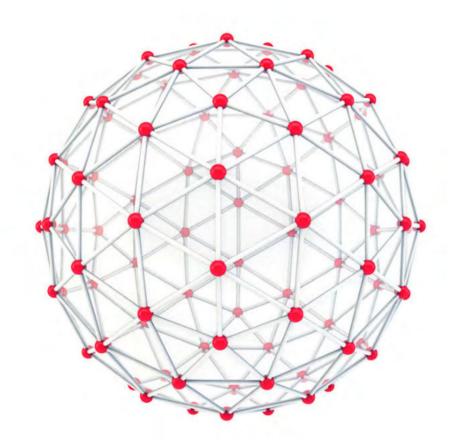
CZECH REPUBLIC - SPAIN NUCLEAR INDUSTRY MEETING

5 to 9 June





INDEX

04

President's letter

05-07

Introduction Spanish Nuclear Industry Forum

8-21

Spanish companies
EMPRESARIOS AGRUPADOS

ENSA

ENUSA

KONECRANES

NEWTESOL

NUSIM

TECNATOM



IGNACIO ARALUCE PRESIDENT OF SPANISH NUCLEAR INDUSTRY FORUM

In generating wealth and employment, the Spanish nuclear industry has leading edge capabilities and exports products, services and high technology to more than 40 countries. Recognised at an international level and with a firm commitment to human factors, as well as research and development, it intervenes in the whole chain of nuclear value. As indicated in this publication, Spanish nuclear sector develops the initial studies, the conceptual design, the construction of reactors, the manufacturing of fuel, engineering for operation and maintenance, the supply of equipment and components, training, the management of waste, dismantling of installations, descontamination or provides support to production.

The recognition and prestige of the Spanish nuclear sector and its professionals is also reflected in the perfect maintenance and updating of the Spanish nuclear reactors, which operate with maximum guarantees of safety and excellent performance indicators.

The capacities, experience and state of the art technology of the sector, applied to the services and products that it provides to the Spanish nuclear power plants, lead to load factors, operation or availability of more than 90%, providing firmness and stability to the electricity system.

In Spain, the seven nuclear reactors that make up Spain's nuclear fleet generate more than 22% of the

electricity that we consume and help to decrease contaminating emissions to the atmosphere. Specifically, one third of Spain's clean electricity comes from nuclear energy.

Guarantee of supply, energy independence and no CO_2 emissions are some of the reasons why many countries seek to maintain and develop this technology and in doing this, join forces with the Spanish nuclear sector.

Nuclear energy still has a big pull worldwide. Currently there is 422 reactors in operation and 57 units in construction around the world, according to the United Nations' International Atomic Energy Agency (IAEA), (in 2023). Together with the hundreds of planned reactors these data push the companies in the Spanish nuclear sector to expand internationally and to open new markets. Foro Nuclear is involved in this task of promoting the nuclear business and showcasing the capacities of the Spanish nuclear industry by supporting the presence of our industry on the exterior by participating in congresses, business missions, exhibitions and meetings in collaboration with Spanish and international institutions. This publication, available in Spanish and English, and which we update annually, includes the capacities and services that the Spanish nuclear companies offer, their business objectives and activities and references.

services that the Spanish nuclear companies offer, their business objectives and activities and references. A show of how well our sector is doing at the technological forefront with an ever-growing consolidated international presence.



📄 🗊 💟 🙆 🕢 😳

THE SPANISH NUCLEAR SECTOR

Nuclear energy has been producing more than 20% of the electricity consumed in Spain for twelve consecutive years.

In Spain, nuclear energy has represented approximately 20% of the total production of electricity in recent years. On a world scale, nuclear generation represents around 10% with 422 reactors in operation in 33 countries and 57 new reactors in construction in 17 countries.

These data have meant that a large number of Spanish companies have focused their activity in the nuclear sector, based on the experience and thanks of their participation in the development of the Spanish nuclear programme since its beginnings and are present in the whole chain of value.

All of this industrial structure has evolved with the circumstances of each moment, incorporating new technologies adapted to current needs and requisites and making it possible that Spanish companies are present today in nuclear projects in more than 40 countries, in four of the five continents.

The Spanish nuclear industry also participates in international research and development projects for advanced nuclear reactors, in Small Modular Reactors (SMR), in programmes based on nuclear fusion, such as the ITER International Project and in programmes related to high energy physics.

The companies that work in the nuclear sector are grouped in this catalogue according to the activity that they carry out.



The electrical companies focus their main activity on the production, transportation, distribution and commercialisation of electricity. The objective of these companies is to work permanently towards excellence in the management of nuclear power plants, with a commitment to continue to produce in a safe and reliable way and promoting growth in their areas of influence both from the social, economic and environmental point of view.

Since the construction of the first nuclear power plant they have extended their actions to the study of the optimization of the performance, maintenance, management of improvements in equipment and procedures, management of the fuel cycle and the development of new reactors.

The Spanish electrical companies are capable of participating in an efficient manner in international markets undergoing a process of growing integration, globalisation and increase in competition.

The international suppliers of nuclear systems provided the first "key in hand" nuclear power plants in Spain and the steam generation systems for the nuclear power plants that were built after that. This was due to the fact that, at the beginning of the Spanish nuclear programme, the decision was made not to constitute a company of systems linked by license to a foreign supplier, which would have meant having to choose a single type of reactor. The suppliers of electrical systems currenly provide support services to nuclear sites in operation and maintenance in more than 20 countries, such as for example, Germany, Belgium, Brazil, Bulgaria, China, Slovakia, Slovenia, United States, Finland, France, India, Japan, Mexico, United Kingdom, South Africa, Sweden, Taiwan, etc.

These companies work through agreements with Spanish companies with which they have developed strong technological links. This has led to as framework of mutual benefit, through which the Spanish industry has been able to participate in the development of nuclear projects all over the world.

The design, manufacture and supply of fuel to Spanish and international nuclear power plants is made by the public capital company ENUSA Industrias Avanzadas and is responsible for the supply of raw materials and their processing right through to the final elaboration of the product. It is the owner and operator of the fuel elements factory in Juzbado (Salamanca), one of the most innovative in Europe which, since the start of its operation in 1985, has manufactured more than 26,200 fuel elements for both Spanish and foreign nuclear power plants.

The manufacture of capital equipment is made by Spanish companies who cover the production of main equipment to turbine alternators, valves, cranes, piping, boilers or equipment for handling the storage of fuel for both Spanish and foreign nuclear power plants, with a recognized level of quality. At present more than 80% of their annual production is exported.

At present, the whole portfolio of orders for the supply of large components as well as a high percentage of the rest of components of this group of companies is for exports.

The Spanish engineering and services companies have created an important engineering capacity for nuclear power plants, providing support in the management of the construction of new plants and in the operation and maintenance of the plants in operation, with a very diversified activity in which they export more than 60% of their annual production and in some cases up to 100%.

