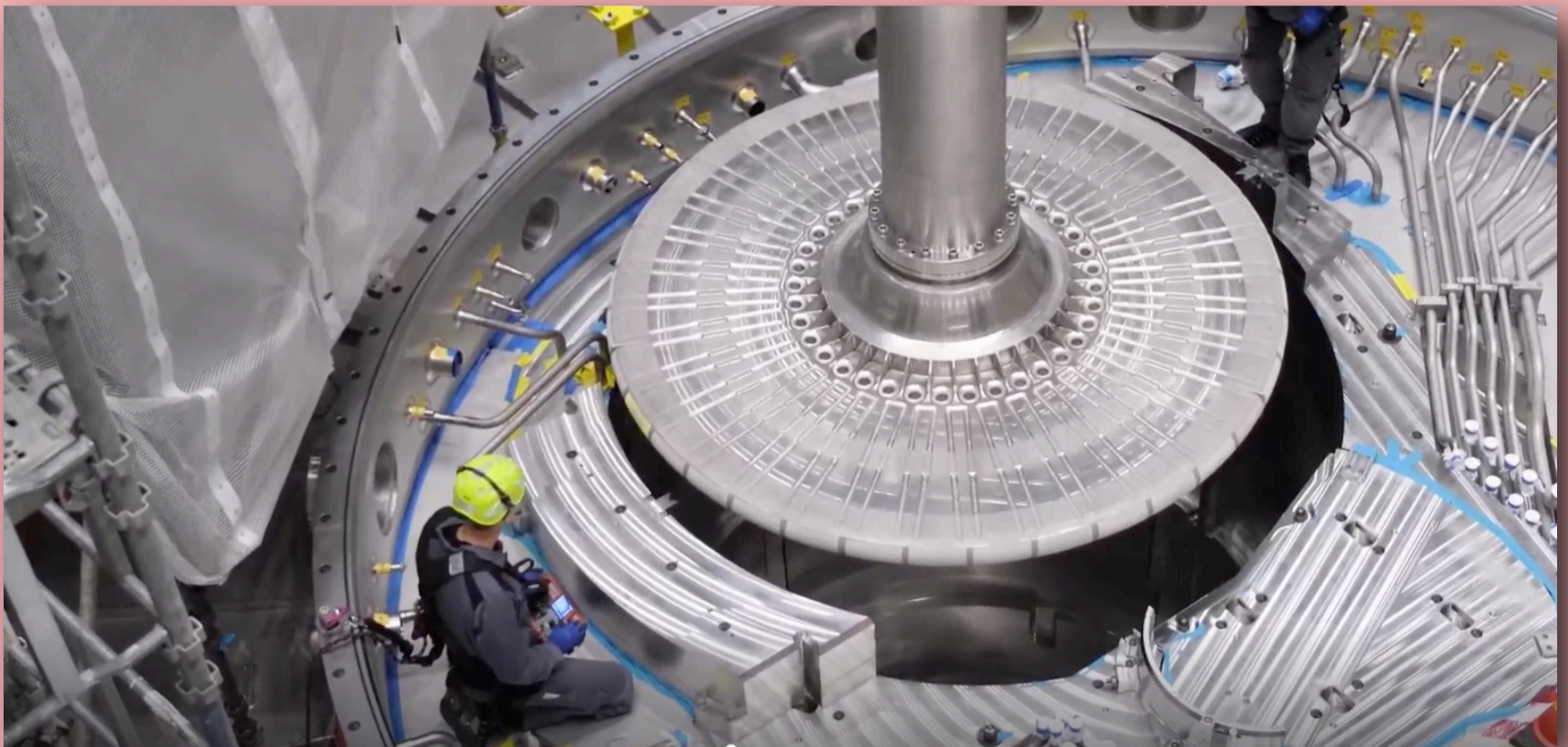




ESS
bilbao

newsletter

DECEMBER 2023



Successful installation of the Target Wheel at ESS site

summary



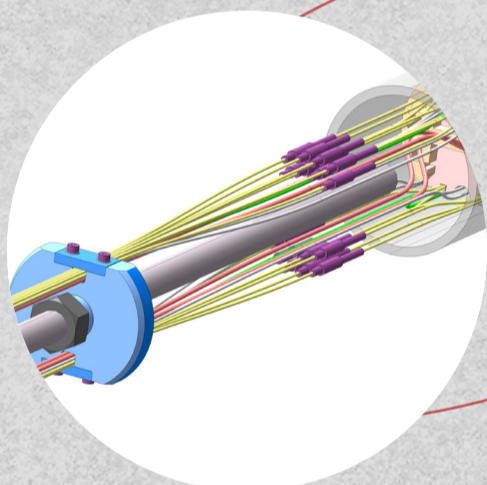
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MARIO PÉREZ
Executive Director

ESS Bilbao, what has 2023 brought us?

I hope this message finds you in good health and high spirits at this last period towards the end of the year.

Against a backdrop of challenging times, 2023 has been, in many ways, a very successful year for ESS Bilbao. We remain committed to delivering our contribution to ESS Lund and expanding our activities by reaching collaboration agreements with organizations around the World.

*I am happy to start by reporting to you that during the first half of 2023, we were able to build on our prior success, and ESS Bilbao **was awarded "Bronze A"** status by Euskalit. This is an additional milestone towards the implementation of an Advanced Management System within the organization.*

*On this occasion, we would also like to highlight the progress made in the **development of a mock-up for the future ITER Bolometers**. In this project, ESS Bilbao, together with SCKCEN and Alter Technology, is developing a nuclear irradiation rig that will help irradiate materials for future bolometers at ITER facilities. The project, which is being carried out by a multidisciplinary team of nuclear engineers from the three organizations, began its design phase in early 2022 and is expected to be ready for irradiation at the beginning of 2024.*

*This year will also mark the **finalization of a long-standing project, the design and manufacture of the RFQ** – Radio Frequency Quadrupole. This internal project, led by our colleague Juan Luis Muñoz, features a novel design in which the vanes are assembled by means of polymeric vacuum gaskets (3D O-rings), thereby making it more flexible with respect to other traditional techniques using brazing or welding. A first segment was manufactured to validate the design.*

Segments #2 and #3 are finished and the last one is expected to be finalized before the end of the year. All in all, we do

expect to proceed with the Bead Pull and tuning of the cavity at some point next year. This project, involving a multidisciplinary team which manages to combine every aspect, from engineering, RF systems and vacuum to the mechanics of the components, undoubtedly places us at the forefront of particle accelerator science and technology, in Spain and beyond.

Likewise, we have also made good **progress in our contribution to ESS in Lund:**

- The **Target System** has been successfully tested at the MUTS (Mock Up Test Stand) at Lund, the Connecting Ring was delivered and assembled in the Monolith Vessel, and good progress is being made in the manufacture of the Head of the Vessel at Cadinox/AVS and in the different components of the PBIP – the support structure in Asturfeito, the optical slides in Thuneureka and the instrumentation slides in Nortemecanica, all planned to be finalized before the end of the year.
- The **high-power Klystron** has been re-conditioned at the manufacturer's premises, CPI in California, and at the time of writing this newsletter is on its way to Lund. This delivery will mark the completion of the SoW for one of our key contributions to the ESS Accelerator System in Lund, the whole RF Power System for the RFQ and DTLs.
- Last but not least, the **MIRACLES project is making impressive progress** on all fronts. Most of the CDRs (Critical Design Reviews) have already been passed successfully, and the manufacture of the components is well on its way. It is worth mentioning the outstanding work being done by our industrial partners AVS and Cadinox in the manufacture of the vacuum vessel and the prototype analyzer. Indeed, this prototype is being tested now with neutrons at the ILL – Institute LaueLanguevin.

