

ECC-SMART Project Newsletter August 2023

Dear Partners, Colleagues and Friends!

We are happy to welcome you at a fourth issue of the ECC-SMART project external newsletter. The project currently undergoes an extensive practical period requiring more active communication between the partners and harmonization of work among different work packages. That is ensured by organizing more regular in-person meetings impossible before due to COVID-19 restrictions and are now seen as very beneficial and help us to improve catch the slight delays. In this issue, we would like to share our best news with you. And we appreciate any feedback and proposals [here!](#)

ECC-SMART Project Team

Project Extension

The **project** got 6th months of **extension**, and the new project end is **28th February 2025**. Therefore, some of the project deliverables and milestones got more time for their preparation.

Project Work Packages:

- **WP1** – Project Coordination
- **WP2** – Materials Testing
- **WP3** – Thermal Hydraulics and Safety of SCW-SMR
- **WP4** – Neutron physics of SCW-SMR
- **WP5** – Synthesis and Guidelines for Safety Standards
- **WP6** – Dissemination and communication
- **WP7** – Ethics requirements

FIND OUT MORE!

CORDIS
EU research results



Two In Person Meetings

The ECC-SMART consortium met in Prague on 21-23 September 2022 for the first time after the challenging situation with the pandemic when the consortium couldn't meet in person, and all meetings were held online via ZOOM.



Photo credit by *Eliska Krychova*



Photo credit by *Eliska Krychova*

The 2nd fruitful in-person technical meeting of the ECC-SMART Project was held on 29-31 March 2023 in Budapest. Important technical discussions about the future SMRs took place!

Workshop on the Safety of Small Modular, Advanced and Fusion Reactors

The Workshop took place on June 20-21, 2023, in Celje, Slovenia. It was a joined event of the three EU-funded projects on reactor technologies ECC-SMART, HARMONISE and ELSMOR. The participants discussed the opportunities and challenges in research and development of the technical approaches, methods and criteria in regard to safety cases of future nuclear facilities, which form the basis for the licensing process.

The Workshop happened under implementation of Task 6.4 of the WP6. The proceedings will be issued following the Workshop.

Training and exchange program for researchers

Project research activities at JRC Amalia laboratory

An exchange program for PhD students/post-docs/young scientists was established by the consortium within Task T.6.4. This program allows EU students to visit and work in the facilities of the consortium members.

Two PhD students visited JRC Amalia laboratory: Miroslav Waltr (University of Chemistry (UCT) Prague), Daniela Marusakova (UCT, CVR). Their studies are implemented in the frames of WP2 of the project on materials testing.



Photo credit by *Radek Novotny*

The main objective of Miroslav Waltr's PhD thesis is to set-up and run Electrochemical Impedance Spectroscopy measurements of Alloy 800H and Austenitic Stainless Steel 310S in 380 and 500C° SCW. At the same time, he supported partners to set up Corrosion and SSRT tests within Task 2.2.

The main objective of Daniela Marusakova's thesis is to set up and perform SSRT Tests of Austenitic Stainless Steel 310S in 380 and 500C° SCW.

Her contribution to a project and Task 2.2 was in performing an analysis of those specimens exposed in general corrosion tests in 380C° SCW using SEM.



Photo credit by *Radek Novotny*

JOINT EUROPEAN CANADIAN CHINESE DEVELOPMENT OF SMALL MODULAR REACTOR
TECHNOLOGY



This project has received funding from the Euratom Research and training programme 2019-2020 under Grant Agreement No 945234.



ECC-SMART Project Newsletter August 2023

Trainings and internships based on the project



The project involves Master and PhD students into different training activities

12 students from all over Europe were involved in the activities which took place in the frame of the Workshop on the Safety of Small Modular, Advanced and Fusion Reactors in June 2023 in Celje, Slovenia. Most of them are in the middle of their MS or PhD theses related to mechanical engineering, materials studies, thermohydraulic researches, innovative nuclear technologies, licensing of nuclear reactors, and all of them plan to bring their input into SMR research activities in future.

"A discussion with an ECC-SMART project partner which I had there, will help me to enhance current experimental campaign. Further, I was able to expand my network in the nuclear science community."