These companies have developed very specialised services such as the supply of simulators, training programmes for operators, in service inspection and the development of support and improvement systems in production. Their clients include all of the Spanish nuclear companies and a large number of foreign entities.

Some of these companies have laboratories for radiological analysis which offer an integral service that responds to all the needs of the sector and which are focused on the efficient and sustainable management of their activities.



Radwaste management in Spain is carried out by the National Radwaste Company, ENRESA. It is a public company and is an important international reference and example as its activities are studied and monitored by more than 15 countries around the world who have visited its site.

Very low, low and medium activity radwaste from nuclear sites, hospitals research centres and industry is managed in the Storage Centre in El Cabril, located in the province of Cordoba.

The fuel used in the nuclear power plants is kept in the onsite pools or in some cases, such as Trillo, Ascó, Cofrentes, Almaraz, José Cabrera (in dismantling) and Santa María de Garoña (predismantling), in the Individual Temporary Storage Facilities, located onsite.

Among its activities it is also responsible for decommissioning nuclear and radioactive sites and was a pioneer in the decommissioning of the nuclear power plants of Vandellós I and José Cabrera.

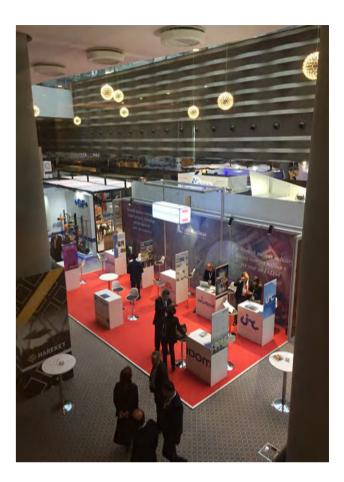
Spanish Nuclear Industry Forum (Foro Nuclear) is a nonprofit association which defends the Spanish nuclear sector and the continuity of the nuclear power plants and covers all of these companies and supports them in all the activities that they require.

Through their four phases of action, Support to the Industry, Technical Support, Communication and Education and Training it attends to the needs of the companies in the Spanish nuclear sector, at both a national and an international level.

In the area of Support to the Industry, Foro Nuclear coordinates the activities of the industry in different scenes, such as the participation in exhibitions with grouped pavilions, the organisation of business meetings among companies from different countries, the coordination of technical workshops in events of interest, etc.

For all of these activities it has the support of both national and international entities and institutions which gives it a greater diffusion and the possibility of reaching other companies that are not members of the Association.

Thanks to a collaboration agreement signed with ICEX Spain, Trade and Investment, Foro Nuclear is recognised



as an agent responsible for providing services, in the name and representation of the entity, for the internationalisation of the nuclear sector companies, in the area of the management of aid relating to the promotion of internationalisation.

Through specific agreements with the commercial offices in Spain of those countries that are of interest for the companies in the nuclear sector, Foro Nuclear organises bilateral business meetings which make it possible to know the capacities of the participating companies and open up the possibility for collaboration among them, both in the countries that organise the meeting and in third countries.

The figures of the activity of our nuclear industry and the degree of internationalisation of their companies are the best proof of the competitiveness of the sector and the capacity of our professionals. At present the nuclear sector is a consolidated, prestigious industry that generates wealth and employment.

The aim of the catalogue of the Spanish nuclear industry is to reflect the eality of an open and dynamic sector in a growing international market.



EMPRESARIOS AGRUPADOS

C/ Magallanes, 3 28015 Madrid Tel.: +34 91 309 80 00 E-mail: empresarios@empre.es



Empresarios Agrupados (EA) is a leading international engineering and construction management company with headquarters in Madrid (Spain). Founded in 1971, EA has a permanent multidisciplinary staff of over 1200 persons, 70% of whom are university graduates.

EA provides a full range of engineering services for nuclear, conventional, renewables and biomass power plant projects.

In the Nuclear field, EA main areas of activity are:

- New build nuclear power plant projects.
- Engineering support services to nuclear plants in operation.
- Decommissioning and radioactive waste management projects
- \bullet Research reactors, SMRs and GEN IV
- projects
- Fusion technology: ITER, IFMIF-DONES, DEMO



EA has carried out the engineering for electric power generating plants projects with a combined installed power of more than 52,000 MWe, in Spain and in over 50 other countries.

EA is ranked among the "Top 225 International Design Firms" by "Engineering News Record" magazine (ENR).

EA is an independent consultant and engineering company, with quality services recognised by the market. EA's clients include electric utilities, IPPs, government agencies, reactor vendors, EPC contractors, main equipment suppliers and international organisations such as IAEA, EBRD, European Commission, ITER, Fusion for Energy, etc.

EA holds the ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certificates.

SERVICES, PRODUCTS AND TECHNOLOGY AVAILABLE

Services and products provided by EA include: consulting, project management, engineering and design, licensing and permitting, procurement services, construction management, commissioning management, engineering support to plants in operation and quality management.

OUTSTANDING ACTIVITIES-NATIONAL

EA has been the sole or main engineering company for six (6) 1100 MWe nuclear units in Spain, (PWRs and BWRs), being responsible for a full range of project management, engineering and design, procurement, construction, plant testing and commissioning management services.

EA also provides a complete range of engineering support services to all seven nuclear units in operation in Spain. EA is also involved in modernization, design modifications due to new licensing requirements, power uprating, life extension and post-Fukushima backfitting programs for these plants.



Some projects in the nuclear field in Spain are:

• Implementation of post-Fukushima project modifications at Almaraz 1&2 and Trillo NPPs and also for other domestic and foreign NPPs

• Engineering and design of the Centralized Interim Storage Facility ("Almacén Temporal Centralizado", ATC) for the spent fuel produced at all the nuclear units operated in Spain

- Engineering services for the decommissioning of José Cabrera NPP (PWR, Westinghouse, 165 MWe)
- Power Uprating Engineering services for Almaraz 1&2 NPP (PWR, Westinghouse, 2 x 1049 MWe), including new equipment implantation and control system modification
- Engineering services for the temporary spent fuel storage facilities (ATI) at plant site for Trillo, Ascó 1&2, Almaraz 1&2 and Cofrentes NPPs.



• Probabilistic Safety Analysis (PSA) for majority of the Spanish nuclear power plants.

• Engineering support services to the operation and refueling outage services for Almaraz 1&2, Trillo and Cofrentes NPPs

• Studies for license renewal and life extension for Almaraz 1&2, Trillo and Cofrentes NPPs

OUTSTANDING ACTIVITIES- INTERNATIONAL

Engineering and Consulting and Owner's Engineering Services for New Build Nuclear Power Plant projects

• Over the years EA has taken part in a number of international projects aimed at developing, licensing and implementing Generation III and III+ advanced NPPs. This includes an active participation in projects using different technologies such as Westinghouse PWRs (SPWR, AP-600, EPP and AP 1000), GE- Hitachi BWRs (ABWR, SBWR and ESBWR), Framatome PWRs (EPR), Rosatom VVERs (VVER 440, VVER- 1000, VVER 1200), Mitsubishi PWRs (APWR), etc.

