both for the military and for law enforcement agencies.

Ministry of Defence / Secretary of State for Defence / DG of Armament and Matériel (DGAM) / SDG of Programmes

The **European Strategic Command and Control** programme office, which Isdefe supports, has been transferred to the European Defence Agency to procure the system. Isdefe has continued to provide its services through the Technical Committee and the Management Group.

DGAM is participating in the phases of the process to obtain material resources, in support of the following programmes/projects:

- » MC3 Plan (Modernization of deployable CIS Systems of the Army and Marine Corps).
- » Joint Tactical Radio System (SCRT).
- » TETRAPOL Communications Systems.

Isdefe also provided wide-ranging support to platform programmes that rely on communications equipment, and technical support to the FMN (Federated Mission Networks) Procurement Group of the DGAM.

Ministry of Defence / Secretariat of State for Defence / Centre for Systems and ICT (CESTIC)

CESTIC provides corporate information and communications services to the Ministry of Defence, through the I3D (Comprehensive Defence Information Infrastructure). Isdefe participates in the planning, management and monitoring of the necessary projects. And also in technical aspects to define and evaluate NATO architectures and software tools, implementation of ICT infrastructure, management of the operation of systems and services, and information security.

Ministry of Defence / Defence Staff (EMAD) / Operations Command (MOPS)

Isdefe participates in the management of information and knowledge, and collaborates with the General Staff in the Operations Command.

Ministry of Defence/Defence General Staff (EMAD)/Armed Forces Intelligence Centre (CIFAS)

Support services to manage knowledge and information, managing intelligence information systems projects.

In the cartography unit, we worked on the operation, maintenance and evolution of the National Geospatial Warehouse of the Ministry of Defence, and on Spain's participation in various multinational digital mapping joint development programmes.

Work continues on advancing the CIFAS operating environments (SICONDEF and BICES), as well as on providing top-level support and incident resolution to facilitate CIFAS' participation in national and NATO exercises.

Ministry of Defence /Defence General Staff (EMAD) /Joint Cyberspace Command (MCCE)

In the Joint Cyberspace Command, we work on defining needs in information and telecommunications services, and on governing their management, in collaboration with CESTIC. Likewise, we support Spain's participation in NATO and EU forums on Command, Control and Communication (C3) issues.

Services to support frequency management and orbit-spectrum integration. At the Tactical Data Link Management Centre, we participate in issues involving technology and the evolution of NATO standards, and equipping data links. Isdefe also works on managing tactical data link networks for operations and exercises, and on the preparation and execution of joint interoperability exercises.

Ministry of Defence / Army (ET) / Headquarters / JCISAT

Work to define the target architecture of the Army Logistics Base (AO BLET) with the NAF v4 methodology: View of Concepts and View of Architecture Metadata with Modeling through a standard tool, as per CESTIC guidelines and the operational concept of the base.

Participation in system tests using 5G technology in collaboration with other agencies and the Navy.

Assistance to Working Groups involving the interoperability of data for the start-up of the ET GIC centres, in close collaboration with the EME, and providing technical support to define data standards. Participation in the strategy and implementation of the Data Management Centre and the Emerging Technologies Centre.

Support in the configuration and deployment of the SC2NET Command and Control System for integration into SC2N, and in certifying that it meets the requirements of the Federation according to Spiral 2 of the FMN standard.

Support services to define national data interoperability standards, participating in the international forum of the MIP Programme and in the exercise of CWIX demonstrations, enhancing the use of data exchange mechanisms through the Tactical Data Interface (TDI), applicable to vehicle platforms and weapon systems.

Ministry of Defence / Navy / Headquarters/Navy General Staff (EMA) / JCIS

Collaboration with the Navy in the configuration and deployment of the node for the SC2-FN Command and Control System, validating compliance with the Federation requirements according to Spiral 2 of the FMN standard.

Ministry of Defence / Army (ET) /Force Support/Army Logistics Support Command (MALE) / Engineering Office of the ET Logistics Support Command (JIMALE)

We collaborate with the Army Logistics Support Command (MALE) in the processes of modernizing ground tactical systems, including communications networks and command and control systems, such as the GESCOMET v4S system, to adapt it to the 8*8 vehicle (Dragon). Organization of tests and demonstrations of micro and mini RPAS systems, adapting the new proposal to incorporate the use of counter-RPAS already in service in Army units.

Ministry of Defence /Air Force (EA) / Force Support / Air Force Logistics Support Command (MALOG)

Isdefe has developed a process analysis project for MALOG using the Business Process Model methodology, and has presented a document with proposals for organisational improvements.

In the area of air support, Isdefe has assisted in every area of matériel management: initial procurement (IP); maintenance and supply management; matériel cataloguing; transport; requirements calculation; procurement management; electronic data interchange (EDI) for different Air Force fleets and also for their onboard armament; definition and monitoring of the deployment kits necessary for different missions; and it has provided advice to prepare, monitor and control budgets.

Technical support in different programmes: C3 contract for Eurofighter maintenance and in the negotiation of phase 2 of this contract, collaborating with OP-EF2000 to define the material needs for the new Halcon programme; A400M, in the management of engine material and ground support equipment; NH90, in the maintenance area as well as in the initial procurement and management of material as part of a new joint maintenance concept with other Armies; Pilatus PC-21 trainer, Isdefe is participating in the commissioning of the system in relation to the management of material; Euromale, Isdefe is takes part in meetings related to the future management of its maintenance programme.

Isdefe directed and participated in the COFFA (Certificate of Final Financial Acceptance) audit process, as per the NSIP programme procedures for the projects executed by the MALOG in EVAs 9 (Motril), and it prepared the JFAI (Joint Final Acceptance Inspection) to close the ACCS programme replicated in ARS-Torrejón, following Spain's decision to abandon it.

Preparation of the Product Specifications for the Modernisation Programme of the Air Command and Control Centers of GRUNOMAC and GRUALERCON, within the OP in DGAM.

Support services to the Technical Directorate of the Programme Offices for the acquisition of Lanza LRR radars, as well as in the programme to incorporate MODE 5 and S in the SIMCA (Air Command and Control System).

In coordination with the EMA, Isdefe participated in the review of feasibility documents for the Air and Space Surveillance, Command and Control systems, such as the one that will be installed in the COVE (Centre for Operations and Space Surveillance), as well as in 'Counter UAS' (SUCAUL) systems.



■ Platform Procurement and Maintenance Programmes

We provide technical consulting services in the field of planning, economy/finance, technology and maintenance throughout the life cycle of the aerial, land and naval platform programmes, including those piloted remotely, to ensure an effective and comprehensive solution.

Ministry of Defence / Secretariat of State for Defence (SEDEF) / DG of Armament and Matériel (DGAM) / SDG of Programmes

Technical support to the SDG of Programmes in obtaining the ISO 9001:2015 certification from AENOR for the Quality Management System of the Sub-Directorate General, which guarantees a quality service, in terms of the management of large programmes.

Area of Land Programmes

Isdefe continues to support the POs of the Land Systems Office: **Pizarro, Ammunition and VCR 8x8**. In the OP VCR 8x8, Isdefe monitors the tests for the major groups under the Technological Programmes and the 'Demonstrators' base product of the production. Participation in the preparation of production dossiers. In the Ammunition programmes, Isdefe participated in the Working Groups (WG) to draft the Feasibility Documents (FD) of the programs for the Modernisation of Anti-Aircraft and Anti-Missile Defence.

Rotary Wing Aerial Programmes Area

Collaboration with the Programme Offices of the Rotary Wing Systems Command: **Chinook, NH-90 and TIGRE**. For the NH90 Programme, Isdefe accepted some units for the Air Force at the Albacete Air Base (Los Llanos), in addition to monitoring the contract for the remaining configurations and for auxiliary equipment such as simulators, SAME banks and the Full Digital electronic warfare system that will be integrated into the STD3 and MSPT configurations.

In the Tigre Programme, Isdefe has taken part in all the activities stemming from Germany's decision not to continue in the programme and its impact on the management documentation and specifications for the contract to evolve the platform towards the MKIII model.



Fixed Wing Programmes Area

Support to the POs of the Fixed Wing Systems Command: **EF2000, A400M, UAS**, and future Air Programs, including the **MRTT (Multirole Tanker Transport)** and the **FCAS (Future Combat Air System)**.

For the EF2000 PO, Isdefe aided in the development of the FD for the Falcon programme, which will acquire at least 20 additional units that will replace the current F18A. It also took part in the review of the designs of the first common electronic scanning radar designed by HENDSOLT.

In the A400M Programme, Isdefe collaborated in the process of accepting the aircraft planned for this year, which was completed in December. Isdefe organised the Programme Board Meeting, held at its facilities on 16 November and focused on the Future Engine Support Contract.

In the UAS Programs, Isdefe took part in the Working Groups for the start of the Euromale programme, and in preparing and analysing the initial flights of the MQ-9 Predator B System.

In the MRTT (Multi-Role Tanker Transport) programme, Isdefe evaluated the technical documentation of the aircraft sourced from Iberia for the future certification process of the aircraft, and it collaborated in drafting the transfer and acceptance documents acknowledging ownership of the aircraft.

Naval Programmes Area

Isdefe continued providing support to the Programme Offices of the Naval Systems Command: **F-110, S-80 and BAM IS.**

In the F-110 Programme, Isdefe provides monitoring and control of the ship's design phase for the future approval of the CDR (Critical Design Review), in addition to the monitoring the implementation of the Technology Programmes that will allow the development and integration of the systems in the ship, in particular those associated with the radar.

In the BAM-IS Programme, Isdefe is involved in the preparation of the Contract Specification and in the identification. Isdefe participated in the acceptance and closure of the programme to acquire the Logistics Transport Vessel (BTL).



For the S-80 Programme, Isdefe monitored the construction of the first unit of this model, the S-81 (Isaac Peral).

Technical assistance for the creation and development of a new programme specialised in cyber-defence through the definition of the new Cyberspace Combat Platform (SCOMCE).

Ministry of Defence / Secretariat of State for Defence (SEDEF) / DG for Armament and Matériel (DGAM) / SDG for Defence Inspection, Regulation and Industrial Strategy (SDGINREID)

In December 2021, the Isdefe team put into operation the new version of SICAD, adapted to the new information exchange protocol with the NATO Cataloguing System, both in Spain and in the other user countries (Arabia, Belgium, Colombia, Peru and Poland). As a result of the work done, a support request was received from the National Cataloguing Office of Canada due to the problems it was having migrating its system.

Signing of an agreement between DGAM and Isdefe which empowers the latter to sign an agreement with the Ministry of Defence of Peru to maintain the SICAD for the next 3 years.

Work has started on a new version of SICAD's second-step management module so they can all

exclusively use this NATO catalogue management tool, thus advancing in the process of streamlining their logistics tools. This required the development of a new interface between SIDAE (the economic management tool of the Ministry of Defence) and SICAD for the transfer of data from material procurement records.

Isdefe continued to support and participate in the NATO working groups on cataloguing: Strategy and Budget Group, AC/135 Steering Group and Technical Commission.

Quality Engineering Unit

Technical support and advice to certify new companies, as well as to maintain and renew the certification. Technical support and collaboration in teaching the Quality Assurance Manager course.

Weapons and Explosives Unit

Technical support and collaboration in the authorisation of facilities for the manufacture of weapons of war, risk classification of munitions of war, certifications of weapons, cataloguing of explosives, and others derived from the application of the Regulations on Arms and Explosives.

REACH Laboratories and Exemption Unit

Collaboration with the unit to minimise the impact of the application in defence of REACH, CLP, WFD and other European chemical regulations on the procurement of supplies for the Armed Forces (CLP - Regulation on classification, labelling and packaging of substances and mixtures, WFD: Waste Directive).