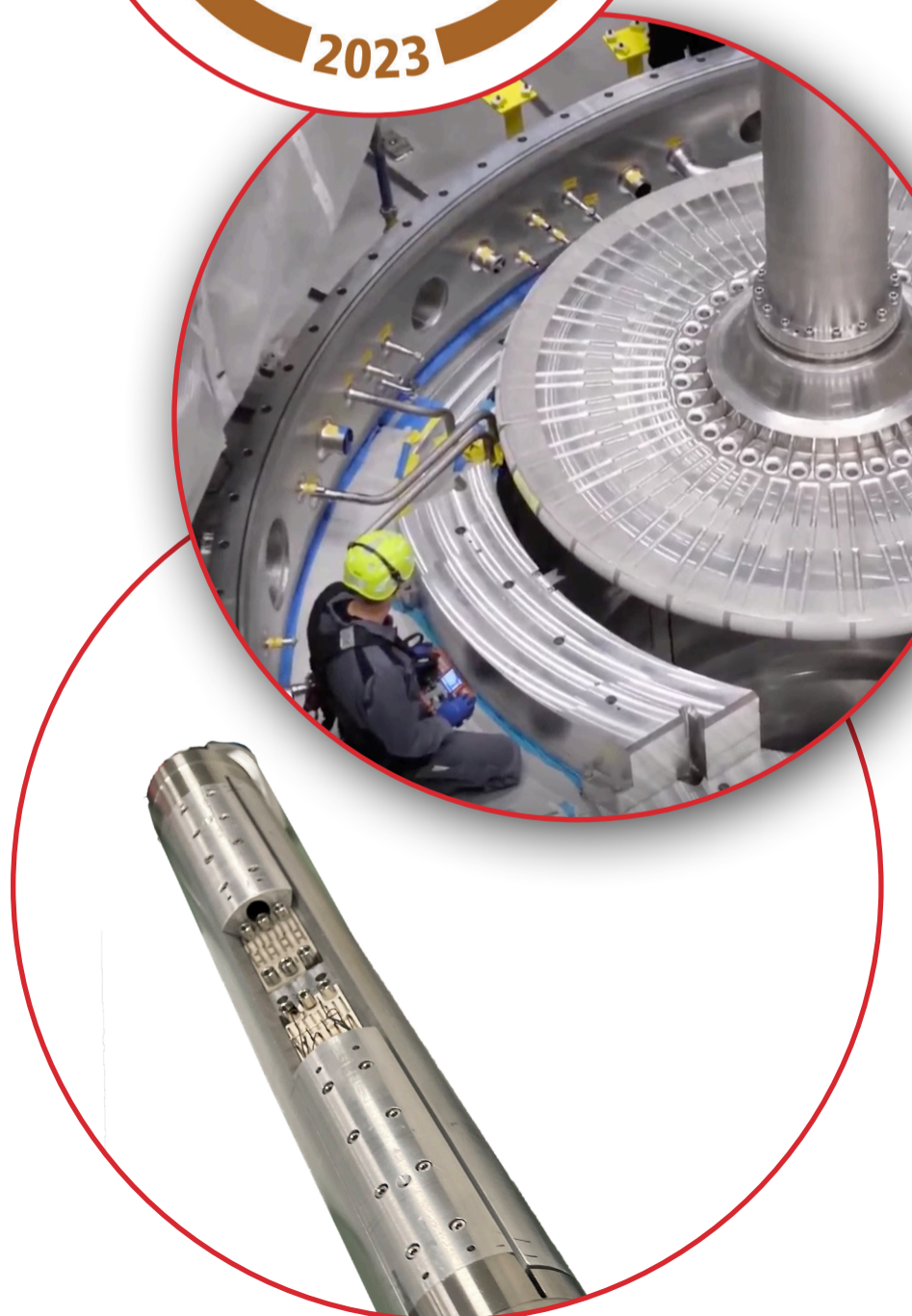
Over the course of 2023, we were also very excited to attend quite a few conferences and workshops all over the world, and it was a pleasure to be able to meet so many colleagues from around the world in person again.

Finally, we complete this issue with some very interesting interviews with Giovanna Fragneto, our new Science Director, and Robert Connatser, Head of Division for Neutron Scattering Systems, both from ESS Lund. They

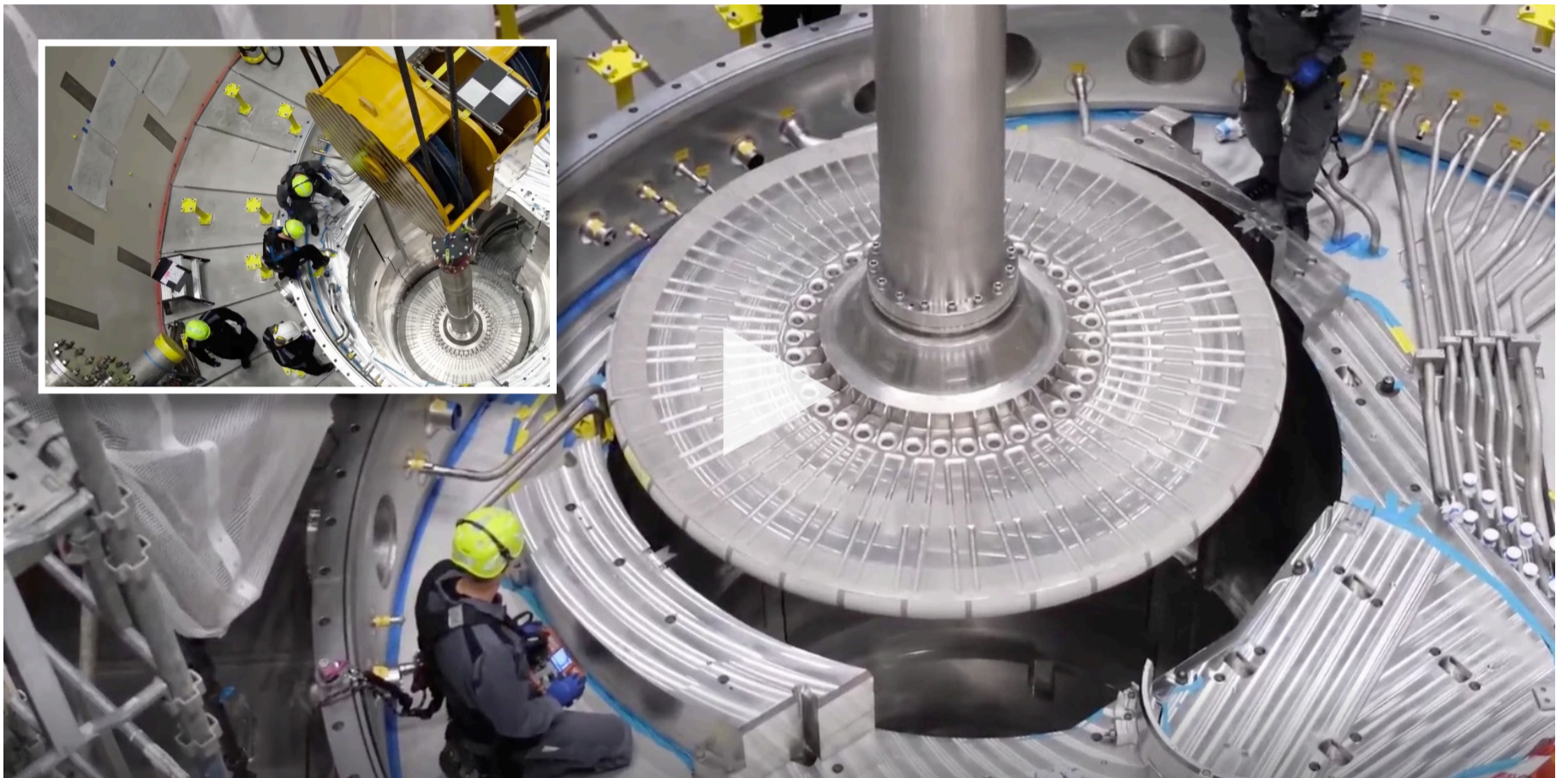
give us their views of what a promising future holds for ESS Lund in terms of starting user operations.

I hope you will find the content of this issue to your interest and that you will enjoy reading it.

Please stay healthy and safe.



Successful installation of the Target Wheel at ESS site



Click on the image above to watch the video

ESS Bilbao key In-Kind Contribution is at its final site at the Target Station at the European Spallation Source ERIC. Now waiting to see the neutrons come out. The heart of the ESS has Spanish scent!