• EA has been providing consulting and Owner

Engineer services for plant preconstruction activities, preparation of feasibility studies, preparation of Bid Invitation Specifications (BIS) and evaluation of Bids for the new build NPPs in the majority of new build projects in Europe: e.g., Hanhikivi NPP project, in Finland, Temelin Units 3 & 4 NPP, in the Czech Republic, Next NPP at the Beznau site in Switzerland, Olkiluoto 3 NPP and Olkiluoto 4 NPP, in Finland, Dukovany NPP site in the Czech Republic, New NPP project in Jaslovské Bohunice Site in Slovakia and Akkuyu 1, 2, 3 & 4 NPP in Turkey, etc.

• EA has participated in the preparation of the European Utility Requirements (EUR) for Trillo, Ascó 1&2, Almaraz 1&2 and Cofrentes NPPs document for New Build NPPs of evolutionary and passive designs in Europe Staff University graduates

EA has also been delivering engineering and design services for the Lungmen NPP Nuclear Island project (ABWR, GEH 2 x 1360 MWe), in Taiwan, as subcontractor of GE-Hitachi.
Also as a subcontractor of GE-Hitachi, EA has provided engineering services for the design development and Design Certification by the US NRC of the ESBWR



• For the Mochovce Units 3 & 4 NPP (VVER, 2 x 440 MWe), in Slovakia, EA has carried out the high energy pipe break analysis and protection design against the consequences of pipe break in the Nuclear Island

Turbine Island design for Wylfa Newydd 1&2 NPP (ABWR, Hitachi-GE, 2x1360 MWe), UK
Turbine Island general arrangement design,

piping and support design for Paks 5&6 NPP (VVER 2x1200 MWe) in Hungary and El-Dabaa 1&2 NPP (VVER 2x1200 MWe) in Egypt

• Hanhikivi 1 NPP (VVER 1200), Finland. Preliminary Safety Analysis Report (PSAR) Preparation

• Angra 3 NPP (PWR, 1350 MW). Due Diligence and BIS preparation for plant finalization

• First Large NPP (LNPP) in KSA. Third Party review of the Integrated Time Schedule. Participation on the BIS preparation and independent review



Engineering Support to Plants in Operation:

• Design modification of the complete Class 1E Emergency Electrical Supply System for Krško NPP, (PWR, Westinghouse, 730 MWe), in Slovenia (post- Fukushima requirement)

• Establishment of a system for monitoring technical conditions of WER NPP buildings and structures based on advanced methods and techniques in Ukraine

• Over the last 25 years, EA has been providing engineering and consultancy services for the implementation of plant upgrades and safety improvement of Russian design VVER-440 and VVER-1000 plants in Russia, Ukraine, Bulgaria, Czech Republic, Slovakia and Armenia Decommissioning and Waste Management Projects

• Project management services for the decommissioning of Kozloduy Units 1 to 4 NPP (VVER 440) and for the construction of the National Disposal Facility for Low and Intermediate Radioactive Waste in Bulgaria

Project management services for the decommissioning of the VVER 440
Bohunice 1&2 NPP in Slovakia
Radioactive Waste Management Project at the Vektor Industrial Complex in Chernobyl (Ukraine)
Engineering support services for Decommissioning and Waste
Management Program at the EU Joint
Research Centre (JRC) at Ispra, Italy

Research Reactors, SMRs and GEN IV Projects

• EA has participated in more than twenty (20) EURATOM projects, funded by the EU Framework Programmes for the development of advanced nuclear reactor technologies (GEN IV), including liquid metal cooled fast and thermal breeding reactors

• JHR (Jules Horowitz Reactor), France, experimental reactor, for materials research: design of the primary circuit heat exchangers

• PBMR (Pebble Bed Modular Reactor) high temperature gas reactor project in South Africa: complete structuralmechanical engineering and design of the primary system pressure boundary and components

Conceptual engineering for MYRRHA liquid metal reactor, Belgium
Conceptual engineering for MINERVA Accelerator, Belgium



Nuclear Fusion Technology Projects:

• Over 20 years involvement in Fusion Technology projects development (ITER, IFMIF-DONES, DEMO)

• Architect-Engineer and Construction Management for all buildings and site infrastructure, electricity supply system, auxiliary systems and construction supervision of ITER Fusion Project, as part of ENGAGE Consortium

• Design, Manufacturing, Qualification and Installation of the Nuclear Safety Control (SCS-N) System for ITER

• Final Design of the Connection Pipes for the Test Blanket System (TBS) for ITER

• Thermo-Hydraulic Analyses for Process, and System Engineering of the Tokamak Cooling Water System (TCWS) for ITER

• Assembly and installation activities inside of the Tokamak Complex: TCC2 assembly contract, ITER

• Engineering and manufacturing of ITER First Wall Panels

• ThorCon TMSR-500 Molten Salt Reactors. Architect Engineer.



COUNTRIES IN WHICH THERE IS NUCLEAR ACTIVITY

EA has carried out nuclear projects in: Spain, France, United Kingdom, Belgium, Finland, Italy, Switzerland, Slovenia, Rumania, Sweden, Norway, Russia, Bulgaria, Czech Republic, Slovakia, Hungary, Ukraine, Poland, Lithuania, Armenia, United States, Canada, Mexico, Argentina, Brazil, Bolivia, Turkey, Jordan, Taiwan, KSA, UAE, China, Japan, Egypt and South Africa



EQUIPOS NUCLEARES, S.A., S.M.E. (Ensa)

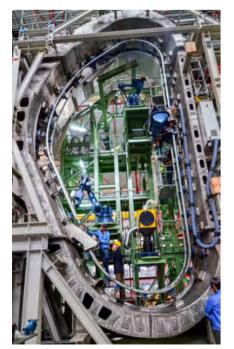
Avda. Juan Carlos I. 8 39600 Maliaño (Cantabria) Tel.: +34 942 200 101 E-mail: commercial@ensa.es

Equipos Nucleares, S.A, S.M.E. (Ensa)

was established in 10th July 1973 with the purpose of meeting the demands of the Spanish civil nuclear manufacturing of large components. The construction of the facility, located in Maliaño (Cantabria), south of the bay of Santander and very close to the city, was performed during 1975 and 1976, when the manufacturing operations of the first equipment for the Spanish market started.

Especially focused in the civil nuclear industry, Ensa obtained its first ASME nuclear certification in 1978 delivering the first component, the reactor vessel for Valdecaballeros Nuclear Power Plant. in 1981.