Industrial Safety Area

In 2021, Isdefe continued to provide support to maintain the processes that guarantee compliance with the Information Security Regulations held by companies (SEGINFOEMP) of the Ministry of Defence, as well as compliance with the Regulations of the National Authority for the Protection of Classified Information (ANPIC) relating to the HPS, HSEM, HSES processes, and in particular those linked to "Industrial Security" (NS06).



Airworthiness Support Division

Technical support to the Military Airworthiness Authority in the performance of its tasks (evaluations, audits, issuance of certificates, recognitions, procedures, etc.).

Ministry of Defence / Secretariat of State for Defence (SEDEF) / DG of Armament and Matériel (DGAM) / SDG of Procurement of Armament and Matériel

Support for the procurement of products and services in the field of **Special Modernisation Programmes (SMPs)**, both national and international, International:

- » EF2000: start of the procedures for the future acquisition of 20 new aircraft as part of the FALCON project, and the negotiations of the next phases of the maintenance contracts.
- » A400M: contractual activities related to the establishment of future Global Support Step 3 (GSS3) and TP400 engine support contracts.

In addition, the spending ceilings have been raised in the EF2000 Programmes, both for their improvement and for the acquisition of the HALCON, FCAS and TIGRE MKIII project in order to undertake new commitments.

National contracts:

- » Contractual signature of the mission equipment for the NH90 Phase II,
- » Rescheduling of the annuities initially approved in the Council of Ministers for the supply of 348 VCR 8x8, in order to adapt the payment milestones to the actual programme timeline.
- » Contract No 1 of the Framework Agreement for the Life-Cycle Analysis (LCA) Start-up Phase for the S-80 submarines, which contemplates the provision of services included in the aforementioned framework agreement and the establishment of the LCA support technical office.

NH90 Joint Maintenance Office

ISDEFE started providing support to the NH90 Joint Maintenance Office, with the aim of enhancing the effectiveness and efficiency derived from joint maintenance management.

Ministry of Defence / Army (ET) / Logistics Support Command (MALE)

In the field of land maintenance, Isdefe participated in the design of the **Army Logistics Base (BLET)**: supporting in the design of the urbanisation and logistics and non-logistics buildings, in the development of the Objective Architecture of Systems in collaboration with JCISAT and CESTIC, the civilian and military personnel staffing was defined, and progress was made in the design of the different technological solutions to be implemented, based on the development of pilot innovation projects.

In addition, work on the transition plan has begun, which will allow transitioning from the current location to that of the future BLET, addressing, among others, aspects related to personnel, knowledge management, material means (equipment, tools, etc.), legal and contracting aspects, etc.

Isdefe also participated in the integration of a commercial transport optimiser in the Army's Logistics Management System and in the implementation of a new transport concept in the MALE that aims to optimise the balance between preparation shipments vs logistics and military vs civilian transports.

Progress has also been made in the application of Artificial Intelligence techniques in warehouse stocking to improve the reliability of the Army's inventory.

As part of the support provided to the MALE, the project to streamline the MALE logistics system was continued with various actions, including the launch within ATLANTE of a new module for managing the needs of the MALE six years out (ENS6) and testing with RPA (Robotic Process Automation) software that will allow automating repetitive tasks involved in logistics applications.

Ministry of Defence / Army (ET) / Army Logistics Support Command (MALE) / Engineering Office of the Army's Logistics Support Command (JIMALE)

Isdefe supports the MALE Engineering Command in consulting activities for the different systems to be acquired or upgraded: anti-aircraft artillery, field artillery, manned and unmanned land and air platforms, jammers, electronic warfare stations, etc. Likewise, Isdefe is continuing to collaborate in innovative projects and to provide technical support in the testing of autonomous systems for the Force35 project in order to obtain prototypes of future weapon systems.

Predictive lifecycle models have been developed using BI and AI (Business Intelligence and Artificial Intelligence) solutions.



In support of JIMALE, Isdefe began providing support for the SILPRE predictive logistics programme, as a continuation of the predictive maintenance projects carried out in previous years. In addition, Isdefe supported the optimisation of the life cycle support of the 8x8 vehicle, as a step prior to the creation of the Support and Life Cycle Office for said vehicle.

Ministry of Defence / Navy / Logistics Support Command (JAL)

Platforms Branch

Support with updating the Navy's doctrine related to Logistics Support and its coordination with Naval Programmes, providing engineering support with the life cycle of the S80 and the F110 frigate systems.

The architectures of the on-board CIS were determined for security accreditation by the National Cryptological Centre (CCN)

Directorate of Engineering and Construction (DIC). Cost Assessment Section

Some of the most prominent support provided in this area included:

- » The economic monitoring of the S-80 and Saudi Corvette Programmes, relying on the earned value methodology.
- » Market studies linked to the future acquisition of the Navy's ocean mapping vessels, as well as the replacement of its units and some of the transport units.
- » Activities to close out financially the ownership regime account of assets transferred from the Navy to Navantia, considering the last actions on the status of the works still pending closure and the work of updating the inventory of assets transferred.
- » Revision/updating of the Agreement signed between the MoD and Navantia, as well as its Supplementary Rules, to extend it in 2022.

Saudi Corvette Programme

Isdefe continued to provide support with the tasks of the Construction Inspection Support Team (ICO) in the La Carraca Arsenal, part of a job signed in 2019, including the sea trials during 2020 for delivery of the first unit in early 2022. With the remaining units, and depending on their progress, the inspections and tests of the different systems that compose them are ongoing.

Other engineering, monitoring and cost work is carried out in collaboration with the Directorate of Engineering and Shipbuilding (JAL). The programme will be completed in early 2024.

Submarine Technical Certification Office

Safety audits have continued for the S80 (under construction) and S70 (undergoing works to extend its operational life) programmes.

The support to this office includes the completion of the design certificate for the S80 series, in accordance with the requirements defined in the Submarine Technical Certification Manual.

Advancing with the Programme, and in view of the sea trials of the S-81P in 2022, Isdefe collaborated to define the criteria and points to be reviewed in preparation for the work to provisionally certify that unit.

Ministry of Defence / Air Force / Logistics Support Command (MALOG)

Collaboration in the monitoring and implementation of the dossiers to procure the support equipment for the EF2000 and A400M fleets. Also in those related to the EF2000 engine for maintenance and management of serviceables.

Ministry of Defence / Air Force (AF) / Headquarters / General Staff of the Air Force (EMA)

Preparation of the logistical support strategy and to transfer technology to the AF in the Pilatus programme, related to the training aircraft.

Collaboration with the different Working Groups (WGs) to exploit information received from MQ-9 (Reaper) and strategy for its secure transmission, as well as participation in the WGs associated with Euromale following the Spanish government's approval to acquire 12 systems.

Safety and Feasibility Studies for aerial operations with RPAS Systems that take place in airspace under the responsibility of the AF.

Ministry of Defence / Defence General Staff (EMAD) / Military Emergencies Unit (EMU)

In support of the J4 Logistics Section, Isdefe continued to support the outsourcing of maintenance and spare parts purchases.

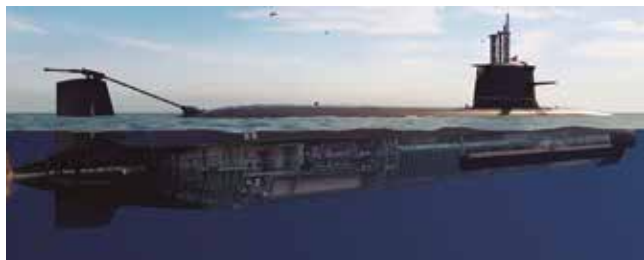
Support services to implement predictive maintenance in light vehicles based on on-board solutions that rely on IoT technology.

Technical support to define the Integrated Logistics Support (ILS) of the new acquisitions as part of the EMU Vital Plan, within the framework of the Annual Operations Plan.

Continued support with the maintenance of the EMU logistics information system (SIGLUME).

Navantia S-80

Collaboration with Navantia in the S-80 Submarine Programme, in the Cartagena shipyard, in various tasks related to the Verification of Operational Requirements, support with the "Safety Programme", preparation of technical documentation and training for the plankowners of the S81.





■ Technology centres

We provide multidisciplinary work teams in defence research, development and experimentation centres, which have the necessary knowledge and experience for scientific-technical and management settings, which is required to carry out activities in the aeronautical and space fields and in technologies related to nuclear, radiological, biological and chemical defence.

Ministry of Defence / Secretariat of State for Defence / National Institute of Aerospace Technology (INTA)

Isdefe continued to provide support to the National Institute of Aerospace Technology (INTA) in the Subdirectorates responsible for research and development projects, although it also engaged in activities in the Centre for Metrology and Calibration, and in the Department of Information and Communication Technologies.

Sub-Directorate General of Aeronautical Systems

Some of the most prominent support provided in this area included:

- » Certification and qualification of: RPAS, combat helicopters and aircraft, transport and in-flight refuelling. Of note is the approval of the MCRI F22 for the certification of systems with multicore processors, and the approval of the CM02 modifications to the Eurofighter and CM08 for the Air Force's F-18.
- » Development, operation and maintenance of Unmanned Aerial Platforms, RPAS Milano ALO (in collaboration with Boeing), and DIANA target aircraft.
- » Support in the flight characterisation activities of missiles and other projectiles at the "El Arenosillo" Experiment Centre (ECOWAS).

- » Support in various national and international projects to research protective aeronautical coatings, such as GENERA, HELADA, EMEP, RAISELIFE, PHOBIC2ICE, SENTINEL 6 and ATHENA.
- » Conduct of degassing tests and spectrometric and systematic analyses of oils, lubricants and fuels for the Air Force and the aeronautical industry.
- » Participation in the trial of the European project HYCARUS to power aircraft using fuel cells.

Sub-Directorate General for Land Systems

- » Participation in the 50th Proficiency Test to maintain the designation as a laboratory certified by the Organisation for the Prohibition of Chemical Weapons (OPCW), and participation in the External Quality Assurance Exercise, organised by the Robert Koch Institute.
- » Support carrying out testing and certification activities of land vehicles (cars, trucks, motorcycles, quadricycles and agricultural vehicles) in the areas of active safety, passive safety and certification of powertrains.
- » Support in the acquisition programme of the 8x8 vehicle (TESS VCR8X8 Dragon) for the Spanish army, support in the determination of the acceptance and rejection criteria chosen.
- » Support services to carry out tests and studies of different jamming systems.
- » Technical assistance for the development of Evalink 16 and 22 software tools for tactical link communications.
- » Support for the operation of the Torregorda Centre for the verification and approval of shells and mortars for the defence industry.



Sub-Directorate General of Naval Systems

- » Support to the Testing Department for the instrumentation of models, and their corresponding trials in the test channels and open waters for the industry.
- » Support to the Cybersecurity Laboratory, which reports to the Cybersecurity and Communications Department of the La Marañosa Technological Institute (ITM), in tasks to analyse the security of the source code and vulnerabilities of applications developed by the DGAM.



■ Supply Chain Logistics and Systems

We provide engineering, consulting and support services to improve the efficiency and oversight of the logistics systems of the Armed Forces, providing solutions for the supply chain and for managing logistics centers, and knowledge and support for processes of the NATO Cataloging System.

Ministry of Defence / Navy / Logistics Support Command (JAL)

Isdefe's support included various actions:

- » Preparation of the Guides that develop the doctrine of Logistic Support for the Navy.
- » Participation as representatives of the Navy in NATO Working Group AC/327 LCMG WG1 (NATO Programme Processes), which is updating the ALP-10 standard.
- » Support monitoring the execution in Arsenal, notably the actions and inspections to repair the "Turia" minesweeper.
- » Technical assistance with the 5th overhaul of the submarine Galerna, which will allow the life of the submarine to be extended past its theoretical design cycle.
- » Collaboration with the Navy and the design authority of the submarine, Naval Group, to achieve the objective of guaranteeing the safety of the submarine after the 5th overhaul of the S-71, which will allow extending the current operating cycle of S-74 by one year over its original design.
- » Advice on the preparation of specifications to meet the maintenance demand for all Navy units. Of note is the support provided to be able to sign the framework agreements for docks and motors, which are essential to maintaining the Navy fleet.