Feedback from the Workshop participant

"The topic of licensing is completely different issue for people working on design side. I wanted to hear from professionals and construct new connections."

Feedback from the Workshop participant

"The course gave me insight into other areas of the ECC SMART project. I think that after completing the course I will be able to look at the issue of small modular reactors in a more comprehensive way."

Feedback from the Workshop participant

"I gained a lot of new, very concrete, knowledge from the field. Considering the access to speaker's presentations, I also gained new information sources for my future career."

Feedback from the Workshop participant

"First of all, it helps to know what's the status now in terms of readability of regulators and stakeholders to accept new designs like the new GenIV SCWR, secondly, there might be future collaboration with other researchers."

Feedback from the Workshop participant

Updates in the project technical Working packages

WP 2 → Preparation of the WP2 workshop on materials and online in-situ methods for corrosion monitoring in SCWR to be held in November 2023 in Madrid.

Workshop objective:

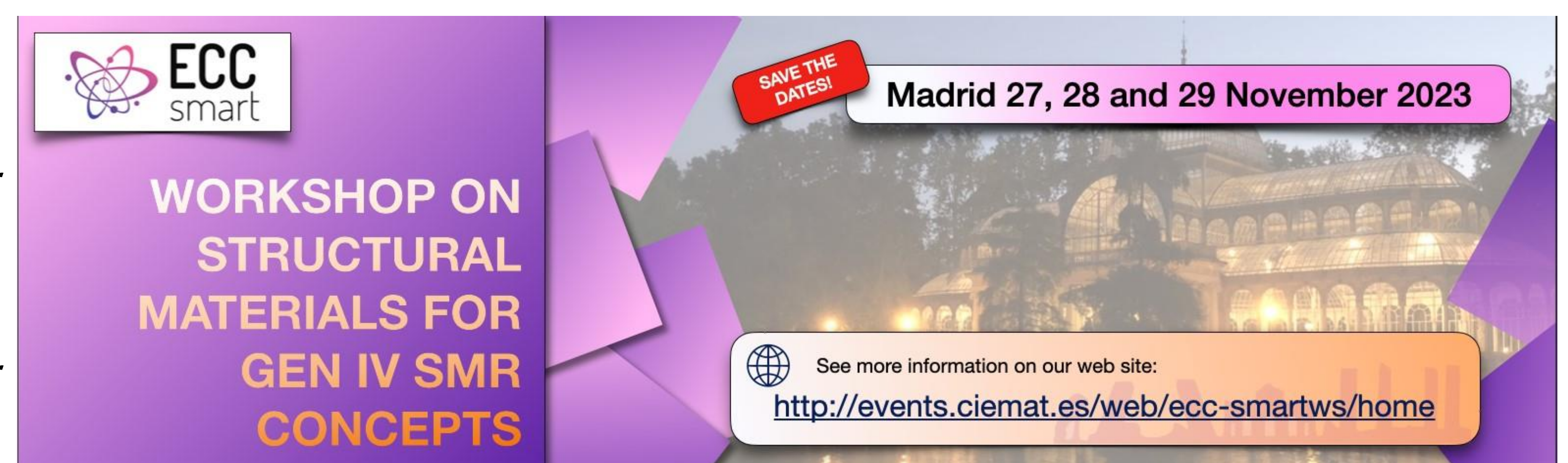
Provision of a platform for scientists and engineers working on various designs of fourth generation reactors to exchange their knowledge and ideas related to materials used in such reactors.

Target audience:

Young researchers and engineers who want to expand their knowledge and gain exposure to the latest developments in the field.

Organised by ECC-SMART in collaboration with EERA-Joint Program of Nuclear Materials and the participation of the Generation IV International Forum (GIF).