In 1980, with the creation of the Business Development & Field Services department, Ensa started performing works such as installation, commissioning, fuel management, plant maintenance, decontamination and



dismantling at nuclear power plants. Since 1986 Ensa has a majority ownership of ENWESA, a company mainly dedicated to providing services at nuclear power plants.

Since the beginning, Ensa has had the infrastructure, technology and human resources necessary to meet the highest standards in the areas of engineering, design, procurement, quality assurance, manufacturing, inspection and services. Ensa's facility includes a workshop, capable of manufacturing the biggest nuclear components, and an Advanced Technology Centre (ATC) for the development and gualification of innovative manufacturing and inspection techniques. The ATC also incorporates accredited laboratories that can provide services both to Ensa and to external customers.

Known in the nuclear industry as a preferred manufacturer thanks to the high quality and technology of its products and manufacturing processes, Ensa specializes in components such as reactor vessels, including internals, supports, reactor vessel cover heads, steam generators, primary circuit piping, pressurizers, heat exchangers, nuclear fuel element top and bottom nozzles, spent fuel casks, for storage and transport, fuel racks, for both new and used nuclear fuel, components for the ITER project (International Thermonuclear Experimental Reactor), and more recently on advanced, new generation and small reactors.

Since its inception, Ensa has provided equipment, operating to the required safety levels in nuclear plants of multiple and varied designs located throughout the world, following recognized international standards and meeting the most demanding quality requirements.

This has made Ensa a distinguished multisystem manufacturer, capable of successfully providing the most demanding nuclear components, through continuous research and development of new and competitive manufacturing technologies, for each of the different nuclear designs in the market.

The company has its premises and headquarters in Maliaño, Cantabria, Spain. It belongs to the SEPI Group, a public business holding that owns directly, or in majority, a total of 15 public companies, with more than 79,000 professionals. It also has a supervised public foundation and direct minority shareholdings in other nine companies, plus indirect participation in more than one hundred societies.

ENSA'S INTERNATIONALIZATION

With technology and quality as the main pillars of the company, the successful orientation towards the international market started in the late eighties. Nowadays exports over 90% of the manufacturing of heavy equipment, in addition to the provision of services to plants. Ensa is involved in demanding markets such as in France, Belgium, Japan, China, Taiwan, Slovakia, USA, England, Finland, etc. Currently, all major equipment being manufactured in Ensa have a destination in the international market.

Focusing only on the NSSS (Nuclear Steam Supply System) components, only three of the thirty-seven major components manufactured by Ensa until 1986 were made for the international market, a percentage lower than 10%. However, this situation changed significantly in the late Eighties, when a rapid increase in exports began. Twenty-six large components were

Turnover (2022)	73.75 million €
Exports Average	31% of sales
Staff (2021)	535 employees
Specialized operators	262 or 49%
Average age	43 years



exported between 1988 and 1995. Although the Spanish market demand, a priority for Ensa, restarted in the mid-nineties, due to the need for replacement components in operating power plants, only three components of a total of eighty¬eight have been provided to this market since 1997. This means that the internationalization has represented about 96% of Ensa's portfolio since 1997.

Regarding Fuel Management business, Ensa has also provided transportation and storage casks for fresh and used fuel to countries like China, Japan and the U.S.A. as well as storage racks for nuclear fuel pools in Germany, South Africa, Taiwan, Finland and China. For both casks and racks Ensa offers and integral solution based on competitive designs, in which lessons learned, as an experienced manufacturer and operator, have been incorporated, resulting in designs such as the ENUN 32P, ENUN 52B and ENUN 24P casks.

Ensa has maintained a constant activity in other areas, such as design and services, which have also undergone a strong internationalization. Examples of this internationalization include the outstanding participation of Ensa in the South African project PBMR (Pebble Bed Modular Reactor).

Reactor), participation in IRIS (International Reactor Innovative and Secure), ITER project and provision of services in nuclear plants in countries such as Bulgaria. Finland and France.

Another important market line is the dismantling of national and international nuclear power plants. It's important to highlight the works carried out at José Cabrera (Guadalajara), Vandellós (Tarragona) and Kozloduy (Bulgaria) plants.

Throughout its history, the nuclear manufacturing activity in Ensa has also been compatible with the manufacturing of components for research institutes (CERN, UKAEA, EPRI, Max Plank etc.) and institutions (ITER, NASA, EURATOM). Additionally Ensa has manufactured offshore oil platforms, support services to other firms and pressure components for nuclear industry.



Ensa currently holds ASME (N, N3, NA, NPT, NS); ISO (9001, 45001, 37001, 3834-2, 14001, 19443); AENOR UNE-ISO/IEC (27001, 17025, 14064); CEFRI CERTIFICATE: UNE 19601: KTA 1401; AD-2000 Merkblatt HP0

Ensa's competitiveness is based on its highly gualified and competent staff and their culture and passion for improvement, safety, quality, innovation, research and technological development.

COUNTRIES IN WHICH THERE IS NUCLEAR ACTIVITY

The current book order includes the supply of equipment and services to countries like France. United Kingdom, Italy, Argentina, Brazil and Spain.





ENUSA INDUSTRIAS AVANZADAS S.A., S.M.E.

Headquarters C/ Santiago Rusiñol, 12 28040 Madrid Tel.: +34 913 474 200 E-mail: comunicacion@enusa.es





ENUSA Industrias Avanzadas, S.A., S.M.E. (ENUSA) was founded in 1972 as the National Uranium Company. It was part of an initiative that intended to strengthen the importance of the nuclear component in Spain's energy development. Today ENUSA is a public Enterprise 60% owned by the Sociedad Estatal de Participaciones Industriales (SEPI), and the remaining 40% by the Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT). ENUSA is the parent company of the ENUSA Group, jointly with ETSA Global Logistics S.A.U., S.M.E. (ETSA) and Empresa para la Gestión de Residuos Industriales S.A., S.M.E., M.P. Emgrisa, focuses its activities in the nuclear fuel cycle and develops environmental services.

PURPOSE

ENUSA's purpose is to develop innovative nuclear and environmental solutions at a global level, contributing to the sustainable progress of society through the values of Safety, Flexibility, Innovation, Commitment and Collaboration.

ACTIVITIES AND REFERENCES

The **nuclear business** focuses on activities of the nuclear fuel cycle that are marketed both nationally and internationally and which services consists of:

• Management of the enriched uranium supply to the Spanish nuclear power plants under the criteria of security and flexibility.

• Engineering in all technical aspects of the lifetime of the nuclear fuel, from design and operation in the nuclear power plant up to his tenure as irradiated fuel for transport and dry storage.

• Manufacturing and fuel assemblies to national and foreign nuclear power plants for:

- Pressurized water reactors (PWR), under Westinghouse license.
- Boiling water reactors (BWR) under General Electric license.
- Pressurized water reactors (VVER), in collaboration with Westinghouse.