Continued support for the evolution of the Navy's logistics information system. The following milestones are particularly noteworthy:

- » Support in the monitoring and management of the project to migrate the supply module (SIGMA WEB) to the GALIA technological environment, so that it can be merged into a single logistics application (SIL).
- » Support to the Centre to Monitor and Analyse Navy Data (CESADAR) to develop a new Artificial Intelligence algorithm for its ATAVIA (rules-based) and SOPRENE (machine-learning-based) systems, as well as providing training courses.
- » Initiation of the GRIAL innovation programme in collaboration with the Cartagena Arsenal and the University of La Coruña, to apply predictive maintenance (Artificial Intelligence) to determine what spare parts a ship must carry on board during an operation.
- » Development of a prototype called CERT-Chain to Manage the Re-Entry Control Process of Boundary Elements of the S80 submarine through the application of Blockchain technology.
- » Collaboration in the specification and validation of the interfaces of the digital twin of the F110 with the Navy's logistics system.
- » Preparation of different scorecards to support decision-making in the JAL.

A project has been initiated to support the definition and modelling of JAL logistics processes, aimed at providing input information to the ARGO project led by CESTIC.

Ministry of the Interior / National Police

Isdefe has continued to collaborate with the National Police wardrobe service to provide logistics and textile consultancy services.



In the logistics consulting part, a new logistics model has been established, and warehouse processes have been defined, modernised and automated. The functional requirements for implementing a warehouse management system have also been defined.

In the textile part, improvements have been incorporated into new garments, and the technical specifications for current and future garments have been revised and updated.



■ Intelligence and electronic warfare systems

Collaboration with military and law enforcement agencies in engineering and electronic warfare systems, as well as in the conceptualisation and testing of systems to inhibit, disrupt or intercept unauthorised communications, in order to support strategic, operational and tactical commands in the performance of their missions.

Ministry of Defence / Secretariat of State for Defence (SEDEF) / DG of Armament and Matériel (DGAM)

Activities associated with the completion of the different subsystems of the SANTIAGO Programme and the design of the new SANTIAGO Phase II Programme, especially in ACINT to receive data from the S-80, and in innovation projects of COMINT, CESMO, AFPYD and MYC.

Actions were carried out in the plan to transition SANTIAGO from phase I to phase II, to resolve obsolete elements in the COMINT SCATER-ZL and SCAN subsystems, and support was given to contracting the renewal of the SCATER-ZS COMINT Subsystem and the Working Group to update the Transition Plan with new needs.

Ministry of Defence / Defence General Staff (EMAD) / Armed Forces Intelligence Centre (CIFAS)

Isdefe engaged in consulting and technical assistance activities for the SIGINT Section (Signal Intelligence) of CIFAS. Isdefe provided support with the acquisition and exploitation of electromagnetic signals, and with the maintenance and development of means for their acquisition.

Ministry of Defence /Defence General Staff (EMAD) /Joint Cyberspace Command (MCCE)

Consultancy services and technical assistance to the "Telecommunications and Electronic Warfare Office" of the MCCE in the areas of support for the operation and maintenance of joint EW/SIGINT systems.

Ministry of the Interior / Secretary of State for Security / SDG of Information and Communications Systems (SGSICS)

In the civil field, in 2021 Isdefe continued to provide technical assistance services to the Ministry of the Interior in the field of the Legal Interception System of Telecommunications and Data Storage, both to support the oversight of the activities associated with the operation of the service, and to manage the transition of the new functionalities and platforms.

Ministry of the Interior / Technology Security Centre (CETSE)

Support was given to specify the requirements for deploying the global network of SIGLO-CD counter-drone systems, the first phase of which is aimed at protecting certain State institutions by detecting and neutralising threats related to the illegal use of drones.

Isdefe provides technical support services for innovation activities. These services range from providing support with the implementation of national and European innovation initiatives, coordinating the Community of Security Users (CoU Spain), technology foresight work, and monitoring innovation programmes and tenders (H2020, Horizon Europe, Digital Europe Programme, etc.).





■ Security in information systems and critical infrastructures

This section brings together the activities carried out in the field of information security and critical infrastructures, both for the Ministry of Defence and for other Ministries.

Ministry of Defence /Defence General Staff (EMAD) /Joint Cyberspace Command (MCCE)

Engineering and technical assistance for the Joint Cyber Defence Command (MCCD) in the areas of cyber defence to obtain defence, operational and response capabilities in order to conduct military operations in cyberspace. The scope of technical assistance includes the Operations Zone, where Isdefe engineers participate with the military contingent sent by the MCCE to carry out cyber defence activities (audits and CIS security inspections).

One of the strategic lines of collaboration is Isdefe's technical support to the NATO Cooperative Cyber Defence Centre of Excellence (CCDCoE), participating in the organisation of high-impact international cyber exercises such as LockedShields and CrossedSwords, provision of international courses and development of reports and studies on Red Team.

Collaboration in implementing the NATO Federated Mission Network (FMN) concept in the Spanish Armed Forces. Participation in different national and international panels and working groups, and in the design and deployment of the Interoperability Laboratory. Assistance in the planning and execution of different national and NATO exercises, most notably the National Validation, Verification and Confirmation Exercise (V2CN), the Steadfast Cobalt series and Coalition Warrior Interoperability eXploration.

Ministry of Defence / National Intelligence Centre (CNI) / National Cryptological Centre (CCN)

Support to the CCN Certification Body for activities carried out within the scope of the National ICT Security Assessment and Certification Scheme (ENECSTIC):

- » Certification of ICT security products.
- » Accreditation of evaluation laboratories of the Scheme.

Support to the Department of Projects and Technologies of the CCN to prepare the catalogue of STIC products (CPSTIC) qualified for use in the scope of the ENS:

- » Product qualification and development of new ICT families.
- » Internal evaluation tests of ICT security products.
- » Preparation of procedures for the safe use of products and other CCN-STIC guides.
- » Review of LINCE evaluations.

Ministry of Defence / Army (ET) / CIS Headquarters (JCISAT)

Advice to the Subdirectorate of Cyberspace and Electromagnetic Activities (SUBCEMA) in the review of security documentation, preparation of Inspection Reports for national classified systems and preparation of security and technical configuration documentation for stand-alone computers that process NATIONAL and NATO/EU classified information.

Cabinet of the Presidency of the Government / Department of National Security (DSN)

Isdefe provided specialised consultancy services to the Department of National Security (DSN) of the Cabinet of the Presidency of the Government, in anticipation of the future development of the project to digitise the **National Security System (SSN)**.

The provision of these specialised technical services made it possible to assess the current status of the configuration of the Information and Communications Systems in use in the DSN; and to define the Global, Information and Telecommunications Architecture of the SSN for the future development of the process to digitise said system.



Ministry of the Presidency and Relations with the Courts and Democratic Heritage / National Heritage

Isdefe provided specialised consultancy and technical assistance services to the Department of National Security (DSN) of the Cabinet of the Presidency of the Government, in anticipation of the future development of the project to digitise the National Security System (SSN).

The provision of these specialised technical services made it possible to assess the current status of the configuration of the Information and Communications Systems in use in the DSN; and to define the Global, Information and Telecommunications Architecture of the SSN for the future development of the process to digitise said system.

Ministry of Transport, Mobility and Urban Agenda / State Ports

Support to optimise the national port security system: definition of safety regulatory criteria, implementation and dissemination actions, control of compliance with maritime security regulations, and support in the definition of systems that facilitate the control and supervision of port security regulations.

Support services to Port Authorities for the application of the regulations and to remedy any observations made by the European Commission in its inspections.

Support and maintenance activities for the tools needed to facilitate the control and supervision of State Ports.





■ Strategic Infrastructures

We provide support services for managing strategic infrastructures, such as naval bases, police stations and airports, which are essential for the normal functioning of a country. Technical support services in planning, design and project management for this type of special facility, applying the duality of engineering both to the military and the civilian field.

Ministry of Defence (DIGENIN) / Navy / Force Support / Logistics Support Headquarters (JAL)

In 2021, Isdefe continued its activity involving the conceptualisation, feasibility studies, design and support for the execution of infrastructure projects related to Defence and Security.

During this period, Isdefe worked on the Infrastructure Programmes of the S-80 Submarine, as well as on the infrastructures required for the new NH-90 helicopters.

Ministry of the Interior / Secretary of State for Security (SES)

During the year, Isdefe continued to collaborate on improving the infrastructure of the border fences of the autonomous cities of Ceuta and Melilla.



■ Border Surveillance and Control Systems

Isdefe provides strategic and highly technical consultancy services in the field of border surveillance and control, where it integrates detection systems, command, control and communication resources, and systems to stop and identify potential threats in maritime and land border areas.

Ministry of the Interior / Secretariat of State for Security (SES) / SDG of Information and Communications Systems for Security (SGSICS)

Isdefe's activity within the Sub-Directorate General of Information and Communications Systems for Security (SGSICS) was related to the implementation of technological systems for border control.

Technical support with the definition of cases leading to the national implementation of the European EES (Entry-Exit System) and ETIAS (European Travel Information and Authorisation System) systems. Isdefe also continued to support the management of developments in the framework of the Passenger Name Records (PNR) system, as well as the development of the Schengen Information System (SIS).



■ Technological and industrial management

We collaborate in the development of Spain's industrial capacity through the support we provide to define technological-industrial plans and policies, manage industrial cooperation, analyse industrial capacities, implement technological surveillance and competitive intelligence systems and promote platforms for innovation.

Ministry of Defence / Secretariat of State for Defence / DG for Armament and Matériel (DGAM) / SDG for Defence Inspection, Regulation and Industrial Strategy (SDGINREID)

Isdefe supported SDGINREID in:

- » Analysis, definition and monitoring of industrial plans associated with weapons acquisition programmes, both national and cooperative.
- » Industrial analysis of European Defence Fund projects.
- » Analysis of the industrial aspects of the NGWS/FCAS (Next Generation Weapon System/ Future Combat Air System) Programme.

Collaboration in the preparation of the Annual Report on the National Defence Industry, as well as in the preparation of sector industrial reports. In-depth analysis and knowledge of the industrial capacities of the national Defence Industrial and Technological Base (BITD).

Support in the preparation of the new Defence Industrial Strategy, which is currently in the definition phase.

Isdefe also helped SDGINREID to carry out its tasks associated with the different working groups of European bodies related to industrial issues and aspects.

Ministry of Defence / Secretariat of State for Defence / DG of Armament and Matériel (DGAM) / SDG of International Relations (SDGREINT)

Collaboration with SDGREINT in its three main areas of activity:

- » Internationalisation of Spain's defence industry (institutional support, bilateral meetings, reissue of the Catalogue of the Spanish Defence Industry).
- » International cooperation in armaments through multilateral forums (NATO, LoI, EDA, OCCAR, EU), with special support to the EDAP Permanent Secretariat.
- » Control of foreign trade in arms and foreign investment in defence.

Ministry of Defence / Secretariat of State for Defence / DGAM / SDG for Planning, Technology and Innovation (SDGPLATIN)

In 2021, Isdefe continued providing support to the **Defence Technology Observation and Foresight System (SOPT)**. In particular, the Defence Technology and Innovation Strategy (ETID 2021-2027) began to be implemented, supporting from the technological perspective the new defence planning cycle, promoting synergies with the European Defence Fund and the different instruments of the Spanish Strategy for Science, Technology and Innovation for the period 2021-2027.

