



# Horizon 2020



## SUPPLYING ACCURATE NUCLEAR DATA FOR ENERGY AND NON-ENERGY APPLICATIONS

The **SANDA** EURATOM project

## WP6 activities and status

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on behalf of the SANDA Euratom project

H2020 Grant Agreement number: 847552

*CIEMAT, Atomki, CEA, CERN, CNRS, CSIC, CVREZ, ENEA, HZDR, IFIN-HH, IRSN, IST-ID, JRC, JSI, JYU, KIT, NPI, NPL, NRG, NTUA, PSI, PTB, SCK-CEN, Sofia, TUW, UB, ULODZ, UMAINZ, UMANCH, UOI, UPC, UPM, USC, USE, UU.*

## WP6: Management, ND research coordination at EU level and Education and Training

**Task 6.1:** Management (including a WEB): CIEMAT, JRC

**Task 6.2:** Sustainable framework for the coordination of the European nuclear data research: CIEMAT, CEA, CNRS

**Task 6.3:** Coordination of Education and training activities, JRC, CIEMAT

**Task 6.4:** Coordination of Dissemination and Communication activities, CIEMAT

Six deliverables D6.1 to D6.6 and no milestone

|                                |   |     |      |           |    |  |  |        |
|--------------------------------|---|-----|------|-----------|----|--|--|--------|
| Work package 6                 | Lead beneficiary  |     |      |           |    |  |  | CIEMAT |
| Work package title             | Management, ND research coordination at EU level and Education and Training |     |      |           |    |  |  |        |
| Participant number             | 1   | 3   | 5    | 13        |    |  |  |        |
| Short name of participant      | CIEMAT  | CEA | CNRS | JRC       |    |  |  |        |
| Person months per participant: | 23.3  | 1.8 | 2    | 0.3       |    |  |  |        |
| Start month                    | 1   |     |      | End month | 48 |  |  |        |

JRC: 2000€ for the organization of a workshop and 25000€ for the support to the E&T course

## WP6: Task 6.1 Management of the consortium

- **Consortium Agreement:** Signed by January 2020. EU notified.
- **Forms for Deliverables and Milestones available from SANDA web:**  
<http://www.sanda-nd.eu/documents-partners>
- **Administrative and financial operations**
  - Preparation of 2 periodic reports (M18 & M36): Clarifications solved
  - 2 Payments completed, with rules agreed by the GB
- **Reporting to EU**

Effect of COVID on the SANDA project reported to EC officer with the announcement of a request for amendment (extension of 12 months)
- **Meetings**
- **WEB**

## WP6: Task 6.1 Management of the consortium / 2

- General Meetings

- The kick-off meeting, presential at Brussels, 9-10 September 2019 and including the Governing Board meeting.
- The General Meeting 2021, performed by videoconference, on February 9, 11 and 12 of 2021, and including the Governing Board meeting
- Joint Ariel-SANDA meeting , performed by videoconference, on March 7 to 11 of 2022 with 3 days devoted to SANDA presentations and co-organized by JRC, ARIEL and SANDA

*All the presentations in these three meetings are available for the at **SANDA web** (<http://www.sanda-nd.eu/>) and **SANDA Indico** of the conferences (link in the SANDA WEB at the calendar entries).*