Congratulations to ESS Bilbao target division and European Spallation Source ERIC. Also, we would like to thanks to our partners Nortemecanica AVS Thuneureka without whom this would not have been possible. Years of hardworking and excellent coordination to successfully achieve this big challenge.

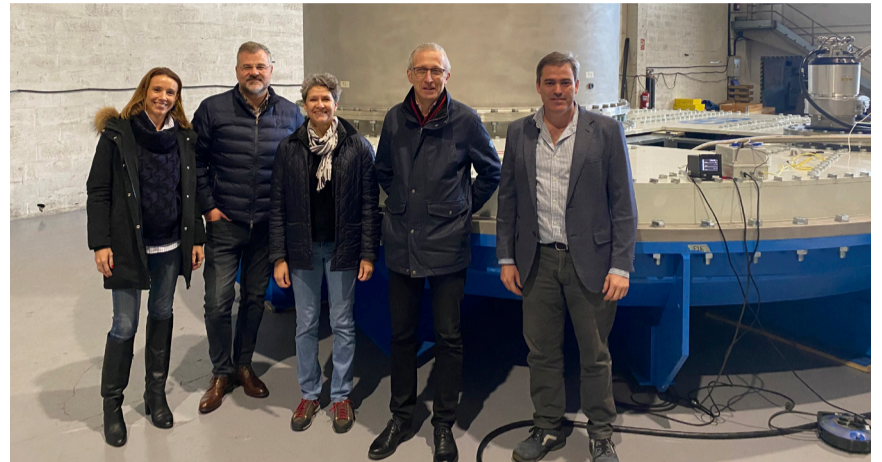
The target system components, -target wheel, shaft, and drive unit- are unique in terms of engineering challenge, design, manufacturing, and quality control.

Spain essential and always strongly engaged with the ESS project since the start.



Head of the Vessel almost ready to be shipped

Successful Factory Acceptant Tests -FAT- for the Head of the Vessel at Cadinox facility. An ESS team and part of the Management team of ESS Bilbao has been presented while the tests were made. The head of the vessel has been an engineering challenge in terms of design, manufacturing, quality control, but now been successfully completed and shipped to ESS. The head of the vessel complete of the main In-Kind Contribution from ESS Bilbao and it's part of the Monolith vessel which encloses the Target system.



It's the core of the ESS, the place in which the neutrons are generated. In this steel container, the rotating target wheel, the moderator and reflector plug, and proton beam instrumentation has recently been installed. This vessel contains 1,000 tonnes of steel, shielding the outside from activated materials and ionising radiation generated in the process.

This milestone has been possible thanks to our industrial partners, AVS and Cadinox, in excellent collaboration with our Target group team and ESS.

Proton Beam Instrumentation Plug project

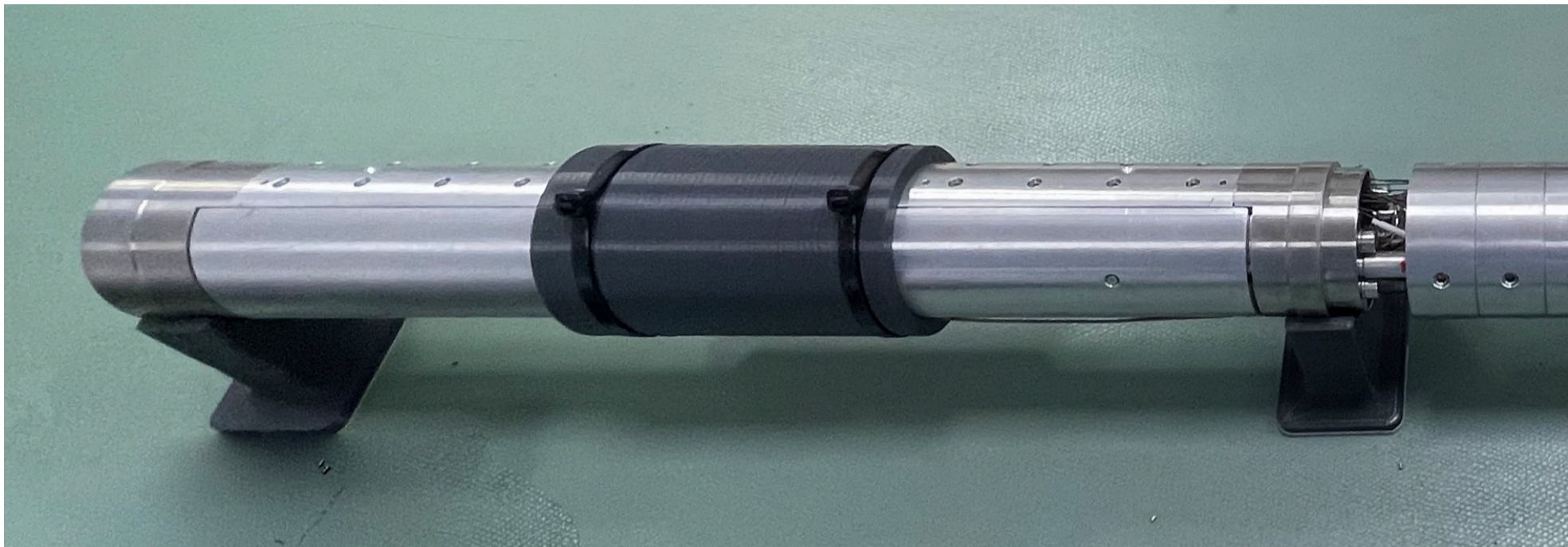


ESS Bilbao, Proton Beam Instrumentation Plug (PBIP) project consists of several components introduced in the protons' path, being their main functions to measure properties to determine that protons arriving to the target do it with the proper shape, energy, frequency, and other parameters. This instrumentation is even capable to evaluate the beam on target by using IR and optical techniques. ESS Bilbao is carrying out the mechanical and thermal precise design of holding structures that allocate the instrumentation.

The welding process of the different components that make up the project has recently begun. The manufacture of the supports is being carried out by the company Asturfeito; the instrumentation slides, Thune Eureka and finally the optical slides, Nortemecánica.

The integrated FAT is expected to take place in the coming weeks. Soon the component will be shipped to ESS ERIC!

A mock up for the future bolometers sensors at ITER facility



Bolometers are a fundamental piece of future ITER diagnostics scope, they are sensors designed to measure the power of incident electromagnetic radiation and detect the heat generated in a material with a temperature-dependent resistance. The bolometers need to be tested in a nuclear environment; this is only possible in a fission research reactor like SCK-CEN BR2.

ESS Bilbao, together with SCK-CEN and Alter Technology, are developing a nuclear irradiation rig that will help irradiation materials for future bolometers of ITER facilities. The project, that is being carried out by a multidisciplinary team of nuclear engineers from the three organizations, began its design phase in early 2022 and expect to be ready for irradiation in the beginning of 2024.

Likewise, the design of the critical parts and the manufacturing, such as the brazing of the cables to the pressure vessel of this component, have been carried out at the Thuneureka facilities in Galicia.