In relation to international initiatives and programmes related to innovation, in addition to activities related to the **NATO Science and Technology Organization (STO)** and bilateral cooperation initiatives with other countries, those related to European cooperation in defence innovation were particularly relevant, given their increasing importance. The implementation of the European Defence Fund has involved an analysis of its work programmes and evaluation criteria, in order to facilitate the incorporation of national proposals into European funding in the field of research of said European Defence Fund.



European Union / European Defence Agency (EDA)

Provision of services to the European Defence Agency in different fields.

Technological area:

- » The ANDES project, to define a European collaborative framework to promote and apply dual-use technologies. Focused on the identification and definition of instruments to transfer technology between the civil, defence and space technology-industrial sectors.
- » Support in the definition, execution and analysis of the EDA Foresight 2021 exercise to explore and evaluate potential future scenarios from the European and defence point of view. The exercise, carried out over a period of two months, was attended by 150 experts with multidisciplinary profiles and served to contribute to the Agency's technological, industrial and military capacity planning processes.

Industrial scope:

- » Provision of services to analyse Key Strategic Activities (KSAs), defence industrial areas that are particularly relevant to safeguard and develop the strategic autonomy of the European Union. The analysis seeks to determine the existing industrial capacities in European industry, ascertain their dependencies and weaknesses, positioning at the international level, etc.
- » Support with the study and analysis of the implications of the ITAR and EAR export control regulations. In particular, how they affect both the European defence industry and its programmes.



Image: www.eda.europa.eu



■ Crisis and Emergency Management Systems

We offer technical support to national and international organisations in the management of special situations, through consultancy to military and civil protection organisations, for the development of crisis control and management centers, with special relevance to command and control and communications systems, as well as organisational and management aspects.

Ministry of the Interior / Secretariat of State for Security / SDG of Information and Communications Systems for Security (SGSICS)

In 2021, Isdefe's work in the field of the State Emergency Digital Radiocommunication System (SIRDEE) focused on preparing the new service contract, which goes into effect in 2022, as well as on the supervision of the works contained in the current contract, including the search for solutions to evolve the communications network towards LTE technology.

Ministry of Defence / Military Emergencies Unit (UME)

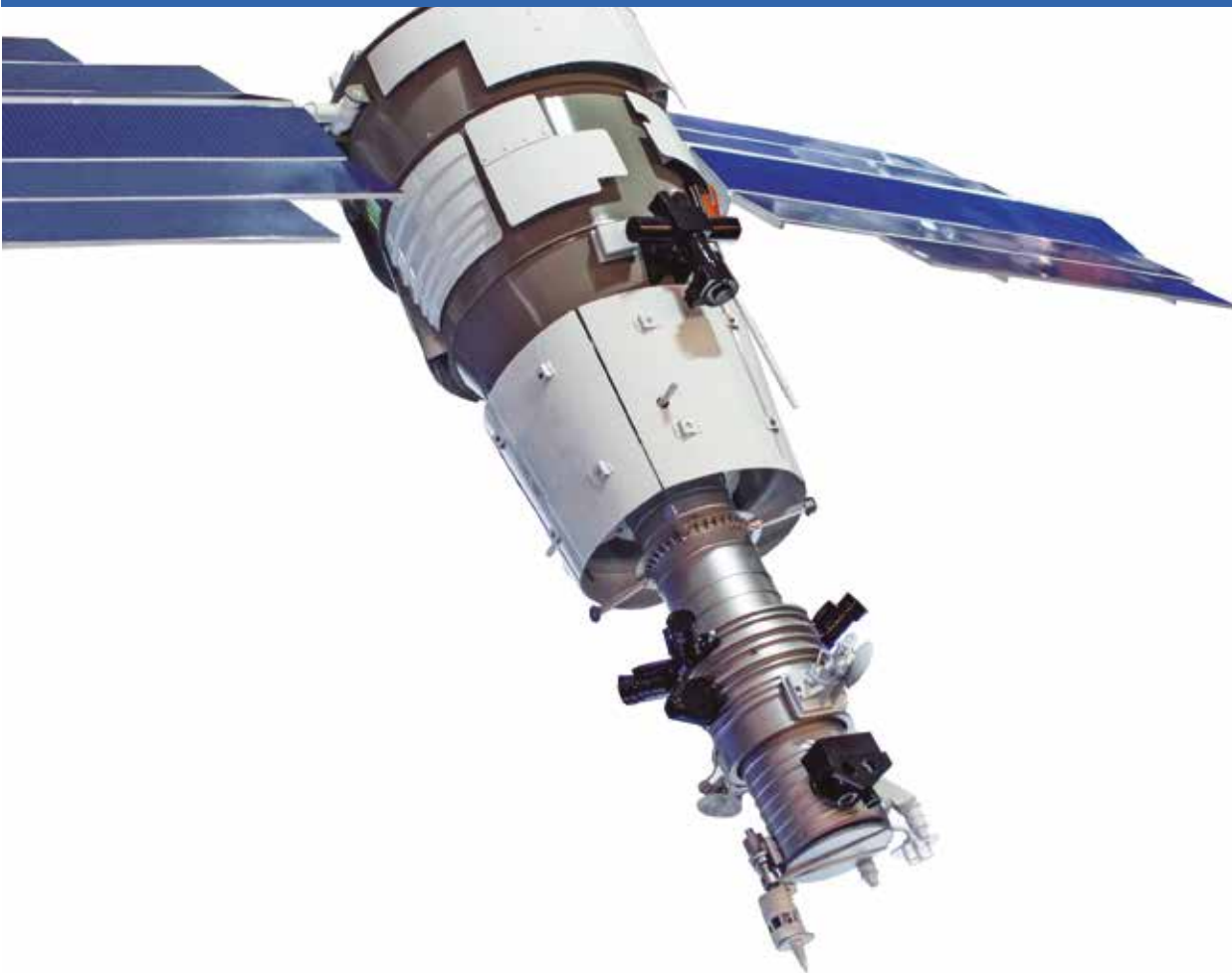
Isdefe continues to assist the Military Emergency Unit with the CIS systems it uses: Fixed and deployable CIS systems, SIMGE (Integrated Emergency Management System), RENEM (National Emergency Network), Collaborative Portal and collaborative tools on Sharepoint. Participation in the definition of the evolution of the UME's CIS systems.

2.2

Space Sector

Isdefe engages in engineering activities and provides specialised technical support in the space sector, in the field of navigation and satellite communications, Earth observation and Space Situational Awareness (SSA) for the Spanish administration, the European Commission and several international space agencies.

It also undertakes management, operation and maintenance tasks involving space communication centres and complexes in Spain for the National Institute of Aerospace Technology (INTA), as well as for the European Space Agency (ESA) and the National Aeronautics and Space Administration (NASA).





■ Space centres and facilities

We provide engineering services and technical support for satellite communications and tracking, and for space exploration missions from space centres in Spain. We also manage the operation and maintenance of space complexes.

**Ministry of Defence / Secretariat of State for Defence (SEDEF) /
National Institute of Aerospace Technology (INTA)**

INTA Space Facility Torrejón

End-to-end support for all the activity carried out at CEIT (INTA Torrejón Space Centre). Multidisciplinary team with specialists in the Ground Segment, Control Centre, Mission Analysis and contribution to the search for new opportunities hand in hand with INTA. Of note is the success of the CHEOPS mission.

Extensive collaboration with ESA and Swedish and Norwegian national agencies to operate INTA's network of stations. Increase in activity due to the high demand for PAZ products.

INTA Space Facility Maspalomas

Operation and Maintenance of the CEC (Canary Islands Space Centre). Close collaboration with CEIT to give INTA full support with its network of earth stations. The CEC has become the 24/7 operations centre for all INTA stations.

Ministry of Defence / Secretariat of State for Defence (SEDEF) / Institute of Aerospace Technology (INTA) / NASA

In 2021, the biggest challenge at the Robledo Centre was successfully maintaining round-the-clock operations 365 days a year, in parallel with the COVID-19 Recovery Plan. The successive waves of increasing numbers of positive cases forced intense and permanent monitoring to adapt work schedules and task planning to the phases described in said Recovery Plan. Likewise, despite the strong impact of FILOMENA, the largest snow and ice storm suffered in the history of the complex, it was possible to keep the service operational with the antennas in the rest of the network while the antennas and equipment in the complex, which were subjected to unusually low temperatures, were restored.

Isdefe continued to provide daily support to NASA missions, and in particular critical support to four L1 missions:

- » The launch of the James Webb Space Telescope.
- » The launch of the DART probe into a dual asteroid system.
- » The launch of the LUCY probe into the Trojan asteroids in Jupiter's orbit.
- » Arrival on Mars of the Mars 2020 probe and subsequent landing of the Perseverance rover with the Ingenuity helicopter.

The maintenance of the facilities and equipment required scheduling of daily corrective and preventive work, including 5 long outages scheduled over a total of 210 days to update and improve the systems in the DSN.

In relation to the DAEP project (DSN Antenna Enhancement Project) to build two new DSS53 and DSS56 antennas, the second of the two, DSS56, went into operation on 21 January 2021. For the first one, DSS53, the construction and integration activities of all the antenna systems were completed, with much of the acceptance, calibration and holographic tests being carried out.



Likewise, the maintenance of all the facilities of the Station required a considerable effort to update all the tasks that had been delayed in 2020 due to the strong COVID-19 restrictions. In addition, the project to update the electricity generation and distribution system of the entire station had a significant impact on the maintenance tasks of the rest of the complex, with numerous outages of the station being scheduled.

The upload of the Station's equipment into the MAXIMO logistics system continued, reaching 63% in the validation of the total equipment.

Ministry of Defence / Secretariat of State for Defence / INTA / European Space Agency (ESA)

Astrophysics and Space Sciences

Isdefe supports INTA's Astrobiology Centre (CAB) and ESA in the XMM mission in ESAC. Possible partnerships with public scientific research organisations are underway.

Isdefe has joined a consortium with Telespazio and SERCO to service ESA in the different work packages of the science contract at ESAC.

Of note is Isdefe's work in the CESAR programme, an education initiative in astrophysics and space sciences developed by ESA, INTA and Isdefe, with a special focus on scientific outreach and in recruiting scientists from an early age.

European Union / European Space Agency (ESA)

Cebreros Space Facility

Technical support in Cebreros, which has become the main station in ESA's deep space network. Multiple station upgrades as a pilot test prior to deployment in the rest of the ESA deep space network. Work is under way to define the terms to renew the contract for another five years starting in 2023.

SMOS project

Technical services specialising in contract continuity. The mission has continued without incident, and large amounts of data have been reprocessed. Isdefe provides security control services for space launch operations at the French Guiana Space Base in KOUROU.



European Union / GALILEO

The activities to monitor, track and improve ILS processes were carried out in compliance with the operational objectives established by the GSA. In addition, Isdefe provided support with the integration, validation and verification tests of the new operational environments of the GSC.

European Union Agency for the Space Programme (EUSPA)

Support to the EU GNSS Security Accreditation Board (SAB) with the accreditation activities of the European Union's satellite navigation systems (EU GNSS Systems):

- » Independent audit of safety documentation.
- » Technical safety tests of the systems.
- » Analysis of open sources.
- » Risk analysis.
- » Development of safety standards.

Support to the GSC (European GNSS Service Centre) in the security activities of the centre related to the following services:

- » Security Officer.
- » CSM (Cybersecurity Manager).
- » Cybersecurity analyst. CIA (Cybersecurity Internal Auditor).





■ Satellite applications

We provide technical support in the field of developing and implementing new satellite navigation and communications applications. We offer technical support to scientific programmes in the field of space, earth observation, and space junk monitoring.

Ministry of Defence / Secretariat of State for Defence (SEDEF) / National Institute of Aerospace Technology (INTA)

Isdefe continues to support INTA in the different GNSS (Global Navigation Satellite System) activities in which it participates.