- Additional communication in the meetings of n\_TOF, NEA WGs and NDXXXX

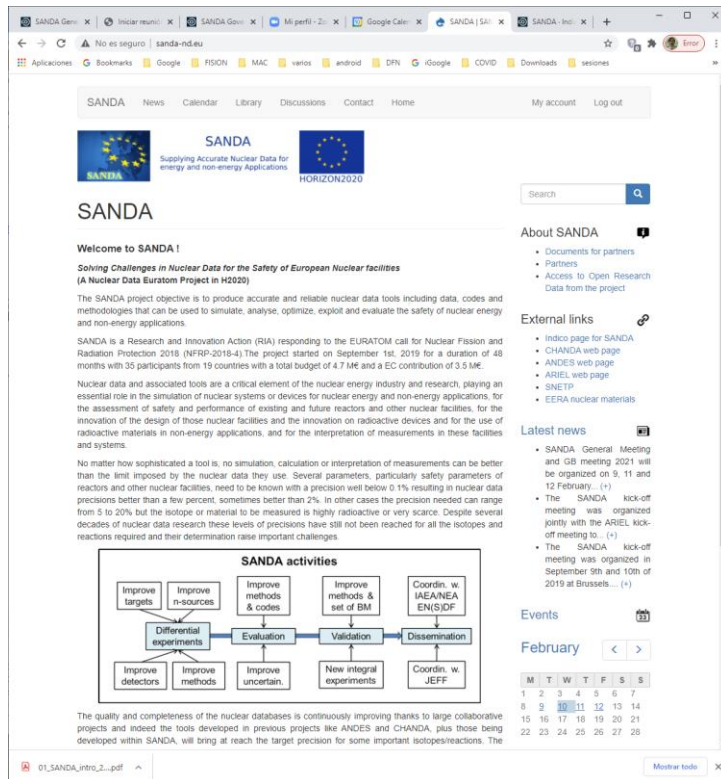
- EXCOM communications

- Most EXCOM communication by e-mail
- EXCOM remote meeting of September 10th, 2020

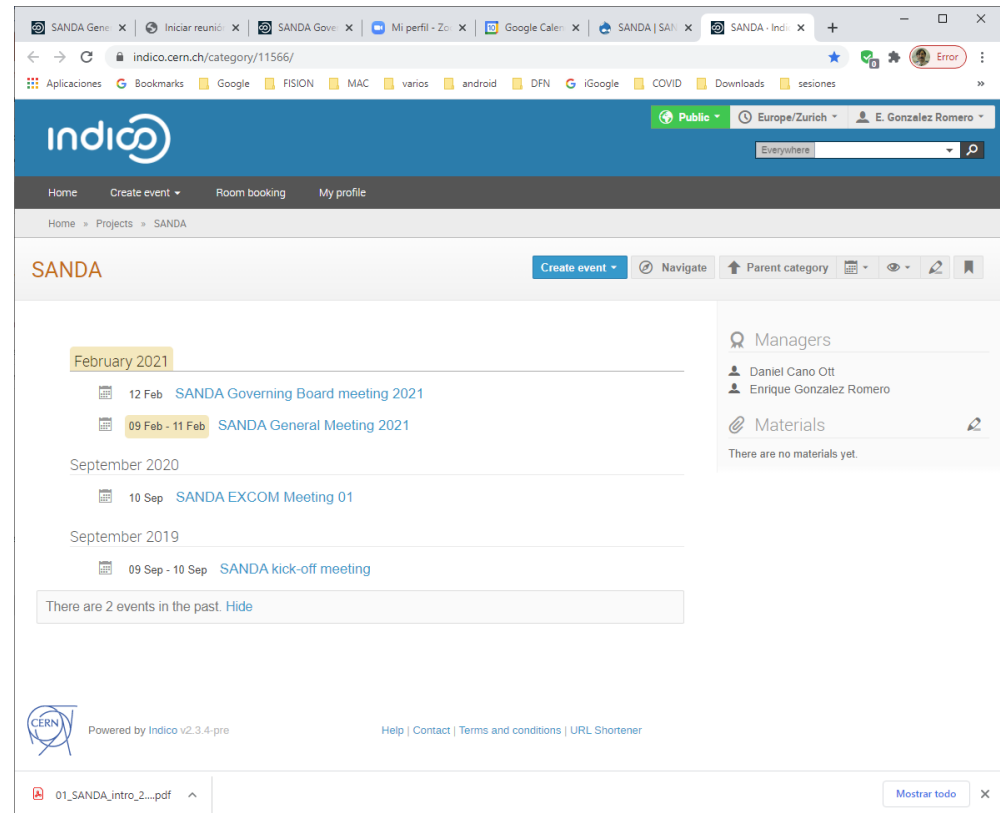
# WP6: Task 6.1 Management of the consortium / 3

## SANDA Web site

The SANDA WEB is composed by two groups of web pages: a set of web pages hosted at CIEMAT computers and developed using the **DRUPAL** system and a set of **INDICO** web pages hosted by CERN (+ INDICO-CIEMAT).