➤ **More information is [HERE!](http://events.ciemat.es/web/ecc-smartws/home)**

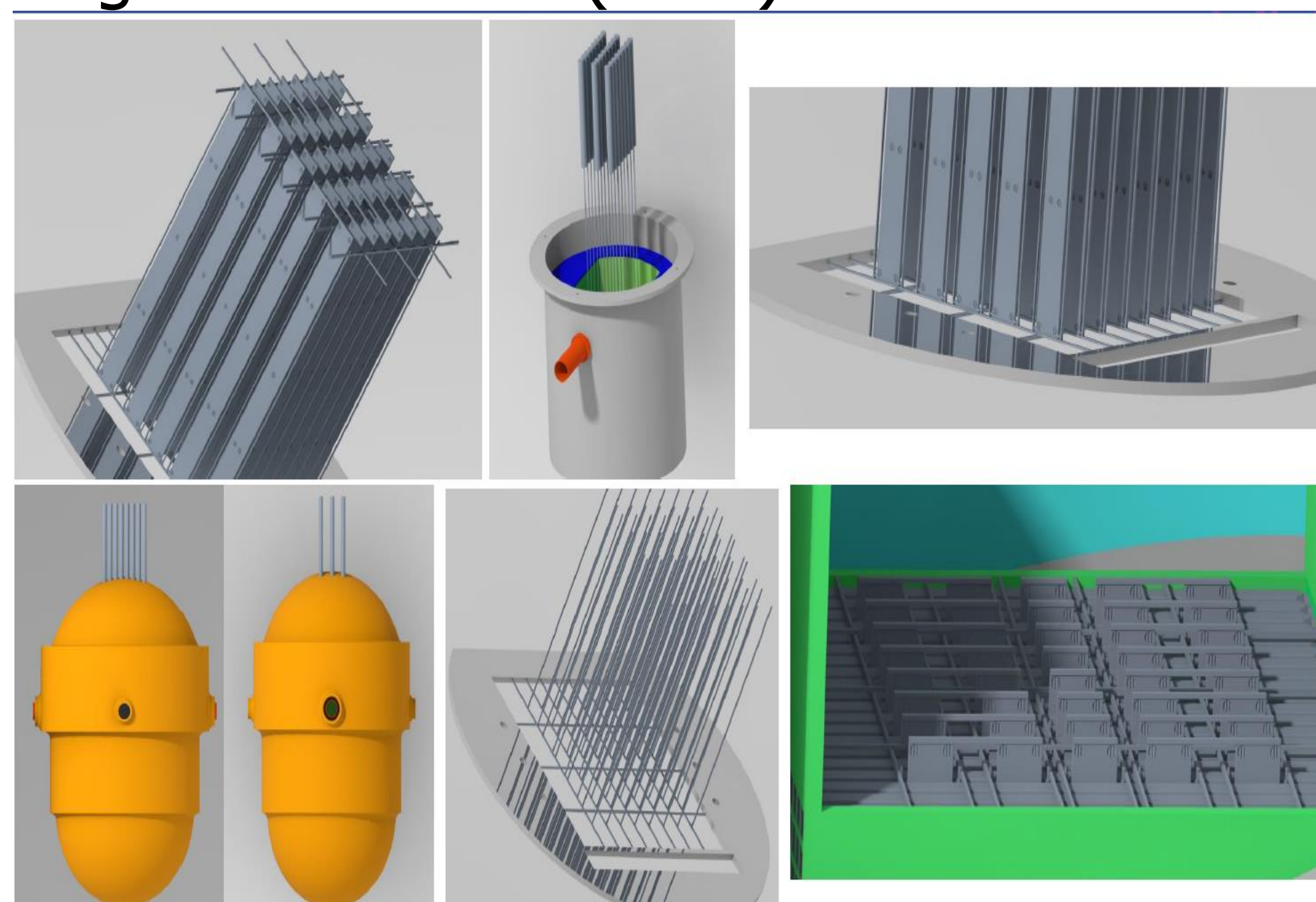


WP 3 -> Preparation of the Report on the pre-conceptual studies on the core layout and passive safety concept of the SCW-SMR (D 3.3) and the report on pre-conceptual design requirements for ECC SCW-SMR (D3.6)