Services at the three Galileo facilities in Spain:

- » Competent PRS Authority (CPA),
- » GNSS Service Centre (GSC) and
- » Backup Galileo Security Monitoring Centre (GSMC).

The Isdefe provide technical management support to INTA for the development and deployment of the CPA infrastructure to manage the PRS service nationally.

Ministry of Transport, Mobility and the Urban Agenda / Railway Infrastructure Administrator (ADIF)

Isdefe continues to provide the service to manage and control satellite communications, in support of the localisation system of the metric gauge railways of ADIF-RAM (formerly FEVE).

In addition, in May 2021, Isdefe formalised an order with the CNIG (National Geographic Information Centre) to support the technical management, publication and dissemination of the Geographic Information of the **National Observation Plan of the Territory for the period 2021-2024**. This assignment enables the GNSS and Remote Sensing Department to resume activities in the field of Ground Observation and Remote Sensing.

Isdefe continued to support the improvement of the control processes for maintenance contracts within the Internal Audit Directorate, and the definition of a model to identify fraud early, based on a continuous monitoring system that relies on Artificial Intelligence algorithms.

With regard to the implementation of an Asset Management System, the strategic phases are complete (Strategic Plan, Communication and Change Management Plan, identification of critical assets, etc.) and work has begun to define the processes associated with maintenance and life cycle engineering (criticality, RCM; root cause, etc.). In addition, the detailed requirements and the management of corporate assets (EAM) that will soon be acquired, as well as the technologies associated with maintenance 4.0. that it should support, have been defined.

European Commission / European Union Agency for the Space Programme (EUSPA) / DEFIS

Isdefe continues to participate with the GSC (Galileo Official Service Centre) operations staff, which this year has launched a new operational infrastructure. The GSC interfaces with user communities and supports the Open Service, Commercial Service, and Search and Rescue (SAR) Service of the Galileo programme.

Isdefe is part of a consortium led by Roland Berger to undertake a contract to promote the European space sector worldwide (Space Diplomacy), whose client is DEFIS (Defence Industry and Space of the European Commission)

Likewise, Isdefe is part of a consortium to offer consulting services to EUSPA in various space-related aspects; and of another consortium within the framework of GovSatcom to define the future European communications hub, pending resolution after the submission of the proposals.

2.3

Transport Sector

Isdefe provides engineering and consulting services for the competent bodies involved in the regulation, supervision and provision of various transport services, promoting the acquisition of new technological capabilities, improved safety and optimised operating procedures.





■ Traffic management

We provide technical consulting services to manage the implementation and operation of traffic management support systems, providing technical assistance to national authorities in the areas of regulation and supervision, provision of technical services and safety audits.

Ministry of Transport, Mobility and Urban Agenda / Secretariat of State for Transport, Mobility and Urban Agenda / ENAIRE

Isdefe provides specialised air traffic management services to Enaire:

- » Specification and pre-commissioning testing of the new version of the Automated Air Traffic Control System, SACTA-iTEC 4.1.
- » Commissioning of new versions, updates, functionalities and formats of air navigation systems.
- » Implementation of operational safety activities, SW assurance, quality management, documentation and training, associated with the development of systems
- » Performance of activities to ensure compliance with the Single European Sky directive, for the new systems and changes thereto.
- » Support in the management, control and technical and financial monitoring of the projects subsidised by ENAIRE (CINEA, PRyR, SESAR, etc.)
- » Support to the plan to develop the ENAIRE Network Systems Management Centre (SYSRED)

2. OUR AREAS OF ACTIVITY

- » Commissioning and staffing of the iTEC V3 Programme Air Traffic Management for the specification and development of the SACTA 5 system.
- » Participation in the development of the EUROCAE ED-133 standard, "Flight Object Interoperability"
- » Updates and improvements to ENAIRE's Voice and Data Network (REDAN).
- » Commissioning of the Voice over IP Communications System (COMET) as a contingency system at the Madrid Control Centre.
- » Commissioning of version 4.0 of the SACTA system in the control centres and main control towers on the mainland and the Balearic Islands.



Ministry of Transport, Mobility and Urban Agenda / Secretariat of State for Transport, Mobility and Urban Agenda / Civil Aviation Directorate General (DGAC)

Isdefe collaborates with the DGAC to:

- » Define of the policy for the sector, set public prices, access for new operators and other public service obligations.
- » Prepare studies and proposals on policy and strategy in air navigation, coordinate Spain's position on civil aviation with national and international bodies, and monitor and implement the Single European Sky and its inclusion, as well as the European innovation programme SESAR 3, in national regulations.
- » Technical support to the Civil Secretariat of the Interministerial Commission for Defence and Transport, Mobility and the Urban Agenda (CIDETMA).
- » Support in the office of the Universal Safety Oversight Audit Programme (USOAP), whose ultimate goal is to promote global aviation safety through regular audits of safety oversight systems in all member states of the International Civil Aviation Organization (ICAO).

Ministry of Transport, Mobility and the Urban Agenda / Secretariat of State for Transport, Mobility and the Urban Agenda / National Aviation Safety Agency (AESA)

- » Collaboration in the inspection tasks to ensure compliance with operational safety regulations by air navigation service providers, air transport operators and aviation personnel.
- » Consultancy activities aimed at the continuous improvement of aviation safety (analysis of proposals to restructure airspace, reports of flight path diversions, operational safety assessments, revision of future European regulations, supervision of technical documentation, preventive planning, etc.)
- » Submission to the DGAC's USOAP Programme Office of the State responses to the Amendments to the ICAO (International Civil Aviation Organization) annexes, and submission of responses to the European Aviation Safety Agency (EASA) regarding the compliance checklists of ICAO Annex 4 (Aeronautical Charts).





■ Transport hubs

We support the authorities of transport management and control centers, both in the airport and port sectors, in their activities involving the specifications of information systems, verification, validation and certification of applications and equipment, systems to aid in decision-making, and we help them to develop and implement strategies to protect transport systems and facilities.

Ministry of Transport, Mobility and Urban Agenda / Secretariat of State for Transport, Mobility and Urban Agenda / AENA

Isdefe provided technical support for activities associated with the Strategic Plan and the Operational Plan for Information Systems.

Collaboration through support services for air navigation projects:

- » Approval tests for all the equipment of the new Biometrics Framework Agreement.
- » Specification and testing of Collaborative Decision Making (CDM) procedures in the Airport Environment Cooperative System (SCENA), as well as its integration with Enaire's Automated Air Traffic Control System (SACTA).
- » Support in the definition of the necessary functional requirements that will allow Aena to operate certain airports in its network such as AOP-NOP (Airport Operations Plan-Network Operations Plan) airports, and coordination with several airports and Eurocontrol to certify them as an advanced tower.

- » Assistance in preparing the technical documentation to procure systems and services (platform for Big Data, Governance and Operation of Cybersecurity, 24/7 Systems Management and ICT field equipment, etc.).
- » Support in managing the framework agreements that provide the basis for the acquisition and installation of ICT infrastructure equipment, Data Processing Centre and airport security equipment, for the entire airport network.
- » Support to the Information Systems Plan for the Northeast Airport Group of Brazil, including the functional analysis of the operational systems to adapt them to the specific conditions of the airports in the group.

Isdefe provided technical support with mechanisms to track technological trends and innovation initiatives in the airport sector, in order to improve the efficiency of facilities, the quality of services provided, and optimise revenue. Of note are:

- » The pilot boarding projects using facial recognition at the Josep Tarradellas Barcelona-El Prat Airport, drones at Ceuta Airport to track wildlife in the area, and the remote control of jet bridges at the Seville Airport.
- » Conceptualisation, design and launch of acceleration processes by Aena Ventures, the programme that will promote initiatives that develop disruptive technologies in an innovative, sustainable and efficient manner to provide solutions to the current and future challenges facing the air transport sector.

Isdefe participated in the analysis to improve the strategy for the operation and maintenance contract of the Automated Baggage Transport System (SATE) at the Adolfo Suarez Madrid Barajas Airport.



Ministry of Transport, Mobility and Urban Agenda / Secretariat of State for Transport, Mobility and the Urban Agenda / Civil Aviation Directorate General (DGAC) and National Aviation Safety Agency (AESA)

Collaboration in the implementation of the **National Civil Aviation Security Programme (PNS)** in every airport in the national network, by:

- » Carrying out audits, inspections, tests and simulations at the different airports to ensure compliance by airport service providers with the physical security programme.
- » Development of the National Civil Aviation Training Plan (PNF).

Participation in updating the National Civil Aviation Security Plan and in organising the meetings of the National Security Committee.

Collaboration in inspection tasks to ensure compliance with the operational safety regulations by airport managers and aviation personnel:

- » Operational safety inspection of public-use airports.
- » Ongoing oversight of airport certification.
- » Preparation of the Post-COVID Airport Operational Safety Inspections Protocol.
- » Inspections of Ground Handling Agents.

Consultancy aimed at continuously improvement the security of airport environments:

- » Check of aviation easements and control of obstacles to air navigation in areas surrounding airport environments.
- » Study of authorisations for changes to the facility, operating procedures and/or organisation of airports.

Analysis of requests from companies or individuals who need authorisation to carry out activities (pyrotechnics, drone flight, captive balloons, etc.) within airport airspace.





■ Advanced concepts

We took part in the development of new concepts and technologies in the area of transport operations, supporting the development and introduction of regulations, promoting multimodal operations, the implementation of transport operations based on satellite navigation (GNSS), and providing technical support for the integration of unmanned aerial systems (RPAS) in unsegregated airspace.

European Union / Single European Sky Joint Undertaking (SESAR-JU)

Coordination of the "U-Space Separation in Europe" (USEPE) project funded by SESAR, whose objective is to propose and validate solutions for the safe separation of drones in urban environments. The Consortium consists of seven partners from four countries, and the project seeks to provide separation using Machine Learning techniques while taking into account the special climatic conditions present in cities (mainly turbulent wind shear).

Collaboration within the framework of the "IFR RPAS Control in Airports and TMA" (INVIRCAT) project, funded by SESAR, whose objective is to provide means for the safe and efficient integration of RPAS (remotely piloted aircraft systems) into existing air traffic control (ATC) procedures and facilities within terminal manoeuvring areas (TMA) under instrument flight rules (IFR).

Participation as a Linked Third Party of ENAIRE in the SESAR 2020 PJ13 ERICA project, "Enable RPAS Insertion in Controlled Airspace", to analyse the capabilities of the system, both of the RPAS, as well as of the ATM service and the currently established procedures, so that the RPAS can operate safely, in nominal and emergency situations, in controlled airspace (classes A-C). Also for the development and validation of solutions that do not have a negative impact on manned air traffic.

European Union Agency for the Space Programme (GSA)

In 2021, in line with the new EU Space Regulation and the increasing role of space in supporting EU priorities in terms of growth, competitiveness, sustainability and security, the EU decided to extend the scope of the former European GNSS Agency (GSA) to include new responsibilities. As a result, the European Union Agency for the Space Programme (EUSPA) was created on 12 May.

Isdefe has been supporting the GSA, now EUSPA, in the development of applications and the operational implementation of European navigation services (EGNOS, Galileo) and ground observation services (Copernicus) in civil aviation and drones. With regard to Galileo's Search and Rescue (SAR) service, it contributed to the development of the operational concept and standards for the remote activation capacity of emergency radio beacons (EUROCAE ED-277 MASPS for Aircraft ELT Remote Command via RLS).

In the field of drones, Isdefe participated in the development of guidance material for the use of GNSS in operations of the specific category (EUROCAE ED-301 Guidelines for the use of Multi-GNSS Solutions for UAS-Specific Category – Low Risk), as well as in the coordination and analysis of deliverables on in-flight tests of drones carried out in projects such as GAUSS and REALITY.