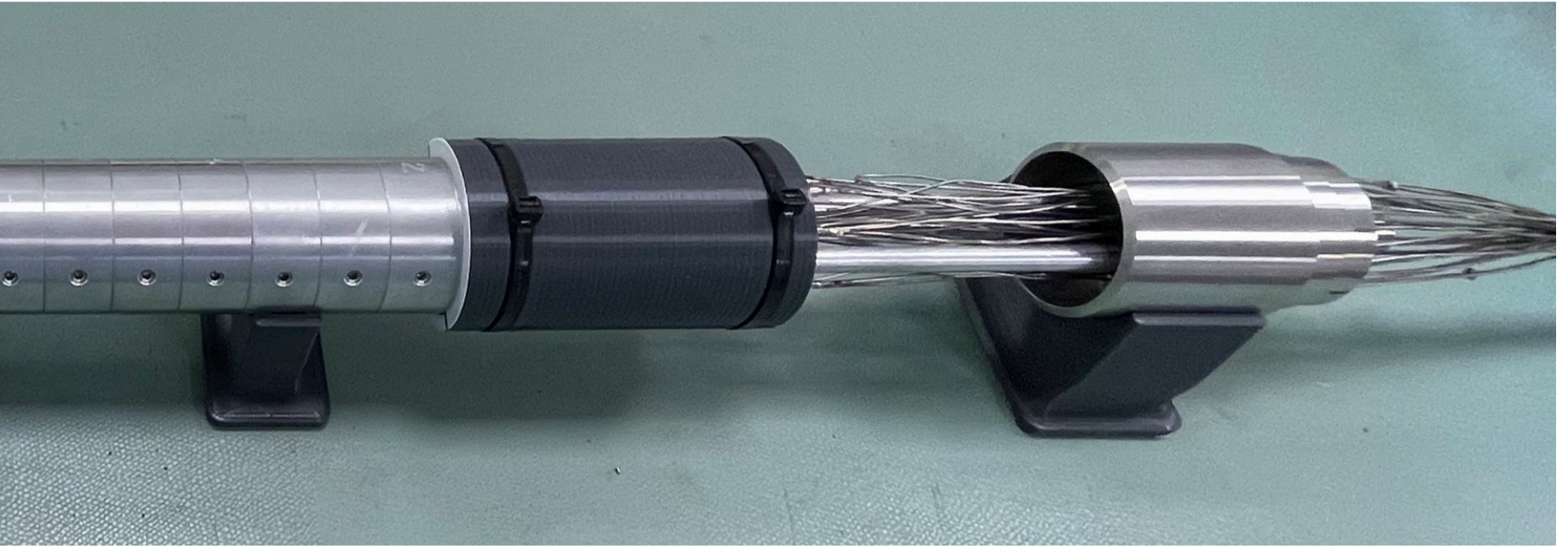
The core of the project

The project consists in the development of a nuclear

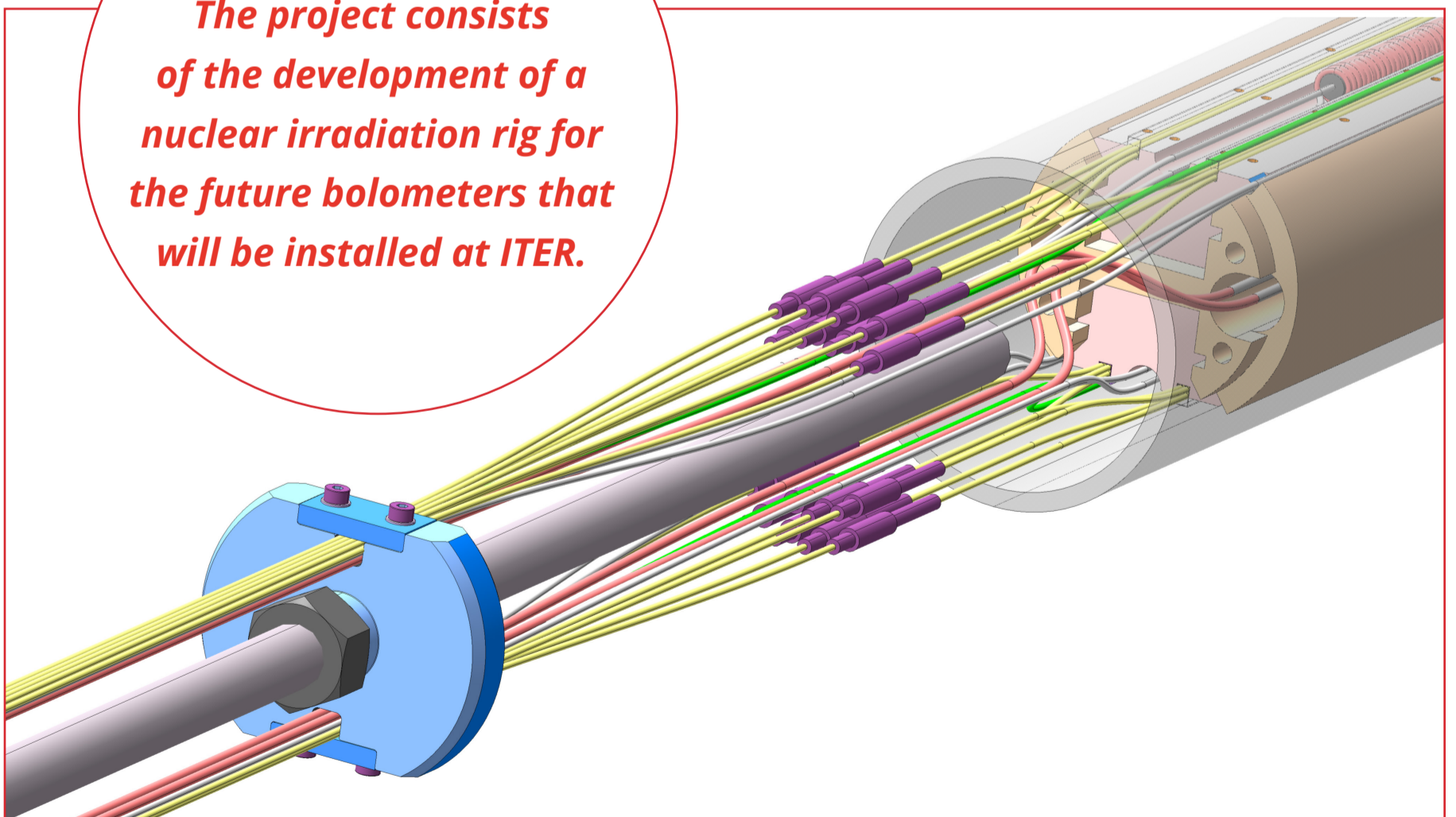
irradiation rig for the future bolometers that will be installed at ITER. Bolometers are sensors used to measure and monitor the temperature that the plasma will reach inside the ITER fusion chamber. The nuclear irradiation rig is a system designed to expose bolometers to controlled radiation conditions. In this way, through online monitoring of the temperatures that we have in the bolometers during irradiation, we can evaluate their future behaviour.

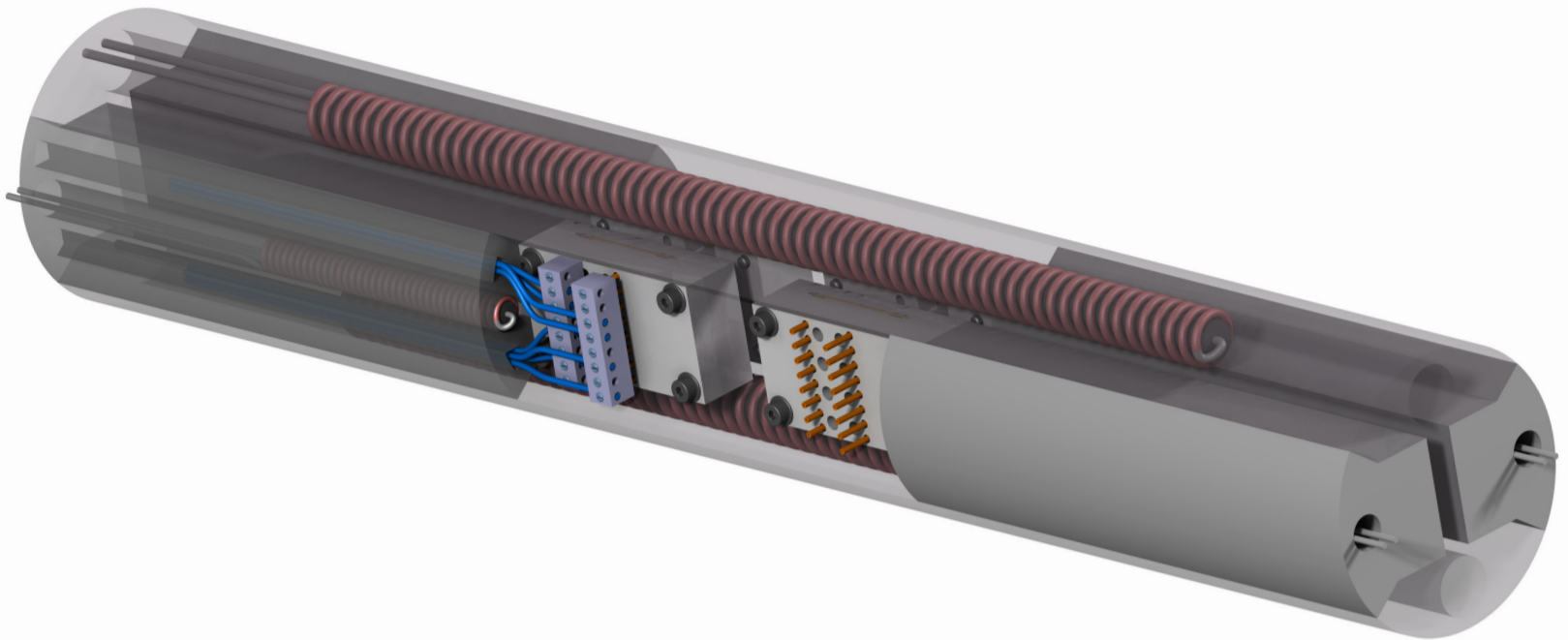
Bolometers must be integrated into a ring that ensures proper thermal and dose conditions during testing while monitoring. The design of the nuclear needle, the place where bolometers are contained, has been mainly driven by fitting, routing and properly sealing all the required cables while allowing a homogenous temperature field for the bolometer's critical parts.