• Coordination the handling, inspection and repair campaigns that take place during the refueling programs, providing fresh fuel reception and irradiated fuel handling services and supervising the process during the reload (inspection, repair, characterization and cleaning)

Juzbado Fuel Assembly Factory Road Salamanca-Ledesma, km 26 37115 Juzbado (Salamanca)

Saelices el Chico Center Road Ciudad Rodrigo a Lumbrales, km 7 37592 Saelices el Chico (Salamanca)

• Transport of nuclear and radioactive materials through the subsidiary ETSA.

As part of the nuclear activities, we also develop technological capabilities for the second stage of the fuel cycle and the sale of fresh and irradiated fuel manufacturing and inspection equipment.

The subsidiary Emgrisa is **environmental brand** of the ENUSA Group and offers a wide range of services aimed at preserving the environment and ensuring an efficient use of energy.

• Waste treat and management all kinds of (waste):

- Hazardous and non-hazardous industrial waste. Collection, transport and management of hazardous and nonhazardous industrial waste, prioritizing waste reuse and recovery.

- Municipal Solid Waste. Design, construction and operation of MSW recovery facilities with biodrying and accelerated oxidation technology using airflow. Odour free system and no contact with the waste.

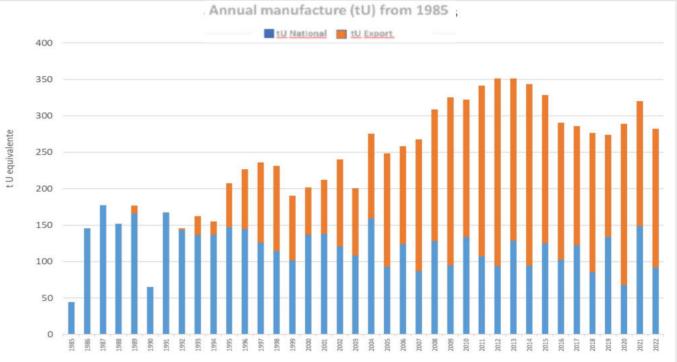
- Agricultural, Livestock and Agroindustrial Waste. Plants design for agronomic valorization of digestate and energy (biogas).

- Characterization and treatment of contaminated soils and groundwater. Performance of all kinds of environmental site assessment on soil and groundwater contamination.
- Radiological studies

• Engineering and environmental consultancy.

As a complement to these activities, the environmental area supervises the reclamation of former uranium mining facilities in Saelices el Chico and La Haba, the purpose of which is to try to restore the affected natural space to its original state with environmental and radiological

Turnover % from fuel sales that go to R&D projects			304 million €	304 million €		
			Next to 3%			
Staff number average			649 persons			
Manufacturing cumulative form 1985 to 2022	PWR	BWR		TOTAL		
	Total	Total	National	Exportation	Total	
tU	6,888	2,190	4,592	4,486	9,078	
EECC (units)	14,942	12,151	12,769	14,324	27,093	
Annu	al manufacture	(tU) from 198	35 ;			
400	tU National	U Export				
400						
350						



conditions as similar as possible to those existing before the mining operations.

Currently ENUSA has three work centers. Two of them are industrial sites: a fuel assembly factory in Juzbado and a center in Saelices el Chico in Ciudad Rodrigo (both of these are in the province of Salamanca). The corporate headquarters are in Madrid. ENUSA also manages a solid urban waste plant in Cervera del Maestre (Castellon).

Since 1985, the Juzbado factory manufactures uranium pellets, assembles fuel elements and develops equipment for the manufacture and inspection of elements for PWR and BWR.

In 2022, ENUSA Industrias Avanzadas, S.A. S.M.E. has manufactured 282.03 tU enriched, of which 185.4 have been for pressurized water reactors (PWR) in Spain, France and Belgium. In Spain, the supply of fuel has continued on a regular basis to the Spanish PWR nuclear power plants of Westinghouse design. In this year 2022, 91.4 enriched tUs have been manufactured and 180 fuel elements have been delivered to the Almaraz I, Almaraz II, Ascó I and Vandellós II Power Plants.

For the commercialization of boiling water reactors (BWR) fuel in the market, ENUSA has participated since 1996 in the GENUSA company with General Electric, which in Spain is destined for the Cofrentes nuclear power plant. In 2022, 97 tU enriched were manufactured for this type of reactors.

The Juzbado fuel elements plant manufactured 282.03 tU, of which 68% were exported to Belgium, France, Sweden and Finland.

Of the 826 assembled fuel elements, 368 were pressurized water (PWR) and 458 were boiling water (BWR).





KONECRANES AND DEMAG IBÉRICA, S.L.U.

Carrer del Transport, 1 46469 Beniparrell (Valencia) Tel.: +34 902 419 420 E-mail: contacto@konecranes.com





Konecranes is a world-leading group of Lifting Businesses[™], serving a broad range of customers, including manufacturing and process industries, shipyards, power plants, ports, and terminals. Regardless of your lifting needs, Konecranes is committed to providing you with lifting equipment and services that increase the value and effectiveness of your business.

With over 50 years of experience in the nuclear industry and as a member of ASME B30 and NOG-1 committees that sets the standards for the design of lifting equipment in nuclear facilities, Konecranes can expertly provide all equipment, services, and equipment upgrades. handling of nuclear materials around the world. Thanks to its technical service network spread over more than 50 countries, it can service equipment from any manufacturer within nuclear power plants, fuel processing facilities and nuclear waste storage facilities, including safety-related lifting equipment plus review.

EQUIPMENT

Cask handling crane

These specialized cranes utilize Konecranes latest generation of SUPERSAFE™ single failure proof technology to move nuclear spent fuel safely and efficiently.

Our continuous research and development program employs the latest cutting-edge technology, while maintaining a core technology that is based on time-proven nuclear designs. Konecranes engineers understand the complexity of nuclear cask handling, and the importance of coordinating precision operation, safety, and reliability.

Cask Transporters

The latest generation of Konecranes spent fuel nuclear cask transporters are designed to handle most nuclear dry storage casks safely and efficiently. Our Single Failure Proof transporters are available in both rubber tire and trackdriven designs capable of handling up to 350 tons and offer the smallest possible turning radius, including full rotational capability, and are designed to ASME NOG-1 requirements. They can be easily shipped to locations worldwide in standard shipping containers and are specially designed for simple assembly in the field in just one day.

Fuel Handling Equipment

Konecranes nuclear fuel handling equipment utilizes SUPERSAFE™ single failure proof technology, which is designed to comply with stringent worldwide nuclear regulatory requirements. Key safety and diagnostic systems continuously monitor equipment operation, which is displayed to the operator in real-time graphics.