The main entry point is the DRUPAL CIEMAT hosted web pages:  
<http://www.sanda-nd.eu/>

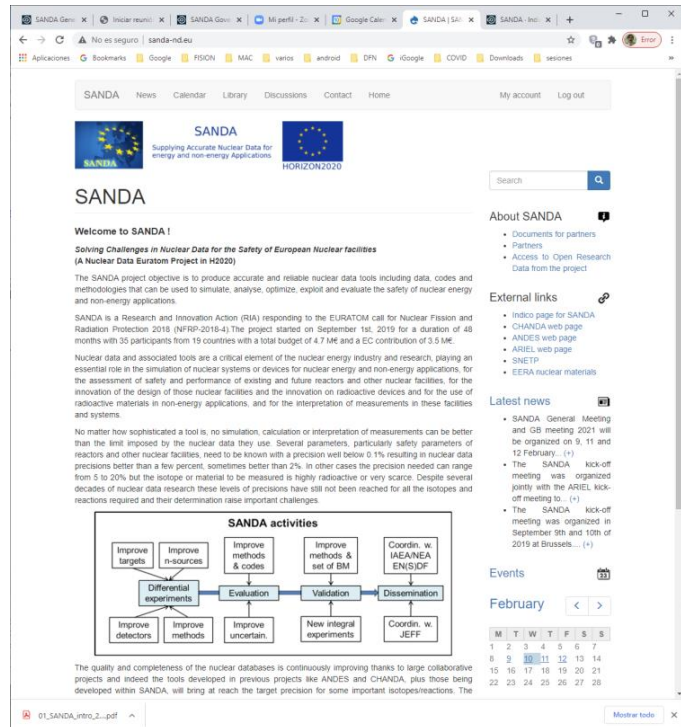


The indico web address is:  
<https://indico.cern.ch/category/11566>

# WP6: Task 6.1 Management of the consortium / 4

**SANDA Web site:** DRUPAL CIEMAT hosted web pages: <http://www.sanda-nd.eu/>

**Deliverable D6.1 DONE**



This part of the SANDA Web includes:

- General information
- Contractual documents
- News related to the project
- A calendar of events related to the project
- A library ([searchable data-base](#)) of journal papers, presentations, deliverables, and other documents related to the project
- Links to other web-pages related to the project
- Links to access to open data repositories

Most of this WEB is public and can be read without any limitation and without any login. Only some pages and documents at preliminary state are restricted and require to login using a password provided to the SANDA participants.

A generic account ([SANDA-user](#) [Password](#)) has been created and the password is provided to the members of the project allowing to view all elements of the WEB.

## WP6: Task 6.2 Sustainable framework for the coordination of the European nuclear data research

- Because of the **COVID pandemic** it was not possible to organize workshop to approach the representatives of EU Members States to evaluate the support to a ND joint initiative.
- Analysis of possibilities on the framework for the next calls of EURATOM: CEP, RIA, CSA,...
- Informal discussion of possibilities with EC: identification of difficulties for CEP because of the limited size of the investment.
- Individual contacts with EURATOM-Fission Program Committee members
  - Identifying Nuclear Data research as strategic, particularly after international conflict situation
  - Suggestion to include a dedicated topic in the work program for 2023-2025
  - Searching for long term sustainable solutions and compatible with the strategic role. Looking for an opportunity to discuss with MS representatives.
- **Deliverable D6.2 delayed M36 -> M48**

## WP6: Task 6.3 Coordination of Education and training activities

- This task has to promote that the research activities within the project result in PhD and Master theses and **the training of young scientist** with working visits to the facilities associated to the project.
- 16 master students and 27 PhD students have been engaged in the SANDA project (details are available in the periodic report)

| WP            | WP1 | WP2 | WP4 | WP5 |
|---------------|-----|-----|-----|-----|
| <b>Master</b> | 1   | 3   | 4   | 8   |
| <b>PhD</b>    | 2   | 17  | 4   | 7   |

*4 PhD already defended or near to the defense identified in the PR2*

- A **dedicated school on Nuclear Data** is foreseen in the program by the time of the COVID pandemic. A number of hands-on lectures were foreseen with practical classes using software and equipment, were considered key elements of the school.
- In view of the need for travel of the students to the location of the school (JRC Geel), the school was postponed until travel would be possible again. To avoid a collision with an ARIEL school, organized in Sevilla, fall 2022, it was **decided to organize the school in Q2 or Q3 of 2023**.
- **Deliverable D6.3 delayed M12 -> M48**