The needle contains a pressurized helium capsule consisting in a central aluminium piece in which four bolometers are placed. Heat issue and temperature field is managed by the conduction of gamma heating through exterior via a finely machined 0.4 mm gap. In addition, six heaters' have been placed inside the capsule to create temperature excursions, compensate



The project consists of the development of a nuclear irradiation rig for the future bolometers that will be installed at ITER.





The development of the project is based on being capable of simultaneously monitor two DUTs (online) that each contain 4 sensors and irradiate a total of 4 DUTs (2 more offline).

possible deviations of the reactor cycle and thermal gradients due to the different materials of the bolometers' holders.

Proposed design has been able to overcome the challenges and successfully integrate the bolometer sensors into the nuclear reactor for online monitoring during irradiation.

The development of the project is based on being capable of simultaneously monitor two DUTs (Device Under test) online that each contain 4 sensors and irradiate a total of 4 DUTs (2 more offline). For this, a proper channel has been selected that provides the expected radiation damage, as well as the appropriate temperature profile. An irradiation capsule (helium) has also been designed in which, by means of the correct control of the "gaps" between solids, the required temperatures and gradients are determined.

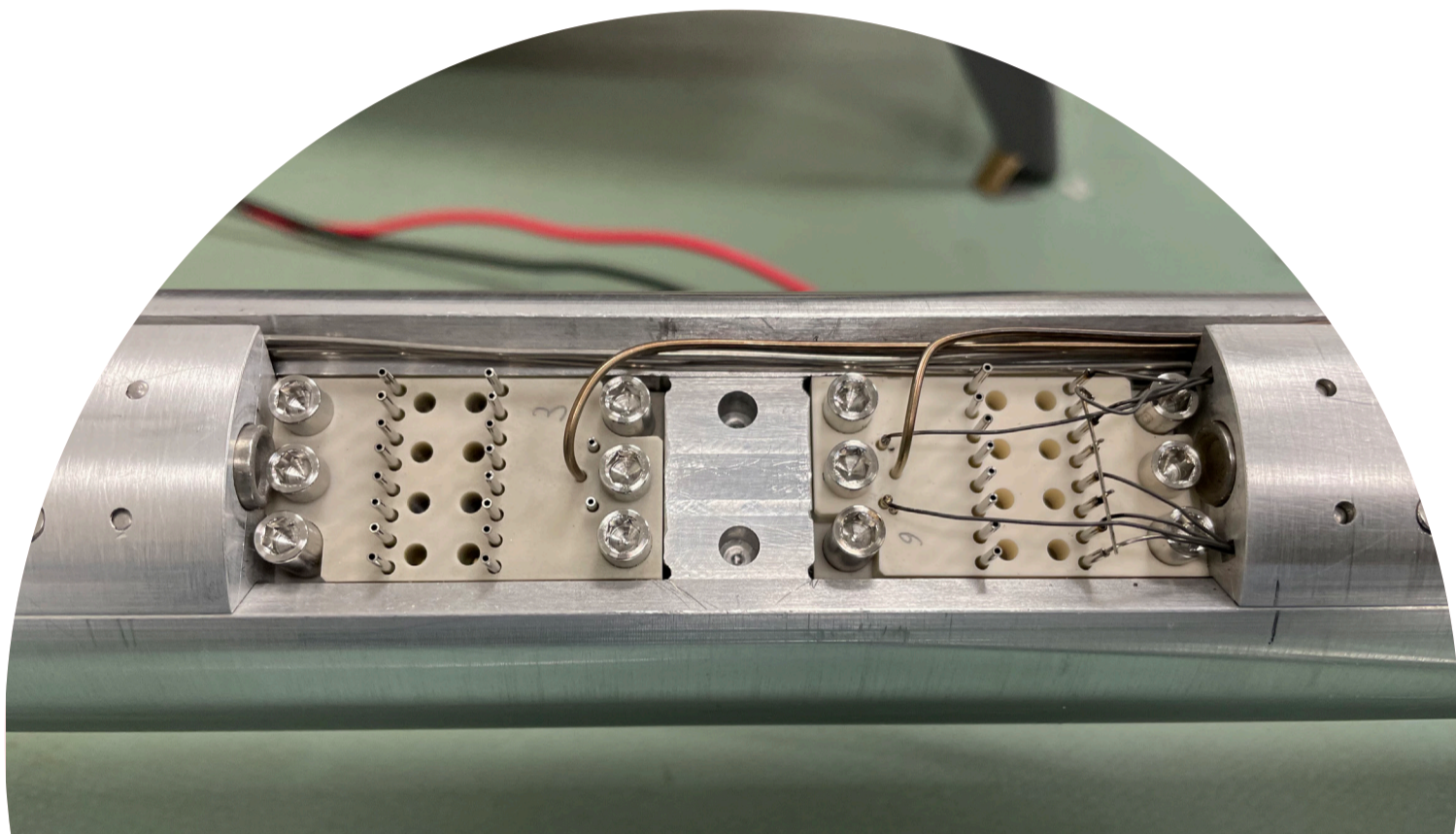
The assembly of the DUTs, which contain the bolometers, has been carried out at the Max Plank



Institute in Germany, the welding of the DUTs to the cables has been carried out at Alter Technology, as well as the assembly of the irradiation capsule. The capsule is currently being welded in Thuneureka where the assembly process will continue until the rig is complete and leaves for SCK where acceptance tests and irradiation will be carried out in the BR2 reactor.

In addition, six electric heaters have been introduced

inside the capsule with the purpose of controlling temperature gradients as well as having the capacity to perform regulated temperature excursions. Capsule measures approximately one meter and 34 cables come out of it that must be "brazed" to it to avoid the reactor water damage the sensors. These cables run 6 meters vertically along the rest of the RIG until they reach the hoseg that lead them out of the reactor pool some 15 meters above the core, where the capsule is.



Key role

The nuclear irradiation rig is essential for the development and validation of the bolometers that will be used in ITER. These bolometers will play a crucial role in monitoring radiation in the nuclear fusion reactor, providing accurate, real-time data on the radiation levels present. This information is essential to guarantee the safety of the reactor and to optimize its performance. The development of this rig has allowed Ess Bilbao to position itself in the field of irradiation and obtain new projects in this area.

ESS Bilbao has reinforced its presence at the most relevant scientific events throughout the year.

After years of uncertainty, ESS Bilbao has recovered the spirit of the international events. We believe that it is time to meet again with our colleagues from all over the world, to have technical discussions and discover how our developments in neutron science and accelerator technologies are going on.

To foster a scientific culture around neutrons research and related fields we consider very important to engage the stakeholders through being present in congress, workshops, talks, and any other meetings within the scientific community, and science industry.