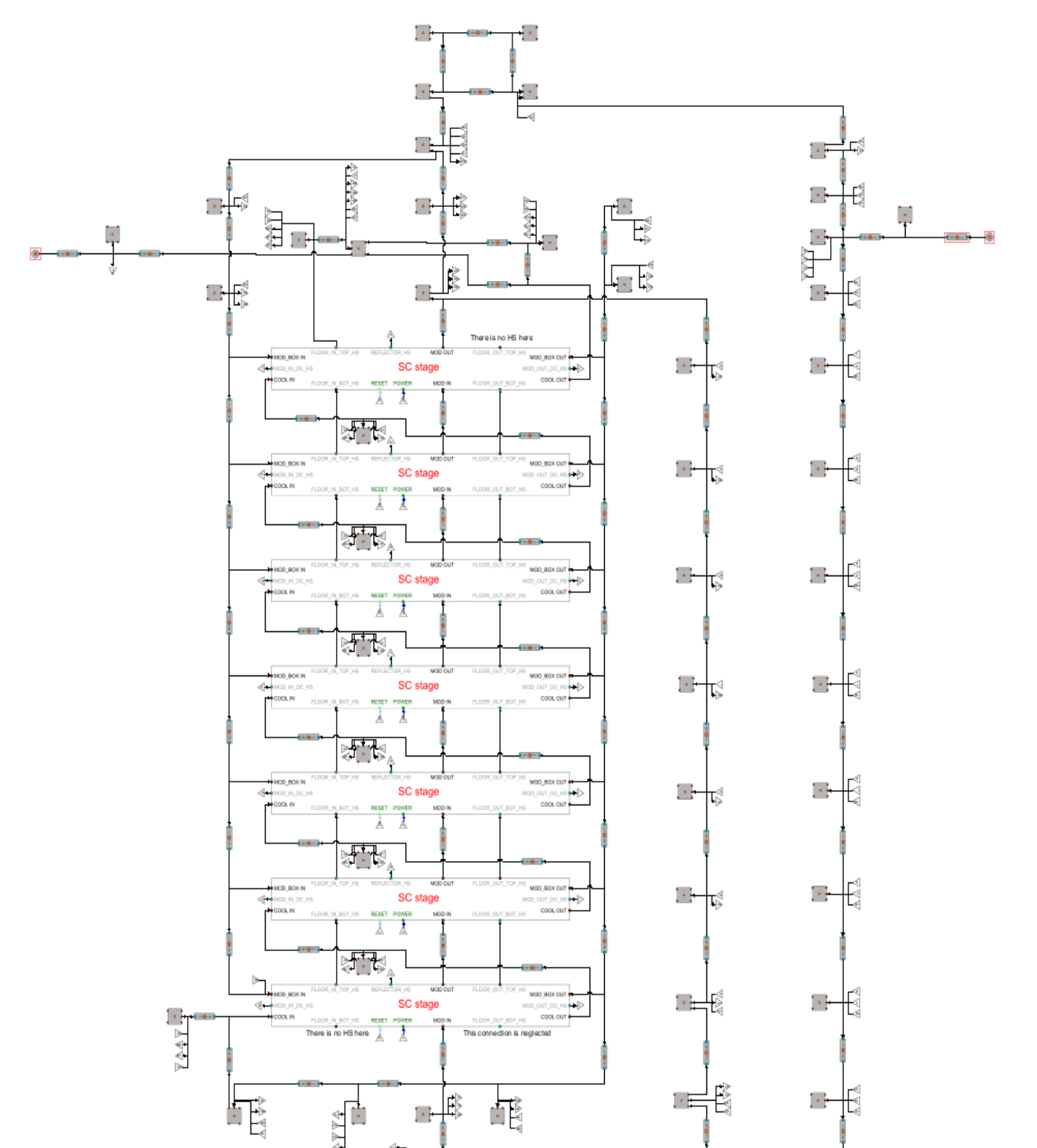
WP 4 -> Continuation of pre-conceptual core design calculations (D4.3)



Study of the corrosion and EAC behavior of Selected alloys out-of-pile (WP2)
Source: [Alberto Sáez-Maderuelo](#)



Reactivity control – first ideas (WP4)
Source: [Scabolcs Czifrus](#)



Analysis of pre-conceptual core layout APROS model (BME) (WP3)
Source: [Ivan Otic](#)

JOINT EUROPEAN CANADIAN CHINESE DEVELOPMENT OF SMALL MODULAR REACTOR TECHNOLOGY



This project has received funding from the Euratom Research and training programme 2019-2020 under Grant Agreement No 945234.