# WP6: Task 6.4 Coordination of Dissemination and Communication activities

- Deliverable D6.4: “Project presentation” CIEMAT, Public. **DONE**
- Deliverable D6.5: “Project Communication and Dissemination Action Plan”: CIEMAT, Public. **DONE**
  - Scientific journal articles (20 papers on relevant journals)
  - PhD and Master theses
  - Communications to conferences
  - WEB Site of the project

Conferences/Workshops on Nuclear Data with large SANDA participation:

- The Joint ARIEL-SANDA workshop 7 to 11 of March 2022 by videoconference
- The 15th International Conference on Nuclear Data for Science and Technology (ND2022) 21-29 July 2022 by videoconference
- Nuclear Data Weeks of NEA/OECD and JEFF working groups 2020/2021/2022 videoconference or Paris

|  |    |
|--|----|
| Annals of Nuclear Energy                         | 4  |
| Applied Radiation and Isotopes                   | 1  |
| Applied Science                                  | 1  |
| EPJ Web of Conferences, ANIMMA 2021              | 1  |
| IAEA Nuclear Fusion                              | 1  |
| Nuclear Engineering and Technology               | 3  |
| Nuclear Inst. and Methods in Physics Research, A | 2  |
| Physical Review C                                | 5  |
| Radiation Physics and Chemistry                  | 1  |
| The European Physical Journal A                  | 1  |
| Total  | 20 |

4 PhD theses defended by:

- Veatriki Michalopoulou
- Aurélien Chevalier
- Maxime Houdouin-Quenault
- Jehaan Nicholson

## WP6: Task 6.4 Coordination of Dissemination and Communication activities

- Deliverable D6.6: “**Project Data Management Plan**”: CIEMAT, Public. **DONE**
  - international nuclear data centers coordinated by **IAEA**, <https://www-nds.iaea.org/>, and by the **NEA Data bank**, <https://www.oecd-neo.org/databank/>.
  - experimental data to the **EXFOR**
  - Evaluated to **JEFF / ENDF / ENSDF** NEA Data Bank
  - Integral experiments to NEA Data Bank
  - Some teams/facilities require publication before submitting

| Task  | Magnitude     | Reaction             | Library       |
|-------|---------------|----------------------|---------------|
| 2.1.4 | nubar(A)      | 235U(n,f)            | EXFOR         |
| 2.3.1 | Cross Section | 238U(n,n'g)          | EXFOR         |
| 2.3   | Cross Section | 209Bi(n,tot)         | EXFOR         |
| 2.6   | Cross Section | 117Sn(n,n')117mSn    | EXFOR         |
| 2.1   | Cross Section | 241Am(n,f)           | EXFOR         |
| 2.1   | Cross Section | 230Th(n,f)           | EXFOR         |
|       |               |                      |               |
| 4.3.1 | Library       | ZZ-AMPX-JEFF3.1.1UPM | NEA Data Bank |
| 4.3.1 | Library       | ZZ-AMPX-JEFF3.3-UPM  | NEA Data Bank |