Our positioning as a reference center in neutron sciences and particle accelerator technologies allows

us to participate in scientific meetings of different disciplines: neutron scattering, nuclear fusion, compact neutron sources among other. In addition, we are called to participate in the most high-level institutional meetings related to our field of expertise.

In addition, ESS Bilbao has been presented with a Txoko during the Zientzia Astea-Science Week that More than 5,000 visitors have passed through the building that the UPV-EHU has for the event. Is an inescapable appointment for ESS Bilbao. Our stand, a mandatory stop for students and visitors in general to learn first-hand about the technological developments we carry out.

march



European Conference of Neutron Scattering ECNS-23

Strengthening relationships to position ourselves internationally is one of our main objectives.

september



International Symposium on Fusion Nuclear Technology ISFNT-15

september

II Meeting ICTS
La Laguna (Santa Cruz de Tenerife)



10th International Meeting of the Union for Compact Accelerator-driven Neutron Sources UCANS



october



HB2023 CERN

october



International Conference on Fusion Reactors materials ICFRM21

november



Zientzia Astea
Science Week

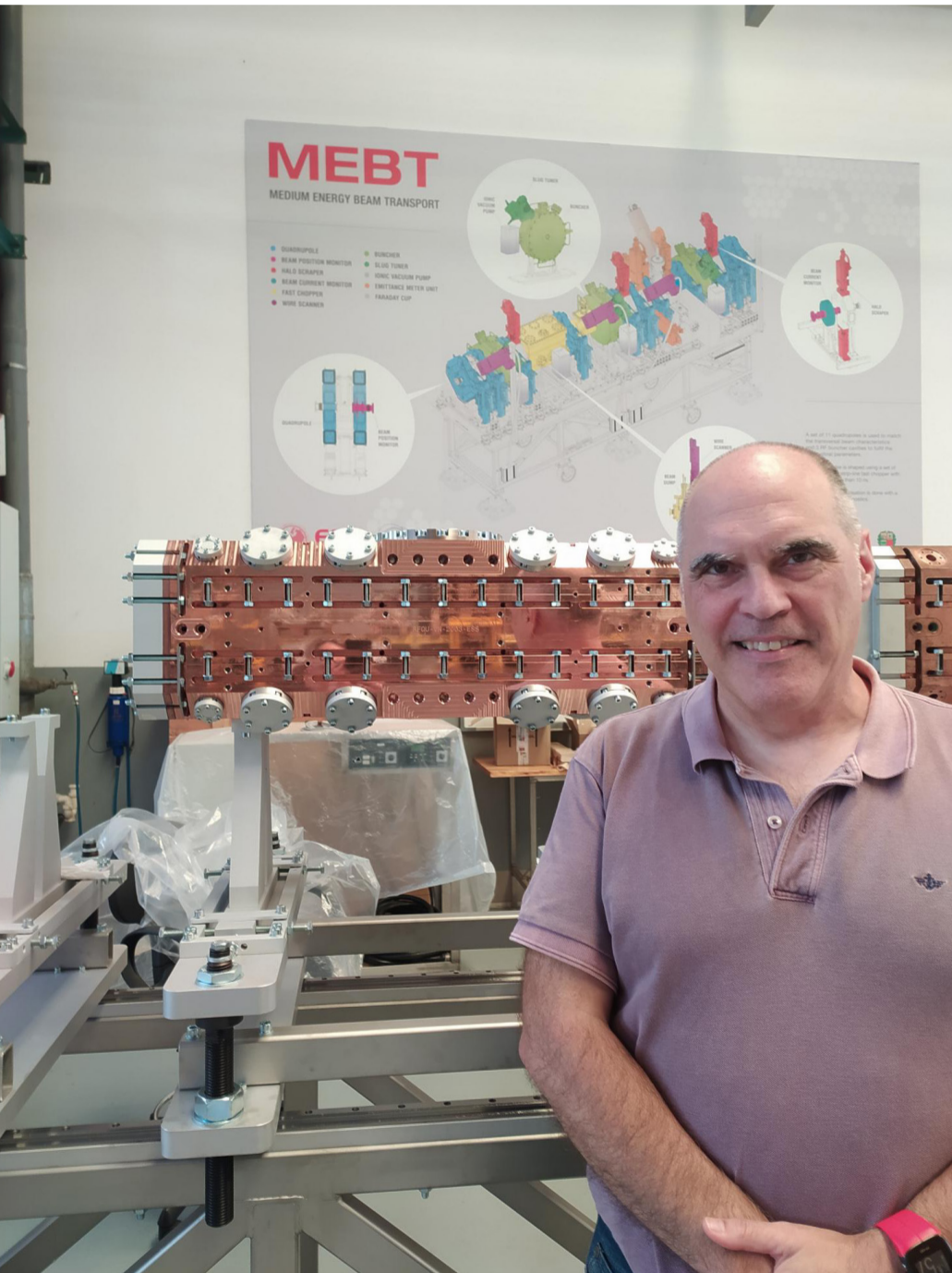


International Collaboration on Advanced Neutron Sources ICANS 2023

november



From computer simulations to having our own operational RFQ



The ESS Bilbao RFQ is assembled using vacuum and pressure joints, which allows greater flexibility

The manufacture of this key element will end in 2023 and this was our objective: to design and manufacture our own RFQ for ESS Bilbao.

More than 10 years have passed since Juan Luis Muñoz, PhD in Physics, took on the challenge of creating a multidisciplinary group at ESS Bilbao whose main function was to design, manufacture, and test some of the necessary components that make up a particle accelerator. The group called Acceleration Structures began to carry out electromagnetic simulations of cavities, magnets and other structures that make up

an accelerator. The coordination and teamwork of physicists and engineers, both from the technical and human point of view, made possible the development of the project that this piece occupies, the RFQ.

Muñoz recounts the technical and personal challenge involved in designing and manufacturing the RFQ. In-house project that for ESS Bilbao means not only an important technological development due to the

know-how that has been generated, but also means having the first element of its own future accelerator. The development of the RFQ has been executed from the beginning with a human team made up of a wide variety of profiles that have managed to combine all aspects from engineering, RF systems, vacuum to the mechanics of the components that make it up.

Getting everything coordinated and part of a whole has not been free of difficulties. More than 15 physicists and engineers have intervened during the different phases that the RFQ project has had in recent years. As it is an internal project, in many moments, says Juan Luis, we have depended on the demands that other external projects required, hence its delay in time.

The manufacture of this key element will end in 2023 and this was our objective: to design and manufacture an own RFQ for ESS Bilbao. Today we can affirm that this is a fact.

RFQ, a linear particle accelerator

It is the first element that all particle accelerators (protons and other ions) have after the ion source.

Its purpose is to fulfill several functions:

- to serve as a bridge between the ion source and the other radiofrequency acceleration structures, shaping the beam extracted from the source to achieve optimal synchronization of the beam with the cavities.
- make a first acceleration of the beam at 3 MeV, so that the next cavity can have a simpler design than if the energy were lower.
- it speeds up, keeps the beam focused, and bunches the beam into different RF-synchronized packages in a single compact device.

Vacuum and pressure joints

When asked what distinguishes the ESS Bilbao RFQ from other RFQs, Muñoz answers that there is no homogeneous design, that all that exist are different. Although he points out that the main distinction of ours is that it does not use a brazing weld to join the elements that make up the segments. The ESS Bilbao RFQ is joined with vacuum and pressure joints, which allows greater flexibility in the assembly of the pieces. The complexity lies in guaranteeing the required vacuum and electrical contact for the normal operation



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of the system. The dynamic tuning of the entire system is done using the temperature of the cooling water. Another differentiating characteristic is that our RFQ project is that the strategy maintained from the beginning has been based on designing, manufacturing, and testing by phases of increasing benefits, so that the end of a phase ends a complete cycle in which the device remains operational, so that the demands in the design or manufacture of a component are prevented from blocking the entire project. This has allowed us to maintain a constant up-grade of all the components, for example, the couplers.

