



SUPPLYING ACCURATE NUCLEAR DATA FOR ENERGY AND NON-ENERGY APPLICATIONS The SANDA EURATOM project WP6 activities and status

E.M. Gonzalez-Romero (CIEMAT)

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.

EURATOM Review Procedure Meeting

Videoconference

30th November 2022

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 b	eneficiar	y		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	48				
				month					

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

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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

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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

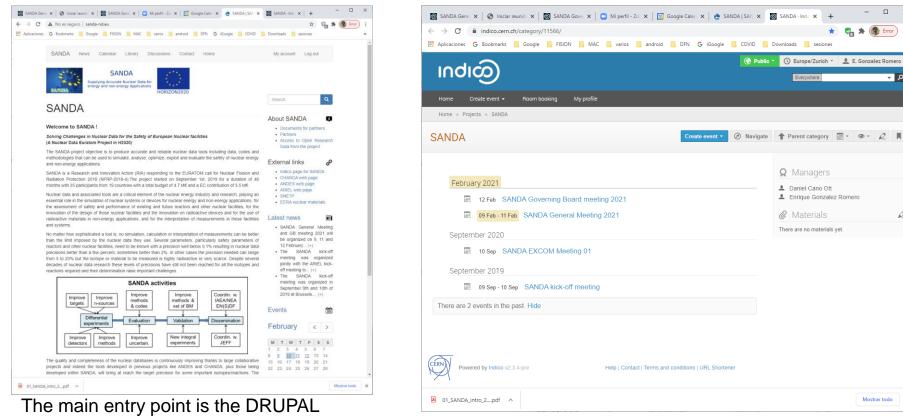
- Most EXCOM communication by e-mail
- EXCOM remote meeting of September 10th, 2020

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

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CIEMAT hosted web pages:

http://www.sanda-nd.eu/

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WP6: Task 6.1 Management of the consortium / 4

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

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SANDA activities improve targete Differential Differential Evaluation Validation Va	N th re fri de	o matter how exploitable(4 a) holl, no emitation, calculation or interpretation of nearurments can be believed in the term interpretation of nearurments and the parameters in the term interpretation of the nucleix terd of the nucleix terd and the nucleix term and term term term term and	and GB meeting 2 be organized on 9 12 February (+) • The SANDA meeting was or jointly with the ARI off meeting to (+)	2021 will , 11 and kick-off rganized IEL kick-	
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The quality and completeness of the nuclear databases is continuously improving thanks to large collaborative 15 16 17 18 19 20 2					
projects and indeed the tools developed in previous projects like ANDES and CHANDA, plus those being 22 23 24 25 26 27 2 developed within SANDA, will bring at reach the target precision for some important isotopes/reactions. The					

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 acount (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

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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
Master	1	3	4	8
PhD	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

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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-nea.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

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

		WP1	WP2	WP3	WP4	WP5	WP6	Total			WP1	WP2	WP3	WP4	WP5	WP6	Total
1	CIEMAT	18.97	22.04		19.77	18.26	27.55	106.59	16	KIT					7.2		7.2
2	ΑΤΟΜΚΙ				18			18	17	NPI		7.45					7.45
3	CEA	17.68	5.4		34.1	11.5	0.16	68.84	18	NPL		0.27					0.27
4	CERN	0.71						0.71	19	NRG					2.87		2.87
5	CNRS	3.16	11.5		5.27		1.89	21.82	20	NTUA		3.24					3.24
5.1	G-INP		5.13		2.12	1.88	1.13	10.26	21	PSI			32.2	1.39			33.59
5.2	IMT At		2.26		2.67			4.93	22	РТВ	14.73	0.8					15.53
5.3	U Nantes		4.26		2.66			6.92	23	SCK-CEN		2.16			3.26		5.42
5.4	UNICAEN		1.46					1.46	24	Sofia				2.5			2.5
5.5	UBx		0					0	25	TUW				3.84			3.84
6	CSIC		2.67					2.67	26	UB				10.8			10.8
7	CVREZ		14.57			15.95		30.52	27	ULODZ		6.42					6.42
8	ENEA		11.97			1.13		13.1	28	UMAINZ			31				31
9	HZDR	0						0	29	UMANCH		4.43					4.43
10	IFIN-HH		19.85		2.3			22.15	30	UOI		2.41					2.41
11	IRSN		0.73			0.54		1.27	31	UPC	5.75	1.64					7.39
12	IST-ID		1.43					1.43	32	UPM				10.65	6.19		16.84
13	JRC		15.06	7.71			0.63	23.4	33	USC		7.78		3.56			11.34
14	JSI				3.1	4.87		7.97	34	USE		4.25					4.25
15	JYU	0.73	2.32					3.05	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

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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

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