**Data already submitted ready to be submitted to the repository**

# Contributions of the partners to the project (PR1+PR2)

|     |          | WP1   | WP2   | WP3  | WP4   | WP5   | WP6   | Total  |
|-----|----------|-------|-------|------|-------|-------|-------|--------|
| 1   | CIEMAT   | 18.97 | 22.04 |      | 19.77 | 18.26 | 27.55 | 106.59 |
| 2   | ATOMKI   |       |       |      | 18    |       |       | 18     |
| 3   | CEA      | 17.68 | 5.4   |      | 34.1  | 11.5  | 0.16  | 68.84  |
| 4   | CERN     | 0.71  |       |      |       |       |       | 0.71   |
| 5   | CNRS     | 3.16  | 11.5  |      | 5.27  |       | 1.89  | 21.82  |
| 5.1 | G-INP    |       | 5.13  |      | 2.12  | 1.88  | 1.13  | 10.26  |
| 5.2 | IMT At   |       | 2.26  |      | 2.67  |       |       | 4.93   |
| 5.3 | U Nantes |       | 4.26  |      | 2.66  |       |       | 6.92   |
| 5.4 | UNICAEN  |       | 1.46  |      |       |       |       | 1.46   |
| 5.5 | UBx      |       | 0     |      |       |       |       | 0      |
| 6   | CSIC     |       | 2.67  |      |       |       |       | 2.67   |
| 7   | CVREZ    |       | 14.57 |      |       | 15.95 |       | 30.52  |
| 8   | ENEA     |       | 11.97 |      |       | 1.13  |       | 13.1   |
| 9   | HZDR     | 0     |       |      |       |       |       | 0      |
| 10  | IFIN-HH  |       | 19.85 |      | 2.3   |       |       | 22.15  |
| 11  | IRSN     |       | 0.73  |      |       | 0.54  |       | 1.27   |
| 12  | IST-ID   |       | 1.43  |      |       |       |       | 1.43   |
| 13  | JRC      |       | 15.06 | 7.71 |       |       | 0.63  | 23.4   |
| 14  | JSI      |       |       |      | 3.1   | 4.87  |       | 7.97   |
| 15  | JYU      | 0.73  | 2.32  |      |       |       |       | 3.05   |

|    |         | WP1   | WP2  | WP3  | WP4   | WP5  | WP6 | Total |
|----|---------|-------|------|------|-------|------|-----|-------|
| 16 | KIT     |       |      |      |       | 7.2  |     | 7.2   |
| 17 | NPI     |       | 7.45 |      |       |      |     | 7.45  |
| 18 | NPL     |       | 0.27 |      |       |      |     | 0.27  |
| 19 | NRG     |       |      |      |       | 2.87 |     | 2.87  |
| 20 | NTUA    |       | 3.24 |      |       |      |     | 3.24  |
| 21 | PSI     |       |      | 32.2 | 1.39  |      |     | 33.59 |
| 22 | PTB     | 14.73 | 0.8  |      |       |      |     | 15.53 |
| 23 | SCK-CEN |       | 2.16 |      |       | 3.26 |     | 5.42  |
| 24 | Sofia   |       |      |      | 2.5   |      |     | 2.5   |
| 25 | TUW     |       |      |      | 3.84  |      |     | 3.84  |
| 26 | UB      |       |      |      | 10.8  |      |     | 10.8  |
| 27 | ULODZ   |       | 6.42 |      |       |      |     | 6.42  |
| 28 | UMAINZ  |       |      | 31   |       |      |     | 31    |
| 29 | UMANCH  |       | 4.43 |      |       |      |     | 4.43  |
| 30 | UOI     |       | 2.41 |      |       |      |     | 2.41  |
| 31 | UPC     | 5.75  | 1.64 |      |       |      |     | 7.39  |
| 32 | UPM     |       |      |      | 10.65 | 6.19 |     | 16.84 |
| 33 | USC     |       | 7.78 |      | 3.56  |      |     | 11.34 |
| 34 | USE     |       | 4.25 |      |       |      |     | 4.25  |
| 35 | UU      |       | 5.6  |      | 4.7   |      |     | 10.3  |

All institutions exceeding the PM or the Max. EU contribution of the Grant Agreement at PR2 have confirmed that they will continue working at SANDA until completing their commitments.

HZDR with 0 PM claim is however actively contributing to work in WP1 task 1.4

# WP6: Management, ND research coordination at EU level and Education and Training

## Deliverables:

- D.6.1: “Web for the project”, CIEMAT, Month 9, Public **DONE at M12**
- D6.2: “Report on a sustainable framework for the coordination of the European nuclear data research” CEA, Month 36, Public. **PENDING foreseen at M48**
- D6.3: “Report on school on nuclear data research methods and tools and E&T activities” JRC, Month 12, Public. **PENDING foreseen at M48**
- D6.4 : “Project presentation” CIEMAT, Month 3, Public. **DONE at M12**
- D6.5 : “Project Communication and Dissemination Action Plan”: CIEMAT, Month 6, Public. **DONE at M12**
- D6.6 : “Project Data Management Plan”: CIEMAT, Month 6, Public. **DONE at M21**

## No Milestones