RFQ operability

The ESS Bilbao RFQ will produce a high-intensity proton beam at 3 MeV, this will provide a first element to feed a particle accelerator that can produce neutrons. Likewise, it will allow the testing of diagnostic devices for other projects in which ESS Bilbao participates. The RFQ will be a tool to use as a test stand in future experiments.

WHAT'S GOING ON AT ESS BILBAO

Growing as a team

Begoña Asumendi

New Head of the Financial Division of the ESS Bilbao Consortium. Graduated from the University of Deusto in Business Administration and Management, and with a Master in Development Director, Asumendi will be responsible for the financial and administrative area of ESS Bilbao, will report directly to the executive director and will be a member of the Management Committee. With a command of four languages (German, English, French and Basque) will be the one representing the consortium in international financial committees.

His professional career has focused on financial controller, preparing strategic and business plans, budget controls, cost monitoring, closing and analysis, among other of his multiple tasks.



Ivan Aranda, as a Project Engineer within the Instruments division. He will be in charge, among other functions, of 3D design, analysis and preparation of complete manufacturing and assembly plans for mechanical components for Miracles. His position is in our laboratories at 201.



Javier Garitaonandia, the new Quality Control Engineer integrated into the Target division. His tasks will be focused on managing the quality control process of projects related to components of the Target division. His place of work are new offices in Alcalá de Henares (Madrid).



Ricardo Sánchez has recently joined ESS Bilbao like new CAD Modeller. Located within the Target division in Alcalá de Henares office, Ricardo will be carried out among other tasks with the production of 3D models in CATIA, the selection of commercial mechanical elements. As well as the preparation of exploded drawings and the development of technical specifications for manufacturing processes.

Miracles main update

MIRACLES project continues in the process of Critical Design Reviews approval, finishing the out of the bunker guide and supports systems task and planning the upcoming ones with the main object of pass the cave design during this year. Manufacturing of some elements has started, inside bunker guide, Bunker wall insert, or Choppers are example of the systems that are already under construction with planning of starting the assembly on Lund by the beginning of the next year.

Miracles analyzer

One of the main components of MIRACLES Instrument is the analyzer system which consist of a double-spherical monochromator of radius 2.5 m. The neutron reflecting component comprises about 1032 hexagonal silicon wafers whose goal is to reflect neutrons in the near backscattering geometry towards the detector bank. This neutron optical assembly is glued on a set of 12

spherical carbon fiber plates. Testing of this component before the final design decision is crucial and for this purpose, we are developing two test benches with a reduce set of carbon fiber plates to test at ILL in France different configuration of silicon wafers.



LATEST NEWS BEYOND BORDERS

Giovanna Fragneto, new Science Director at the European Spallation Source



What was it that attracted you to this new professional path?

Neutron scattering has been the focus of my activities in the last thirty years. I spent most of the time at the Institut Laue-Langevin (ILL) in Grenoble, France, continuously promoting the power of that unique tool for the study of condensed matter and more in particular soft matter and biological systems. I found exciting the perspective to contribute to the setting up of the European Spallation Source (ESS), a new facility that will strengthen further neutron science in the future. Back in Grenoble I had a successful career but

there were no perspectives for a promotion to a top management role, I was flattered when the occasion arose at ESS. Part of the decision to make this step in my life and leave behind my colleagues, friends and family, was due to my long engagement in the fight for a better gender parity in science, including the issue of the glass ceiling. Once I was given the possibility to break it, I felt that I should not step back.

What are your plans as Scientific Director of one of the largest scientific infrastructures that Europe will have in the coming years?

ESS has to make the transition from a construction site to a user facility centered on science. My plan is to oversee this transition and make sure that science becomes the focus of the activities in the organisation.

ESS has to make the transition from a construction site to a user facility centered on science. My plan is to oversee this transition and make sure that science becomes the focus of the activities in the organisation. I am working now to strengthen the structure of the science directorate, obtain a stronger engagement from the users, increase the number of scientists, enhance the scientific environment to make the facility attractive to scientists, engineers, technicians.

What is a working day like as Scientific Director at ESS?

Full of meetings and planning but also interactions with staff. I travel a lot too so every day is different from the other.

How was the transition from being a scientist with full-time research duties to a position with dominant leader and manager responsibilities?

I spent the last 15 years at the ILL in middle management roles as responsible of the Large Scale Structure and Soft Matter Science and Support groups. I was also responsible for setting up the Partnership for Soft Condensed Matter with the ESRF and a Lipid Deuteration Lab. Nevertheless, I managed to keep some students, do some teaching and, above all, continue conducting neutron experiments. At the moment I made a pause from student supervision and teaching, but I continue travelling to Grenoble to do neutron experiments, it is vital to keep my brain alive! So, I have not yet made the full transition and, honestly, I hope I never will. Even with administrative duties one should never stop to be a scientist.

Your brilliant research career has been oriented to the study and modeling of biological membranes, mostly

using neutron reflectometry (but not only); from your point of view, what can be considered your most paramount achievement?

My most paramount achievement has been contributing to the realisation of model biological membrane systems adapted for structural studies with neutrons and their promotion with the user community. We have increased over the years the complexity of these models and made them more and more biologically relevant. We have set up methods and provided lab infrastructure that has inspired many other neutron facilities to follow the same path. I have proved that promoting internal scientific activities in a neutron facility oriented towards service is of great help to enhance the scientific output and the quality of science. The scientific result that excited me the most was seeing and analysing reflectometry data from the giant swelling of floating bilayers. It dates back to my postdoc time, probably the scientifically most fulfilling years of my career...

What is your vision on the future of neutron science in Europe, mainly in the close future?

Europe has a very large user base and is at the forefront of science in neutron scattering. It has been put in danger by the closure of some of the facilities. The areas to which neutrons contribute to are expanding and the tool remains unique in many respects even when compared to the emerging of other powerful techniques. If we continue reducing the number of beam days we risk losing this community. To maintain a leading position, we need to keep our successful facilities for way longer than what foreseen at the moment. ESS will not be able to cope on its own with the demand of the community. If this condition is fulfilled, I see a very bright future for neutrons in Europe.

Is there any value, culture,... acquired during your work in Grenoble at the ILL, that you want to transmit to the ESS institution?

The strength of the ILL has always been the passion and motivation of its staff. Many ILL employees have put their work in front of any other activity in their life. This has allowed continuous success in all the projects that have been carried out despite the often-inadequate number of staff members and budget. I would like to transmit this passion and pride for the work and the facility. I hope to be able to do so by helping ensuring the excellent working conditions that I have enjoyed in the past, by giving trust and empowerment to staff, by showing the example.

LATEST NEWS BEYOND BORDERS

Robert Connaster, Head of NSS at the European Spallation Source



What challenges do you assume as head of NSS in ESS?

When I came in to NSS, we had some significant challenges, mainly related to project management (from good project schedules to sufficient project management culture, good communication, tracking, etc.). Working very hard with the team, we now have better schedules in tranche 1 instruments, but have work ahead of us for tranches 2 and 3. From our Project Office down to our instrument team members, I believe we've made great

strides in developing our project management culture. There continue to be challenges with some In-Kind partners with delivery and funding.

The major technical and organizational challenge within NSS was with our Detector Group, with the delivery of boron-10 based detector technologies and also ensuring the capacity to accept detector technologies from our partners. Dr. Kevin Fissum, the new Group Leader (one year in office) and technology responsible, has implemented a series of reviews and updates to that

ESS is a green field facility and as such is having to develop its operational processes as well. We are fortunate that the gradual ramp up of the accelerator is giving the organization an opportunity to learn how to be operational in smaller chunks before the neutron instruments start operating.

group which has given us and our partners confidence we will be able to deliver and work with our partners to ensure operational success. He has also worked hard to communicate openly with staff and partners in order to build up trust.

What skills would you highlight are the most valuable in your current position of responsibility?

I see the four key skills as Project Management, delegation, people management, and patience.

How do you manage the day to day between the engineers, scientists, and the operational part in ESS?

Our organization is set up with Dr. Andrew Jackson as our Lead Instrument Scientist and Gabor Laszlo as the Lead Instrument Engineer and they are empowered to ensure scientific and engineering issues are generally dealt with before getting to me. Distributing these responsibilities throughout the organization allows me to have more focus on project management and in-kind issues, in conjunction with Sofie Ossowski, our Project Manager.