Various activities were conducted for EUSPA (formerly GSA) in support of the Galileo and EGNOS programmes, and strategic consulting was provided in the following areas of activity:

- » Environmental aspects supported by GNSS and Copernicus.
- » GNSS and Copernicus in aviation.
- » GNSS for drones.
- » GNSS in Search and Rescue (SAR).



2.4

Public Administrations Sector

Isdefe provides technical support and specialised consultancy services to the agencies of the General State Administration aimed at improving their capacity, efficiency and sustainability, and supports their digital transformation and technological modernisation processes in order to respond to society's demands.

In the field of economic management of the public service, Isdefe provides support in the management of public funds, technical support for the definition and implementation of contracting strategies, price estimation and analysis, and the development of analytical cost accounting models.





■ Consultancy for Improvement of the Administration

Isdefe provides engineering and consulting services to improve and modernise public administrations in areas such as strategic consulting, process reengineering and change management. This section presents the activities carried out in this area, both for the Ministry of the Interior and for all other ministries.

Ministry of the Interior / Directorate General of Traffic (DGT)

Isdefe provides support in various strategic areas of the DGT, including the development of regulatory projects, the preparation of the new national road safety strategy, a study of the transformation of mobility, and the improvement of the management of the Body itself (budgets, analytical accounting, contracting).

Performance of technical support and advice activities to analyse and conform to the regulations on data protection.

Ministry of Finance / DG to Streamline and Centralise Contracting (DGRCC)

In 2021, Isdefe resumed providing services to the DGRCC, offering technical support in the contracting activities related to the following Framework Agreements (AM) related to Information and Communications Technologies: AM10 (Communications Systems, Equipment and Software), AM13 (Supply of servers, storage systems and infrastructure software), and AM08 (Security elements and system).

Ministry of Finance / DG of Public Governance (DGGP)

Isdefe participates in the design and implementation of a public innovation laboratory to design public plans and policies in which Public Administrations can collaborate with the most relevant social actors.

Ministry of Labour and Social Economy / State Public Employment Service (SEPE)

As part of the technological projects and services, within the 2030 Agenda, the implementation of the Portfolio of Services of Public Employment Services and the Recovery, Transformation and Resilience Plan (Strategic Plans 2019-2020 and 2021-2022), aimed at the technological modernisation of information systems to improve the electronic services provided by SEPE to citizens and other public bodies, Isdefe provides Engineering and Consulting services:

- » **Office of Programmes and Services**, support in the planning, management, control and monitoring of all of SEPE's ICT programmes, services and projects.
- » **Office of Safety and Quality**, which provides consultancy support in the field of Safety and Process Engineering, as well as quality assurance of information systems that serve citizens and management units (planning, design, execution of information systems tests, etc.) of the SEPE that are gradually being incorporated.

Through the collaboration of both offices, support is provided to ensure compliance with the interoperability and information exchange needs between the SEPE systems and those of other public administrations and external bodies, by coordinating actions in the field of the Public Employment Services Information System (SISPE).



2. OUR AREAS OF ACTIVITY

Ministry of Transport, Mobility and the Urban Agenda / Railway Infrastructure Administrator (ADIF)

Technical assistance, support and guidance on regulatory compliance with the National Security Scheme and operation of a security office.

Support and consultancy to the Security Operations Department of the Information Security Branch of ADIF, for the direction, control and supervision of the quality and performance of the service provided by the Security Operations and Incident Response Centre (SOC/CERT) of ADIF, and technical assistance in the deployment of new capacities.

Ministry of the Ecological Transition and Demographic Challenge / Undersecretariat for the Ecological Transition and Demographic Challenge / DG of Services

Technical assistance, support and guidance on the adaptation of regulations to the National Security Scheme and the operation of a security office.

Isdefe aided with the general technological improvement of its ICT infrastructures and services through strategic consultancy and the preparation of records, as well as by monitoring the implementation of IT and communications projects.

Technical assistance in monitoring the implementation of the National Recovery, Transformation and Resilience Plan.



Ministry of Inclusion, Social Security and Migration / Secretariat of State for Social Security and Pensions / Social Security Computing Office (GISS)

Isdefe provides consultancy services and technical support to the GISS in the preparation of the specifications for its computer equipment and systems, as well as in the contracting process, for all those ICT projects associated with European recovery funds. Additionally, Isdefe provides support in the management of its own ICT Strategic Plan for Social Security.



State Agencies / National Aviation Safety Agency (AESA) / Spanish Agency for Medicines and Medical Devices (AEMPS)

Consultancy and technical assistance services, for more than 10 years, aimed at defining and establishing the requirements of the goals-based management model, the implementation of the complete planning cycle, and the optimisation of management through the reengineering and automation of processes and procedures, for different public agencies of the Spanish Administration.

Isdefe helped AESA to:

- » Preparation and implementation of the 2021-2023 Multiannual Strategic Plan.
- » Design and implementation of monitoring indicators.
- » Review and update of its processes and procedures.

Isdefe has provided technical support to the AEMPS by:

- » Preparing the Agency's strategic plan and its deployment through annual plans.
- » Preparing specific Transformation Plans and reengineering its most critical processes, by tracking and monitoring all the plans and programmes through a Comprehensive Scorecard.
- » Designing and adapting the AEMPS to the Common Assessment Framework as a total quality management tool, developed by and for the public sector and inspired by the European Foundation for Quality Management (EFQM) Model of Excellence.
- » Improving the life cycle of information systems and technologies as part of the Agency's digital transformation.



■ Technological Modernisation and Digital Transformation

Isdefe provides support to public administrations with their digital transformation, offering solutions that help to improve and enhance their services and their technological modernisation.

This area of activity includes the activities provided in this field to both the Ministry of Defence and all other Ministries.

Ministry of Defence / Secretariat of State for Defence (SEDEF) / Directorate General of Armament and Matériel (DGAM) / Governing Body (ODIR)

Assistance with the definition and optimisation of management processes of the Directorate General of Armament and Matériel (DGAM), with a view to digitising them.

Ministry of Defence / Undersecretariat of Defence / General Technical Secretariat

Assistance with the definition and optimisation of management processes of the Undersecretariat of Defence (DGAM), with a view to digitising them.

Ministry of Defence / Air Force (AF) / Headquarters / General Staff of the AF (EMA)

Assistance with the definition and optimisation of AF management processes with a view to digitising them.

Ministry of Defence / Army (ET) / Headquarters / General Staff of the Army (EME)

Collaboration in the project to leads the digital transformation of the Army:

- » Assistance with organising the 1st Digital Transformation Workshop of the Army, which took place in the War College.
- » Development of the Army's high-level process map. Including the first catalogue of processes, which had more than 300.
- » Support with modelling the processes and sub-processes of different Divisions of the EME, 1st Level Controls and units: DIVPLA, CGTAD, MAPER, JCISAT, MALE.
- » Modelling of processes to be implemented in the ARGO platform, defining criteria to be used in CESTIC and proposing a total of 16.

Isdefe also provided support to define the governance processes for Army data, with products such as the Army Data Roadmap and the Army Data Maturity Test.

Ministry of the Interior / Directorate General of the Police (DGP)

In 2021, Isdefe's began to provide support to the IT department of the Directorate General of the Police (DGP) in the field of projects related to Digital Identity and the evolution of DNI 4.0.

These tasks included the specification of a new system for issuing electronic documentation, as well as support to define the Public Key Infrastructure (PKI) of the DGP.

Ministry of Transport, Mobility and the Urban Agenda / National Aviation Safety Agency (AESA)

Technical support services in the planning and supervision cycle of the Information Systems and Technologies function, through the design, execution and monitoring of the Agency's **Multi-Year ICT Action Plan** for Digital Transformation 2021-2023.

The plan focuses on strategic areas related to improving the digital relationship with citizens, strengthening the digital skills of EASA's public employees to increase productivity, boosting the digitisation and provision of ICT services to increase the effectiveness and efficiency of administrative action, the smart management of knowledge, information and data, and the strengthening and consolidation of EASA's technological infrastructures in a secure manner.

In 2021, Isdefe supported the Agency in the implementation of its new e-Office, the new corporate website and the citizen folder, as well as in the consolidation of the online filing of unregulated procedures, keys to the effective implementation of a paperless digital administration.

Participation in the implementation of European Regulation 2019/947 on the use of drones (UAS), through electronic means.

Support in the operation of the Data Processing Centre of the new headquarters at Castellana 112, as well as the deployment of the technical and security conditions necessary for teleworking and the 365 governance model. Finally, Isdefe contributed with its support to the implementation of business intelligence throughout the organisation through the creation of scorecards for strategic monitoring by management.



Ministry of Foreign Affairs, European Union and Cooperation / Sub-Directorate General of IT, Communications and Networks (SUGICYR)

Provision of consultancy services to the Sub-Directorate General of IT, Communications and Networks (SUGICYR) in the digital transformation of the Ministry of Foreign Affairs, European Union and Cooperation, in particular in the activities to define, execute, manage and control the Consular Digitisation Plan (PDC). Isdefe also provided assistance in carrying out activities in support of engineering in the specification, management and monitoring of ICT projects.

Ministry of Foreign Affairs, European Union and Cooperation / Sub-Directorate General for Immigration Affairs (SUGAE)

Isdefe provides a specialised technical consultancy service to the Sub-Directorate General for Immigration Affairs (SUGAE), specifically in consultancy activities to support the coordination, control and monitoring of consular offices in terms of compliance with Schengen regulations, as well as the monitoring of anti-fraud control measures.

Ministry of Foreign Affairs, European Union and Cooperation / Under-Secretariat of Foreign Affairs, European Union and Cooperation / Budget Office

Technical support to the Budget Office, organically under the Under-Secretariat of Foreign Affairs, European Union and Cooperation of the Ministry, in carrying out technical support activities in the control functions of projects financed by the new financial support instrument for border management and visas, as part of the Fund for Integrated Border Management 2021-2027.

Ministry of Justice / Secretariat of State for Justice / Directorate General for the Digital Transformation of the Administration of Justice

Technical support in the programme to modernise the administration of justice in various fields:

Planning, design, execution and automation of tests of judicial information systems, as per ISO 29119 (Software and Systems Engineering – Software Testing).

- » Lifecycle management and configuration of these applications.
- » Technological modernisation projects of the MINERVA Process Management System and the LexNET Electronic Communications System.
- » Evolutionary maintenance of the Scorecards for monitoring the Administration of Justice.
- » Participation of the Ministry of Justice in European Union projects for the interconnection and interoperability of the Administrations of Justice such as: eCODEX, EXEC and the e-EDES Portal.

These services are included in the actions to develop and implement the digital services that are being undertaken by the Secretariat of State for Justice and that aim to achieve an effective, efficient, innovative administration focused on citizens and professionals.

In addition, Isdefe supported the Ministry of Justice in its activities as the General Secretariat of the State Technical Committee for the Electronic Administration of Judicial (CTEAJE).



Ministry of Justice / SDG of Planning and Digital Transformation

Isdefe participates in the digital evolution of Justice, helping to define and monitor the Country Technology Projects of the 2030 Justice Agenda, in collaboration with the Secretariat of the State Technical Committee of the Electronic Administration of Justice (CTEAJE). Engineering and management support for the ongoing projects to modernise the technology of Minerva and LexNET. Through scorecards, we facilitate the monitoring of the Administration of Justice. We have also supported the Ministry's participation in various European Union projects for the interconnection and interoperability of justice administrations.

Ministry of Justice / SDG of Innovation and Quality of the Judicial and Fiscal Office

We collaborate with the Ministry in the deployment of the Judicial Offices and the Fiscal Offices, as per the new shared services model. We also support the definition of the objectives and plans of the Justice 2030 programme, to establish the strategies and area of action to modernise the Administration of Justice, and their application to the Next Generation EU Funds, of the Recovery, Transformation and Resilience Plan.