Nuclear Polar Cranes

Our latest evolution of polar cranes utilizes a multipurpose design that maximizes operational capability by combining numerous lifting features into a single compact and weight-efficient trolley. The design improves productivity and reliability by providing four primary lifting systems including a main hoist, auxiliary hoist. maintenance jib crane, and containment inspection man lift, all conveniently located on one trolley. The polar crane main and auxiliary hoists can be provided with a single failure proof or non-single failure proof design.

Hevi Lift® Hoists

The Hevi-lift hoist has a history over 80 years and is widely used in the nuclear industry. It is known for its long life, quiet operation, superior strength, and guality.

The Hevi-lift hoist makes a perfect choice for nuclear containment as it is made of materials suitable for all reactor types. Hevi-lift hoists are manufactured with a minimum amount of deleterious materials. such as aluminium and zinc. The Hevi-lift hoist is also available as a NUREG-0554 compliant single-failure-proof model.



Net sales	3,179.9 million €
EBITA	8.2%
Locations	More than 600
Countries network	More than 50
Personnel	16,860



SERVICE

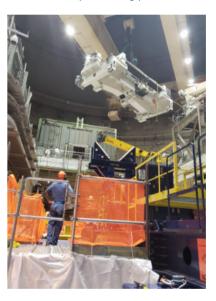
Konecranes is uniquely qualified as a provider of service and parts to the nuclear industry. A distinct advantage we offer our customers is the ability to provide service on a worldwide basis.

With 600 locations worldwide, we can provide a response that is fast and efficient. Whether you need outage support, routine maintenance, engineering support, or anything in between, we have people you can rely on.

The ability to complete modernizations and supply parts to the nuclear industry requires compliance with stringent regulatory and guality requirements. We have the capability to provide parts and service in compliance with these standards with our audited and approved nuclear quality control program. As a global company, Konecranes can help you stay compliant with local requirements with the combination of industry experts and localized know-how



Our parts are supported by ISO 9001 certified manufacturing that employs KTA-1401 and ISO 9001 guality control programs, a seasoned nuclear engineering group, warehouse, and distribution facilities as well as critical-mass purchasing power



Modernizations

We have completed many modernizations at nuclear power generation facilities and our technicians routinely modernize both our own and other manufacturers' equipment.

Modernizations can include:

- Single failure proof upgrades
- Duty-cycle studies
- Planned engineered lifts • Diagnosis and solutions for tracking
- problems, abnormal rail/wheel wear and fatique cracks • Control Upgrades – Variable frequency,
- static stepless or DC-Digital • Integrate load cells/weight systems

- Crane and runway capacity upgrades

RECENT REFERENCES

- Loviisa Nuclear Power Plant Finland -
- 16 ton ILW Gantry Crane
- The ISF at Magnox Bradwell 29t x 23.01m spam Demag Automated EOT Crane
- The ISF at Magnox Harwell 55t x 27.1m spam Demag Manual EOT Crane
- Babcock International Group's Rosyth -32/5t x 51,32m spam Konecranes Gantry Crane at Dockyard engaged in Submarine Dismantling
- Krsko, Slovenia 130t Cask Handling Crane upgrade
- Bremerton and Bangor WA. 2016 2019 -
- 4 x 25 ton Portal Jibs for Navy
- Portsmouth, ME. 2021- 1 x 140 ton Nuclear Rated Portal Jib for Navy
- ACOE LA. 2022 1 x 60 ton Portal Jib
- Bremerton 2019 1 of 7 Nuclear Rated Portal 175-ton Jibs for Navy
- US DoD 900t x 19.457m (o/all width) Rubber Tyred Gantry Crane
- Cofrentes (Spain) 80t Spent Fuel Cask Crane uprated to 125t





NEWTESOL S.L.

CA - 141. km 2,5 - Nave Sur 2 39792 Gajano (Cantabria) Tel.: +34 942 503 009 E-mail: general@newtesol.com

The company has currently the latest

welding technology and continues to

develop new prototypes to face the

upcoming challenges in the industry.

are part of its added and differential

continuously develops new welding

technology in partnership with the

leading machine manufactures in the

market, or with the University and its

Newtesol is committed to information

technologies and the power of data as the

only way to face the new demands in the

industry in an increasingly competitive

The company has developed a data

acquisition system in its welding

machines and personnel presence monitoring in their facilities. This system

allows to analyze parameters and

optimization of the production in real time.

automate works to ensure the

value in the industry, Newtesol

research centers.

Industry 4.0

market.

NEWTESOL S.L. started operating with the aim to support Spanish nuclear civil program demands. The company headquarters is located in Santander (north of Spain) and brings decades of experience in welded manufacturing and Weld overlay.

Since its foundation, Newtesol has invested both in technological innovation and human capital, which has allowed the organization to provide high added value solutions to its customers and to be positioned as an international benchmark in the welding industry.

OUR TECHNOLOGY

Newtesol is committed to technology and continuous improvement as the right path to reach the operational excellence.

With the aim of improving the quality of the weld overlay in the nuclear industry while ensuring competitiveness in the market, the company has developed a fully automated TIG/GTAW welding process pushed to its theoretical and technical limits. This technology ensures high productivity and efficiency in the process and deposition rates that allow it to compete economically with other processes, such as submerged arc welding (SAW), while providing much higher levels of quality in its products.





PRODUCTS

Newtesol has extensive experience in the manufacture of all types of nuclear components up to 50 Tm. The scope of Besides its internal developments, which production includes the following products:

> • Steam generator internals, such as cyclones, rings, supports or complete swirl vane separators.

- Spent fuel rack components
- Radioactive waste containers
- Tanks and pressure vessels
- Heat exchangers
- Weld overlay on tubesheets and other special parts
- And much more (covers, valves ...)

Since its foundation, the company has increased its product portfolio, being currently an international reference in weld overly for the Oil & Gas onshore and offshore-subsea, as well as a key player for the defense industry in the manufacture of critical submarine parts.

Turnover (2021)	
Exports	-
Staff	
Specialized operators	
Average	

OBSESSED WITH QUALITY

Newtesol is committed to quality both in the project management and in the final product as a key factor of its organization. The company promotes a corporate culture of "zero defects".

Certifications and codes

- ASME Nuclear Quality Assurance (NQA-1)
- ASME III NCA-3800
- ASME III Design and manufacturing
- Sello U, ASME VIII Div.1
- Sello U2, ASME VIII Div. 2
- Sello NPT, ASME III Div. 1
- RCCM, Quality level Q1
- API-5LD monogram
- DIN-EN 729-2 UNE EN-3834
- 10 CFR 50 App B y 10CFR21
- ISO 9001
- ISO 14001

SERVICES

The high qualification of its professionals together with their extensive experience in the industry, ensures the optimal service for the customers in the different phases and project areas:

Technical advice

Technical resolution of the most complex projects with the strictest quality requirements.