ESS is a green field facility and as such is having to develop its operational processes as well. We are fortunate that the gradual ramp up of the accelerator is

giving the organization an opportunity to learn how to be operational in smaller chunks before the neutron instruments start operating. I look forward to being able to bring my experience from the operations at the Intense Pulsed Neutron Source and Spallation Neutron Source as we start up operations in the experimental halls.

You worked previously at the early stages of the ESS construction. Did you find out differences between both periods? Did you also see similarities?

A big difference is that by being in the permanent site with all of the facilities and on going construction, it seems so much more real.

A big similarity is the commitment of the people and the partners all working together to ensure we build a great facility.

You have a very long experience as installation manager/coordinator of scientific instruments in large facilities (neutron sources, synchrotrons). How do you expect to transmit your experience and skills to the future phases of the ESS project?

My method is to be seen as resource for staff as we plan the execution of the projects and begin the planning of the operational phase of the facility. We have many people at ESS that have never worked at a user facility, so there are many opportunities to discuss lessons learned or issues encountered. A hard part is ensuring all the right people are in the right forums or have the opportunities to ask questions or express concerns.

What has been the biggest challenge you have faced throughout your professional career?

My biggest and yet exciting challenge is the one I'm facing right now in the delivery of NSS, due to the complexity of the project and the its multistakeholder model. We have a wide variety of in-kind partners, each with their own challenges and needs, that I need to work with to ensure they can deliver to NSS and ESS - which means project delivery via influence rather than strong control. I also have accountability inside ESS to the Project Director, Technical Director, Science Director, and Director General, where I've needed to learn how to communicate, manage expectations, and still find ways to deliver! This is also complicated by the green field nature of ESS, where we are learning how to be a facility as well as delivering all of the project scope.

ESS Bilbao awarded with the A Bronze new milestone to the Advanced Management process

Improve competitiveness to reach excellence



ESS BILBAO began 3 years ago a process of strategic reflection aimed at establishing the operating objectives and the master lines of the way forward in a medium and long-term for the sustainability and excellence of the organization. Recently, ESS Bilbao has been awarded with the A Bronze a new milestone of the Advance Management process.

The first step was to carry out a self-assessment of the current situation of the Consortium, under the umbrella of the Advanced Management Model for Basque Organizations, advised for EUSKALIT.

Identified six areas

The aim of this model is to provide ESS Bilbao on how to improve their management. Use of the model enables to strengths and areas for improvement to be identified in six areas which impact on the competitiveness and sustainability of the Consortium, creating a management system that generates the best possible results for all stakeholders in a balanced and sustained manner.

During 2022, as a result of the External Contrast for having successfully achieved the established objectives, ESS Bilbao obtained the Advanced Management Diploma, the first official Certification on its path towards excellent and sustainable management.

Being the Report informed by Euskalit positive for ESS Bilbao, the contrast team identified different aspects of improvement to continue taking steps in Advanced Management.

During 2023 ESS Bilbao has been in the process of executing a Simplified External Evaluation, which is an independent evaluation in which the strong points and areas for improvement within the organization's management are identified. The team from the Consortium Management Office has been preparing all the pertinent information to meet all the requirements established to successfully pass this Simplified External Evaluation.

Throughout these years, ESS Bilbao has implemented



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RECONOCIMIENTO DE BRONCE
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actions to improve its internal management. Strategic policies and action plans focused on two of the elements of the Advanced Management Model have also been systematized: Society and Innovation.

Society

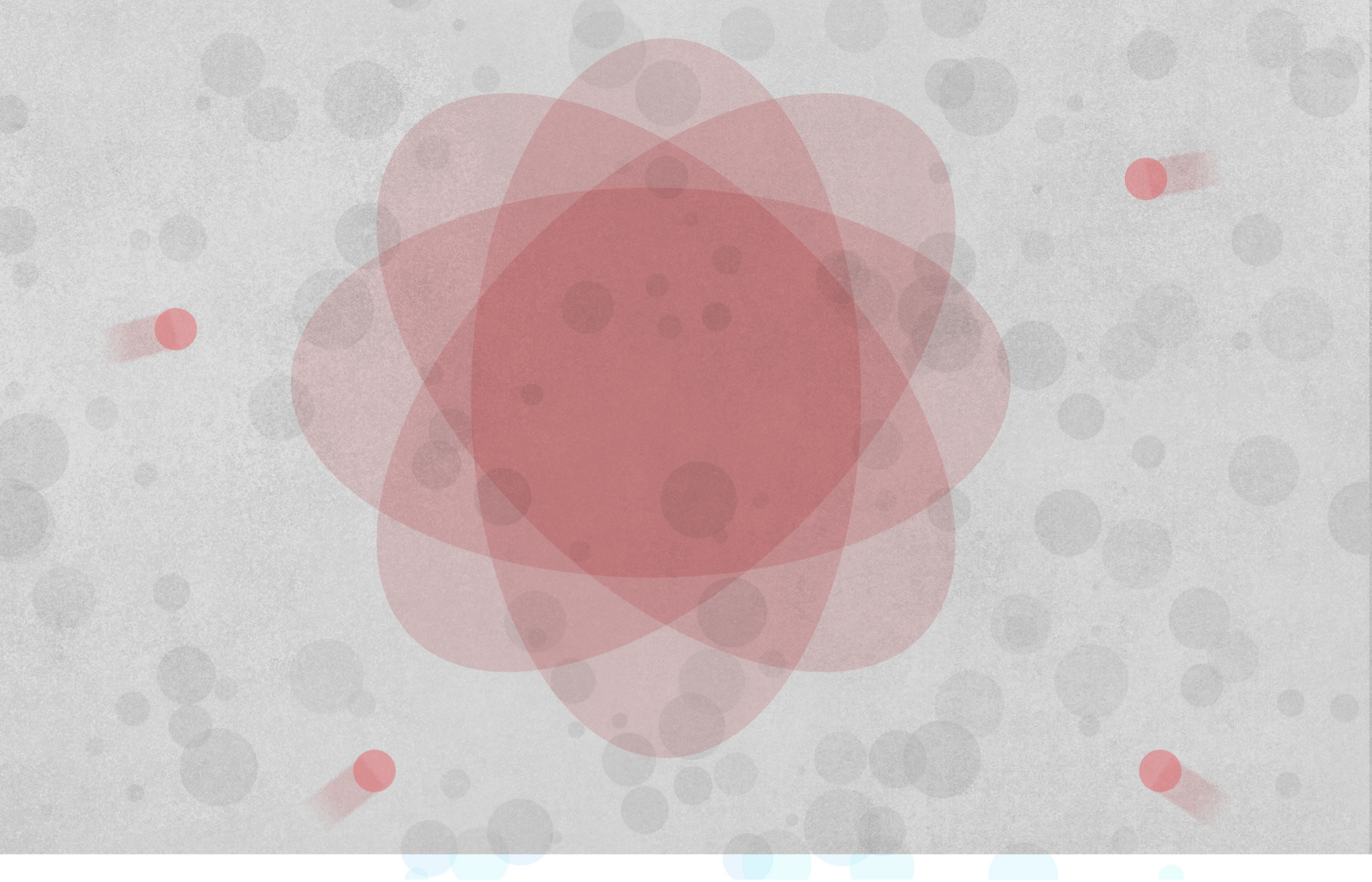
ESS Bilbao within its policy has set specific objectives such as getting involved responsibly to contribute to an optimal coexistence, facilitating spaces for awareness and dissemination to transfer the ESS Bilbao project as something beneficial; encourage participation with other social agents in knowledge exchange forums; and carry out actions that bring our activity closer to public

opinion.

Sustainability and Innovation

ESS Bilbao has prepared and implemented an environmental sustainability plan that generates a commitment between the people who make up the workforce with the environment where they work.

The creation of its own methodology for the management of all projects with innovative content from the initial phase of conception of the idea until the end of the R&D project that is generated, has been incorporated into the project management system at ESS Bilbao.



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newsletter
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