Ministry of Justice / Under-Secretariat of State for Justice / DG of Legal Security and Certification (DGSJFP)

Isdefe provided guidance to the Directorate General for Legal Security and Certification in matters of system security, interoperability, efficiency and engineering, especially in everything related to the implementation and deployment of the New Civil Registry Model.

Advice on the application of and compliance with the European Data Protection Regulation and on the adaptation to the National Security Scheme (ENS) in all services under the purview of the Directorate General, such as the Office of Asset Recovery and Management (ORGA).

Ministry of Economic Affairs and Digital Transformation / Institute of Accounting and Auditing ICAC

Isdefe provided technical support to the Institute of Accounting and Auditing (ICAC), an autonomous body under the Ministry of Economic Affairs and Digital Transformation, in activities intended at the comprehensive technological modernisation of current software and hardware infrastructures.

Several high-impact information system projects were undertaken, both in the organisation of the ICAC itself and in the services provided to citizens.

Ministry of Economic Affairs and Digital Transformation / Secretariat of State for Digitisation and Artificial Intelligence / General Secretariat of Digital Administration (SGAD)

Performance of technical activities in support of the SGAD in the field of digital administration, collaborating in the progress and monitoring of actions in the areas of security, interoperability, planning and reporting of results, both nationally and internationally.

Advice to the SGAD to adapt it to the National Security Scheme (ENS), both in the evolution of the National Interoperability Scheme, and in the definition and implementation of the next cybersecurity operations centre.

Ministry of Health / DG of Public Health, Quality and Innovation

Isdefe provides its experience and capacity to update the Health Information System, including the continuous progress and improvement of interoperability between the Ministry and the Autonomous Communities.

Participation in the standardisation of the medical nomenclature of the National Health System, for the purpose of statistical consolidation and to improve the interoperability of clinical information at European level.

Ministry of Inclusion, Social Security and Migration / Sub-Directorate General of Technology and Communications (SGTIC)

In 2021, Isdefe provided support services to the SGTIC to help it create a Digital Office of ICT Infrastructures, providing support in the:

- » Design, planning and implementation of the Ministry's new ICT infrastructure framework.
- » Operation, maintenance and operation of these infrastructures, and in the process of migrating the systems of the previous Ministry of Labour and in the development of new processes and working methods.

Prado National Museum

Isdefe provides services to the Museo Nacional del Prado (MNP) through technical support activities aimed at improving the management and digital transformation of the Museum within the framework of the Recovery, Transformation and Resilience Plan.

In particular, Isdefe supported the MNP in:

- » The creation of the Programme Office for the general coordination and management of the Museum's Digital Transformation, providing support, for example, in the planning, organisation and coordination of the implementation of the "Prado Digital Training Campus" Programme, and in the control and monitoring of the projects assigned by the Museum's Digital Development Department.
- » The modernisation of the management and development of the Museum's electronic administration.





■ Assistance with the Financial Management of the Civil Service

Isdefe provides support to the General State Administration with the management, evaluation, monitoring and continuous audit of publicly-funded programmes, both national and European. It also carries out activities related to analytical accounting through the calculation of rates and their structure, and it provides consulting services to design strategies, policies and analyses of technical-economic information for regulatory bodies and supervisors of services in regulated markets.

This section groups the activities carried out within this area, both for the Ministry of Defence and for all other ministries.

Ministry of Defence / Secretariat of State for Defence (SEDEF) / Directorate General of Economic Affairs (DIGENECO)

Isdefe provided technical support services to various departments and areas of activity of the Ministry of Defence.

Sub-Directorate General of Contracting

- » Implementation of the Model of Excellence in Public Sector Procurement Management, and evaluation of agencies within the Ministry of Defence.
- » Development of measures to help improve purchases and achieve the recognition of excellence in the management of public purchases.

- » Design of a risk management methodology for contracts.
- » Development of a socially responsible procurement policy and development of a guide to include social criteria in Ministry of Defence contracts.
- » Support in the design of the Strategic Concept of the procurement function of the Ministry of Defence (procurement policy and objectives).
- » Support with the presentation of the project to develop and implement the Model of Excellence for the 15th Awards for Innovation in Public Management.
- » Preparation of the Ministry of Defence's Annual Procurement Report.
- » Preparation of the Annual Procurement Plan of the Ministry of Defence (PACDEF) for the year 2022, and evaluation of the PACDEF from the previous year (2020).
- » Development and monitoring of purchasing strategies for the centralised categories of the Ministry of Defence.
- » Support in the development and processing of procurement regulations.

Cost Assessment Group (CGE)

Support throughout the procurement process, from estimating the full life-cycle cost and determining budget ceilings, to the cost analysis that allows setting the price in systems whose price is not regulated by the market. This allows analysing the viability of a programme and provides valuable decision-making information to planning authorities.

Procurement Board

Technical and legal assistance for processing and executing the files of the Ministry of Defence's Procurement Board .

Sub-Directorate General of Accounting

Technical support with the maintenance and evolution of the Analytical Accounting model of the Ministry of Defence's six budget services (SUBDEF, EMAD, SEDEF, ET, AR and EA)

Budget Office (OPRE)

Support with the financial management of the Special Modernisation Programmes financed under Chapter 6 (Real Investments), from the approval of the cost by Agreement of the Council of Ministers, to its allocation to National Accounting based on the rate of receipts of the weapons systems and their financial closure.

Isdefe carries out financial and budgetary control tasks by analysing economic and contractual information. In addition, support is provided for managing Chapter 2 (Current expenditure) in the needs analysis of the various budgetary services.

Based on the prioritised list of needs (LIP) and the Operational Programming, Isdefe assists in making the corresponding data entries in SIDAE (SIAPREMF, PROSE, GESOPRE)

Sub-Directorate General of Economic Management (SUBGECO)

Assistance in planning, managing, executing, monitoring and controlling projects that are financed with funds from the Recovery, Transformation and Resilience Plan (PRTR), developing procedures that allow the Ministry of Defence to comply with the PRTR regulations and verify compliance.

Technical support to the Sub-Directorate in processing the requests and checks needed to receive other European Union funds in the Ministry of Defence.

Ministry of Defence / Secretariat of State for Defence (SEDEF) / Directorate General of Infrastructure (DIGENIN)

Sub-Directorate General of Planning and the Environment

Technical support services for the central procurement of energy supplies (electricity, fuels and natural gas), as well as support for their management, monitoring and control.

Ministry of Defence / Institute for Defence Housing, Infrastructure and Matériel (INVIED)

Sub-Directorate General of Management, Asset Management Dept./ Sub-Directorate General of Projects and Works.

Support services in the following areas:

- » Financial management. Implementation of the CANOE analytical accounting model and support with public procurement processes.
- » Management of eviction cases.

Isdefe provided support with the preparation of specific standard administrative clauses for works contracts.

Ministry of the Interior / Directorate General of the Civil Guard / Office of Technical Services of the Support Command / Technological Innovation and Information Security Service

Technical assistance services to manage and support the development of technological procedures and activities of different innovation projects promoted both through Innovative Public Procurement (CPI) and through different national and European innovation programmes, in particular the European Framework Programmes for Research and Innovation.



Ministry of Foreign Affairs, European Union and Cooperation / DG of Sustainable Development Policies (DGPOLDES)

Technical consultancy in statistical analysis and evaluation, using Big Data techniques, both to keep track of tallies and to evaluate activities of the Official Development Assistance (ODA), in order to prepare the technical information to be presented at meetings of multilateral development organisations and initiatives, mainly the Development Assistance Committee of the OECD and the United Nations.

Support in the validation and functional verification of the implementation of the Info@OD system (main tool of the Spanish Agency for International Development Cooperation to check Official Development Assistance data).

Ministry of Economic Affairs and Digital Transformation / Secretariat of State for Energy and Business Support

Isdefe collaborates with the Ministry as a Technical Engineering Unit in the Debt-to-Investment Conversion Programmes in different countries. This mechanism to recover part of the foreign debt serves to promote the participation of Spanish companies in projects to export technology and capital goods.

In 2021, Isdefe worked on debt cancellation programmes in Jordan, Mauritania, Senegal, Ivory Coast, Honduras and Bolivia.

Ministry of Industry, Trade and Tourism (MINCOTUR) / Secretariat of State for Commerce

In 2021, Isdefe provided technical support to:

- » Close out the project to supervise the construction of a 120 MW wind farm in Egypt.
- » Implement the project to improve security and lighting facilities at certain archaeological sites in Egypt.
- » Support to the Fondos de Internacionalización de la Empresa (FIEM), evaluating projects and conducting ex post investments verifications.



Ministry of Finance / DG of European Funds (DGFE)

Isdefe supports the DGFE, as the national managing authority for ERDF funds, both in the multi-regional programme and in the regional programmes, and in particular in:

- » The selection, documentation and processing of COVID-19 operations, eGovernment and technical assistance whose management falls under the Management Authority or the Sub-Directorate General for Urban Development. The corresponding management verification.
- » Support for the operation of the computer applications of the Management Authority.

In 2021, Isdefe provided support to prepare an administrative training roadmap for 2021-2027, as well as support for the EU Solidarity Fund (EUSF), due to the floods caused by the cold air pool weather phenomenon (isolated depression at high levels) in the regions of Valencia, Murcia, Castilla-La Mancha and Andalusia. All this has allowed the DGFE to achieve its compliance objectives in the period, and resulted in a very significant return on the ERDF funds to Spain to recover the health expenses caused by the pandemic.

Ministry of Territorial Policy and Civil Servants / DG of Autonomous and Local Cooperation

Technical support to manage various operational programmes funded by the ERDF and EUSF in the field of territorial policy.

Technical support to oversee projects co-financed through these programmes.

Support in managing grants for the digital transformation and modernisation of local administrations (C11.I3, Recovery, Transformation and Resilience Plan).

Ministry of Universities / Spanish Service for the Internationalisation of Education (SEPIE)

Support to SEPIE in the management of the Erasmus+ programme and the procedures associated with the grants provided through this programme.



Ministry of Science, Innovation and Universities / Secretariat of State for Universities and Innovation / DG of Innovation / SDG to Promote Innovation

Sub-Directorate General to Promote Innovation, Secretariat of State for Innovation

Isdefe continued to support the system of reasoned reports for tax deductions for business investment in innovation.

The continuous optimisation of processes and the support in the evaluation is helping to improve how the nation's industry benefits from this fiscal instrument, thus obtaining legal certainty in the application of deductions and bonuses for Research, Development and/or Technological Innovation (innovation).

In 2021, Isdefe began collaborating with the State Research Agency to assess tenders for innovation projects, Collaboration Challenges, between companies and research organisations.

State Agencies / AESA / AEMPS / AEMET

For more than 10 years, Isdefe has been providing consultancy and technical assistance services aimed at complying with the regulatory requirements laid out in the field of economic information - budgetary, analytical and management - making proposals to improve and develop systems that make it possible to analyse and supply economic management information on the activity of Public Bodies that allows for proper and efficient decision-making.

Isdefe has supported:

- » The **National Aviation Safety Agency, AESA**: support with the operation and continuous evolution of the Accounting Information System, providing economic information that yields an accurate image of the assets, the financial status, the results and the execution of the budget; as well as the operation and continuous evolution of the management and income control systems.
- » The **Spanish Agency of Medicines and Health Products, AEMPS**: support with the integration and consolidation of accounting and management systems, as well as the revenue management system, proposing new financing plans for the Agency by designing and establishing fee structures.
- » The **State Meteorological Agency, AEMET**: Isdefe provided support in calculating the actual costs of AEMET by providing economic information to the European Commission and the National Supervisory Authority in its role as reviewer of the Agency's performance plan.

National Markets and Competition Commission (CNMC)

Isdefe supports the operation and improvement of the Regulatory Information Cost Model (IRC Model), developed in previous years, to oversee regulated activities involving electricity and natural gas transport, and advise on how to calculate the remuneration of said transport activities.