Design

Extensive experience in equipment design under ASME III. ASME VIII Div.1 and Div.2 standards.

Purchasing and material upgrade

The company provides a large network of contacts for the purchase of the most specific material. In addition, Newtesol is certified for material upgrading to ASME III for in-house manufacturing under ASME III NCA-380.



12,15 million €
84% of sales
74 employees
100% (27% Engineers)
35 years



Document management

The proper issuance of the project documentation is one of the keys to ensure the quality of the final product. The company places a high value in the detailed planning and management of all the project documents by an expert and dedicated team.

INTERNATIONAL RECOGNITION

In addition to the projects focused on the maintenance of the Spanish nuclear power plants, Newtesol has extensive experience in various international projects for nuclear power plants in countries such as United States, Finland, France, Slovenia, the United Kingdom, Taiwan and China, among others. Moreover, the company is a key fabricator for the most innovative projects in the nuclear industry, such as the ITER fusion experiment.

As a result of this experience, Newtesol is recognized internationally and by the main nuclear organizations, such as the "World Nuclear Exhibition", where it has been awarded the prize for "Operational Excellence".



NUSIM, S.A.

Headquarters . Balbino Marrón 8. 6º Viapol Building 41018 Seville Tel.: +34 954 932 447 E-mail: ingenieria@nusim.com





X-ray drums inspection system for NECSA (South

NUSIM, S.A., was founded in 1980 to provide technological solutions for different application fields, such as Nuclear, Health Care, Research, Construction and Prevention.

Nowadays, NUSIM, S.A. consists of three divisions: Radioactive Waste Treatment, Radiation Protection, and Automation, all supported by their corresponding Maintenance Areas.

These divisions provide high quality products and services to a wide range of clients, including Nuclear Power Plants, Official Organizations (ENRESA, CIEMAT), Hospitals, Universities, National Laboratories, and other specialized industries.

NUSIM, S.A. has a Quality Assurance system in accordance with the requirements of the UNE 73401:95, UNE 73402:95, ISO 9001:2015, ISO 14001:2015, and radioactive national nuclear industry certifications GES and regulator certification ENRESA.

SERVICES, PRODUCTS AND **TECHNOLOGY AVAILABLE**

RADWASTE TREATMENT DIVISION

The Radioactive Waste Division, with over 35 years of experience working with all the Nuclear Power Plants in Spain. carrying out the Engineering, Manufacturing, Commissioning, Operation and Maintenance of equipment for treatment, handling and transport of Radioactive Waste.

NUSIM has developed a significant number of equipment that are being used today in all the Spanish Nuclear Power Plants in operation or decommissioning and in the Official Spanish Agencies and disposal, like ENRESA (El Cabril) or research centers like CIEMAT.

NUSIM is also internationally present with equipment in main nuclear sites like Laguna Verde NPP (Mexico), Kozloduy NPP (Bulgaria), Karachi NPP (Pakistan), Chernobyl NPP (Ukraine), Atucha NPP (Argentina), the NORM waste treatment plant (Abu Dhabi), Ondraf/Niras IPM in Belgium or the South Africa Nuclear Corporation facilities in Pelindaba.

All the equipment developed by the Division are manufactured on the basis of own technology. The proposed solutions have been developed to meet the most demanding requirements, giving reliability and robustness, which is highly valued within the Nuclear Sector. The products range covers the hole cycle of the Radwaste from cradle to grave.

Equipment catalogue features: Handling Devices of Drums, HICs, Containers and special Handling with filling, capping, or nesting process. Inspection Equipment

- X-Ray Drums Inspection.
- Sampling systems.
- Latency reactor Inspection equipment.

Radiological Characterization for

radwaste packages (drums or containers) with accessories for capping, surface contamination test etc.

Processing Equipment for recovery and reconditioning Plant for Historical Wastes. **Volume Reduction Equipment**

- Drying systems for sludge or miscellaneous waste by microwave or resistances.
- Pre-compacting equipment. • HEPA filters Compactor
- Grouting and cementation systems
- In situ Mixing System or premixed systems.
- Modular Blocking System, skid or ISO container mounted systems.
- Continuous or batching Mixers with cleaning system.
- Secondary waste recovery systems.

Cleaning and Decontamination Equipment for drums or containers in fully enclosed cabinet, on conveying line or in glove box. Transport Equipment ADR (American

Depositary Receipt) Vehicles and packaging ADR for radwaste land/air transportation.

Decommissioning equipment and Systems.

Cutting, confining handling, water treatment, processing.

Waste recovery. Extraction cut and decontamination of tubular bundles of heat exchangesrs.

NORM radwaste facilities with integral solution for processing, drum filling capping, nesting, cementation and grouting.

RADIOLOGICAL PROTECTION DIVISION

Since its creation, NUSIM is the exclusively distributor in Spain of equipment for contamination measuring, spectrometry systems, dosimetry systems and equipment, and electronic components

Founded in Exports

Sales that comes from the nuclear and radwaste sector Master Degree Engineers

for the detection and measurements of the lonizing Radiation from the main Companies: Mirion – Camberra and ORTEC among others.

This Division is not only in charge of distribution, but also of assembly and onsite commissioning to products for Nuclear Power Plants, Research Centers, Universities, etc. undertaking the subsequent maintenance to ensure proper functioning.

The catalogue features the following equipment:

- Radiation Dosimeters.
- Spectrometry Alfa and Gamma.
- Contamination Monitors equipment/ clothina.
- Personal Contamination Monitors.
- Radiometer/ Radiation Meters.
- Portal monitors for trucks/vehicles.
- Nal y LaBr3 detectors.

AUTOMATION DIVISION

Carries out the study, the planning and the integrated global solutions for the automation systems covering the design, development, assembly and commissioning in all type of industry installations.

NUSIM carries out the PLC's and SCADAS programming of the main manufacturers in the market. NUSIM is recognized integrator of Rockwell Automation even though also have tools and knowledge of the software of the main brand in remaining market shares such as Siemens, Schneider, Omron, ABB, etc.

NUSIM integrates complete automatic systems, both hardware and/or software from different manufacturers. interconnecting business systems (ERPs, Information Servers, etc.) with the manufacturing (Solutions MES).

OUTSTANDING NATIONAL AND INTERNATIONAL ACTIVITIES

RADWASTE TREATMENT DIVISION Between main references, the major

- projects are the following: • X-ray drums inspection system for NECSA (South AFrica)
- Cradles for trasport, elevation and precision positioning of Spools during the replacement and welding work at Flamanville 3 NPP, France.
- Piping Descaling Chamber for Middle East in association with Helgeson Scientific Service S.A.
- Container handling, nesting and capping equipment for the New Safe Confinement in the Chernobyl NPP, Ukraine (TAIM WESER). • Stabilization and Solidification plant for
- Oil Company (TAKREER). ISO container SAS confinement with
- reactor vessel lid cutting. • Drums and HIC handling and compaction
- equipment for Laguna Verde NPP (Mexico). • Reprocessing Plant for Historical Waste,
- for the Santa María de Garoña NPP.
- In drum Microwave Drying Facility, for Ascó and Cofrentes NPP.
- Equipment for Casting Collection and Cooling for a Plasma Oven Facility for Kozloduy NPP (Bulgaria).
- heating resistors for Asian NPP.
- 7 Handling equipment for IPM of Ondraf/ Niras in Belgium, up to 40Tn load capacity.
- In addition, drum and container handling
- devices, waste solidification plants, package radiological characterization systems, compactors, etc, are in operation in all the Spanish nuclear emplacements.

1980
27%
76%
70%

NORM ashes. ADNOC Abu Dhabi National

control room for the José Cabrera NPP

• Miscellaneous drum drying facility by

• NUSIM has developed new equiments for tilting of drums, automatic manipulators for forklifts, in-drum precompaction with recoverable sleeve, radiological inspection system of roads all with the new technology of augmented reality.

RADIOLOGICAL PROTECTION DIVISION

Main supplies during recent years:

• Body Count Contamination Monitors: Mirion Technologies and RADOS with proportional and scintillation detectors for Trillo, Almaraz, Ascó, Vandellós II, Cofrentes and Santa María de Garoña NPPs and El Cabril.

• TLD RADOS dosimetry systems: Almaraz, and Trillo NPPs and Dosymetry center.

• Gamma Spectrometry Systems ORTEC with germanium detectors and Alpha Spectrometry Systems ORTEC for Polytechnic Universities of Valencia, Cáceres, Basque country, Barcelona; Catalonian Government, CIEMAT and CSIC.

• Portable Gamma Spectrometry Equipment ORTEC for ENRESA. Customs Algeciras and Catalonian Government.



Norm treatment plant (UAE)



TECNATOM, S.A.

Avda, Montes de Oca, 1 28703 San Sebastián de los Reyes (Madrid) Tel.: +34 916 598 600 E-mail: correo@tecnatom.es



With more than 60 years of knowhow, Tecnatom has made quality one of the main principles of its activity, competing with its experience and contributing with innovative solutions to the global nuclear challenge.

BUSINESS OBJECTIVE

Tecnatom was created in 1957 as a Spanish engineering company specialised in guaranteeing the operation and maintenance of nuclear power plants with the highest levels of security.

The main activities are focused on services to inspect components and structural integrity, the training of personnel in advanced training environments and support engineering to the operation of plants, relying in digitization tools which support our clients in their path toward the industry of the future, more efficient and sustainable. Today it is a business group with subsidiaries in United States, France, United Kingdom, Mexico, Brazil, Portugal, Slovenia, United Arab Emirates and China, which carries out activities in several sectors, among them energy, petrochemicals, rail transport and aerospace.

The company offers services and develops products with a high technological content and its own technology, adapted to the needs and requirements of the different clients and markets and possessing mechanical, electronic and data processing resources in the state of the art of technological development.

Tecnatom develops projects in 40 countries worldwide and its methodology and equipment have been validated by clients and regulatory authorities at an international level.

The company is also deeply involved in future developments, consolidating its participation in advanced projects for nuclear energy plants, such as the construction of new plants worldwide and the development of new reactor concepts, as the SMR.

Tecnatom participates actively in fusion reactors and research reactors such as the great international ITER project in France and the Jules Horowitz Research reactor (JHR) in France.

Tecnatom has provided advanced and sophisticated technology for the nuclear sector for almost six decades. Its role within the international nuclear projects in this period has allowed the company to adapt its technological capacities to a very demanding environment, providing innovative solutions to the global nuclear and technological challenge.

SERVICES, PRODUCTS AND **TECHNOLOGY AVAILABLE**

Tecnatom provides services and products with their own design and manufacture in order to continuously adapt to the needs and requisites of the different clients and markets.

A relevant part of Tecnatom's activity is devoted to the evaluation of the

structural integrity of the main components of nuclear power plants and other industrial facilities. Tecnatom has achieved huge international experience and references.

Its inspection and testing services have been approved and certified by many organisations and international clients. Its basic capacities include:

• Inspection services: complete capacities to perform an automated inspection using NDT of all the areas of the reactor pressure vessel, fuel assemblies, steam generators, heat exchangers and other relevant components such as piping and turbines.

• Testing services: a wide range of advanced tests for the evaluation of the status of the different components of the site.

• Engineering services: in the areas of life management, codes and standards, implementation of inspection programmes, maintenance and reliability of equipment, management of parts and components with special emphasis on the support of plant asset management and the long term operating programmes.

Using the technological development and the application of its services, Tecnatom contributes to improving the training and efficiency of the personnel of the plants, as well as implementing the best resources to facilitate the operation of the sites, thus guaranteeing improvements in safety, availability and economic efficiency

Turnover (2022)	111.8 million €	
Volume of sales that comes from the nuclear sector	88%	
Destinated to exports	29.9%	
Investment in R&D	3.9 million €	
Staff	760 employees	
Management	10	
Senior Engineers	447	
Engineers	126	
Technicians and admin. workers	177	

guaranteeing improvements in safety, availability and economic efficiency

• Nuclear Training: with more than 35

years of experience in the application of the most advanced training methodologies, Tecnatom has more than 160 specialised professional instructors in the different technologies of generation II, III and IV, which makes us the leader in training services for the Spanish nuclear industry sector and provides us with an important presence in countries with nuclear projects.

*Emergencies and Operational Support: operating procedures and severe accident procedures assistance in the field o nuclear emergencies, specialised services to support start up, operational experience, radiological protection and dosimetry.

• Control Rooms and Simulation: using

in-house technology, Tecnatom provides the best solutions in the areas of training and engineering assisted by simulation in the design and supply of new control rooms, as well as their modernisation.

• Safety Management: providing high added value services that reinforce the management of the sites and the development of additional competences in matters of safety culture and leadership.

Tecnatom has developed its own technology of automated inspection systems and, as a result, has become a provider of high level technological services and products, with the support

of the companies in the Tecnatom group to guarantee global and reliable solutions for any need.

• NDT inspection systems: Tecnatom designs and manufactures complete inspection systems for a wide range of applications tailores adapted to the specific requisites of the client.

• NDT Equipment: Tecnatom offers

data acquisition and analysis systems, developing also software for a wide spectrum of non destructive test applications.



• Design and Development of Products:

both standard and adapted to the needs of the client, including the operational procedures and the services of technological engineering.

COUNTRIES IN WHICH THERE IS NUCLEAR ACTIVITY

Argentina, Brasil, Mexico, The United States of America, United Kindom, Finland, Belgium, France, Switzerland, Slovenia, Romania, Russia, United Arab Emirates, China, Taiwan and South Korea.