Consultancy services to design strategies, policies or plans, and analyse technical-economic information from the transport, postal and telecommunications sectors.

The specialised analysis that Isdefe carries out in these areas facilitates decision-making at the CNMC, by making it possible to assess potential price regulation scenarios for the supervised sectors, in terms of compliance with regulatory objectives and their impact on the market.

Likewise, Isdefe provides support with the analysis and review of economic information and inventory included in the Commission's different systems, with the preparation and presentation of the annual accounts, and with the accounting and issuance of economic and financial reports.

Prado National Museum

Isdefe assists with the operation, review and continuous evolution of the analytical accounting system in order to comply with the requirements set out in the General Public Accounting Plan, and with the integration of applications and the optimisation of the Museum's procedures and management tools.

Support with the management and promotion of digital transformation as a means to improve the operation of the museum through a set of information systems and technologies, in an effort to help achieve the milestones and goals set out in the Recovery, Transformation and Resilience Plan.



Reina Sofía National Art Centre and Museum (MNCARS)

Support to MNCARS in the field of economic-financial and contractual management.

Spanish Radio and Television Corporation (CRTVE)

Support to the CRTVE in the control and monitoring of its centralised electricity supply contract.

Provision of consultancy services to define the strategy and prepare the specifications for the new centralised contract for 2021 to 2023.



2.5

Information and Communications Technology (ICT) Sector

In the field of Information and Communication Technologies (ICT), **Isdefe** has a long history of providing engineering and consulting service to the General State Administration to define public digital services and e-administration services, to plan and manage the radio spectrum, to manage the digital dividend and bridge the digital divide. Our teams support the competent agencies of the Administration in matters of regulation and supervision of ICT services.





■ Radio spectrum

We support the Administration in the field of planning and managing the radio spectrum for the various radio communication services throughout Spain, guaranteeing the quality and universal availability of this service to society. We also provide consulting services and assistance with the definition and monitoring of the National Transition Plans to Digital Terrestrial Television (DTT), and with managing the digital dividend.

Ministry of Economic Affairs and Digital Transformation / Secretariat of State for Telecommunications and Digital Infrastructures (SETELECO) / Secretariat of State for Digitisation and Artificial Intelligence (SEDIA)

In the field of Information and Communication Technologies (ICT), Isdefe has a long history of providing engineering and technical consulting services to plan the radio spectrum, manage the digital dividend, reduce the digital divide and define digital public and e-government services. In this area, our teams support SETELECO and SEDIA, as well as other competent bodies in the field of regulating and supervising ICT services.

Isdefe provides its management assistance services throughout Spain, guaranteeing the quality and universal availability at the service of society, carrying out actions to help implement Digital Terrestrial Television (DTT) and digitise society with the deployment of 4G and 5G mobile technologies, such as the following:

- » Radio spectrum planning and management in order to develop radiocommunication services: radio-broadcasting and fixed wireless loop, point-to-point links of fixed and fixed-satellite service, mobile services and space services.

- » Constant assistance with the evolution of DTT, from its implementation to supporting the execution of frequency migration processes (first and second digital dividends), for use by mobile electronic communications services in the deployment of 4G and 5G technologies, and with the monitoring and execution of the 5G National Plan.
- » Assistance with tendering processes for frequency bands by electronic auction in the 700 MHz and 3.4 to 3.6 GHz bands, with the aim of making these frequencies available to providers of electronic communications services.
- » Support to the SETELECO Cabinet in activities related to the evaluation, strategic definition, implementation, and dissemination of new telecommunications technologies, and in particular radiocommunications.





■ Communications Networks and Systems

We engage in specialised technical support activities in information security and digital trust, and assist with the management and execution of communications programmes, such as the New Infrastructures Programme, to boost the deployment of ultra-fast networks and broadband infrastructures, and provide regulatory consulting services and analysis of telecommunications markets.

Ministry of the Interior / Penitentiary Work and Job Training (TPFE)

Consultancy on ICT services for the strategic definition, planning, control and monitoring of information networks and systems, in order to carry out the TPFE's Strategic Plan for Electronic Administration and Digital Transformation.

Support in the planning and definition of milestones until the entry into service of an integrated management system (ERP).

Ministry of Interior / SDG of Information and Communications Systems for Security (SGSICS)

Ongoing support to SGSICS in its work to manage and supervise the current telecommunications services of the National Police and Civil Guard through the Programme Office of the Unified Communications Service (OPSUC).

This service includes all the communications services (fixed telephony, mobile telephony, IP, etc.) required by law enforcement agencies in order to fulfil their mission of safeguarding citizens' rights and freedoms.

Ministry of Economic Affairs and Digital Transformation / Secretariat of State for Telecommunications and Digital Infrastructures (SETELECO) / Secretariat of State for Digitisation and Artificial Intelligence (SEDIA)

Specialised technical support in the field of communications networks and systems, providing assistance with the management and implementation of advanced telecommunications infrastructure programmes to promote the deployment of ultra-fast networks and broadband infrastructures.

Provision of strategic ICT consultancy services for activities that rely heavily on confidential information, or in which a guarantee of objectivity and independence of the interests of third parties is required, such as in the analysis of sensitive business information or the definition and execution of digital transformation plans.

The activities carried out for the SEDIA include:

- » Support with the implementation of measures associated with the EU Next Generation Funds (PRTR) and the 2025 Digital Spain Agenda; in relation to the National Artificial Intelligence Strategy, the Promotion of SMEs, the Data Spaces Component and the National Digital Skills Plan.
- » Support to the Technical Office with managing the National Plan for Natural Language Technologies, as part of the National Artificial Intelligence Strategy, and with coordinating ICT actions and projects in this area with the European Commission.
- » Technical assistance to the Cabiner with planning and promoting technological innovation programmes and with institutional missions in the ICT field related to international organisations and the European Union.
- » Support with the definition, design, implementation and operation of improvements in the management and control system of public aid for innovation in the ICT sector.
- » Assistance with the economic and budgetary management of public aid programmes, and with the implementation, coordination and management of the different plans, collaboration agreements, and other initiatives.

The activities carried out for SETELECO include:

- » Support in the management and execution of actions related to the Restructuring, Transformation and Resilience Plan (PRTR), within the framework of the 5G Connectivity, Development and Spanish Audiovisual Hub Plans, as well as in the management and monitoring of innovation projects.
- » Support with activities to spur investments in the field of electronic communications infrastructures and in relation to compliance with the regulations applicable to the deployment of public electronic communications networks.
- » Technical assistance with the management and economic-budgetary monitoring of public aid programmes to achieve the goals of the 2025 Digital Spain Agenda.
- » Support with the management and control functions carried out by SETELECO as an Intermediate Body and in support of other European programmes.

Ministry of Science, Innovation and Universities / RedIRIS

RedIRIS is the Spanish academic and research network, providing advanced communications and other ICT services to the scientific and academic community, with more than 500 affiliated institutions. Currently, the UNI-DIGITAL Plan's ICT infrastructure and services project line, coordinated by the Ministry of Universities and funded by the European Recovery and Resilience Facility (RRF), is being implemented.

Isdefe provides a technical service that specialises in managing the various phases of the life cycle of the projects to deploy the ultra-fast infrastructures and common ICT services of the UNI-DIGITAL Plan.

Ministry of Inclusion, Social Security and Migration (MISSM)

Specialised technical support to provide the MISSM with an advanced data analytics platform, with specific data and processing areas, called "Digital Infrastructure for Data-Based Social Inclusion Policies".

The system must cover the needs of the different user profiles, from basic analysts to advanced data scientists with Machine Learning (ML), Natural Language Processing (PLN) or Deep Learning (DL) requirements, and even allow the configuration of "laboratories" so that users outside the MISSM can use the analytical capabilities of the infrastructure securely and guaranteeing the confidentiality of the information.

Isdefe provides technical assistance services to design, prepare, monitor, govern and control the projects of the Digital Infrastructure deployment programme.

Ministry of the Presidency and Relations with the Courts and Democratic Heritage / National Heritage

Isdefe provides National Heritage with the technical project office services needed to support the technical configuration and commissioning of the communications network of the new Museum of Royal Collections, and the modernisation and interconnection with the existing networks in the different National Heritage centers.

These services cover all the tasks necessary for the preparation of the technical specifications and the incorporation of all those systems and equipment that are essential for the proper operation of the Museum, as a complement to its exhibition function.

National Markets and Competition Commission (CNMC)

Isdefe provides consulting services to the Directorate of Telecommunications and the Audiovisual Sector (DTSA) of the CNMC to conduct various analyses and studies in the field of electronic communications, notably:

- » Regular analyses of the evolution of broadband infrastructures nationally, the results of which enable the DTSA to continuously assess the competitiveness of the telecommunications market.
- » Verification of the results of the accounting models to determine the costs of regulated electronic communications services.

Spanish Radio and Television Corporation (RTVE)

Specialised services to the RTVE Corporation in different areas:

- » Strategic consultancy to develop and integrate artificial intelligence technologies in the processes of generating and distributing audiovisual content, by integrating natural language processing technologies in the development of semantic search engines in the mobile and web channel of RTVE, among others.
- » Support in the development of the Strategic Technology Plan and definition of indicators and mechanisms to monitor the evolution of the Plan.



NATO / Communications and Information Agency (NCA)

Technical assistance to its Security Operations Centre with the configuration, optimisation and operation of the NATO Network Incident Management and Security Monitoring Tool (CLASS/UNCLASS).

Isdefe provides the NCA, at its facilities in The Hague, with management services for NATO programmes and projects, so that it can implement its information and communications systems. We have in force a framework agreement with government non-profit organisations which will allow Isdefe to carry out pre-contractual activities that require independence from any commercial or industrial interest.

2.6

Energy Sector

Isdefe provides technical support for the major energy policy implementation plans and programmes, in the fields of both energy efficiency and renewable energy.

Consultancy in the field of Energy Security, in keeping with the lines established in the National Energy Security Strategy, in the areas of regulations and standards, security of supply, promotion of local sources, economic and environmental sustainability, and dissemination of the safety culture. Our teams support the competent agencies of the Administration in matters of regulation and supervision of ICT services.





■ Energy Diversification and Efficiency

We provide support services to the Public Administration in the design, implementation and monitoring of programmes and projects related to: security policies, energy efficiency, renewable energy and technical consulting for the development, technical direction and monitoring of this type of projects.

Ministry of Ecological Transition and the Demographic Challenge / Secretariat of State for Energy / IDAE

Specialised technical services in different areas in 2021:

- » Provision of technical support and advice in the analysis and regulatory adequacy in the field of data security (ENS) and protection. (GDPR).
- » Support updating the model of the national energy system for the development of the National Integrated Energy and Climate Plan 2020-2030 (PNIEC), and with the Long-Term Plan (2050). These plans detail the process, national objectives, existing policies and measures and those necessary to achieve the objectives, as well as the analysis of the economic, employment, distributional and health benefits impact.
- » Support in the design, management and execution of different administrative processes involving the electricity sector, renewable energies and self-consumption, highlighting as a main activity the management of the registration of the specific remuneration regime for electricity production facilities from renewable sources, cogeneration and waste.

2. OUR AREAS OF ACTIVITY

- » Development and management of public aid programmes that affect the main energy consumption sectors. These aid programmes are budgeted primarily through the National Energy Efficiency Fund, General State Budgets and ERDF funds dedicated to the low-carbon economy. In addition, in 2021 Isdefe helped the IDAE to achieve the important commitments it acquired in the implementation and execution of the Recovery, Transformation and Resilience Plan.

Ministry of Transport, Mobility and Urban Agenda/ ADIF

Isdefe supports the strategy to decarbonise the railway manager, and monitors it. It provides support services in renewable electricity generation initiatives, charging stations, energy demand management and in different operational models for energy self-supply.

